

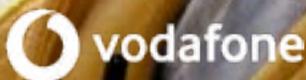
Customer Spotlights

Vodafone and Ericsson accelerate growth in the age of 5G Advanced



ERICSSON

In partnership
with



Vodafone and Ericsson accelerate growth in the age of 5G Advanced

Customer case:
Vodafone Group

Industry:
Telecom

Introduction

Vodafone and Ericsson are turning 5G into a growth engine. Anchored in 5G Standalone and driven by 5G Advanced, Vodafone is introducing Differentiated Connectivity to unlock new revenue

opportunities, strengthen mission-critical services and master energy efficiency at scale.

Vodafone is not simply upgrading its network. In partnership with Ericsson, it is redefining what 5G can deliver in the 5G Advanced era – transforming its infrastructure from best-effort mobile broadband into a platform for differentiated, program-mable services.

As the communications service provider transitions from 5G non-standalone to 5G Standalone across its footprint, it is establishing the architectural foundation required to introduce 5G Advanced capabilities at scale. This is more than a technical milestone. It is a strategic reset designed to unlock the full commercial value of real 5G and open new growth opportunities.

As Kyriakos Exadaktylos, Vodafone Group's Head of Network Architecture and Open RAN puts it: "For 5G to deliver its full value, you need standalone. It's only then that you can build differentiated services and new capabilities on top."

Like most of the industry, Vodafone's early 5G deployments relied on non-standalone architectures built on a 4G Core. This accelerated roll-out, however it limited performance, flexibility and the ability to offer differentiated services. The company is now rapidly modernising its network to enable 5G Standalone across its footprint. This involves upgrading its radio network and deploying new multi-band radio units capable of supporting several frequency bands within a single piece of hardware.

This modernised radio network architecture is purpose-built for 5G Advanced – enabling Vodafone to introduce capabilities that generate new revenue streams, enhance user experience and drive operational efficiency. By enabling service differentiation at scale, 5G Advanced allows Vodafone to move beyond best-effort mobile broadband toward programmable, outcome-based connectivity.

At a glance

Goal:

Use 5G Standalone and 5G Advanced to unlock targeted new revenue streams while improving efficiency in Vodafone's core mobile broadband business.

Approach:

- Deploy 5G Standalone across Vodafone's footprint
- Modernise radio architecture with multi-band radios
- Enable Differentiated Connectivity through 5G Advanced capabilities and network slicing
- Launch and expand Mission Critical services in Europe

Results (current and emerging):

- Approximately 20% annual traffic growth with broadly stable energy consumption
- Mission Critical services launched in Germany and expanding
- Enhanced flexibility for enterprise, broadcasting and public safety use cases

Featured solutions:

5G Standalone, 5G Advanced RAN software, Network slicing, Differentiated Connectivity, Mission Critical Communications





Targeted growth beyond mass-market broadband

Rather than pursuing every potential 5G use case, Vodafone is initially concentrating on a small number of high-value growth areas: enterprise and campus networks, live broadcasting, connected devices using RedCap (Reduced Capability) technology, and mission-critical communications. One key enabler is network slicing, whereby a single network is split into virtual slices with defined service levels. Powered by 5G Advanced, these capabilities allow Vodafone to deploy high-value use cases at scale and turn network performance into a driver of business growth.

“Network slicing and 5G Advanced capabilities allow us to give differentiated performance to specific customers or locations”, says Mr Exadaktylos. “This is where we can build our propositions for enterprise but also consumer.”

Mr Exadaktylos says for enterprise campuses, 5G Network Slicing is a virtual end-to-end partitioning of network resources to meet the specific needs of customers. For broadcasters, it allows Vodafone to allocate assured quality of service during time-specific events.

“If you look at a broadcaster, they may need assured performance for a nationwide live event,” he says. “With network slicing, we can allocate the right radio resources at the right time.”

Vodafone is also preparing for the growth of lower-complexity connected devices.

Reduced Capability technology supports wearables and industrial endpoints that require reliable connectivity without the full complexity of smartphone-grade 5G. As time-critical communications and extended-reality applications expand, networks must move beyond best-effort mobile broadband to deliver deterministic performance with predictable latency and reliability. 5G Advanced provides the capabilities to support these new service requirements and secure simultaneous SLA fulfilment for multiple services in real time.

Mission-critical communications as a strategic priority

5G Advanced is central to Vodafone’s strategy for mission-critical communications, enabling assured, differentiated performance across multiple services simultaneously. Across Europe, many public safety organisations still rely on legacy narrowband systems such as TETRA and TETRAPOL. While historically reliable for voice, these systems were not designed to support encrypted multimedia group communications, real-time video or dynamic quality of service.

Vodafone’s broadband-based Mission Critical (MCX) services, launched initially in Germany and expanding across Europe, run over existing 4G and 5G networks. They enable secure voice, data and video communications with the ability to maintain service quality even when the network is heavily loaded and end-to-end quality controls designed to meet strict service level agreements. “Most mission-critical services today are

based on technology that is more than 20 or 30 years old,” says Mr Exadaktylos. “With 4G and 5G – and now with 5G Advanced capabilities – we can deliver a full replacement that supports voice, data and video with strong SLAs.”

