

# 5 key facts about Managed Services



# 5G and the need to transform

With the deployment of 5G and the demand for reliable, secure and robust connectivity, mobile network operators need to address the intensifying complexity of their networks that is driven by the increasing volume of devices, multiple new technologies, and more diverse service requirements.

From the nuisance of a funny clip on Facebook annoyingly freezing just before the punch line, to critical communications where a glitch could be serious if it affects a driverless car, remote surgery or an

automated factory, secure user experience is now the main end-user expectation as 5G use cases become more demanding, critical and sophisticated.

After 5G networks are planned, designed, built, optimized and then transferred to operations, the focus shifts to supporting the overall quality and security experience of end-users which necessitates a fundamental shift from the way deployed networks are managed and optimized today.

This shift from the traditional network

resource management model – where technology-related capacity, performance and availability are key – to successfully operating high-performance service-driven networks in a secure manner means that the operations and optimization of 5G networks must transform from being technology to end-user service centric.



## New Revenue streams and digitization

Delivering end-user value is key to achieving success for mobile network operators. Over the last decade, the day-to-day running of networks & IT has become a demanding challenge that is diverting mobile network operators from the important business tasks of acquiring new customers, offering new innovative services and delivering first-rate secure end-user experience. In addition, and even more so in Europe, mobile network operators face market saturation, especially in the consumer segment.

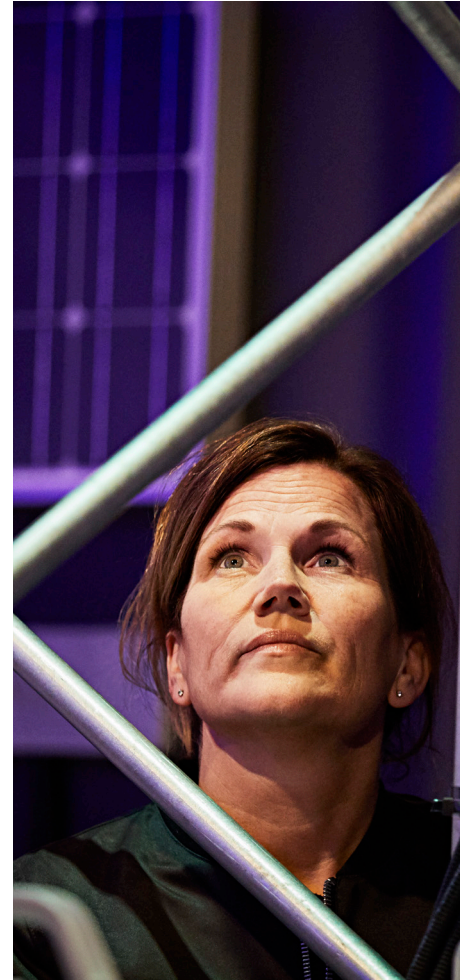
Counteracting this, 5G is creating the opportunity for new revenue streams while also accelerating cross-industry digitalization. Most mobile network operators are at various stages of leveraging 5G to identify and gain additional revenue and market position across both consumer and business segments.

The business segment is considered a significant source of growth as 5G enables new use cases such as low latency critical applications in manufacturing, logistics and energy, and massive machine type IoT applications such as smart metering. Fast time to market with a high quality of service will secure and grow business segment market share for mobile network operators. The rapid rollout of infrastructure with pre-integrated and verified solutions along with providing new open and secure partner and developer ecosystems to enable service creation will be essential for success.

However, revenue growth for mobile network operators from the consumer segment will not follow the growth in data volumes driven by 5G. Equally, these new consumer and business sector opportunities put increased demand on the operations, optimization and security of 5G networks, and additional pressure on operational costs necessitating efficiency improvement.

To gain such efficiencies, mobile network operations are turning to digitization supported by, Artificial Intelligence (AI) and automation to drive significant business and operational process efficiency.

Mobile network operators have also become receptive to migrating non-critical IT applications to the public cloud. They are taking advantage of Hyperscale Cloud Provider scale to support agility and speed of launching new services, and the rapid scale up or scale down of network or IT capability to adjust to peak demand or correct the sub-optimal performance of services. This however necessitates the accelerated adoption of new technology and organizational models to Cloud Native and DevOps-based ways of working. So, more than ever, mobile network operators are now forging relationships with trusted and secure partners, like Ericsson, that have the experience and capabilities required to help them transform and manage these highly complex networks.



## Network and IT Operations

Day-to-day network and IT engineering and operations have traditionally been central to the business of mobile network operators in providing communications services. It refers to those activities needed to design, build, manage, and optimize networks and IT, along with services and their associated confidentiality, integrity, availability and performance.

