

A black drone with a camera and sensors is the central focus, flying over a blurred background of firefighters in orange gear. The drone has four arms with propellers and a camera mounted underneath. The background shows several firefighters in orange uniforms and helmets, slightly out of focus.

Explore future mission-critical services

Learn about 4G and future 5G services and innovations for mission-critical communications

Explore services and use cases for mission-critical communications in 3GPP-based 4G and 5G networks. Find examples of the latest technologies and innovations which can be applied and adapted for mission-critical applications and services for public safety, utilities, rail, and other industries. Once the 3GPP standard for mission-critical 5G communications has been finalized, it is time to start exploring and developing new use cases, global network solutions, devices and clients with new 5G mission-critical services.

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Get inspired by 4G and 5G services and innovations for public safety organizations.



Erillisverkot and Ericsson build next-generation public safety networks

Reliable and real-time access to critical information are crucial for public safety operations. Together with Erillisverkot Group, the state-run body responsible for national mobile communications networks for public safety authorities, emergency services and other critical services in Finland, Ericsson builds the next-generation Public Protection and Disaster Relief (PPDR) network based on 4G/5G technology.

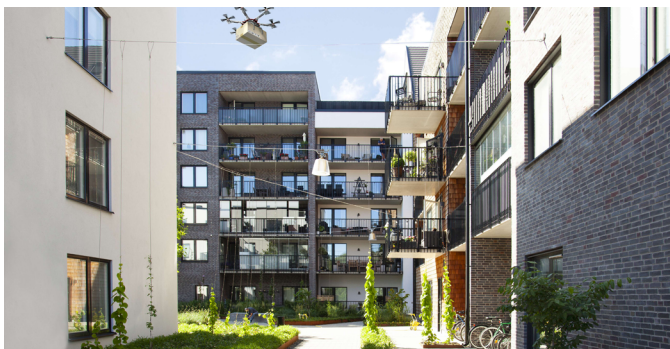
[Discover next-generation public safety networks](#)



Faroese Telecom and Ericsson modernize public safety applications and services

The Faroe Islands Police is the first public safety authority in the archipelago to use the mobile broadband-enabled solution via Faroese Telecom's LTE network. It is also among the first in Europe to have telecom 3GPP standards-based Mission-Critical-Push-to-Talk as a primary tool for critical communications.

[Faroese Telecom and Ericsson – connect all responder organizations via the same solution](#)



5G drones for emergency support

Find an inspiring video in this article, where drones can be used in 5G networks to bring medical equipment urgently to people in an emergency

[Nordic Prime Ministers unite to prioritize 5G and digitalization](#)



5G emergency response abilities highlighted by Altice and Ericsson

The ability of 5G to optimize and coordinate emergency service responses in the critical minutes following accidents has been highlighted in a demo led by Ericsson and Portuguese operator Altice. The demo was conducted in partnership with local first responders.

[5G tested for emergency services](#)



The 5G connected ambulance

Through a live 5G network in Birmingham, managed by BT, healthcare workers have performed the UK's first remote diagnostic procedure over 5G. The demonstration showcases how 5G technology can enable clinicians and paramedics to collaborate haptically, even when they are miles apart.

This revolutionary use of 5G has the potential to transform how future healthcare is delivered, enabling crucial efficiencies and reducing the need for some patients to visit emergency room.

[5G enables the UK's first remote diagnosis](#)



How 5G for public safety could save lives

A key factor for successful emergency operations is reliable communication and real-time access to critical information. In this blog post, we take a closer look at 5G New Radio (NR) to explore how it can be used for supporting public safety communication and saving lives in emergency situations.

[How 5G for public safety could save lives](#)



Access to remote healthcare specialists

A healing hand - Giving the world better access to medical experts through the tactile internet

Using cutting-edge 5G network infrastructure in combination with the world's most advanced surgical robotics, the team at King's College has created the ability to allow the remote transfer of haptic, tactile, audio and visual technologies. This enables a surgeon or doctor to perform a diagnosis or even surgery on a patient anywhere in the world.

[Ericsson – remote healthcare with King's College](#)



5G interactive calling

Find out how future 5G interactive calling can enhance the user experience with content collaboration and real-time steering of devices and gadgets over a phone call.

Find an innovation use case where you can experience an ultrasound with a haptic glove between an ambulance on the road and a hospital over a 5G mobile phone call.

[5G Voice - Make your mobile network ready](#)

Get inspired by 4G and 5G services and innovations for utilities



Southern Linc opts for Ericsson's LTE and mission-critical push-to-talk

First responders will be among the beneficiaries as Southern Linc, a communications service provider in the Southeast of the US, opts for Ericsson's next-generation of Mission Critical Push-to-Talk (MCPTT) solution

[Southern Linc and Ericsson partner to build the first highly reliable dedicated LTE network in the US](#)



5G and mining technology

As mining operations dig deeper into the earth, the need has never been greater for safe, productive and sustainable solutions. Find out why Boliden is looking into Ericsson's 5G for the answer.

