The Path to Profitable Growth through the Internet of Things

Finding the Right Opportunities for Communications Service Providers

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The IoT will represent a huge paradigm shift for a lot of industries and fundamentally change people's lives in the way they interact between themselves and with their work and personal environment. It is therefore of paramount importance to understand what these changes represent for companies and consumers alike and try to distill from this understanding a positioning for the Communication Service Providers (CSP) industry.

Accenture has been working with its clients in the IoT area as it evolves from the discrete use of sensors, RFIDs, process control networks and machine-to-machine communications to its current form. Our communications industry clients are constantly asking the question "we have made investments in M2M but what does the IoT opportunity mean for us?"

Setting the Scene

The IoT has the potential to change the world as we know it. In its early stages the IoT is providing actionable insights from the data generated by physical things around us using sensors, RFID, process control networks and machine-to-machine (M2M) communications over cellular networks. Eventually, powered by innovation in Internet technologies and communications, embedded systems and analytics at scale, it will become a

network of physical devices that are interacting together, and with enterprise IT systems, to execute autonomous business functions and automate significant parts of our personal and business lives.

IoT momentum is accelerating, driven by the continuing drop in the cost of sensors, devices and communications (including the arrival of new, low power, IoT-dedicated technologies) combined with ubiquitous computing and smaller chips with more processing power. For businesses it holds the promise of future growth at Internet scale. The markets have shown that such growth potential can have significant impact on the market valuation of technology-driven businesses, even when positive cash flow and profitability are absent. As the valuation of communications businesses gradually declines due to eroding core product value and competitive pressure from over-the-top players, the IoT can be a substantial opportunity to drive value through new end-to-end services capturing parts of the IoT value-chain and the substantial growth anticipated in communications services.

The dominance of the CSPs as the gravitational force in the IoT era is therefore not as obvious as it was in the mobility era and will require some solid adaptation to the changing environment. As with any major paradigm shift there will be great opportunities for many different market players and clearly

the CSPs have some undisputable unique assets to leverage. It is however safe to state that the existing business models for person-to-person communications cannot be transposed and re-used "as is" for the IoT business.

Many communications service providers (CSPs) are walking the line, investing while assessing their true IoT business opportunity. To accelerate this process, Accenture provides a framework for thinking about the IoT value chain, explores where the IoT opportunities lie for the communications industry and discusses how and where to invest to reap the benefits.

IoT defined

IoT is still a nascent term with many definitions. It may be most easily understood by imagining a set of business use cases involving such areas as connected cars, connected home monitoring, or connected health management. Each use case is enabled by an interconnected world of smart devices that have an ability to sense their physical operating environment. These smart devices compute when required based on some embedded business logic, and communicate output to other devices and central processing capabilities to create actionable insight.

The IoT brings together various technologies including embedded sensing, device identification and management, wireless sensor networks and M2M managed connectivity platforms and communications. Ultimately it will encompass pervasive and context-aware computing (sensing), hyper-connectivity (always connected) and Cloud and innovations in Internet technologies (REST, APIs, platforms), communications (LTE, LPWA), embedded

systems and analytics. At this stage many use cases will be designed based on devices participating in an autonomous 'pull' environment with continuous demand sensing, end-to-end automation and resource optimization.

The connected devices will generate vast amounts of data but lack the computing power of PCs, tablets and smart phones and the cognitive abilities of human users. Consequently, some of this data will be stored and analyzed centrally on an IoT cloud platform but some will be processed by intelligent gateways located at the 'edge', close to the physical devices where data will be consolidated and analyzed to reduce data traffic and costs. Data transmission may be in 'bursts' with small data packets being transmitted from a very large number of IoT devices or nodes. In other cases, data transmissions will be of high volume and high bandwidth such as streaming video. Dedicated applications running on IoT platforms or distributed to 'edge' gateways will generate actionable insights through events triggered by machine, devices or human actions.

The IoT value chain

The value chain through which the many IoT use cases will be delivered is broadly enabled by four key components:

- Physical devices that have sensors, actuators and embedded communication hardware

- Communication channels that provide hyper-connectivity, edge computing and edge analytics

- Cloud based processing and distribution capability (platform or middleware) to process triggers, events and data from devices and facilitate creation of applications and associated analytics

- Applications and services that that take pre-defined actions based on the input from devices and platforms and help to analyze, visualize, interpret, aggregate and distribute output from the platform.

