



Ericsson - Enabling the transformational power of the IoT vision

Ericsson is intrinsically linked to the history of telecommunications. Since Lars Magnus Ericsson established the company in 1876, each step of both the evolution of the telecommunications market and the technological history of telecommunications have been defined by the presence of Ericsson. Over recent years, that legacy has defined Ericsson as a key telecommunications network infrastructure provider in the marketplace with a strong presence in the cellular world. However, Ericsson has always been much more than that. Specifically in the M2M space, the Swedish company has also had a strong say in the evolution of that sector, not only through infrastructure, but additionally through Ericsson's platform. On top of that, Ericsson's M2M customer base has not been only around mobile network operators, but has also involved enterprises from other sectors. This approach has evolved with the move from M2M towards IoT environments, further empowering Ericsson's presence in the IoT space. **Saverio Romeo**, principal analyst at **Beecham Research** recently met with **Esmeralda Swartz**, VP strategy and marketing BUSS (Business Unit Support Solutions), **Ericsson**, in order to understand more about the role of her company in the IoT market.

SR: What's your view of the current status of the IoT market?

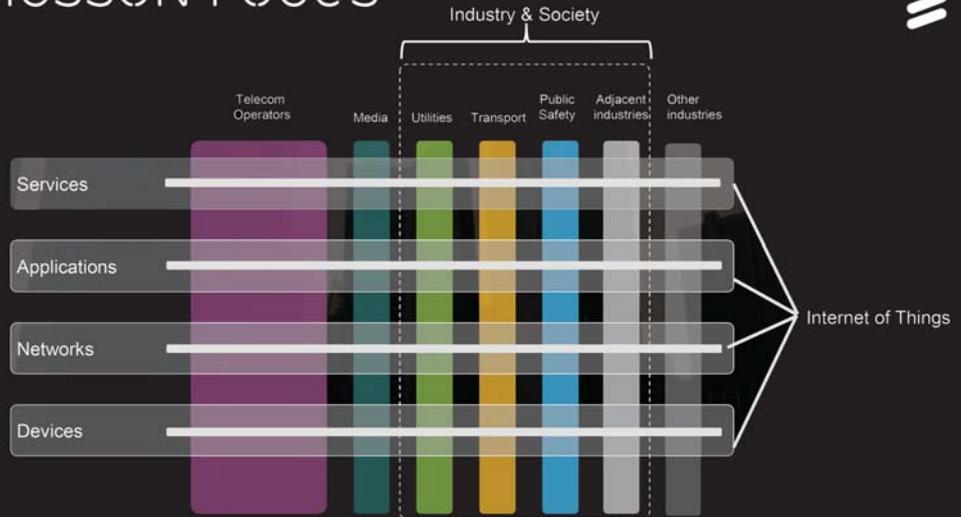
ES: We are living a transformational period. We are moving from a connectivity and device-centric view - a typical M2M view - towards a service-centric view across and between industries. The devices themselves do not hold

the market value. Instead, the value is in the applications and the services that we can deliver using various forms of connectivity and various types of devices to collect data, analyse it and transform it into new services with context. Those applications and services are enabled by a software-based and data-centric view of the enterprise. The IoT vision is part of those factors ►

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that are transforming the enterprise from being hardware-centric to being entirely digital-centric. And, in fact, the debate on the digitalisation of organisations not only includes the IoT, but also underlying SDN/NFV infrastructure and software, cloud, innovation and transaction platforms, business transformation services, value added services and sometimes co-opetition through partnerships - of many different services.

SR: What's Ericsson position in the current IoT marketplace? What do you offer to MNOs and enterprises?

ES: Ericsson is at the centre of this transformation. If we look at the Mobile Network Operators (MNOs), Ericsson is helping them move their raison d'être from an infrastructure and device-oriented nature towards a data-centric nature, bringing at the centre the concept of the digital services marketplace. Basically, we are helping MNOs move from connectivity towards services and digital marketplaces. We do that by enabling them to support the transition from products to services including creating new on-demand brokerage and trading models such as data as a service, bandwidth on demand, and even network function as a service. But Ericsson isn't only about solutions for mobile network operators. We also help industry customers in several other different sectors who are also going through the digital transformation that we're talking about. We help those organisations to create new value, pursuing business and operational efficiency, accelerating time to market, and enhancing the customer experience. We do that in sectors including utilities, transport systems, public safety, smart cities, connected vehicles, smart agriculture.

SR: Can we explore the work of Ericsson in those sectors in more detail? Let's start from connected vehicles that has been an important topic in the industry for some time now.

