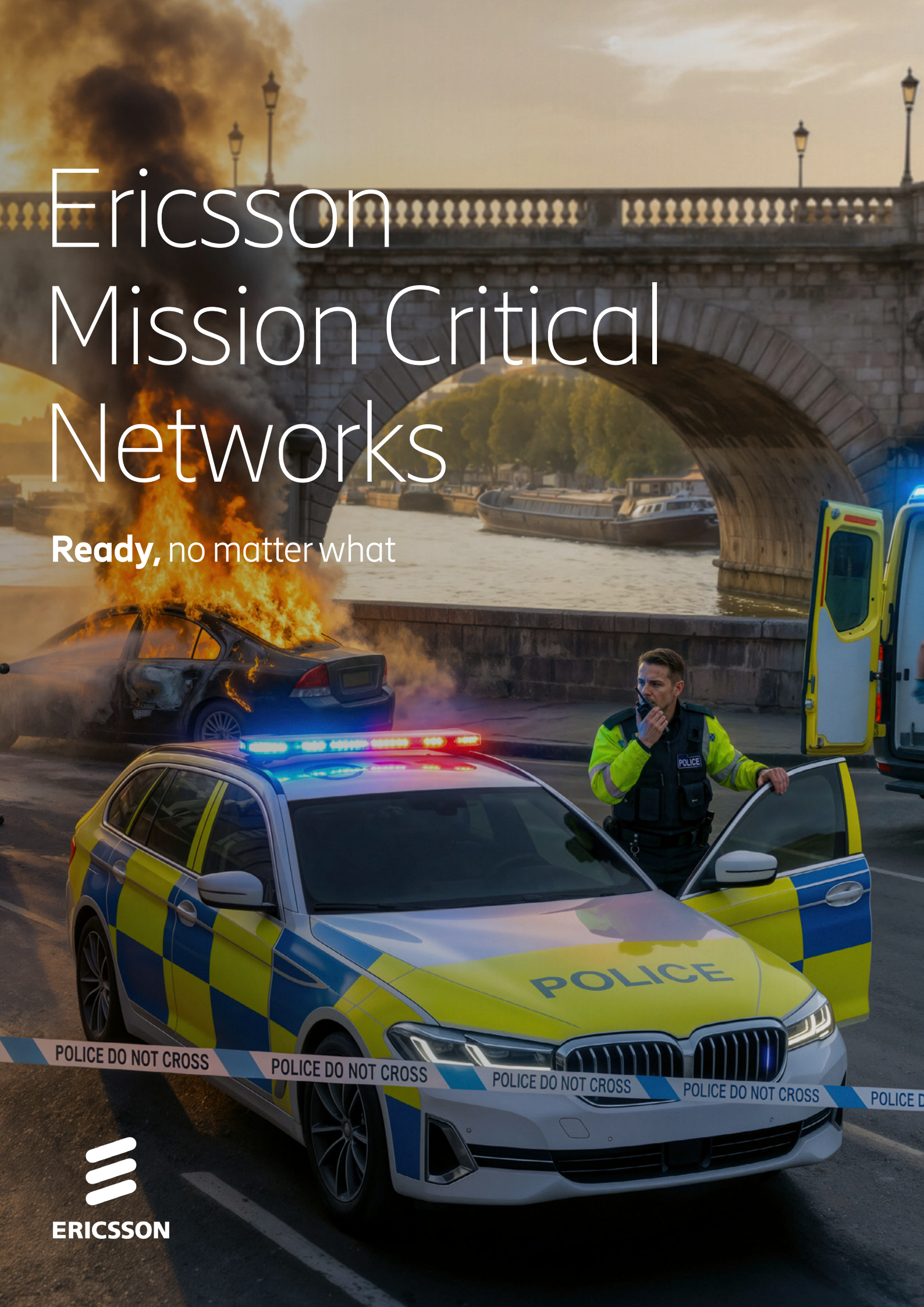
Ericsson Mission Critical Networks

Ready, no matter what



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Mission-critical communications are at a turning point

Mission-critical communications form the backbone of operations vital to society. Whether for first responders, critical infrastructure, or national security, fast, reliable, and secure communication is essential to protecting lives, ensuring safety, and keeping essential services running smoothly.