Any significant participant in the value chain will either provide or operate one or more of these key components. Accenture anticipates there will be five primary roles (Figure 1) within the IoT value chain ranging from embedded technology provider or hyper-connector to platform or app provider or IoT integrator.

Figure 1: Roles within the IoT Value Chain

Role

Embedded technology provider	Hyper-connector	IoT platform provider	IoT app provider	IoT integrator

Key attributes

Embedded technology provider	Hyper-connector	IoT platform provider	IoT app provider	IoT integrator
• Research and development driven • System-on-chip and embedded system design expertise • Security and edge computing become critical	• Networking domain knowledge including low-bandwidth technologies • Ability to operate at scale	• Microservices architecture and design capabilities • Cloud services offered on transactional basis • Technology integration, analytics and big data expertise • Open-source technology expertise	• Domain and industry knowledge to develop actionable insight and provide APIs for participating in autonomous networks • Application development capabilities	• Understanding of each component of the value chain: IoT processors, communication technologies, IoT platforms, applications, security and operations • Ability to provide tailored services that include consulting, design and integration of IoT systems and support

The IoT value chain is also expected to have secondary roles like IoT device distributors or after-sales support providers but such roles may not represent significant economic opportunity.

The IoT ecosystem and competitive landscape

Companies from many different industries are pursuing IoT opportunities in various roles within the IoT value chain. Google, Amazon and other Internet companies have been very active in IoT, either through the acquisition of companies such as Nest and 2lemetry or more visible investments such as self-driving cars and drones. Auto companies, heavy machinery manufacturers, medical device manufacturers, logistics and industrial goods companies such as BMW, Fiat-Chrysler, Caterpillar, Maersk, GE, Honeywell, ABB, Emerson and Siemens have made serious commitments to IoT including significant research and development investment, new partnerships and hiring of software engineers and experts. It is too early to tell the fate of these initiatives but some of these companies have inherent advantage: Strong balance sheets, domain knowledge, engineering and product development capabilities and the discipline required to realize IoT opportunities.

The IoT domain has also seen the emergence of niche companies such as SIGFOX, EVRYTHNG, Aeris, Ayla Networks, and Axeda (now part of PTC) focused on building IoT platforms and communications networks. Major chip manufacturing and design companies, including Intel, Qualcomm and ARM, are extremely active in building ecosystems of device manufacturers and network providers. Major IT and network companies such as Oracle, IBM, Microsoft, Cisco, and Juniper are also actively investing in this area.

Interesting partnerships are also forming. For example, Google has joined Carnegie-Mellon University to lead a collaboration of faculty from several other academic institutions to jumpstart the Internet of Things revolution. The collaboration will build an open-source, universal platform to address interoperability challenges for device communication.

SIGFOX & LoRa Alliance: Driving innovation in IoT communication

SIGFOX provides a highly scalable global network for connected devices. SIGFOX Ready™ devices connect to the Internet without incurring geo-dependent connectivity costs or location-specific network configuration. SIGFOX Ready devices are low in energy consumption as compared to their M2M counterparts.

The SIGFOX Network Operator partnership program connects local ecosystems to SIGFOX's global network. It has a proprietary protocol that is compatible with most existing transceivers, making it easily accessible for module and device manufacturers.

LoRaWAN is a Low Power Wide Area Network (LPWAN) specification intended for wireless battery operated things in regional, national or global networks. LoRaWAN targets key requirements of the Internet of Things such as secure bi-directional communication, mobility and localization services. This standard will provide seamless interoperability among smart things without the need of complex local installations and gives back the freedom to the user, developer, or business, enabling the role out of the Internet of Things.

The IoT opportunity for the communications industry

As the IoT ecosystem forms and incorporates a diverse set of companies, the time is ripe for CSPs to determine their strategy and business model. For CSPs the IoT opportunity is an extension from their core business of "connecting people" to "connected everything". Many CSPs have taken a lead in the IoT area, primarily through customer-facing M2M initiatives that have generated a lot of excitement among media, analysts and the community. Smart meters, home security systems, logistics and connected cars are some of the early use cases enabled by M2M connectivity using cellular networks.