ES: Connected cars are very good examples that illustrate the transformation that we're living through and of the move from M2M to IoT marketplaces. Telematics has been the most important M2M application for some time. The availability of connectivity in the car then drove the idea of using that to support services in the car. We moved then to the concept of the connected car. We are now moving towards a connected car marketplace involving the ability to develop applications for cars using the data gathered and enabling software. Those applications are very diverse and they involve different organisations such as insurance companies, repair shops, fleet operators, content providers and others. This ecosystem of players is bringing innovation and creativity to connected cars. For example, Ericsson is working with Volvo to understand and develop service and application opportunities for autonomous cars. This collaboration focusses on two areas: high bandwidth in-vehicle applications and contextualised information about routes, driver profiles and location. This work is based on an Open API approach in order to enable a connected car marketplace that delivers value for the whole ecosystem.

SR: Remaining in the area of mobility, what activities is Ericsson running in Intelligent Transport Systems?

ES: We are working around three key areas: ICT infrastructures for transport systems, transport



Esmeralda Swartz, VP strategy and marketing BUSS, Ericsson

Ericsson has been the ICT expert in the consortium behind the Stockholm Royal Seaport smart city project

transaction systems and traffic management solutions. We have worked on intelligent road system such as the Algerian Highway, Sao Jose Dos Campos in Brazil and Drive Sweden. We have provided solutions in metro systems in China, London, and DSB Denmark. We have also worked on public bus systems in The Netherlands – Translink, Volvo Buses in Brazil and the City of Varnia in Bulgaria. We helped international airports transform into smart city airports - in order to better service their customer base. Chicago O’Hare International, São Paolo International, and Rio International are some examples.

SR: Smart cities seems to be an area with relevance for Ericsson too. Can you share some examples?

ES: Ericsson has been the ICT expert in the consortium behind the Stockholm Royal Seaport smart city project. The project has been strongly focused on energy consumption and sustainability, looking into developing smart grid communication, microgeneration, demand response to smart appliances, smart metering and electric vehicle; all there to serve the existing urban area, but also 10k new apartments and 30k new workspaces. The project has become a model for sustainable urban development. Ericsson has also contributed to the Smart Santander project. This Telefonica-led project has been seen as setting out best practice for smart city projects. The scope of the project was very ambitious, looking at the city with a holistic view as a system of systems. Therefore, all aspects of city life were part of the project: smart parking solution, smart urban mobility, solutions for tourism, smart lighting, weather alerts, public

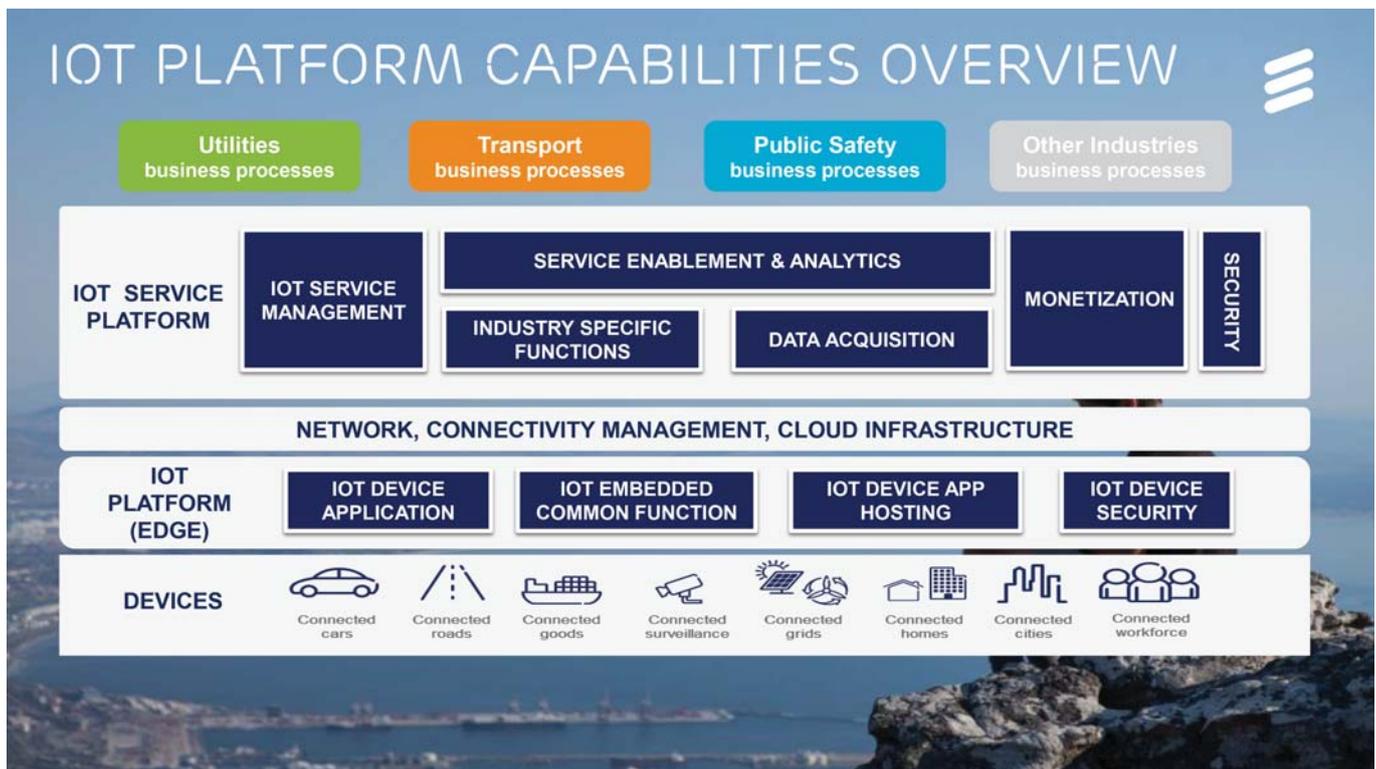
park utilities control, and citizen inclusiveness in city governance through digital tools. Ericsson supported the project through their network infrastructure expertise and platform knowledge.