Today's operational environment has fundamentally changed. Emergencies are affecting more people than ever before. Severe weather events are increasing in frequency and intensity. Digital infrastructure is expanding rapidly, and with it, the exposure to sophisticated cyber threats. All of this is unfolding across a world where systems, societies, and supply chains are more deeply interconnected than at any point in history.

Public safety agencies, utility operators, rail operators, defense forces, airspace authorities, and non-terrestrial network operators face rising expectations for improved situational awareness, faster response times, and cross-domain coordination.

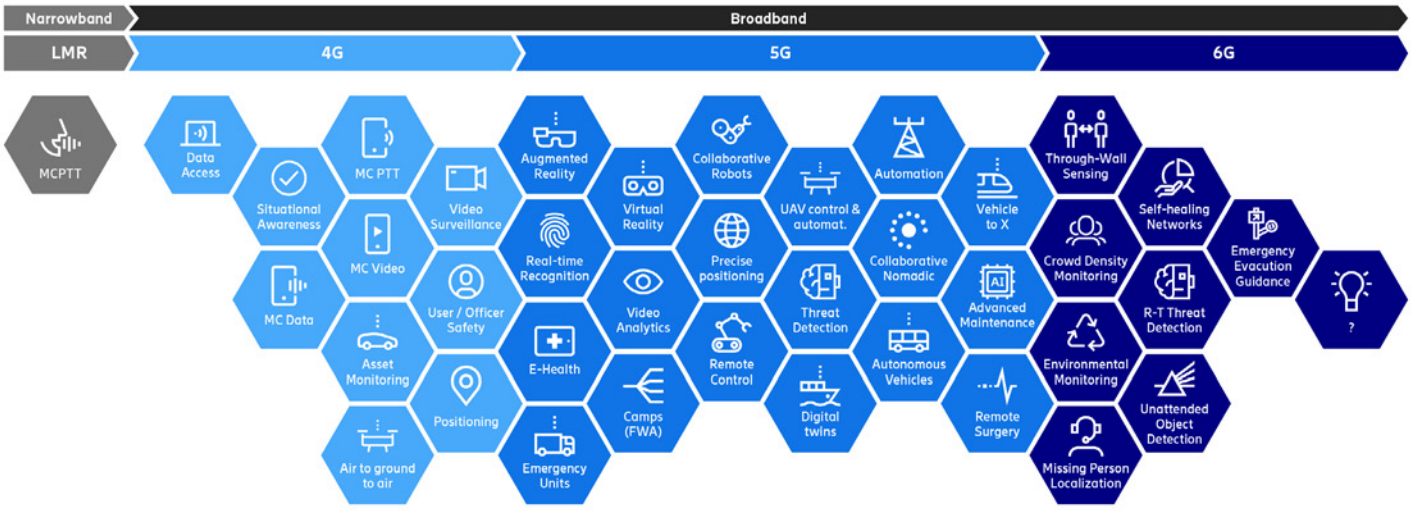
The challenge is not simply that legacy systems are ageing — it is that operational complexity has outgrown them.

For decades, narrowband systems — such as TETRA, P25, GSM-R, and Land Mobile Radio systems — reliably supported voice-centric operations and safety-critical data communications. They were purpose-built for the demands of their time, and they delivered. But those demands have fundamentally changed.

Today's mission-critical operations require data-centric applications such as real-time video, live sensor data, drone-based situational awareness, and secure information sharing across agencies, authorities and borders.

At the same time, the technology foundation has progressed. Wireless 4G and 5G networks, built on 3GPP standards, now provide full support for mission-critical voice, video, and data. Capabilities such as quality of service, priority and preemption, multicast/broadcast, precise positioning, edge computing and network slicing are standard-defined and increasingly deployable. Furthermore, the scope of coverage extends beyond the ground, with aerial mobility through Digital Airspace becoming more prominent.

The shift underway is structural: from isolated, narrowband, voice-centric systems to interoperable, reliable, and secure broadband mission-critical networks that support both voice and data-driven applications — platforms that integrate communications into society's broader digital infrastructure.