The early days of machine-to-machine have already revealed some key CSP themes which will become amplified in the IoT space:

• Security

• Reliability

• Interoperability

• Ubiquity of the connectivity (including convergence)

• Billing and provisioning

• Distribution

• (Big) data analytics

Consequently CSPs should explore how each of these themes can be enhanced, reinforced and optimized as a differentiating element in the position taking into the value chain. The lessons learned from the battle around the device operating systems in the mobility era – moving from operator defined/influenced specifications and propriety kiosk like services to completely device dominated operating systems and service platforms (Android and iOS) – should stimulate CSPs to carefully asses their strategies.

CSPs that have invested in integrated M2M platforms with a long-term view are well-positioned to succeed in this fast-evolving area. However, a careful evaluation and sector-specific view of the opportunity is required. Table 2 represents Accenture's evaluation of the sectors and use cases most suitable to exploit the potential of IoT.
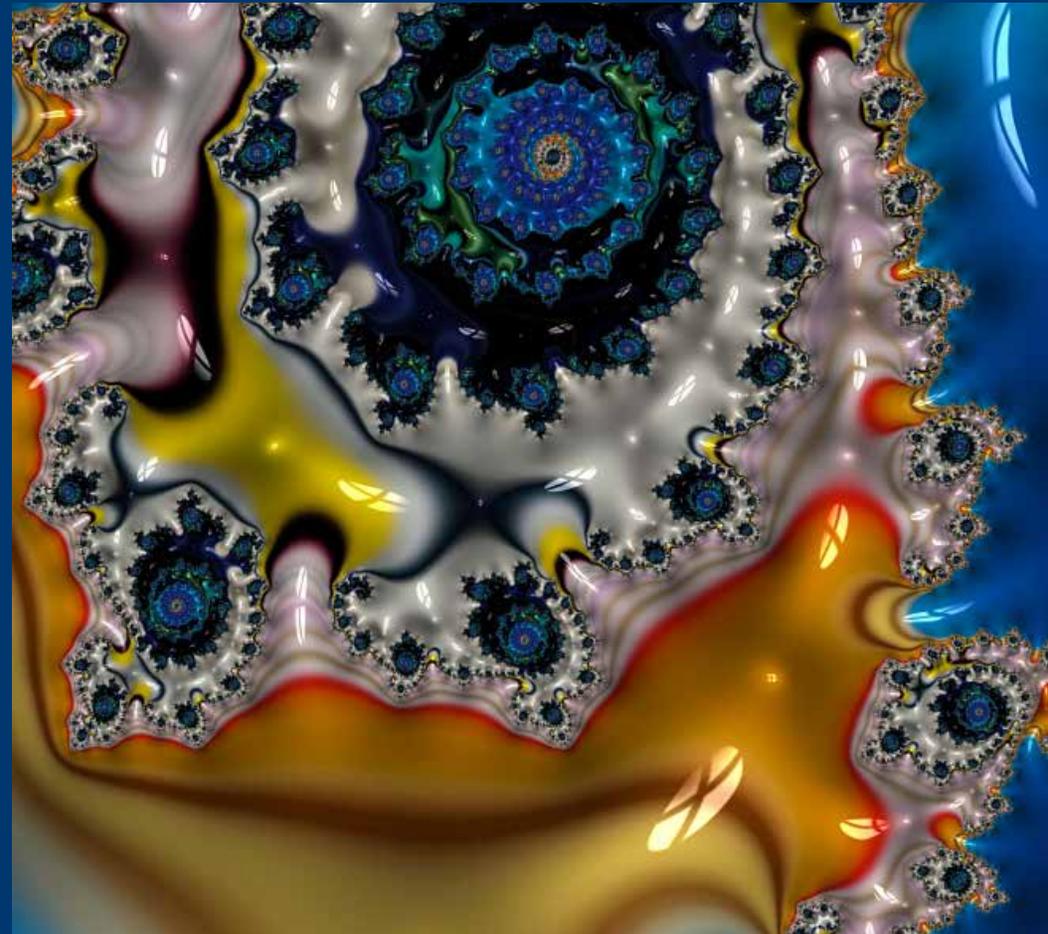
Table 2: IoT Opportunity Areas