[Mining Technology Innovation via Reliable Communications](#)



Autonomous drones

Mobile network coverage and intelligence can allow safer long-distant flights for autonomous drones allowing them going further than they ever have before. Together with Vodafone, we have successfully tested safe sky corridors for drones allowing flights Beyond Visual Line of Sight (BVLOS). This is a huge step for advanced connected drones use cases that will benefit society and businesses.

[Vodafone tests safe sky corridors with Ericsson](#)



EU SOGNO¹ initiative

We united 13 prominent partners, including utility companies, for the EU's SOGNO (Service Oriented Grid for the Network of the Future) initiative to explore how modernization and digitalization can help to create the power networks of the future.

[Intelligent energy distribution with 4G and 5G](#)

¹ The SOGNO initiative received funding from the EU's Horizon 2020 research and innovation program, under grant agreement No. 774613



Smart power grids

Imagine a power outage caused by a storm or even a cyber attack that made water and fuel supplies dry up. We can't afford to let that happen. And that's why we need to reinforce our power grids with smart critical communications.

[Critical broadband networks play a crucial role in enabling smart connectivity for future power grid](#)



Mission critical communication cases

We have been working with innovative service providers and industry partners to create solutions for governments and industries. Explore solutions for energy distribution, harbors, factories, mines, public safety and other industries.

[Cases - Ericsson](#)



Bring 5G to power

This case study is part of an Ericsson 5G for Industries series, in which we look more closely at the actual business values associated with introducing mobile connectivity, and in this paper about opportunities and challenges with connected power distribution grids.

[Study of 5G as enabler of new power grid architectures](#)



Power grid communications: network modernization considerations

Our paper highlights key trends and business drivers for power grid network modernization needs and analyzes the usage demand, network capacity and coverage requirements, and economic aspects of building a private cellular network, including an investment and deployment roadmap and based on a portfolio of use cases.

[Paper: Power grid communications: network modernization considerationsw](#)

Explore how 5G enables new innovative services

Many of these examples could also be applied for mission-critical organizations in the future.

[The mobile network is a platform for innovation](#)

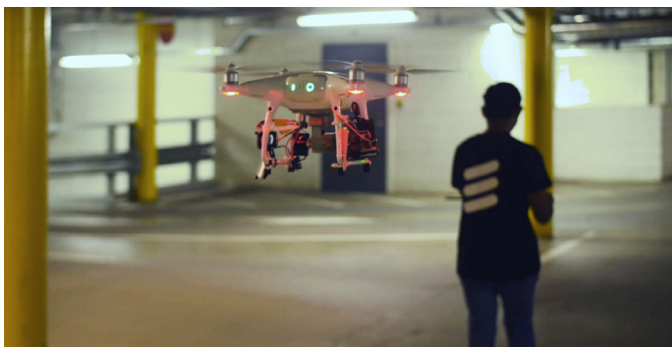


[Volvo Cars and Ericsson in connected car milestone](#)

Tests proved that seamless service continuity on 5G networks can be guaranteed across borders – good news as cross-border handovers are essential to enabling continuous driving experiences between national networks when connected and autonomous vehicles cross from one country to another.

Crossing borders by car is often part of a longer journey – and long journeys are one of the circumstances when high-quality maps are appreciated most. The Ericsson/Volvo trial also utilized 5G connectivity to ensure that maps were constantly updated with the latest real-time information to aid future autonomous driving operations and an understanding of the environment beyond the range of the vehicle and its sensors.

As part of the test, Ericsson deployed a 5G mobile radio network while two Volvo cars received an HD map of the route ahead. By updating the maps with information from sensor readings, connected cars can detect and distinguish between driving lanes ahead

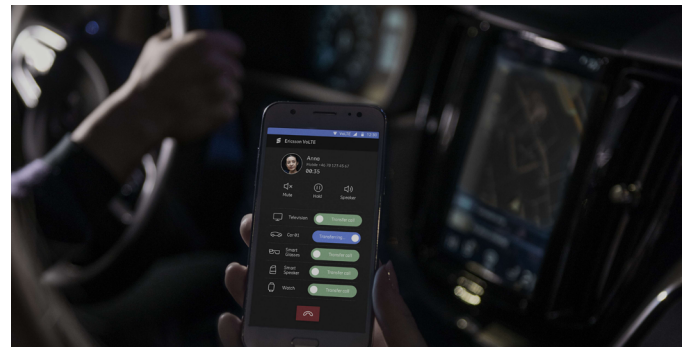


[Ericsson trials drone-mounted network](#)

Ericsson mobile network-on-a-drone PoC could transform emergency response. Communication plays a vital role in emergency response and disaster relief. Extended, flexible and agile network coverage literally saves lives. An Ericsson proof of concept (PoC) innovation - a temporary cellular network mounted on drones and easy to deploy - could make a major difference to first responders by enabling the network to track them wherever they go, outdoors or indoor, regardless of terrain.