From legacy narrowband to next generation mobile broadband- a continuous journey of expanding mission-critical capabilities

Value for governments and critical industries

For governments and critical industries, next generation, broadband mission-critical networks sit at the intersection of operational performance and national responsibility, marking a decisive step beyond legacy narrowband — delivering value at both operational and national levels by improving day-to-day execution and building long-term resilience, governance, and stability at scale that narrowband systems were never designed to provide.

Broadband mission-critical networks deliver:

Enhanced operational effectiveness
Real-time voice, video and data provide continuous situational awareness across control rooms and field units. Decision-makers gain faster access to accurate information, improving response times and reducing operational risk in high-pressure environments.

Seamless cross-agency collaboration
Open 3GPP standards and interoperable ecosystems enable secure coordination across agencies, jurisdictions and segments. This supports joint operations, shared intelligence and consistent communication frameworks during both routine activities and large-scale incidents.

National resilience and digital sovereignty
Secure, resilient, sovereign-grade infrastructure strengthens preparedness for crises, natural disasters, and geopolitical instability. Georedundant cores and hardened networks ensure continuity of critical services when they are needed most.

Future-ready infrastructure
A phased migration path from narrowband legacy systems to 3GPP-based mobile broadband networks ensures continuity while enabling advanced use cases such as drone operations, AR-assisted maintenance and remote diagnostics. Investments made today form the foundation for evolving use cases tomorrow with a clear upgrade path to 6G capabilities as standardization matures.

Broadband mission-critical networks represent a strategic opportunity for mobile network operators

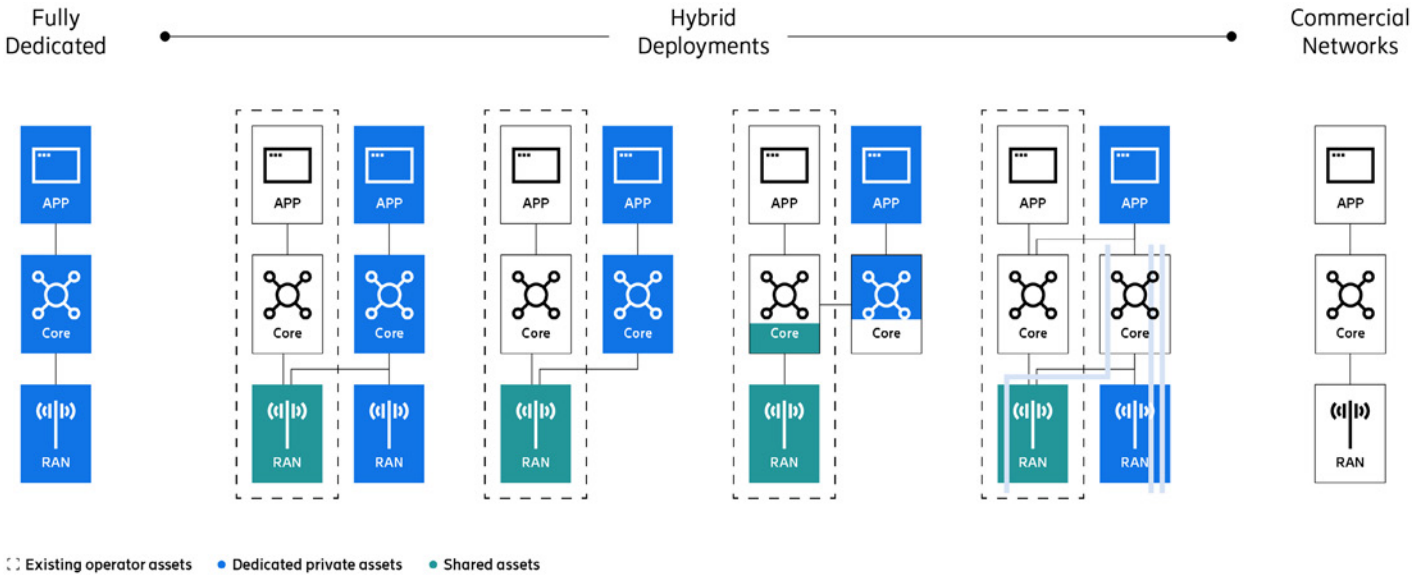
As governments and critical industries modernize, mobile operators are uniquely positioned to transform their role from commercial connectivity providers to trusted partners in national digital infrastructure by delivering mission-critical broadband services. To build nationwide mission-critical networks, governments and critical industries increasingly collaborate with commercial mobile network operators, also known as Communications Service Providers (CSPs); a model already adopted across multiple countries on the broadband migration journey.