Sector	Use cases	Examples
Transport	• Smart car navigation and infotainment • Emergency and breakdown call services • Engine monitoring and telematics based insurance services • Vehicle asset management • Fleet management and routing • Intelligent transport systems • Pay-as-you-drive (usage-based) insurance	The AT&T network had nearly 22 million IoT connected devices worldwide as of March 31, 2015. Of those devices, 684,000 were connected cars. AT&T is working with eight of the top automakers. The wireless company's home security and automation service "Digital Life" and connected car service "Drive" will be integrated so users can control their homes from a dashboard in their vehicles. Vodafone has announced a deal with Volkswagen and Audi in Europe to provide connectivity in vehicles, starting with new Audi models from 2015. Under the terms of the deal, Vodafone will supply an embedded SIM to both Volkswagen and Audi. Gemalto, the world leader in digital security, and China Telecom, one of the largest operators in China with more than 190 million mobile subscribers, are developing a proof-of-concept for connected cars using Gemalto's LinqUs On-Demand Connectivity (ODC) subscription management solution. They will integrate this ODC solution on vehicles, paving the way for China Telecom's auto-maker customers to offer instant connectivity on cars, anytime and anywhere.

Sector	Use cases	Examples
Operations	• Smart metering (water, electricity, gas) • Smart grid • Physical asset management • Predictive maintenance • Connected worker • Insurance reporting for businesses • Energy monitoring and control • Connected supply chain • Connected manufacturing and Industry 4.0	HydroPoint, the California water management and irrigation firm uses AT&T-connected devices to carry out a number of tasks surrounding irrigation and water management, with large numbers of devices in the field now connected to the web. Verizon is rolling out its latest Grid Wide Utility Solutions that include options for demand response, smart metering, outage management, distribution monitoring and other applications to improve grid efficiency. The services are available initially in the United States, home to about 147 million electric meters.

Sector	Use cases	Examples
Health	• Assisted living (such as remote diagnostics and monitoring, and medication compliance) • Communication and collaboration for medical staff • Health and wellness apps	For patients suffering from long-term conditions, regular general practitioner or hospital visits can have a negative impact on lives already affected by ill health. It also ties up resources on the part of the healthcare provider, costing money and reducing the amount of time available for other patients. Vodafone mHealth Solutions offer patients with such long-term conditions unobtrusive remote monitoring and management of their condition in their home environment. A single portal concept allows patients and their doctors, caregivers and other key stakeholders to report, share and access data in a timely and secure way, supporting periodic review and preventing escalations.

Sector	Use cases	Examples
Spaces	• Smart buildings • Smart cities including remote parking controls on parking lots, selective streetlight, waste management • Public safety and security • Advanced weather systems • Connected irrigation systems & precision agriculture • Animal identification and control • Security systems	Milton Keynes, UK is conducting a trial of a city-wide public Internet of Things network that includes digital parking spaces that signal when they are empty, and smart bins that send a message to rubbish collectors when they are overflowing. Over the next 18 months, the trial will be extended to dozens of things such as rodent traps, soap dispensers, water meters and central heating systems. The project will be based on the weightless communications standard and will be used to demonstrate the ability of a city-wide M2M infrastructure to cope with a large number of static and mobile sensors. Etisalat, a leading Telecommunications provider operating in the Middle-East, Africa and Asia has launched its Smart Home Solutions in UAE. The Smart Home Solutions enables customers to manage their home appliances and lighting, monitor their home on cameras and measure energy consumption through their smart devices from anywhere in the world. Dubai government's latest initiatives will make its Smart City project one of the best in the world. It is to add IoT as a fundamental layer of its 'Smart Cities' projects and eGovernment initiatives which have an emphasis on greater use of mobile devices in traffic management, building management, and public security services. The official 2017 UAE smart cities strategy covers 100 initiatives, and states that 1,000 smart services will be available. Etisalat is expected to be a crucial partner in the UAEs smart cities project. South Korea's SK Telecom introduced an open Internet of Things platform, based on the oneM2M global standards initiative, aimed at developers. The operator said it plans to use this for the smart city testbed. Cooperating with the city government, SKT aims to upgrade a variety of public services – such as parking management, building energy management and safety services.

Sector	Use cases	Examples

Commerce

IoT presents a unique market opportunity to form a one-on-one link with customers, nurture closer relationships, and ultimately gain usage and opinion based consumer feedback that could lead to substantial product design developments and ultimately deliver a huge competitive advantage.