SR: Are there other IoT sectors in which you believe Ericsson is running interesting projects?

ES: We are doing a lot in renewable energies. We are also working in the public safety market providing preventive emergency response systems. The retail sector is also very important for us. We have also run several projects in smart farming, an example being a connected vineyards project in Germany. It might be a surprise to readers, but Ericsson is much more than just a telecommunications sector company. We operate around the entire business system because all industries are in transformation and Ericsson can facilitate that process.

SR: I imagine that several of these projects are the result of partnerships. Can you tell us how those partnerships come along and why they are so important in the IoT?

ES: We are strongly convinced that there is no IoT without partnerships because it is about creating an ecosystem. This is because for the IoT vision to be realised, you need to provide context-aware apps and services across and between providers and even verticals. Imagine a smart city data portal. The IoT vision is multidisciplinary and partnership-based. Therefore, we partner with several companies and organisations within a vertical ecosystem. MNOs are our traditional partners, but we also work with industry customers and embrace other technology partners and companies operating in ►



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the many different sectors in which we are involved. And, finally, we are actively involved, as is our tradition, in standardisation groups and research consortia such as 3GPP, GSMA, WFA, IEEE, IPSO and EU-based research projects.

SR: Let’s look at some issues of debate in the IoT community. The rise of LPWAN is animating the industry, what does Ericsson think about LPWAN and forms of connectivity in general?

ES: Connectivity and network infrastructure remain an essential element for the development of the IoT. Ericsson is naturally well suited to pursue all forms of connectivity and equip our customer base to offer reliable connectivity agnostic solutions. This is important because the end user does not care about the technology, but about the always-on experience. LPWAN in its different forms does open opportunities for applications not considered before and could also drive design rethinking for some applications today using other types of connectivity. On the other side of the data rate spectrum, we are driving and working with customers on 5G transformation and that will enable a data-rich IoT in contexts that require data rich applications such as the autonomous vehicle. Connectivity in its various forms is a necessary enabler for the transformations we have discussed, i.e. the move towards a service-centric IoT.

SR: IoT platforms and their enablement services are another important element. How has Ericsson’s IoT platform evolved and how will it evolve in the future? Are data management and security key elements for the future of platforms?

ES: The IoT service platform is the essential service creation, enablement and transaction layer that enables us to achieve three important objectives: flexibility – being able to deploy things in different contexts; usability – being able to make the user experience easy; and productivity

– enabling service creation. Ericsson’s service platform is designed around those objectives. We can be the E2E transformation partner for customers as they move from connectivity and device management features up to other services, for example supporting new business models resulting from analytics from smart devices. We have focused a lot of attention on providing an offering inclusive of service enablement, data acquisition, analytics, and data monetisation. We have also not forgotten the importance of security which is applied to all the layers of the platform from devices to applications. Data management services and security services are certainly key areas of further development for IoT platforms. But I also believe application and service enablement services will be another important area for IoT platforms, which will drive the wider transformation of enterprises.

SR: What do you expect from now until 2021 and what’s going to be the role of Ericsson?

ES: The transformative power of the IoT vision just starts to appear with more clarity in the eyes of organisations of every type. That awareness is important and necessary. The next step is being able to design an IoT strategy that fits with the organisation’s objectives. And, finally, there’s the actual implementation of the IoT strategy. There are organisations already moving along this route, while others are trying to figure out how to do it. Ericsson is in the market to support that journey, drawing on our strong information and communications technologies background. We will carry on being a reference point for mobile network operators but, increasingly, we will become the IoT reference point for enterprises across all sectors. Our attitude towards innovation and our partnership-led ethos will also enable us to be at the forefront of the technological developments and business innovation that will characterise the evolution of the IoT vision from now until 2021 and beyond. ■