With Ericsson Mission Critical Networks, CSPs can:

- **Serve high-value customers with demanding requirements —** delivering secure, resilient broadband services to governments and critical industries such as utilities, transport, and public safety
- **Secure long-term collaboration through national modernization contracts —** as countries migrate from legacy narrowband systems to broadband, CSPs become long-term infrastructure partners with stable, multi-year engagements
- **Differentiate with guaranteed performance —** move beyond best-effort connectivity by offering mission-critical service level agreements with defined reliability, availability, and security commitments
- **Extend the value of existing and future network investments —** leverage 4G/5G infrastructure already in place, and position now for 6G, to serve public sector customers with minimal additional build-out

Flexible deployment models support different business strategies

No two mission-critical networks are the same. Ericsson supports the full spectrum of deployment models — from fully dedicated networks offering maximum control and sovereignty, to hybrid configurations that leverage existing commercial infrastructure for greater efficiency and scale.



Most mission-critical network deployments use hybrid models, combining dedicated core capabilities with existing commercial Radio Access Networks (RAN) infrastructure.

Most mission-critical network deployments today use hybrid models, combining dedicated core capabilities with commercial Radio Access Networks (RAN). This approach allows governments and operators to balance performance, cost and operational flexibility without compromising on the stringent security and resilience requirements that mission-critical users demand.

Ericsson's deployment models cover:

- **Fully dedicated networks —** delivering complete control, isolation and sovereignty for the most demanding operational environments
- **Dedicated core with shared RAN —** balancing mission-critical performance with cost-efficient infrastructure sharing
- **Dedicated core with mobile network operator's configuration —** enabling secure, operator-grade mission-critical services over existing commercial networks

A global leader in broadband mission-critical networks

As one of the world's leading providers of mobile networks, Ericsson is uniquely positioned to provide the secure, resilient, and reliable connectivity needed to modernize critical services.

Built on decades of telecommunications leadership and active contributions to 3GPP and broader industry standardization, Ericsson has helped shape the mission-critical capabilities embedded in today's 4G and 5G technologies and the emerging 6G standard.

Ericsson Mission Critical Networks provide a comprehensive, end-to-end solution — built for the demanding requirements of governments, agencies, infrastructure operators and CSPs alike.