- Personalization, couponing and offers
- Retail beacons
- Personal navigation devices
- E-readers
- Connected home & connected appliances
- Smart digital cameras and photo frames

Vodafone and Towers Watson have formed a strategic partnership to provide a UBI (Usage Based Insurance) solution that enables motor insurance providers to capture dynamic per second driving behavior and contextual environment data to improve underwriting and pricing approaches, cost management and overall profitability.

In addition to measuring risk more accurately, UBI can actually reduce risk. Providing drivers with a combination of feedback and meaningful incentives has already been shown to reduce accident frequency.

When considering opportunities, CSPs have certain natural advantages that are relevant to the IoT business: customer trust for reliability of service, access to customer home or business premises via mobile or broadband or fixed networks; mechanisms for usage-based billing (important for IoT as it moves to cloud and SaaS commercial models); carrier billing for new consumer IoT services; network assets that can facilitate rollout of other IoT-related communications technologies; and strong balance sheets for capital intensive, slow gestation large projects. While it is still unclear what role telecom operators should and will play, CSPs can leverage these advantages in specific capacities within the IoT value chain (Figure 3).

The GMA, an alliance of six operators (DT, Orange, TeliaSonera, TIM, Bell Canada and SoftBank)

The Global M2M Association (GMA), will offer a 'Multi-Domestic Service', where the embedded SIM (eSIM) acts like a local SIM in each member market. Ericsson is providing the connectivity platform to the GMA with Gemalto's subscription management platform.

Figure 3: Potential CSP Roles in the IoT Value Chain

Role	CSP opportunity	Key challenges	Recommendations
Embedded technology provider	CSPs can play this role in scenarios that require: • A large distribution channel for embedded technology • Secure provisioning, activation and device registration capability • Segregation of communication components from the IoT device • Gateways consolidating multiple connected devices	CSPs lack product development capabilities and the domain knowledge required to act as an embedded technology provider. Evolving and immature technology standards require significant investment to keep up with the technology landscape.	This is a role for CSPs to selectively play, preferably with chip and device manufacturers as a part of their broader IoT strategy. This is unlikely to be a standalone business for CSPs.

Role	CSP opportunity	Key challenges	Recommendations
Hyper-connector	CSPs are trying to be the "hyper-connector" as it seems like a natural fit and natural evolution of their M2M businesses. The following usage scenarios work to CSPs' natural advantage: • Outdoor and non-urban situations where there is no "free" connectivity available • Situations in which mobility and 'always connected' are important factors (e.g. fleet management) • No reliance on a location owner's connectivity at all (alarm services, insurance, and in some cases remote sites for a large business that doesn't want to setup its own Internet access at each location) • Scenarios that require high bandwidth traffic and rich content	IoT networks are a bit different from the traditional mobile and fixed networks due to protocol differences, lower power and device processing. They therefore require a network with an "Intelligent Edge". Traditional telecom networks are not designed for the IoT requirements as devices were inherently more powerful in terms of battery and processing power. However, this is changing with the LTE-Advanced and beyond (5G) as the communication requirements of IoT devices are factored into the network design. That said, it will be a while before CSPs roll out 5G. Changing existing operator networks to meet IoT requirements may not make economic sense given the challenges in CSPs core business. Other challenges include: • Low average revenue per device • Non-uniform enterprise customer care needs • Rapid scaling of network and platform capabilities • Unpredictable application behavior • Global deployments	A number of CSPs are evaluating these new networks (e.g. BT, Vodafone, Telefónica and Swisscom) are in the process of testing LPN (Low power network). CSPs should be in this business but very aware of the challenges outlined. Being at the right cost point is the number one criterion to meet. CSPs in this business need to make sure their operating model, processes and set up is lean and fits the commercial drivers of this business. This will, undoubtedly, mean supporting and offering one of the flavors of IoT-specific networks

