

IDC MarketScape

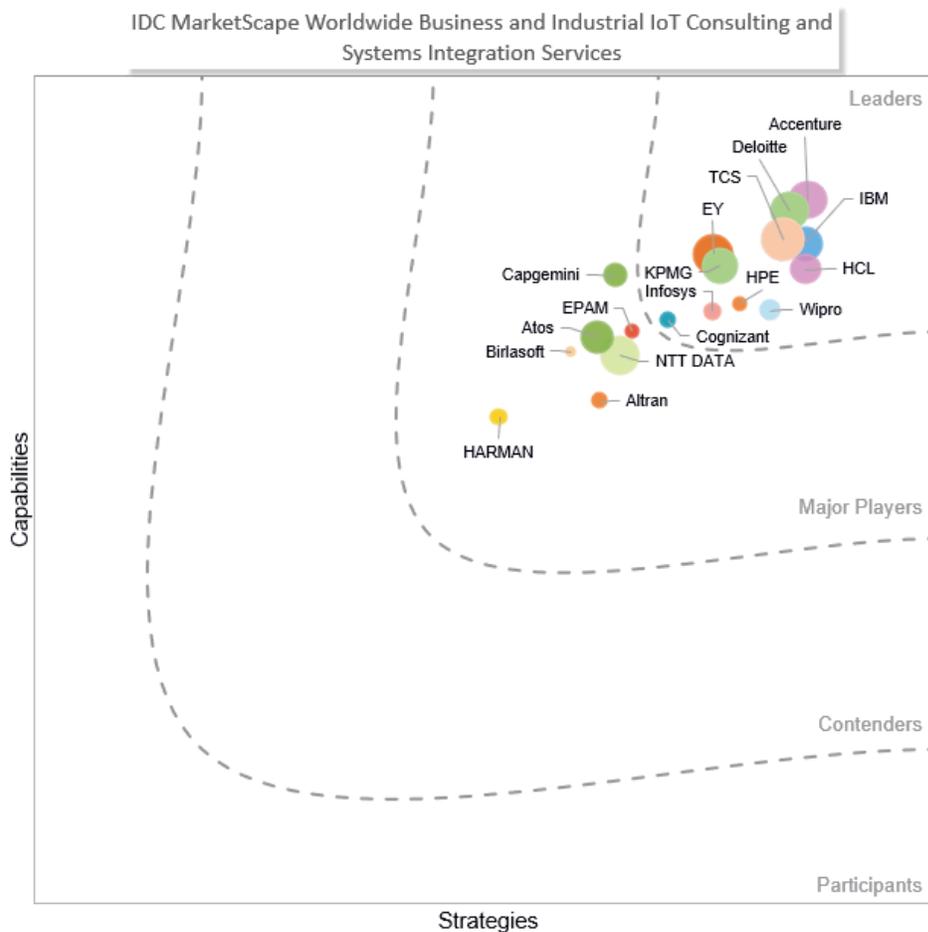
IDC MarketScape: Worldwide Business and Industrial IoT Consulting and Systems Integration Services 2020 Vendor Assessment

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IDC MARKETSCAPE FIGURE

FIGURE 1

IDC MarketScape Worldwide Business and Industrial IoT Consulting and Systems Integration Services Vendor Assessment



Source: IDC, 2020

Please see the Appendix for detailed methodology, market definition, and scoring criteria.

IDC OPINION

This IDC study represents a vendor assessment of the 2020 worldwide business and industrial Internet of Things (IoT) consulting and systems integration (C&SI) services market through the IDC MarketScape model. This research is a quantitative and qualitative assessment of the characteristics that explain the success of a vendor in the marketplace and help anticipate the vendor's ascendancy. This IDC MarketScape covers a variety of vendors participating in the worldwide business and industrial IoT C&SI services market. This evaluation is based on a comprehensive framework and a set of parameters expected to be most conducive to success in providing IoT C&SI services in both the short term and the long term. A significant component of this evaluation is the inclusion of the perception of IoT C&SI services buyers of both the key characteristics and the capabilities of these providers. Key findings include:

- Across all 42 strategies and capabilities assessed:
 - The top 3 areas for IoT consulting and systems integration services where vendors did well include:
 - Strategy to "address customer business priorities and build new competencies"
 - Current "breadth of services" provided
 - Current "benefits" that services providers addressed and delivered to their IoT services customers
 - The top 3 areas of improvement for IoT consulting and systems integration services include:
 - Delivery automation specifically for IoT systems integration services
 - Recognition in the form of awards received from technology product vendors and IoT consortiums
 - Billing rates for delivery from onshore, nearshore, and offshore locations
- Based on the survey feedback from 44 of the evaluated vendors' customers, top 2 characteristics related to business priorities that were important to vendors include:
 - Hiring the right engineering talent
 - Improving financial performance for their overall business
- The top 2 service provider characteristics to ensure a successful IoT consulting and systems integration services engagement include:
 - The ability to achieve the desired technology or business outcomes as per contract terms
 - The breadth and depth of intellectual property (IP)/tools and knowledge to recommend and integrate existing legacy and/or new IoT infrastructure

IDC MARKETSCAPE VENDOR INCLUSION CRITERIA

This research includes analysis of 18 key IoT C&SI services providers for business and industrial IoT services. IDC has designed the assessment to evaluate the characteristics of each firm – rather than just its size or the breadth of its services. The inclusion criteria dictate that the vendor should be

reporting a minimum of \$25 million in revenue and 150 resources for these services. In addition, it is conceivable, and in fact the case, that specialty firms can compete with multidisciplinary firms on an equal footing. As such, this evaluation should not be considered as a "final judgment" on the services providers to be considered for an IoT services project. The enterprise should take into consideration its own objectives and requirements to determine which firms should be considered as potential candidates for an engagement. IDC in parallel also provided the participants in this study with an option to be evaluated for IoT engineering and managed services.

ADVICE FOR TECHNOLOGY BUYERS

Many IoT consulting and systems integration services providers have invested and built capability to provide value to their customers. Transformation benefits that clients are experiencing include:

- Detailed operational performance insights
- Real-time asset monitoring ensuring high uptime and reliability
- Superior customer experience (CX) by connecting everything and providing relevant services
- Better understanding of customer needs and expectations

IoT C&SI services providers have built domain-specific assessment and value discovery frameworks that enable the build out of a strategic IoT road map based on their maturity. In addition, they have invested in building off-the-shelf IoT solutions for every industry. Once this IP is integrated, clients begin to realize the benefits in shorter time frames.