The nationwide reach of Vodafone’s public network makes it suitable not only for emergency services, but also for transport authorities and organisations managing large public events. New Ericsson 5G Advanced capabilities, including enhanced Differentiated Connectivity in the RAN, help maximise service availability and resilience while meeting specific latency or throughput targets required by public protection and disaster relief users.

Resilience is central to this strategy. Vodafone is also exploring the integration of non-terrestrial networks, including satellite connectivity, to complement terrestrial infrastructure and approach near-continuous availability in disaster scenarios.

Leveraging Vodafone Group scale in Europe and advanced network capabilities, Vodafone aims to position itself as a preferred partner of choice for mission-critical services in Europe. The company sees significant monetization opportunities through service differentiation on its existing 5G network and through the expansion of dedicated and cross-border mission-critical services, maximising service availability and resilience for public agencies.

Mastering energy efficiency as traffic grows

While new service areas expand revenue opportunities, Mr Exadaktylos says Vodafone is equally focused on strengthening the economics of its core business.

“What makes us very proud is the progress we are making on the network and on what we call the decoupling between energy consumption and traffic growth,” he says.

This ability to grow network capacity while mastering energy efficiency reinforces Vodafone’s commercial sustainability as traffic scales. Ericsson 5G Advanced capabilities further support energy efficiency through intelligent optimisation and automation across the RAN.

In a typical year, Vodafone experiences around 20 percent annual growth in data traffic and it is continuing to deploy thousands of new 5G base stations across Europe and Africa. Despite this expansion, overall energy consumption has remained broadly stable.

Modern radio architecture plays a central role. Multi-band radios reduce hardware footprint and improve spectrum and energy

efficiency, while ongoing optimisation in collaboration with Ericsson supports improved performance across the network.

By combining radio modernisation with 5G Standalone and 5G Advanced enhancements, Vodafone is strengthening network capacity and reliability for mass-market mobile broadband users while protecting operating efficiency.

Looking ahead, Vodafone sees 5G Standalone as the platform and 5G Advanced as the accelerator – enabling Differentiated Connectivity for targeted growth segments while reinforcing the sustainability and performance of its existing network. As terrestrial and satellite networks converge and new service requirements emerge, the foundation being built today is designed to support the next decade of connectivity.

Mr Exadaktylos concludes: “The foundation we are building with 5G Standalone is essential. Once that is in place, we can introduce 5G advanced capabilities in a controlled and commercially sustainable way. That is how we grow the business while keeping the network efficient and resilient.”

“I think that if we travel in time 5 or 10 years from now, we will be able to operate at a fraction of the cost of what we're doing today, while delivering more data.”

“Vodafone Group has established a strong reputation as a pioneer in the telecommunications industry, driven by a history of launching key “firsts” in mobile technology, roaming, and network infrastructure.

The company often focuses its brand identity around enabling “first” experiences for consumers and businesses. The collaboration with Ericsson has been pivotal throughout the entire journey of 2G, 3G, 4G and 5G.

We’ve done joint innovations many times including creating an innovation centre in Madrid, where we developed new concepts and active antennas, which I think was really a revolution for that time.”

Kyriakos Exadaktylos
Vodafone Group’s Head of
Network Architecture and
Open RAN



Definitions

5G Standalone (SA): A 5G architecture using a dedicated 5G Core network, enabling full 5G capabilities without reliance on 4G.

Non-standalone: A 5G Radio Access Network (RAN) that operates on a legacy 4G/LTE Core.

TETRA (Terrestrial Trunked Radio): A digital two-way radio standard used for mission-critical voice and data communications, commonly deployed by public safety, transport and utility organisations.

TETRAPOL: A professional mobile radio standard used for secure mission-critical communications, particularly by public safety agencies.

Network slicing: A method of creating multiple virtual networks on a shared physical infrastructure, each tailored to specific business needs or services. It allows communications service providers to dedicate radio network resources to different use cases, ensuring consistent performance and reliability.

RedCap (Reduced Capability):

A streamlined version of 5G designed for devices with lower complexity, lower power consumption and moderate data rates, such as smartwatches, other wearables, industrial surveillance cameras and sensors.

About Ericsson 5G Advanced

Ericsson 5G Advanced is the new software portfolio of radio access network (RAN) capabilities designed to help communications service providers build high-performing, programmable networks with greater openness. It ensures a consistent and superior user experience at all times and locations, while influencing network behaviour to accomplish specific business outcomes such as generating revenue, improving operational efficiency, leading in performance and enhancing user satisfaction.

Ericsson 5G Advanced solutions

- Outdoor Positioning
- RAN Differentiated Connectivity
- Mission Critical Services
- RedCap (Reduced Capability)
- Critical IoT
- Energy Efficiency and Management
- Premium Network Performance
- Device Battery Performance
- Real-time AI-powered Automation
- Premium RAN Security



About Vodafone

Vodafone Group Plc is a British multinational telecommunications company headquartered in Newbury, Berkshire, England. Founded on 17 July 1984, it has since grown into one of the world's largest mobile telecommunications provider, serving over 355 million customers across 15 countries, with a significant footprint in Europe, Africa, and the Asia-Pacific region.

About Ericsson

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.