Role	CSP opportunity	Key challenges	Recommendations
IoT platform provider	CSPs can enhance their M2M investments as IoT platforms or partner with niche platform providers. CSPs have also partnered with the commercial cloud providers to offer cloud computing. These providers are investing to meet the upcoming data ingestion, storage and manipulation needs of IoT. Together, CSPs and their cloud partners can offer IoT platforms.	IoT platform development will require strong product management, and advanced software development capabilities with deep domain knowledge. CSPs may struggle to hire top cloud software talent which is a fundamental requirement. CSPs also lack operational experience running large-scale cloud platforms.	CSPs have the client base, operations and partner relationships to be an IoT platform provider. They should either "white label" solutions from existing platform providers or reengineer their M2M investments to provide a connectivity-independent platform.
IoT app provider	Key players in the app provider role are often small, niche providers that have spun out of industries to build specific solutions to solve narrow use cases. CSPs typically don't have industry knowledge and domain expertise to provide domain-specific applications that create insight and value, such as predictive maintenance solutions. It will be difficult for CSPs to recreate these solutions internally.	Many early IoT applications simply provide device and asset monitoring but the next generation will provide advanced analytics such as predictive maintenance or decision insights. Developing true value-add IoT applications requires a deep understanding of the industry in which these applications run and the devices they are controlling. Besides, in the more mature verticals, e.g. fleet management, there are already very advanced solutions and competition is intense.	Partnering or acquisition is the best entry route for CSPs in this area.

Role	CSP opportunity	Key challenges	Recommendations
IoT Integrator	End-to-end integration of IoT solutions will be challenging and complex encompassing everything from sensors, devices, middleware, and analytics operating in a real time environment. CSPs have demonstrated capability to take on large, CAPEX heavy projects. IoT solutions will be, typically, delivered over the cloud and offered on transactional, pay-as-you-use commercial terms. This will require strong balance sheets to support commercial arrangements, which plays to CSP strengths.	IoT integrators will have to take on complex commercial arrangements and provide the service orientation and professional capabilities to deliver complex integration projects on time and budget. Certain, larger CSPs may have the desire to take on such projects but many will shy away from the levels of complexity and risk involved.	This area is a "logical area" for CSPs but they should not underestimate the professional solution design, contracting, and program management required to make a profitable business out of it (vs. a big 'top line only' business). Some CSPs have a strong history of delivering integration services and can build a professional services capability themselves. Others are best suited to partner with another integrator who brings in complementary skills and compatible culture. CSPs should also consider low CAPEX but high margin managed service businesses especially for the industries that will benefit significantly from IoT but do not have CAPEX appetite or technical capabilities to build IoT capabilities.

IoT app provider: Partnerships and community driven innovation

TELUS, Canada's national telecommunications company, added more than 30 innovative new solutions to the TELUS IoT Marketplace since its December 2014 launch, from smart restaurants to intelligent stores to connected farms. The TELUS IoT Marketplace is Canada's first and largest portal for IoT solutions.

The platform houses an online catalogue of turn-key IoT solutions. Functioning much like an "app store" for IoT, it enables businesses in Canada to identify and request a TELUS-approved IoT solution that can be added as a monthly charge to their TELUS bill.

The proof of the pudding...

Many of the highlighted use cases are highly applicable to CSPs for use in their own operations and this opportunity should not be missed. This is true particularly in Transport (fleets), Operations (physical assets, field workers) and Commerce (retail operations, connected home and connected consumer electronics). For example, intelligent beacons in CSP retail stores can be used to create personalized offers and bundles for customers. The use of IoT technologies to improve CSP operations is a huge opportunity that, to date, has been relatively untouched in the excitement of external facing initiatives. CSPs can drive significant operational benefits by improving field force performance through "connected workers". They can decrease network down time through preventive maintenance of network assets based on frequent collection of asset health and physical environment data. CSPs can enhance internal collaboration and processes by integrating and sharing captured data across departmental and/or geographic boundaries. They can better and more comprehensively manage assets, optimize their contact center operations and increase cooperation with suppliers and partners to automate end-to-end sales and inventory functions.

CSP keys to success with IoT

Accenture strongly believes that IoT will have sweeping impacts on the way the world works and lives. Bridging the physical and the digital worlds will create end-to-end autonomous systems capable of reducing waste, optimizing resources, changing the nature of work, creating new business models for enterprises globally and, ultimately, delivering huge value to businesses and consumers alike.