In addition, IoT C&SI services providers have partnered with various IoT technology providers to leverage their IP or collaborate and cocreate new IP. Other technology services that are provided in conjunction with IoT include edge, analytics, AR/VR, intelligent operations/robotics, artificial intelligence (AI) and machine learning (ML), and cybersecurity.

IDC recommends that buyers of these services focus on the following when issuing an RFI/RFP and evaluating vendors for IoT C&SI services:

- Clearly identify your end goals in the context of your current IoT infrastructure.
- Ensure that the provider you short-list has experience related to consulting and integrating IoT services for your industry.
- Do evaluate vendor ecosystems (partnerships with technology firms and other stakeholders) and discuss relevant completed projects or ongoing relationships.
- Do not shy away from asking your provider if you need help with return on investment (ROI) or other tools that provide understanding of the benefits of these implementations. This will assist you in securing new or extend existing budgets.
- Do not look at IoT in isolation or with one additional services component (e.g., edge services). Instead, explore the art of the possible based on your end-state aspiration, and consult with your provider to build a road map with various IoT-relevant technology services such as 5G, security, analytics, AI/ML, AR/VR, and autonomous systems.
- Identify areas of your operation where security can never be comprised, and ensure your IoT service provider has the experience and competency to consult and integrate secure operations and infrastructure.

- Wherever applicable, explore any recommendations and services the provider brings to the table regarding your current or aspirational state for combined IT and operational technology (OT) infrastructure, security, alerts, and managed services.
- Do ask the provider to explain how the recommended strategy or implementation fits with your overall business and what your customers expect from you and about the ROI from the investment.
- Explore different pricing models and arrive at a decision that is a win-win for both the provider and you. Pricing models include by unit metric consumption and outcome based.

VENDOR SUMMARY PROFILES

This section briefly explains IDC's key observations resulting in a vendor's position in the IDC MarketScape. While IDC evaluated every vendor against each of the criteria outlined in the Appendix, the description provides a summary of each vendor's strengths and challenges.

Accenture

Accenture is positioned in the Leaders category in the 2020 worldwide IDC MarketScape for business and industrial IoT consulting and systems integration services.

Industry X.0 is Accenture's approach to leveraging digital technologies such as IoT, analytics, AI, robotics, 3D printing, and digital twin to reinvent clients' businesses. It provides an end-to-end framework and a cross-functional set of capabilities and resources to operationalize digital innovation across clients' business at every stage of product and service development. Accenture also offers over 40 accelerators and solutions, which include areas such as engineering, manufacturing system deployments, production and operations from digital plant, digital worker, AI/ML-driven use cases to drive production improvements that require connectivity, and new smart products and services that embed technology to drive data-driven insights for products that are manufactured in an IoT-enabled operations world.

Strengths

Buyers cited several areas of strength for Accenture across many different capabilities, including current innovation, the ability to provide quick support at customers' operations locations, and the ability to resolve delivery and commercial problems/issues quickly and efficiently. IDC recognized Accenture for its ability to address customer business and technology priorities, its frameworks and strategy to enable its customers to increase adoption, and the breadth and depth of IoT services offering.

Challenges

IDC believes that Accenture's offering strategy could be enhanced by expanding the company's pricing strategy to enable customers get internal approvals faster. In addition, Accenture should focus on hosting and participating in more IoT-specific technology or customer events as well as should focus on expanding its focus on industrial IoT (IIoT) services.

Altran

Altran is positioned in the Major Players category in the 2020 worldwide IDC MarketScape for business and industrial IoT consulting and systems integration services.

Altran works alongside its clients, from initial concept through industrialization, to enable them to create the products and services of tomorrow. Altran has a dedicated center for IoT solutions, which gathers expertise on the entire technology value chain to support customers in reaping all the benefits from the combined IoT and big data revolution. It develops, integrates, and operates end-to-end IoT solutions, including connectivity, platforms, and applications. Altran focuses on the entire IoT value chain and provides its customers with both off-the-shelf solutions for accelerated time to market and customized solutions that meet its client's specific project needs. The company leverages the experience gained in many IoT projects deployed across industries with both Fortune 500 companies and start-ups to advise, engineer, and operate various IoT projects. For over 35 years, the company has provided expertise in automotive, aeronautics, space, defense and naval, rail, infrastructure, transportation, energy, industrial and consumer, life sciences, communications, semiconductor and electronics, software and internet, finance, and public sector. The acquisition of Aricent extends the scope to include semiconductors, digital experience, and design innovation to the existing portfolio of services.

Strengths

IDC recognized Altran for its strategy to address customer business priorities and build new competencies in this services segment and its effort to assist clients with ways to get budgets for various IoT services initiatives.

Challenges

Altran needs to focus on its IoT services partnerships and build a relatively stronger team to grow this business.

Atos

Atos is positioned in the Major Players category in the 2020 worldwide IDC MarketScape for business and industrial IoT consulting and systems integration services.

Atos' approach to IoT is outcome focused with a goal to deliver tangible business value. With Codex IoT, Atos has built a set of IoT solutions and services capabilities to achieve this while supporting clients with their digital transformation initiatives. The Atos IoT services portfolio includes applications, blueprints business services, vertical use cases, including connected coolers, connected vessels, connected vehicles, industrial IoT, and smart grid, as well as development, hosting, and integration services on partner platforms. Atos also has a digital twin offering, which includes a preconfigured platform and consulting services. Atos further strengthens its offerings through a strong partner ecosystem, most notably with Siemens. This partnership, supported by a €330 million investment fund, is geared to bring value to clients by integrating new technologies including blockchain, cognitive learning, artificial intelligence, and machine learning. For example, Atos offers pre-integrated IoT solutions, which combine complementing IoT assets from Atos and Siemens to accelerate and simplify the application of IoT to business processes and, ultimately, business outcomes.

In technology innovation, Atos provides both hardware and services, particularly at the edge where it already has several use cases in energy and utilities (E&U), transport, and retail using Codex Smart Edge and the BullSequana Edge Server. The cybersecurity offering includes the IoT Security Suite (Horus and IDnomic), identity life-cycle management, embedded security, and platform security as well as integration between industrial IoT security and IT security services. Atos is a global IoT services provider with a relatively larger presence in Europe and offerings across verticals that include

manufacturing, retail, transport and logistics, health and life sciences, energy and utilities, telecom, media and technology, public sector and defense, and financial services.