In times of natural disasters or in remote areas, an existing network might fail to provide necessary coverage and capacity, hindering critical or field operations.

Ericsson has conducted a successful proof of concept trial where a 150g cellular network, about the size of a smartphone, was mounted on a drone and deployed to provide mission-critical voice and video connectivity services in areas with poor or zero network coverage.



[How can cellular connectivity make roads safer, and travel more efficient?](#)

Governments and the automotive industry are embracing Cooperative Intelligent Transport Systems (C-ITS) and Advanced Driver Assistance Systems (ADAS). These methods allow vehicles, infrastructure and vulnerable road users (VRU) such as pedestrians with smartphones to be connected and exchange information relating to traffic and roads. Initially, providing warnings to humans, while they will be used to support automated vehicles in the future.

Technology trends towards the 6G era

Find some example technology trends, which could have an impact on mission-critical networks in the future. Read about more trends here:

[Five network trends – Towards the 6G era](#)



Trend #1: Digital representation for the networked reality

With 5G, we already enable physical and digital worlds to converge into an augmented reality that serves communication needs for humans and machines. As humans and physical objects are only able to experience the physical world in a local context, the local presence of sensors, actuators and networks is a crucial enabler. The convergence of physical and digital worlds is enabled by digital representations of both humans and physical objects as well as their environments.



Trend #2: Adaptable limitless connectivity

One of the primary goals of 6G access is to deliver adaptable limitless connectivity that ensures the development of an

agile, robust and resilient network. Users and applications should focus on the task at hand anytime and anywhere, while the network should be able to adapt and support their needs. Multi-vendor interfaces will ensure openness both in networks and in the ecosystem at large while minimizing system complexity.



Trend #3: Integrity of trustworthy systems

6G networks will support trillions of embeddable devices and provide trustworthy, always-available connections with end-to-end assurance to mitigate the widened threat space. An essential feature of the network will be to provide secure services by managing and verifying compliance to security, safety, resiliency and privacy demands. Automation that utilizes AI technologies will be used in the whole product life cycle covering development, deployment and operations. AI technologies will also be used for automatic root-cause analysis, threat detection and response against attacks, as well as unintentional disturbances. These technologies will also enhance service availability.

Further reading about 4G, 5G and 6G technology



Find out about [5G vs 4G: What is the difference?](#)

6G research has started. Increasing expectations from society, industries and consumers, combined with new advanced technologies being developed, will eventually give rise to challenges beyond what even 5G can meet. Find more examples of mission critical networks for different industries, such as public safety, utilities, mining and other industries

[5G evolution and the journey towards 6G](#)

[What is 5G? Do you want to know more about 5G?](#)

Explore more about Ericsson's mission critical communications offerings



Built on Ericsson's leading 3GPP-based 4G and 5G technology, our mission critical communications and applications deliver next generation, high performing, resilient and secure mission critical mobile broadband communication services. Together with service providers, we empower digital transformation for Public Safety agencies and Critical Infrastructure industries. [Mission Critical Communications](#)

Organizations and users in public safety and critical infrastructure verticals are considering a move towards mobile broadband communications based on 3GPP

technology standards. Changing from voice-centric narrowband to critical mobile broadband with data-rich services, can enable significant enhancements to daily operations. It can also help forward-looking organizations deal with evolving challenges and requirements, while equipping them with a much wider range of capabilities and powerful set of functionalities to improve situational awareness and decision making. Our paper discusses some of the crucial steps you will need to take for a safe and successful migration. These include: network evolution aspects, interworking towards current LMR systems, operational organizational aspects and how to transition mission critical applications from your current LMR system to future-proof 4G/5G networks with added user value.

Download paper: [Migration to mission critical 4G and 5G](#)

Driven by cellular technology, a rapid transformation of all industries is underway, with countless innovative solutions reshaping every sector for the better. Any enterprise that embraces this new level of connectivity will find that the possibilities are endless. [Accelerate your industry transformation](#)

Discover Ericsson solutions for [Mission Critical Networks](#)

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. www.ericsson.com

Disclaimer

The examples in this document are based on commercial Ericsson solutions, but also include trials and ideas for future innovative services. The 5G related services and innovations are not yet available for mission critical communications networks, as the 3GPP 5G standard is not ready. Some use cases require support in devices, clients and other end-points, and would be available based on market demand and global device ecosystem developments

[Contact Ericsson](#) to find out more about what is commercially available today, our future plans and how we can collaborate and co-create services for your specific needs.