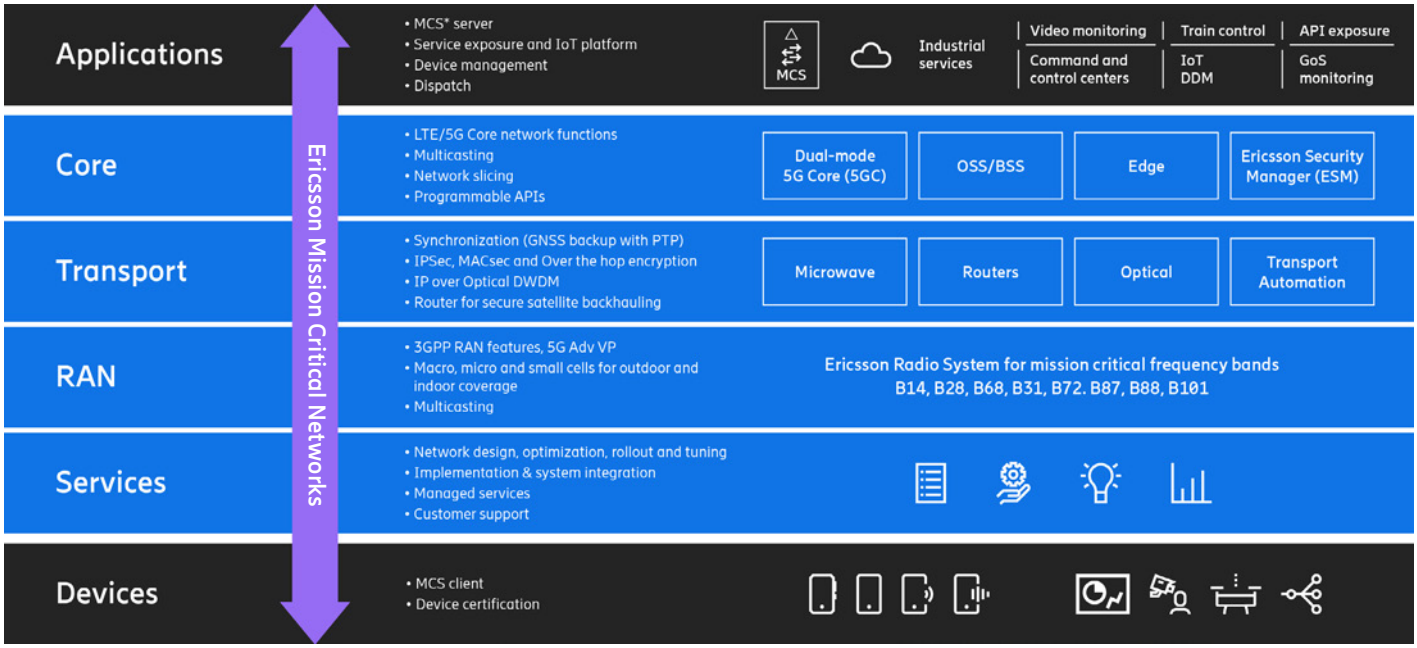
At its foundation, the portfolio spans Core, Transport, OSS/BSS, RAN and professional services, delivering the secure, resilient infrastructure that mission-critical operations depend on. On top of this, a rich ecosystem of partner-enabled applications and devices ensures that end users have the tools they need to operate effectively.

The portfolio is built on key capabilities such as:

- **Multi-layer security —** protecting sensitive communications at every level
- **Cloud-native architecture —** enabling scalability, flexibility and faster innovation
- **Geo-redundancy —** ensuring operational continuity under any conditions
- **Energy performance —** supporting sustainable, large-scale deployments
- **Quality of service —** guaranteeing service prioritization when it matters most through network slicing

For agencies, governments and mission-critical operators, this means a trusted, future-ready foundation — one that can evolve alongside growing demands, new technologies and the expanding role of mission-critical connectivity in society.

Ericsson has delivered mission-critical network deployments globally across Europe, North America and Asia-Pacific. Our role extends beyond connectivity. We help build the digital foundations that underpin national resilience and mission-critical operations.



Unlocking situational awareness through intelligent networks

Integrated Sensing and Communication (ISAC) extends the role of mobile networks beyond connectivity. By using radio signals to also sense the physical environment in real time, the network can detect, track, and characterize objects such as drones, vehicles, and other moving assets — even when they are not connected.

This turns the network into a distributed sensing layer, delivering wide-area and persistent situational awareness. For defense, public safety, and critical industries, ISAC can support use cases such as airspace monitoring, drone detection, and environmental awareness — helping protect airports, military sites, and other critical infrastructure.

Built on existing mobile infrastructure, ISAC enables scalable and cost-efficient deployment while strengthening resilience and detection accuracy through a distributed design. As networks evolve from 5G toward 6G, ISAC introduces a powerful new capability — combining communication and sensing to support safer, faster, and better-informed operations.

Mission-critical communications across different segments

Mission-critical networks serve very different environments — but the underlying requirement is the same: communications that perform without compromise, every time they are needed.

Public safety, utilities, rail, defense, digital airspace, and non-terrestrial networks each operate under their own technical specifications, regulatory frameworks, and operational constraints. What they share is an absolute dependence on connectivity that is resilient, secure, and built for critical use.

Ericsson Mission Critical Networks provide this foundation. Grounded in standardized architectures such as 3GPP, they are designed to meet both the common demands of mission-critical operations and the distinct requirements of each segment. Our segment-specific approach ensures that network architecture, capabilities, and deployment models are precisely aligned with the environment in which they operate.