Strengths

Customers are, in general, pleased with Atos' current breadth, depth, and scale of the IoT C&SI services offering. In addition, they were appreciative of Atos' support to assist them with ROI and other analytics tools to make a case for additional investment for these services. IDC recognized Atos for its current Siemens partnership and its strategy to address customers' business priorities by refining and building new competencies.

Challenges

Atos should review its marketing and messaging strategy for IoT C&SI services as customers cited Atos as average in this respect. In addition, IDC believes that Atos should focus on offering new pricing models and exploring additional ways to enable clients to get internal buy-in to partner with Atos.

Birlasoft

Birlasoft is positioned in the Major Players category in the 2020 worldwide IDC MarketScape for business and industrial IoT consulting and systems integration services.

Birlasoft focuses on combining the power of domain, enterprise, and digital technologies to reimagine business processes for customers and their ecosystem. The Birlasoft IoT team vision is to focus on providing services and solutions for customers primarily in the manufacturing, energy and utilities, and life science industries. Birlasoft assists customers to develop a scalable and platform-centric enterprisewide IoT strategy, typically starting with a pilot to establish solution viability and then quickly scale across required functions and geographies. The focus is on programs that will assist customers with achieving measurable and quantifiable benefits and key metrics such as asset utilization, asset availability, and cost of asset maintenance. Birlasoft's IoT services focus on impacting customers' revenue by delivering better customer experiences, discovering new business models, and reducing costs by increasing efficiencies and providing operational improvements.

Birlasoft offers platforms, tools, and IP in the areas of smart connected operations, smart connected products, smart connected services, and smart manufacturing. Examples include the intelliAsset IoT platform (for factories, silos, lights, meters, turbines), Respial, KwikPick, WorkWear platform, and FieldServ. Birlasoft's team of data scientists is leveraged to analyze IoT data sets and develop AI/ML models to deliver business value. Birlasoft's Digital Labs (co-innovation and experience centers in India and United States) are leveraged to collaborate with customers and technology providers and build domain-specific solutions.

Strengths

Buyers were satisfied with Birlasoft's current innovation capability as well as the company's breadth, depth, and scale of IoT C&SI services talent. They also cited Birlasoft's flexible pricing models. IDC views Birlasoft's strategy to provide solutions against the backdrop of customers' business priorities as well as tools and methodologies deployed when providing these services as major strengths.

Challenges

Birlasoft should focus on scaling this business by an organic or inorganic strategy that includes refining or building new competencies. It should also focus on improving support to the clients at onsite locations and the ability to resolve any delivery or commercial issues quickly and efficiently.

Capgemini

Capgemini is positioned in the Major Players category in the 2020 worldwide IDC MarketScape for business and industrial IoT consulting and systems integration services.

With a global footprint and expertise in consulting, technology services, and digital transformation, Capgemini aspires to be at the forefront of innovation to address the entire breadth of clients' opportunities in cloud, digital, and platforms. Capgemini's Digital Engineering and Manufacturing Services brings together domain expertise to focus on the convergence of physical and digital worlds.

Capgemini considers its IoT expertise as an important pillar of its intelligent industry vision. Capgemini is focusing on new data-centric and collaborative ways of designing, engineering, manufacturing, and supporting products, assets, and services – leveraging end-to-end IoT technologies to create more value. Capgemini's business and industrial IoT solutions seek to build smart products, assets, and services as well as focus on smart operations that include smart asset management, smart factories, smart supply chain, and service management.

Capgemini offers a portfolio of IoT services that include consulting, technology advisory, IoT systems development (sensors, hardware, connectivity and communication, cloud, IoT platform, application, analytics), program management, application development and integration, software product and platform engineering, system validation, security and device management, managed services for analytics, infrastructure, technical, and engineering support. It focuses on domains that include aerospace, automotive, energy, healthcare, transportation, and industrial products. Capgemini has built solution accelerators for industry use cases and partners with various technology providers across each layer of the IoT solutions stack. It has also built a network of IoT centers of excellence (COEs) for global-local solution development. These are complemented by Capgemini's Applied Innovation Exchanges (AIEs) with access to expertise from start-ups and academia.

Strengths

Buyers of these services cited Capgemini's delivery strength, value delivered for contract terms, and quality of resources as strengths. IDC recognizes Capgemini for its tools and methodologies, efforts to address customers' business priorities, and growth strategy for these services.

Challenges

Buyers and IDC feel that Capgemini should offer additional pricing mechanisms to increase adoption for these IoT services. Capgemini should also invest in improving its messaging and reach for these services.

Cognizant

Cognizant is positioned in the Leaders category in the 2020 worldwide IDC MarketScape for business and industrial IoT consulting and systems integration services.

Cognizant is a professional services company that works toward transforming clients' business, operating, and technology models for the digital era. It helps companies build digital businesses and

innovate products that create new value by using sensing, insights, software, and experience to deliver on what customers demand in the digital age. According to Cognizant, as disruptive technologies such as IoT, analytics, cloud, and AI fuel transformation in products, enterprises, factories, and supply chains – and become more pervasive in everyday life – clients across industries are partnering with Cognizant to accelerate their capability and design/build toward their vision. Cognizant's focus is on connecting the digital and physical worlds to make smart, efficient, and safe products, operations, and enterprises by leveraging data, analytics, and AI, which also drive intelligent decisions and help anticipate where markets and customers are going next. Cognizant uses these insights, combining design and software, to deliver the experiences that consumers expect of their brands.

Cognizant considers its engineering and R&D services capabilities and legacy heritage in IT systems to augment its IoT capabilities and offerings to help clients' implement data-driven, production-scale solutions for connected products, connected factories, connected buildings, and connected vehicles.

Strengths

Buyers of these services cited Cognizant's ability to offer flexible pricing models, delivery strength, and ability to provide support at customers' operations locations as well as ability to quickly and efficiently solve delivery and commercial issues. IDC cites Cognizant's tools and methodologies, strategy to build new competencies to address customers' business priorities, and benefits provided to customers as specific strengths.

Challenges

According to IDC, Cognizant should focus on offering flexible pricing models and enhancing marketing for these services to improve customer awareness and perception.

Deloitte

Deloitte is positioned in the Leaders category in the 2020 worldwide IDC MarketScape for business and industrial IoT consulting and systems integration services.

Deloitte offers a portfolio of capabilities and services that span the IoT life cycle. Its services are focused on business value, embedding value creation and measurement into every aspect of work by directly connecting IoT initiatives to business results and measurable KPIs. Deloitte's dedicated global IoT practice includes IoT engineers, data scientists, cybersecurity analysts, strategy/process/functional consultants, and several other disciplines. Deloitte practitioners service clients through traditional, studio, and managed service models.