This complex ecosystem can be successfully tackled by CSPs. To do so, following are the prerequisites that CSPs need to have in place:

- A coherent strategy with a clear business case, market and sector identification

- Partnerships in the ecosystem, including possible acquisitions to fill gaps in strategy execution

- Clarity about the operating model: consider creating a subsidiary or separate line of business to avoid the fixed overhead of the enterprise

- A plan to lower cost of IoT-specific networks for affordability

- Technology expertise and delivery capability

- An entrepreneurial culture that is agile and enables teams to try more and fail fast

IoT is a long-term, high growth but slow burn business. As such, it may test most CSPs management capacity and CAPEX appetite to invest, particularly as the traditional CSP "cash-cows" are being slaughtered. But CSPs should not ignore the IoT opportunity. IoT is a profitable path to future growth at Internet scale, which leads to higher market valuations in the short term and new cash cows into the future. It simply comes down to finding the right opportunities.

Accenture has established an IoT practice within Accenture Digital. Its goal is to be a market leader in IoT solutions by helping clients to exploit the opportunity with comprehensive offerings that cover IoT strategy, Industrial Internet security assessments and platform based vertical solutions for nearly one hundred use cases. Accenture's deep cross-industry knowledge means that our telecommunications clients can accelerate and de-risk their market entry for each and any of the value-chain roles they wish to participate in:

- For the 'embedded technology provider' Accenture can assist in device selection, device design and embedded software development to customize IoT solutions by bringing understanding of devices through it's Tech Labs and Emerging Technology teams; its active participation in leading IoT industry bodies and strong capabilities in the development of industrial and embedded systems

- For the 'hyper-connector' Accenture can assist in identifying the best-fit networking architectures to deliver specific IoT use cases whilst ensuring the right price points and operating model to support business cases

- For the 'IoT platform provider' Accenture can provide the IoT platform infrastructure to compliment a CSPs own connectivity and cloud platforms to enable best-of-breed, end-to-end IoT solutions for clients

- For the 'IoT apps provider' Accenture can provide a series of industry applications across all of the major IoT use case categories including transport, spaces, health, commerce and operations/industrial Internet of Things that can be white-labelled or sold jointly with CSPs leveraging their customer relations and Accenture's industry and applications skill

- For the 'IoT integrator' Accenture can provide complimentary systems integration skills covering enterprise software, IoT architectures, applications and PMO by building on our end-to-end experience of large scale IoT and SI projects to support CSP's and their clients integration projects

By working collaboratively with Accenture, CSPs can quickly harness the benefits of IoT for themselves and open new channels of revenue and client engagement.

Sources

www.corp.att.com/ap/resource/media/pr/2015_pr/0403.html

www.vodafone.com/content/index/media/vodafone-group-releases/2014/vw-audi.html

www.gemalto.com/press/Pages/China-Telecom-and-Gemalto-present-joint-innovation-for-connecting-cars-and-IoT.aspx

www.globenewswire.com/news-release/2015/07/15/752065/10141613/en/China-Telecom-and-Gemalto-present-joint-innovation-for-connecting-cars-and-IoT.html

www.hydropoint.com/m2m-spotlight-hydropoint-smart-water-management/

www.computing.co.uk/ctg/analysis/2420919/at-t-internet-of-things-connectivity-gives-irrigation-firm-hydropoint-visibility-it-didnt-have-before

www.verizonenterprise.com/industry/utility/gridwide/

www.vodafone.com/business/m2m/health

www.btplc.com/Innovation/Innovationnews/MiltonKeynesIoT/index.htm

www.etisalat.ae/en/aboutus/media/press/press-releases/2014/etisalat_launches_smarthome.jsp

www.sktelecom.com/en/press/detail.do?idx=1124

www.vodafone.com/business/m2m/telematics-usage-based-insurance

www.directline.com/car-insurance/telematics/black-box

www.about.att.com/innovation/foundry

www.about.telus.com/community/english/news_centre/news_releases/blog/2015/07/29/telus-internet-of-things-marketplace-doubles-in-size

For more information

Contact

Tom Loozen
tom.loozen@accenture.com

Craig McNeil
craig.a.mcneil@accenture.com

Ben Salama
ben.salama@accenture.com

Sanjeev Shukla
sanjeev.shukla@accenture.com

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Accenture is a global management consulting, technology services and outsourcing company, with more than 358,000 people serving clients in more than 120 countries. Combining unparalleled experience, comprehensive capabilities across all industries and business functions, and extensive research on the world's most successful companies, Accenture collaborates with clients to help them become high-performance businesses and governments. The company generated net revenues of US$31.0 billion for the fiscal year ended Aug. 31, 2015. Its home page is www.accenture.com.