These activities support multivendor-based technology domains across mobile and fixed networks including radio and fixed access networks, backhaul and transmission, core networks, along with operational and business support systems, and services such as Voice, IoT and Mobile Broadband, that run over these networks.

Key activities include:

- Technology, network and IT strategy and architecture development and management
- Planning, design, deployment and tuning of network and service coverage, capacity and functionality
- Day-to-day operations and management of the entire network & IT infrastructure
- Management of end-customer problems escalated from customer care
- Corrective and preventive field maintenance
- Optimization of networks, systems and services to ensure performance is maintained at or above required quality levels
- Management of changes to the network
- Installation and upgrades of equipment
- Development, maintenance and operations of IT applications

# Managed Services

For 10+ years, Managed Services has been a trusted business practice in telecoms. Many local, regional and global mobile network operators contract global Managed Service providers like Ericsson to develop and manage their networks in part or in whole. Managed services frees up operators' time and capital to allow them to develop value added services for their end-users whilst diminishing the risks related to transformation, reducing cost-related uncertainties and improving insights into

the type of investment needed to retain their competitiveness and market position. Telecoms-focused Managed Services providers have invested significant time and money to build up a degree of scale, experience and capabilities matched by very few. Managed Services provided by equipment suppliers like Ericsson leverage the extensive technology, engineering and operations experience accumulated across all their engagements over many years from building and operating mobile and fixed

networks of varying sizes and complexity across the globe.

Traditionally, Managed Services were used, in the main, to secure both operational and capital cost savings. Now no longer merely a cost-saving model, Managed Services have become the crucial catalyst to transform and improve cost, quality, security and control of network operations and performance, along with end-user experience.

This shift to Managed Services is driven by:

Continuing capital and operational cost pressure

The need to simplify complexity and support the rapid adoption of new technology, cloud ecosystems and digital stacks

A shift in focus of performance and quality from network to user experience-related metrics

The need to focus on core business and secure the ability and agility to improve time to market for new service offerings and revenue expansion

The preference to direct investment in growing business and avoiding unnecessary risk, cost and time in complex transformation of operations and networks

Availability of broader perspectives, capabilities and business models through the scale and experience of Managed Services providers - some of which are multiple times the size of individual mobile network operators

Under a Managed Services contract, governed by a Service Level Agreement (SLA), the Managed Services provider commits to operate the network and its services to level of performance and reliability needed to ensure the quality of end-user experience. The mobile network operator retains full ownership and control, and is responsible for investment decisions, strategy, architecture and design, technology and vendor selection, along with access control and security of their network.

The Managed Services provider assumes responsibility for the day-to-day operations, optimization and maintenance of the deployed network, its services and platforms. The provider implements best-practice operational, engineering and security processes and tools and transforms network operations using an optimized global delivery model to operate, optimize and maintain the mobile operator's network.



# Data-driven Operations



With the advent of 5G, complexity and criticality of networks have now risen to the point of being impossible to design and operate efficiently without leveraging the power of data and the use of cognitive technologies. This is leading many mobile network operators to embark on data-driven digital transformation initiatives to support a shift from reactive and network-centric operations, to predictive end-user service-centric operations.

AI, automation and data analytics represent the underlying pillars for supporting and enabling this transformation. While the benefits of these are very clear, many mobile network operators lack the skills, processes and technological landscape to fully maximize the use of these in their operations so are increasingly looking to partners that have deep expertise in these.

In parallel, Managed Services providers, leveraging AI, automation and data analytics, are evolving to help mobile network operators with this transformation of their operations and are driving a fundamental change in how network & IT design, development, operations and

optimization activities are performed. Data-driven telecoms Managed Services are built on a very strong foundation of combining data science and AI-driven capabilities along with deep telecom domain expertise to a level that even the largest mobile network operators may struggle to achieve.

The availability and quality of relevant data – primarily performance and operations data from mobile operator networks – is key to successfully implementing data-driven operations.

Managed Services providers obtain a copy of only the relevant data from the mobile network and store it in a location and a manner that meets customer, legal and regulatory requirements. Mobile network operators retain ownership of this data along with supervisory responsibilities for its access and use under strict governance mechanisms and obligations as required by their respective national and regional authorities. Access to copied data is strictly controlled within Ericsson using role-based access management and appropriate technical and security controls. The handling of

data is often a regulated subject with legal restrictions on collection and use, and Ericsson always operates in accordance with these laws and regulations.