Deloitte offers end-to-end IoT services – from strategy and ideation to the delivery of managed services. Its teams include strategy, operations, technology, functional domain, and industry-specific skill sets, which enable a broad set of business solutions. Deloitte offers IoT services in a traditional or accelerated delivery model.

Deloitte serves clients in a wide number of industries, including manufacturing, energy, life sciences, and consumer. Deloitte views IoT as a top technology issue and is investing heavily in this area to drive growth in the coming years. It partners with technology vendors to continually invest in and enhance solutions to address clients' needs.

Strengths

Buyers lauded Deloitte's breadth, depth, and scale of services. Clients also acclaimed Deloitte for its innovation capability and had a positive perception of Deloitte's IoT services capability. IDC views Deloitte's ability to assist clients with ROI and other tools to get new and additional internal investment as well as strategy to address customer business priorities and build new competencies as key strengths.

Challenges

According to IDC, Deloitte should focus on improving its partnership strategy and focus on improving branding and messaging to increase adoption of its IoT C&SI services.

EPAM

EPAM is positioned in the Major Players category in the 2020 worldwide IDC MarketScape for business and industrial IoT consulting and systems integration services.

EPAM is a global product development, digital platform engineering, and a digital and product design services provider. EPAM's global team of over 35,000 experts work alongside customers to consider all aspects of an IoT solution and ensure successful business value delivery. With expertise in both software engineering and integrated physical and digital design, EPAM's end-to-end IoT expertise ranges from identifying business cases and designing smart, connected devices and sensors to engineering complex data platforms and optimizing enterprise device management platforms.

EPAM works with global clients across a variety of industries to deliver IoT solutions, including medical devices in healthcare and life sciences; automotive, industrial, and manufacturing solutions; and consumer technology products in the entertainment and retail markets. EPAM has labs and innovation centers where its team designs, builds, and tests IoT products and solutions before going to market.

Strengths

Customers provided good ratings to EPAM for the quality of its engineering talent, its ability to provide support to customers at onsite locations, and its ability to solve delivery and commercial issues quickly. In addition, customers appreciated the value that EPAM delivered for the contract price. IDC noted EPAM's strategy to address customers' business priorities and build new competencies, ability to address customers business/technology needs, and innovation and R&D strategy as strengths.

Challenges

According to IDC, EPAM should focus on providing cost benefit/ROI analysis to its customers to enable customers get internal buy-in and budgets. EPAM should also focus on its go-to-market (GTM) strategy with partners and proactively communicate its innovation capabilities to customers.

EY

EY is positioned in the Leaders category in the 2020 worldwide IDC MarketScape for business and industrial IoT consulting and systems integration services.

EY positions itself as a firm that creates long-term value for its clients and does this by driving client centricity, engaging and attracting exceptional and diverse people, transforming its business through data and technology, and accelerating global integration and teaming. EY's consulting organization is

structured across the three pillars of business consulting, technology consulting, and people consulting.

EY's IoT offerings are segmented by industry-specific solutions and accelerator solutions, which support clients to innovate, adopt, and deploy IoT. Components within each of the solutions include technology consulting, systems integration services, and managed services. EY's IoT offering strategy is driven by the company's global IoT network of excellence (IoT NOE), a dedicated network to accelerate its ecosystem of clients, partners, and start-ups to bring sophisticated end-to-end IoT business solutions to the market. By adopting an investment strategy, EY now has an IoT footprint in numerous sectors, including power and utilities; oil and gas; consumer products and retail; technology, media, and telecommunications; life sciences and healthcare; financial services; automotive (connected car); and government and public services (Smart Cities). EY is also pursuing IoT-enabled horizontal, cross-sector services such as blockchain-driven IoT, digital grid, smart factory, cyberservices, and industrial mashups.

EY's 35+ innovation centers, called wavespace, are a network of makers' environments that combine business strategy, design thinking, and digital and technological expertise needed to rapidly prototype and bring client innovation ideas to life. They provide a platform to co-innovate and codevelop, leveraging EY's ecosystem and local start-ups. EY serves large international as well as medium-sized companies and regional and national organizations. EY has also formed alliances with partners such as Adobe, BlackLine, Blue Prism, Cisco, Dell EMC, IBM, and Microsoft, enabling EY and its clients to tap into a wide ecosystem of skills, codeveloped solutions, and innovation.

Strengths

Buyers determined that a key strength of EY is its IoT C&SI delivery competency. They also liked EY's proprietary frameworks and strategy to enable customers to increase adoption. In addition, customers cited EY's IoT services talent as a key value. IDC noted EY for its strategy to address customers' business priorities, offering breadth and depth of services, and the overall IoT services team competency.

Challenges

According to IDC, EY should focus on expanding its partner ecosystem and focus on offering tools and ROI models to customers so that they can make the case for IoT services spending with internal stakeholders.

HARMAN

HARMAN is positioned in the Major Players category in the 2020 worldwide IDC MarketScape for business and industrial IoT consulting and systems integration services.

HARMAN's IoT services portfolio spans systems integration; sensor, gateway, and cloud solutions; connectivity; user experience; and analytics. HARMAN integrates its own and industry components, ensuring a single point of accountability, and delivers a complete end-to-end service for a range of verticals. HARMAN also helps customers with IoT solutions that leverage best practices and aspire to exceed expectations. From tracking the flow of people and traffic density to monitoring fluctuations in office temperature, crop moisture levels, traffic, or patients' vital signs, HARMAN manages many data points. For the industrial IoT services category, HARMAN specializes in building aware, autonomous systems that integrate with legacy industrial protocols and deliver actionable, real-time data and

insights. HARMAN's clients can use real-time analytics for production planning, inventory management, and gathering instant feedback from users and the market.

Strengths

HARMAN's strengths lie foremost in offering the breadth and depth of IoT services as well as proprietary frameworks and the strategy to enable customers' increased adoption of these services. HARMAN also received credit for its marketing initiatives for these services.

Challenges

According to IDC, HARMAN should increase focus on its pricing and sales strategy. In addition, it should focus on providing ROI and other tools to customers to enable them to secure internal stakeholder buy-in and budgets.

HCL

HCL Technologies is positioned in the Leaders category in the 2020 worldwide IDC MarketScape for business and industrial IoT consulting and systems integration services.