Public safety

Public safety communications are in transition. Police, fire, and emergency medical services worldwide are moving from legacy narrowband systems toward broadband networks capable of supporting the demands of modern operations. Where lives depend on connectivity, there is no room for compromise.

Since migration rarely happens overnight. Ericsson Mission Critical Networks portfolio is designed to interwork with existing narrowband infrastructure throughout the transition, protecting agency investments and ensuring operational continuity at every stage.

Deployment models vary. Most agencies today operate in hybrid environments, combining commercial operator networks with dedicated infrastructure elements. Some agencies operate on dedicated spectrum. Ericsson's portfolio supports all architectures — giving governments, agencies, and communications service providers the flexibility to build what their operational and regulatory environment demands.

The result: real-time situational awareness, precise positioning, and seamless voice, video, and data sharing across agencies and borders — underpinned by the security and resilience that public safety organizations worldwide trust Ericsson to deliver.

Highlights:
- Improved operational efficiency
- Enhanced situational awareness
- Faster response times
- Better outcomes when it matters most

Utilities

The shift toward smarter grids, distributed renewables, and higher levels of automation is fundamentally changing how utilities operate. The number of connected assets that must remain continuously reachable is growing — often across vast, remote, and demanding geographies.

In this environment, communications are not just a support function. They are an integral part of operations. Ericsson delivers utility-grade, standards-based 4G/5G connectivity built for high availability, security, and predictable performance across critical Operational Technology (OT) and Information Technology (IT) environments. Built on proven technology and cloud-native architecture, Ericsson Mission Critical Networks portfolio enable utilities to modernize legacy communications incrementally — starting with LTE, while preserving a clear path to 5G as spectrum, devices, and priority use cases mature.

Deployment is typically built on a fully private network, giving utilities complete control over critical traffic, spectrum, and security. Where appropriate, hybrid models or cooperation with a communications service provider can extend coverage or add capacity in specific areas without compromising operational sovereignty. Ericsson Mission Critical Networks portfolio is designed to coexist with legacy systems during the transition, enabling modernization without disruption.

Highlights:
- Improved operational efficiency
- Resilient smart grid operations
- Enhanced real-time grid visibility
- Reduced outages and increased availability

Rail

Rail is entering a new era of digitalization and automation. The transition from GSM-R to FRMCS, combined with digital signaling, automated train control, and new broadband-intensive use cases — both on and off track — is redefining what rail communications must deliver. At the same time, expectations for reliable passenger connectivity continue to rise.

Meeting these demands requires secure, resilient, and high-performance mobile broadband. Ericsson's mission-critical 5G solutions provide the predictable performance and safety-critical reliability that modern rail operations depend on. Along key corridors, communications service providers can extend 5G coverage tailored for rail, creating new cooperation models between track infrastructure owners and commercial operators — combining operational control with the scale and reach of commercial network investment.

The result is a communications foundation that supports mandatory safety evolution, improves operational efficiency, enhances the passenger experience, and provides a clear path toward future 6G capabilities.

Highlights:
- Improved operational efficiency
- Meeting mandatory safety requirements
- Enhanced passenger experience
- Smooth evolution toward future 6G networks

Defense

Contemporary defense operations are increasingly characterized by the capacity to gather, transfer, and utilize large volumes of data swiftly. Commanders, military units, equipment, and fixed and tactical infrastructure across all domains — land, sea, air, space, and cyber — must maintain uninterrupted connectivity. Reliable communications are no longer merely an advantage; they are an essential requirement for mission preparedness.

Next generation brodband mission-critical networks play an important role in enabling this transformation. High bandwidth, low latency, advanced security, and support for massive device connectivity enable real-time data sharing, mobile and deployable forces, and seamless interoperability across nations, domains, and units. Capabilities such as enhanced situational awareness, resilient command and control, and coalition cooperation are enabled by a communications foundation that remains secure and resilient under pressure.