The need to access and process personal data is very limited and avoided wherever possible. If any personal data is stored and processed, it will be done in compliance with applicable legal and regulatory requirements and in agreement with the mobile network operator. The managed services agreement includes an obligation on the mobile network operator to secure all necessary consent from its end-users for Ericsson to be able to use, store and process the personal data in the manner necessary for the relevant managed service delivery scope.

Leveraging the influence of zero-touch network operations through the power of data considerably lowers the risk of error in executing operations activities, and to further mitigate risk a “human-in-the-loop” operating model is deployed to ensure human oversight and intervention throughout the end-to-end delivery of the managed service.

<sup>1</sup> <https://www.ericsson.com/en/reports-and-papers/white-papers/machine-intelligence>

<sup>2</sup> <https://www.ericsson.com/en/managed-services/drive-efficiency-from-the-inside-out>

# Security



Security plays a critical role in the confidentiality, availability, integrity and operations of telecoms networks. However, finding the network, IT and cybersecurity skill set needed are increasingly difficult to meet the need for operating networks with complex security measures in place. Ericsson's global reach brings extensive telecoms-related security experience along with broad international legislative and regulatory experience. Ericsson is ISO 27001 certified and applies a systemic approach to security, including in the development of products and services, under the governance of our Security Reliability Model (SRM) ensuring consistency across our business. In addition, Ericsson has a comprehensive global privacy program based on Ericsson Privacy Principles and also adheres to EU Ethics guidelines for trustworthy AI. For managed services, Ericsson commits

to comply with legal and regulatory requirements for data, privacy and data management with no dilution of accountability with reference to legislative requirements.

As Ericsson performs management, optimization and operations activities on mobile networks, providing secure and controlled access to and within these networks is essential. Connectivity is put in place between Ericsson and the mobile network operators' using security best practices for access control management, encryption and segregation of networks. The mobile network operator retains overall responsibility for the security of their network, with Ericsson having controlled and appropriate levels of access to those network elements, platforms and functions that are within the scope of the managed services contract.

Under this strict access control regime Ericsson and the mobile network operator cooperate to grant requirement-specific access to data, network platforms and systems for required personnel vetted and with justification of business need. The activities of those who access the operator network are monitored and recorded. Regular audits are conducted to ensure that only those who need access, have access and only to appropriate networks elements and systems, with the lowest level of access needed to provide the contracted for service.

Pseudo-anonymizing and / or anonymizing of data is used where necessary or where legally mandated to ensure compliance with applicable legal and regulatory requirements. In addition, where data needs to remain in country or in region, local and regional solutions and operations are deployed.

<sup>3</sup> <https://www.ericsson.com/en/about-us/quality-work>

<sup>4</sup> <https://www.ericsson.com/en/reports-and-papers/white-papers/privacy-in-mobile-networks>

# Ericsson Managed Services



Ericsson Managed Services are designed to handle the increased complexity of network and IT engineering, operations and optimization through a delivery model that uses AI, automation, data analytics

and a wealth of processes, tools and human expertise in the telco domain. Our experience with reusing automation and AI investments developed across multiple mobile network operators allows Ericsson to

bring telecoms domain expertise, a best-in-class operating model with mobile network operator-specific automation, analytics and artificial intelligence capabilities to transform the operations of mobile operator networks.

With over 28,000 managed services people, Ericsson provides trusted and secure managed services to support mobile network operator networks across the globe that combined have more than one billion subscriptions, through:

1. Operations of multivendor-based mobile and fixed telecoms networks both in the field and remotely from our Network Operations Centres

2. Modernizing applications to cloud-native, developing new cloud-native applications along with deployment, maintenance and operations of Cloud, IT and IoT infrastructures and applications

3. Delivery of high-end design, planning, tuning and optimization services for networks, operator services and end-user applications

4. AI-based software and technology solutions providing insights to improve network and IT performance, customer experience and increase operational efficiency.

Delivered primarily from our global service centers in the EU (Romania) and India, regulatory, competence and language needs drive the decision on which of these global locations are used to process workloads.

In addition, activities can be processed regionally or locally to meet relevant regulatory or customer needs with delivery centers in China for the Chinese market, and in Mexico for the Americas, along with

localized operations in a few countries to meet specific regulatory or customer requirements.

<sup>5</sup> <https://www.ericsson.com/en/managed-services>

Ericsson enables communications service providers to capture the full value of connectivity. The company's portfolio spans Networks, Digital Services, Managed Services, and Emerging Business and is designed to help our customers go digital, increase efficiency and find new revenue streams. Ericsson's investments in innovation have delivered the benefits of telephony and mobile broadband to billions of people around the world. The Ericsson stock is listed on Nasdaq Stockholm and on Nasdaq New York.