HCL's IoT WoRKS offers end-to-end IoT services and capitalizes on the company's engineering services capabilities to offer a solutions portfolio and a partnership ecosystem to its customers. HCL considers its flexibility on engagement models and investments in talent and innovation as key to improving client confidence in its services and enabling alignment with clients' expectations. HCL has built a solutions portfolio of over 30 IoT solutions and has increased its focus on six verticals: manufacturing, life sciences and healthcare, energy/utilities, travel/transportation/logistics, retail, and financial services. HCL has created an IoT ecosystem through the partnerships, including PTC, AWS, Microsoft, IBM, Intel, and GE, to accelerate IoT adoption by delivering greater business insights and creating new revenue models.

HCL's COLLABs (collocated labs) in Noida and Bangalore (India), Redmond (United States), and London (United Kingdom) offer a collaborative space for clients to cocreate customizable IoT-led solutions, jointly with its partners, technology experts, SMEs, and finance advisors. HCL's Smart Integrated Operations platform provides managed services support to IoT deployments at scale and Innovation by Design approach helps clients identify suitable IoT use cases and deploy and realize the benefits of IoT implementations quickly.

Strengths

Buyers touted HCL for the high engagement value that it delivered for the contract value. They also appreciated HCL's breadth, depth, and scale of IoT services talent. IDC cites HCL's key strengths as partnerships, providing ROI and other tools to customers to enable them to secure additional budgets for various IoT services initiatives, and finally the strategy to refine or build new IoT C&SI services capabilities keeping in mind customer business priorities.

Challenges

HCL should figure out ways to offer differentiated pricing models to its customers and also explore ways to improve communication regarding the innovation it can provide to customers across various domains.

HPE

Hewlett Packard Enterprise (HPE) is positioned in the Leaders category in the 2020 worldwide IDC MarketScape for business and industrial IoT consulting and systems integration services.

According to HPE, Pointnext Services helps customers advance to an edge-centric, data-driven, and cloud-enabled digital enterprise to keep pace with business and technology change. Since its introduction, HPE has focused on enhancing this portfolio and the value proposition to align the services with new customer challenges and business, operations, and technology requirements. HPE Pointnext Services delivers advisory and professional services to define and implement transformation initiatives, plus operational services to support and manage complex technology environments that extend from the edge to cloud and traditional IT. The expertise delivered by HPE Pointnext Services is a key component of the as-a-service offerings delivered as HPE GreenLake.

IoT is key to HPE's strategy, which is centered around helping organizations harness data at the edge to drive new insights and redefine what is possible in operations. HPE Pointnext Services has invested in the expertise necessary to help customers bridge the worlds of IT, OT, and lines of business. These services not only include consulting and frameworks for IoT adoption but extend to all domain areas necessary to support a successful IoT initiative – including end-to-end security, change management, data platforms, AI tools, and cloud-native IT environments that support rapid innovation.

HPE understands that partner ecosystems are critical enablers of success in IoT and has developed solutions with IoT partners such as PTC, GE, ABB, and Microsoft. HPE combines IoT expertise with broader IT expertise, IoT partnerships, and services to partner with customers as they deal with complexity, risk, and timeline challenges in their business.

Strengths

Buyers praised HPE's current innovation capability, delivery competency, and the value that was delivered against the contract price. According to IDC, additional key strengths of HPE are its initiatives to assist clients to get additional budgets and organic and inorganic growth strategy.

Challenges

HPE should focus on increasing its delivery team size as it bids for new deals or expands the scope of existing deals. In addition, HPE should focus on expanding its sales teams to reach a broader client base as well as focus on improving branding and marketing/messaging for these services.

IBM

IBM is positioned in the Leaders category in the 2020 worldwide IDC MarketScape for business and industrial IoT consulting and systems integration services.

IBM Services has organized IoT, along with analytics, AI, and data services, into a single Cognitive Business Decision Support consulting practice while delivering holistic, platform-agnostic solutions. With an established presence in manufacturing, supply chain and inventory optimization, and smart buildings, IBM has made investments in IoT assets and services for energy and utilities, healthcare, financial services, and cross-industry business functions. IBM recently announced the creation of a new division, IBM Edge Computing, with the goal of increasing the adoption of edge technologies across mature business operations.

IBM has aligned IoT and related technology practices with AI, including Watson, and a marketplace for digital twins. According to IBM, focus on change management along with workforce training and service design has in recent years enhanced customer satisfaction. IBM believes that by investing in its clients' skills, clients will grow their managed services portfolio as enterprise priorities continue to shift to next-generation business transformation.

Strengths

Buyers lauded IBM for the direct business and technology benefits they saw as a result of the IoT C&SI services they consumed from IBM. They also cited IBM's talent and partnership ecosystem as key strengths. IDC adds IBM's pricing strategy and strategy to refine existing or building new competencies in this space as additional areas of strength for the company.

Challenges

IBM should focus on further strengthening the messaging of the value related to its innovation and related IoT C&SI services it offers. IBM should also further strengthen its tools and methodologies related to these services.

Infosys

Infosys is positioned in the Leaders category in the 2020 worldwide IDC MarketScape for business and industrial IoT consulting and systems integration services.

Infosys focuses on assisting enterprises to develop connected processes, connected products, and connected infrastructure. Infosys partners with clients to enhance their competitive advantage, customer experience, operational efficiencies, and quality with increased revenue upside and reduced cost of operations. IoT is an integral part of Infosys Digital offerings and has been incubated under its engineering services business. With over 2,000 IoT services employees, Infosys has over 100 active clients across 20 countries, spread over 15 industry domains such as manufacturing, aerospace, pharma, oil and gas, consumer products, and mining.

Infosys IoT solutions are broadly classified under Industrial IoT, Consumer IoT, and Smart Spaces.

Industrial IoT helps Infosys clients transform their production and operations in manufacturing through IT-OT integration. "Digital Thread" driving manufacturing helps product life cycle digitally from "as designed," "as manufactured," and "as operated" to "as serviced." Consumer IoT helps Infosys clients innovate through connected products and experiences in the digital ecosystem for enhanced consumer experience, hyperpersonalization, safety, and security. Finally, Smart Spaces assists Infosys customers transform physical workplaces into enhanced workspaces for employees by implementing digital technologies to achieve optimized space utilization, reduced energy consumption, and reduced carbon footprint.