Ericsson supports this transformation by embedding commercial innovation into defense through our next-generation Mission Critical Networks portfolio tailored to this environment. By complementing existing defense communications systems with commercial technologies and non-terrestrial connectivity, the portfolio delivers scalability, adaptability, and resilience while preserving defense control.

It features secure, hardened cores, deployable solutions, and tactical deployment options — creating a versatile, future-proof backbone that enhances mission readiness and operational continuity.

Highlights:
- Information and decision superiority across domains
- Resilient communications in all operational environments
- Secure, mission-ready digital backbone
- Interoperability and coalition readiness

Digital Airspace

The airspace is undergoing a fundamental transformation. Unmanned aerial vehicles, advanced air mobility platforms — including air taxis and eVTOLs — and new urban logistics operations are creating an increasingly complex and congested low-altitude environment. Integrating these new aircraft safely alongside commercial aviation and existing airspace users requires a communications and connectivity infrastructure that did not previously exist.

Ericsson Mission Critical Networks provide the secure, reliable backbone that this transformation depends on — supporting safe flight corridors, real-time UAV command and control, and integration with public safety and defense aerial management systems.

Ericsson's ground-based 3GPP networks extend coverage up to and beyond 6,000 meters, providing the ubiquitous connectivity, precise positioning, and low-latency communication that safe airspace operations require. AI-driven automation and programmable network capabilities further enable dynamic airspace management at the scale and speed that emerging aviation demands.

Highlights:
- Ubiquitous coverage via ground-based 3GPP networks up to 6,000+ meters
- High-throughput, low-latency communication for real-time aircraft control
- Precise positioning to mitigate GPS spoofing and navigation risk
- AI-driven automation for dynamic, programmable airspace management

Non-Terrestrial Networks (NTN)

As mission-critical operations expand into remote, maritime, and airborne environments, terrestrial networks alone can no longer guarantee the seamless, always-on connectivity that agencies and operators demand. Non-Terrestrial Networks (NTN) represent a strategic extension of Ericsson's Mission Critical Networks portfolio — bridging coverage gaps and ensuring operational continuity where ground infrastructure is absent, damaged, or simply out of reach.

Ericsson's approach to NTN is grounded in 3GPP standards, enabling native integration with existing 4G and 5G network deployments. By combining satellite connectivity with terrestrial RAN, Core, and Transport portfolio components, Ericsson enables hybrid network architectures that maintain priority access, QoS, and end-to-end security — even at the network edge.

For governments, defense agencies, utilities, and first responders operating in the field, NTN delivers the resilience and geographic coverage that mission-critical communication requires.

Highlights:
- Coverage beyond terrestrial limits – satellite connectivity for remote, maritime, and airborne operations
- Standards-based integration – 3GPP-native, compatible with existing 4G/5G deployments
- Hybrid architecture ready – satellite combined with RAN, Core, and Transport
- Built for the field – priority access, QoS, and end-to-end security at the edge

From vision to deployment

Modernizing mission-critical communications requires a carefully managed transition — one that protects operational continuity at every step, with interworking between new and legacy systems maintained throughout.