Infosys delivers these services through its consulting and advisory, implementation, and managed services. Its strategy is to be an "ecosystem integrator" by leveraging its partner ecosystem, academia, and industry forums. Infosys' GTM strategy is to leverage ready-to-deploy over 12 end-to-end domain-specific solutions such as Smart Factory, Smart Pharma, Digital Mines, Connected Cars, Smart Buildings, and KRITI (Infosys' IP solution to manage plants from design to end of life) along with over 20 IoT solutions addressing white spaces.

Strengths

Buyers praised Infosys' current innovation capability, delivery competency, and current messaging related to these services. IDC analysts noted Infosys' proprietary frameworks and strategy to enable customers to increase adoption of these services as laudable differentiators. Also, according to IDC, Infosys' additional strengths include strategy to assist clients to get additional budgets and to assist clients with tools and methodologies.

Challenges

Infosys should focus on strategically scaling this business as well as improving the ability to provide support at customers' operations locations and the ability to solve delivery and commercial issues quickly and efficiently.

KPMG

KPMG is positioned in the Leaders category in the 2020 worldwide IDC MarketScape for business and industrial IoT consulting and systems integration services.

KPMG pursues technology-enabled business transformation and deploys its IoT capability horizontally across its management and risk consulting offerings. It brings strategy, operations, and change management competencies to bear, along with insights into the regulatory and tax implications for IoT. It also supports a healthy distribution of IoT platforms. KPMG uses its Innovation Network representing participating partners and customers to address a broad range of use cases and accelerate delivery to market. Notable engagements include developing the Smart City strategy and a prioritized road map and stakeholder engagement for cities and regions; working with major clients to develop the business case for commercialization of IoT; undertaking market scans and analysis across communication networks, devices, sensors, and platforms; developing an IoT strategy for major utilities; helping state governments design policy for IoT-enabled digital transformation of the agriculture sector; providing IoT-specific vendor evaluation frameworks for procurement teams; providing IoT maturity assessments with global benchmarking; and providing assurance around IoT investments.

Strengths

Buyers cited KPMG's ability to provide support at customers' onsite locations and ability to resolve commercial issues quickly as key strengths. They also praised the quality of the KPMG delivery teams and their current innovation capability for IoT C&SI services. IDC lauded KPMG for its pricing and customer retention strategy.

Challenges

To increase the business, KPMG should focus on expanding the breadth, depth, and scale of its IoT C&SI services offering. KPMG should also focus on enhancing marketing/communication related to its ecosystem/partnership strategy and how it will benefit its customers.

NTT DATA

NTT DATA is positioned in the Major Players category in the 2020 worldwide IDC MarketScape for business and industrial IoT consulting and systems integration services.

NTT DATA delivers product-agnostic services and flexible engagement models that combine the scale and power of a large IT services provider with the attention from a boutique firm. NTT DATA has a strong focus on providing customers with digital transformation services. It currently focuses on six

Digital Focus Areas (DFAs): Cybersecurity, AI, Intelligent Automation, Optimized IT, Customer Experience, and IoT. NTT DATA offers IoT services that include strategy, consulting, integration, and security. In addition, it offers analytics, machine learning, user experience, and blockchain services if required by its customers. NTT DATA does not regard its IoT engagements as standalone projects but as one of the technologies to be combined with other services to improve business processes and create better insights and/or user experience. Any IoT project therefore requires NTT DATA's full services portfolio around IoT. At a foundational level, NTT DATA views its customer business as a driver and adopts an approach that includes integration of business systems, and CX also plays an important role for its end-to-end approach.

Strengths

Buyers cited NTT DATA's innovation capability, ability to provide business and technology benefits, and flexible pricing models as the greatest strengths. According to IDC, key strengths of NTT DATA include its customer retention strategy and offering breadth and depth of services.

Challenges

NTT DATA should focus on improving its tools and methodologies framework. Based on client feedback regarding the perception of NTT DATA's IoT services offering, the company should also enhance its marketing and messaging for these services.

TCS

TCS is positioned in the Leaders category in the 2020 worldwide IDC MarketScape for business and industrial IoT consulting and systems integration services.

TCS is a part of the Tata Group, one of India's multinational business groups. TCS' IoT business supports customers across North America, Europe/United Kingdom, and APAC, serving customers in industries such as manufacturing, energy, utilities, retail, consumer packaged goods, transport, travel and logistics, life sciences and healthcare, telecom, hi-tech, and banking and insurance.

TCS IoT solutions are aligned to drive business and operations transformation for customers, with simultaneous emphasis on bringing change across the functions of organization. TCS guides customers strategically in their IoT transformational journey to realize successful business outcomes. TCS also focuses on enterprisewide impact for its customers through this business and operations transformation, which is driven through transformational service offerings across Connected Assets, Connected Products, Smart Manufacturing, Connected Supply Chain, Connected Workers, and Smart Cities.

To plan, build, run, and scale its IoT services business, TCS has launched IoT Business Framework – Bringing Life to Things, which consists of use cases that deliver business value and the road map across the connect in-context, predictive, self-aware stages that can transform the organization internally and also externally with its ecosystem partners. TCS offers these capabilities and delivers results through different flexible pricing and delivery models. To deliver business results through a partnered solution model, TCS has established an expanding partnership ecosystem. IoT platform partners include AWS, IBM, Microsoft Azure, Siemens MindSphere, Google, Cisco, GE, and SAP. Top communications, devices, and sensors partners include Intel, Bosch, Freescale, ARM, BT, Dell, Panasonic, Cisco, Juniper, Tata Communications, Qualcomm, Vodafone, and NXP. TCS' approach that enables customers to achieve successful business value includes vision to value through a consulting-led value discovery approach, delivering ROI of business value-driven solutions in shorter

time frame; solving the last-mile problem for end-to-end IoT implementation, which ensures IoT scalability; and ensuring enterprisewide impact by delivering business value in short time frames.

Strengths

Buyers evaluated TCS highly for its scale, experience, and business and technology benefits that were provided because of the partnership. They also noted TCS' ability to provide support at customers' operation locations and ability to resolve any delivery or commercial issues quickly as key strengths. According to IDC, strengths of TCS are its strategy to refine and build new competencies, efforts to assist clients to secure additional or new budgets, and partnership strategy for IoT C&SI services.

Challenges

TCS should invest in strengthening its messaging with customers for IoT C&SI services by highlighting its strengths for these services. TCS should explore additional and differentiated pricing models and invest in building a stronger IoT consulting organization.

Wipro

Wipro is positioned in the Leaders category in the 2020 worldwide IDC MarketScape for business and industrial IoT consulting and systems integration services.

Wipro's vision for IoT is to transform enterprise business, services, and process while enhancing the customer experience. Wipro's IoT engineering services and solutions span across all the major industry segments, including energy and utilities, manufacturing, healthcare, pharma, consumer, retail, smart infra, transportation, and BFSI, supported by over 7,500 professionals and consultants with customer deployment experience across engineering consulting, implementation, systems integration, and global support.

Wipro's IoT-led digital transformation approach is focused on bringing together end-to-end capabilities and solutions for customers and helping them in all aspects of IT-OT integration through product engineering, connectivity, cloud platform engineering, applications build, advanced data analytics and artificial intelligence, enterprise systems integration, and remote command center operations. Wipro has built a partnership ecosystem with market leaders in the IoT space across the edge, network, cloud, and enterprise tiers that enables Wipro to deliver solutions in line with evolving customer needs and technological advancements. Wipro has also developed a portfolio of industry reference solutions and accelerators for IoT/IIoT use cases leveraging key partners such as Microsoft, AWS, and IBM to accelerate IoT adoption among customers by demonstrating quick return on investment.

According to Wipro, it differentiates itself with the EngineeringNXT initiative by providing a unique proposition combining over 35 years of engineering DNA with the depth and breadth of technologies, mature processes, and innovation to offer IT/OT solutions and services through a diverse ecosystem to deliver value to customers at every stage of digital transformation.

Strengths

Clients lauded Wipro for the value delivered for the contract price, quality of its IoT services talent, and its ability to resolve delivery or commercial issues at client locations. IDC noted Wipro's ability to refine existing and building new competencies keeping in mind customers' business priorities, growth focus, and proprietary frameworks and strategy to enable customers to increase adoption for these services as particular areas of strength.

Challenges

Wipro should focus on improving its marketing and communication of its ability to innovate with clients, exploring, offering differentiated pricing models, and improving its partnership strategy to get access to a larger client base.

APPENDIX

Reading an IDC MarketScape Graph

For the purposes of this analysis, IDC divided potential key measures for success into two primary categories: capabilities and strategies.

Positioning on the y-axis reflects the vendor's current capabilities and menu of services and how well aligned the vendor is to customer needs. The capabilities category focuses on the capabilities of the company and product today, here, and now. Under this category, IDC analysts will look at how well a vendor is building/delivering capabilities that enable it to execute its chosen strategy in the market.

Positioning on the x-axis, or strategies axis, indicates how well the vendor's future strategy aligns with what customers will require in three to five years. The strategies category focuses on high-level decisions and underlying assumptions about offerings, customer segments, and business and go-to-market plans for the next three to five years.

The size of the individual vendor markers in the IDC MarketScape represents the market share of each individual vendor within the specific market segment being assessed.

IDC MarketScape Methodology

IDC MarketScape criteria selection, weightings, and vendor scores represent well-researched IDC judgment about the market and specific vendors. IDC analysts tailor the range of standard characteristics by which vendors are measured through structured discussions, surveys, and interviews with market leaders, participants, and end users. Market weightings are based on user interviews, buyer surveys, and the input of IDC experts in each market. IDC analysts base individual vendor scores, and ultimately vendor positions on the IDC MarketScape, on detailed surveys and interviews with the vendors, publicly available information, and end-user experiences in an effort to provide an accurate and consistent assessment of each vendor's characteristics, behavior, and capability.

Market Definition

The Internet of Things (IoT) is a network of sensors (or devices) that constantly monitor the state of the machine, systems, or infrastructure they connect with. These devices monitor and collect data related to various attributes of the machine and enable businesses to get better insight into their manufacturing operations, personal health, or the environment they live/operate in. This IDC MarketScape focuses on IoT services provided in a B2B or B2B2C context only.

IoT categories include the following:

- **Connected and intelligent assets.** Includes sensors and controllers (power and communications hardware/links)
- **IoT gateway (can be communications hardware or software program).** Connects controllers with the cloud infrastructure and sensors
- **Cloud infrastructure.** Stores raw and analyzed data

- **Application software.** Transfers/transmits raw data to on-premises or off-premises infrastructure
- **Analytics software.** Includes business intelligence
- **Secure edge infrastructure.** Processes large data volumes on the manufacturing shop floor before sending to the cloud

Examples of IoT strategy and consulting services offerings include:

- Business consulting, industry, business processing, operations consulting, and others related to IoT
- IoT-readiness status
- IoT road map and ROI strategy
- IoT security strategy
- IoT technology partner recommendations
- Recommendations to use existing infrastructure or rip and replace with new infrastructure guidance

Examples of IoT systems integration services offerings include:

- Install (commissioning/provisioning), integrate, and connect sensors and edge infrastructure to networks and applications.
- Provide user interface design and product design and deploy platforms/solutions (client developed, vendor owned or third party) and custom application development services.
- Customize and test platforms for integration.

Strategies and Capabilities Criteria

This section includes an introduction of market-specific weighting definitions and weighting values. IDC believes IoT consulting and systems integration services vendors must exhibit the characteristics shown in Tables 1 and 2, respectively, to be completely successful when crafting a future IoT services strategy and leveraging existing capabilities to their best advantage. The factors were weighted because IDC believes that some factors are more important than others in maximizing market opportunity and realizing market success. The current capabilities and future strategy scores were arrived at based on written response to the RFI from providers in context of the previously mentioned definitions. This was followed up by subsequent presentations and discussions regarding the provider's capability and strategy for these services and online and phone meeting that obtained feedback from client references for all the attributes provided in Tables 1 and 2.

TABLE 1

Key Strategy Measures for Success: Worldwide Business and Industrial IoT Consulting and Systems Integration Services