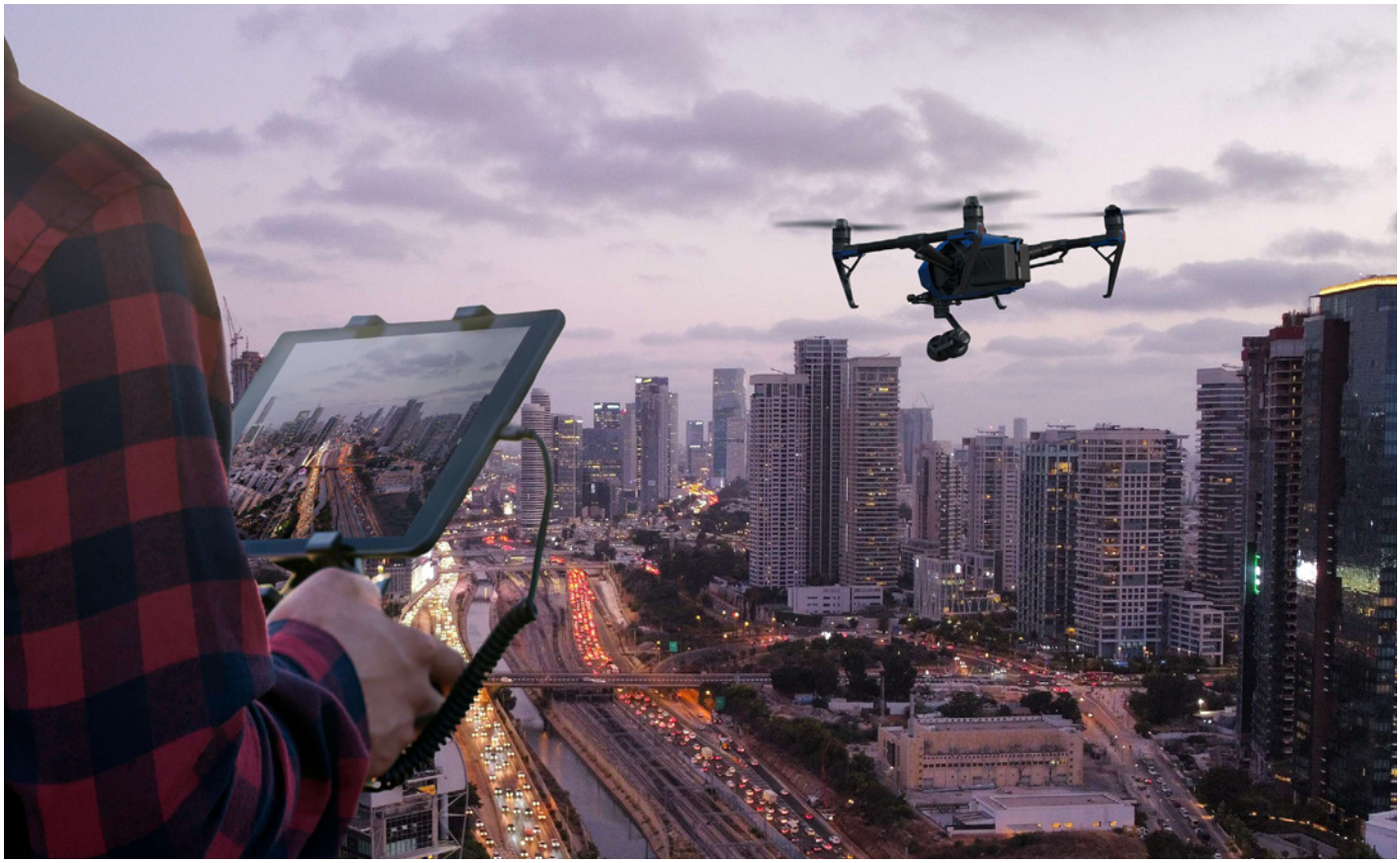
Migration strategies vary by context and readiness. Regardless of the path taken, all migrations share the same fundamentals: services are introduced in stages, new and legacy systems interwork throughout the transition, and the architecture is built to evolve as needs and technologies advance.

Deployment models are aligned with operational and regulatory requirements. These range from fully dedicated nationwide networks to hybrid and shared networks that leverage existing mobile network infrastructure. Regulatory governance requirements and coverage need to determine the optimal architecture.

Mission-critical requirements are built into the network design. High availability, geo-redundancy, QoS enforcement, and priority mechanisms safeguard critical traffic under all conditions. Integration with non-terrestrial networks extends coverage to remote areas, airspace, and maritime environments where terrestrial infrastructure is limited. It also provides a resilient backup path when terrestrial RAN connectivity fails — ensuring continuity even in the most challenging conditions.

Ericsson has completed extensive interoperability testing with third-party MCX application vendors and device manufacturers, including in live customer networks. This hands-on ecosystem work ensures that what is deployed is fully functional end-to-end, not just theoretically compatible.

This is happening now, not just a future forecast. Ericsson Mission Critical Networks based on 3GPP are being deployed at scale across various regions, replacing outdated narrowband systems. These networks connect governments, operators, national security, and critical services, delivering the reliability, security, and performance they require. The key question isn't whether you should modernize, but whether you are ready.



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