Strategies Criteria	Definition	Weight (%)
Functionality or offering strategy	Excellence is marked by the provider's ability to impact its customer's financial and operational performance.	9.00
Delivery	Excellence is marked by plans to support business and industrial (B&I) IoT consulting and SI services by building (on own or in partnership with other entities) and utilizing more efficient tools and methodologies.	11.00
Cost management strategy	Superior service calls for ways by which the vendor can help clients justify expenditures including ROI models and get additional budgets and by providing a clear strategy for clients to lower their costs.	12.00
Portfolio strategy	A strong portfolio strategy dictates that well-thought-out plans are in place to ensure development of offerings across the entire life cycle of B&I IoT consulting and SI services.	3.00
Pricing strategy	Excellence is demonstrated by plans to provide innovative and new pricing mechanisms to increase adoption.	4.00
Sales/distribution strategy	Excellence is demonstrated by plans to improve sales efforts.	8.00
Marketing strategy	Successful firms have an eye toward a well-articulated plan for how they will market their capabilities in the future.	8.00
Customer engagement strategy	Superior firms have a well-articulated plan to lower client churn and increase delivery consistency in the future.	12.00
Growth strategy	Firms have strategic plans for both organic and inorganic growth and ones that align well with the overall IT trends in the next one to three years.	13.00
Innovation/R&D pace and productivity	The firm has strategic plans for attaining or retaining functional superiority over competition by improving innovation in B&I IoT consulting and SI services delivery methodologies and tools.	4.00
Financial/funding model	The firm has a viable funding strategy for the next one to three years. The firm has solid plans for growing revenue per employee and a strong corporate-level support for the B&I IoT consulting and SI services practice.	9.00
Employee strategy	Excellence is marked by the breadth of skills the vendor has in its B&I IoT consulting and SI services practice. The firm has solid plans for hiring and retaining top-performing employees.	7.00
Total		100.00

Source: IDC, 2020

TABLE 2

Key Capability Measures for Success: Worldwide Business and Industrial IoT Consulting and Systems Integration Services

Capabilities Criteria	Definition	Weight (%)
Functionality or offering delivered	Analyst evaluation of firm's current business and industrial (B&I) IoT consulting and SI services offerings is considered. The offering capability is a combination of functional (domain) knowledge, industry insights, and technical capabilities along the entire stack of B&I IoT consulting and SI services. It also includes the breadth and depth of vertical-specific solutions as well as the ability to achieve desired business outcomes for the clients.	16.00
Delivery model appropriateness and execution	Analyst evaluation of the firm's level of delivery automation is considered. The delivery model must include an appropriate integration with the client team, the ability to meet client-developed project timelines, the ability to apply proven methodologies/tools, the ability to integrate AI solutions with the client's existing IT environment, the ability to handle changes in project scope, and the ability to deliver AI-enabled automation services.	14.00
Cost competitiveness	Analyst evaluation of the firm's resources used to deliver B&I IoT consulting and SI services is considered. Cost competitiveness can best be measured by the ability to deliver an appropriate and sustainable return on investment for the client.	9.00
Portfolio of benefits delivered	Analyst evaluation of the firm's capabilities to deliver additional benefits besides life cycle of services is considered. How extensive are the firm's capabilities to provide services that reduce dependency on labor (automation), improve operations, and increase uptime of operations and have a direct bearing on reducing costs of doing business (just-in-time inventory, improvement in quality, etc.) are addressed.	5.00
Pricing model options and alignment	Analyst evaluation of the types of pricing models offered to clients is considered. Flexible arrangements are available such that the client can choose to be billed as the budget allows.	4.00
Sales/distribution structure/capabilities	Analyst evaluation of the size of the firm's sales professionals dedicated to selling B&I IoT consulting and SI services is considered. Firms must operate by balancing both local and global requirements and work with channel partners. Firms should be able to work with partners (hardware/software product partners and other business/IT services providers) and should also be able to optimize the ratio of onshore and offshore efforts on a project.	7.00
Marketing capability	Analyst evaluation of the various marketing channels used related to B&I IoT consulting and SI services is considered. A firm should be able to communicate the value of its services/solution and delivery methodologies/tools that are currently being consumed by the clients as well as those that are not being currently consumed.	7.00

TABLE 2**Key Capability Measures for Success: Worldwide Business and Industrial IoT Consulting and Systems Integration Services**

Capabilities Criteria	Definition	Weight (%)
Customer services delivery	Analyst evaluation of the firm's ability to retain customers is considered. A firm's ability to provide service to a client is contingent on the firm's ability to deploy local resources where appropriate to resolve problems/issues.	9.00
Growth strategy execution	Analyst evaluation of revenue growth rates for B&I IoT consulting and SI services is considered. Essential to a services firm's growth is the firm's ability to develop "referenceable clients." Clients that strongly believe the firm will represent their best interests are most often referred.	9.00
Innovation/R&D pace and productivity	A firm's ability to be innovative can be showcased in the way the firm transfers this innovation to its clients via innovative service delivery and the quality and depth of thought leadership it generates.	9.00
Employee management	Success is measured, in part, by the head count associated with the practice. Success is also measured by how well an implementation services vendor manages its staff turnover during a project's lifetime and the quality of resources for the projects based on client perception.	11.00
Total		100.00

Source: IDC, 2020

LEARN MORE**Related Research**

- *IDC FutureScape: Worldwide IT/OT Convergence 2020 Predictions* (IDC #US45597519, October 2019)
- *IDC FutureScape: Worldwide Services 2020 Predictions* (IDC #US44800319, October 2019)
- *Market Analysis Perspective: Worldwide Product Engineering and Operational Technology Services, 2019* (IDC #US45551918, September 2019)
- *Worldwide Product Engineering and Operational Technology Services Forecast, 2019-2023* (IDC #US43276418, July 2019)
- *IDC's Worldwide Product Engineering and Operational Technology Services Taxonomy, 2018* (IDC #US43275418, October 2018)

Synopsis

This IDC study represents a vendor assessment of the 2020 worldwide business and industrial IoT consulting and systems integration services market through the IDC MarketScape model. This research is a quantitative and qualitative assessment of the characteristics that explain a vendor's success in the marketplace and help anticipate the vendor's ascendancy. This IDC MarketScape covers 18 vendors, and the evaluation is based on a comprehensive framework and a set of parameters expected to be most conducive to success in providing IoT consulting and systems integration services during both the short term and the long term.

"Achieving the desired technology or business outcomes as per contract terms and providing the appropriate domain-specific services by leveraging the right IoT engineering talent, IP, and technology vendor partnerships will be key to successful customer partnerships," said Mukesh Dialani, program director, Product Engineering and Operational Technology Services research. "Buyers are also looking for IoT consulting and systems integration services partners that can leverage new digital technologies and provide services to create a road map for an always-aware organization, resulting in improved operations and financial performance."

About IDC

International Data Corporation (IDC) is the premier global provider of market intelligence, advisory services, and events for the information technology, telecommunications and consumer technology markets. IDC helps IT professionals, business executives, and the investment community make fact-based decisions on technology purchases and business strategy. More than 1,100 IDC analysts provide global, regional, and local expertise on technology and industry opportunities and trends in over 110 countries worldwide. For 50 years, IDC has provided strategic insights to help our clients achieve their key business objectives. IDC is a subsidiary of IDG, the world's leading technology media, research, and events company.

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