



NOKIA

Mission-critical broadband
networks to elevate operational
excellence in first response teams

Opening up new possibilities

Every second counts in an emergency. It is critical that emergency services can respond quickly and have the right information to rapidly assess the situation and take action. LTE/5G enables real-time video and broadband data services that greatly enhance the situational awareness for first responders and augment their operational capacities.

LTE opens up a new vista of communications possibilities for rescue missions and disaster recovery situations. It can also enhance the day-to-day operational efficiency of public safety agencies with new applications for surveillance, real-time database access and remote medical assistance.

Services include:

- Group communication, including push-to-video
- Real-time video streaming
- Database lookup and reporting
- Remote control of all types of vehicles
- Location and mapping
- Bio-vital signs monitoring
- Control room applications

Deploy mobile broadband the way you want

Public safety operators have specific, mission-critical requirements and more limited resources. With Nokia, you can deploy your LTE or 5G mission-critical network to match your situation, considering operational and capital budgets, available spectrum, and the willingness of commercial operator networks to offer public safety-grade communications. Nokia LTE solutions offer many options to suit any deployment schedule, providing an evolutionary path toward 5G to meet your future needs.

Dedicated public safety network

Public safety operator deploys private LTE/5G radio access and core network infrastructure solely to provide public safety services and applications over mobile broadband.

Mobile virtual network operator (MVNO)

Public safety operator uses commercial mobile network infrastructure instead of deploying own network, but operates its own core network, subscriber database, applications and billing services.

Hybrid solution

Public safety operator has a network and/or spectrum sharing agreement with a commercial mobile network operator. The public safety operator also implements a dedicated LTE/5G network in key locations while also using the commercial network.

Full commercial operator network-based

Commercial mobile operator provides the full network and all services for public safety users based on a negotiated service level agreement and price.





Nokia is focused on public safety

Nokia is actively supporting 3GPP public safety communications standardization. Our end-to-end approach, including services, provides the resiliency – as well as network, devices and application security – that mission-critical communications needs. High-service availability is achieved by our redundant and robust products, scalable architecture, user and service prioritization, and temporary coverage options for peak load situations and remote areas.

Network and service availability

- Microwave link reliability with adaptive modulation
- MPLS-based fast recovery and multi-fault resiliency
- Geo- and hot control redundancy of key network elements
- Enhanced power backup systems
- Mission-critical network planning and design

End-to-end security

- Multi-layer network and traffic protection (RAN, IP/MPLS, microwave and optical)
- Group communications encryption
- User and device traffic monitoring
- Firewalls, access control, authentication, authorization and network segmentation.

Traffic and user prioritization

- Custom network service policy management
- QoS-enabled backhaul and radio networks
- Traffic engineering
- User differentiation based on 3GPP standard QCI
- Load balancing and admission control

Nokia: A comprehensive mission-critical networking portfolio



Core network

Scalable solutions, including compact units to serve deployable and small networks, mid-sized for full network deployments, and cloud-based for nationwide networks.



Transport network

Resilient IP/MPLS transport integrated with packet microwave and optical transport for diverse connectivity – ready for complete wide area network (WAN) automation.



Radio access

AirScale macro base stations and small cells, supporting a large number of frequency bands for reliable coverage and capacity, indoors, outdoors and air-to-ground



Deployable solution

Deployable systems allow first response units to utilize voice, video and other data-based services in emergency situations when mobile networks have been compromised or are unavailable.



E2E security solutions End-to-end network security solution, cybersecurity consulting and managed security services

Professional services Nokia Bell Labs consulting, network design, implementation and integration, optimization and network management support

Nokia: A comprehensive mission-critical networking portfolio



Nokia Drone Networks

LTE/4.9G or 5G connected drones with customizable payload to unleash the full potential of drones for mission-critical missions.



Public safety devices and accessories

A complete set of ruggedized Nokia Industrial user equipment, from smartphones to wireless field routers, dongles, CCTV cameras and a versatile set of accessories and device management tools



Public safety group communications and interworking gateways

Push-to-talk, push-to-video, alert messaging, location tracking and video management. We support standards-based IWF and offer gateways to meet the need of continuity of communications across legacy networks (TETRA/P25) and LTE/5G networks.

Nokia is your long-term partner

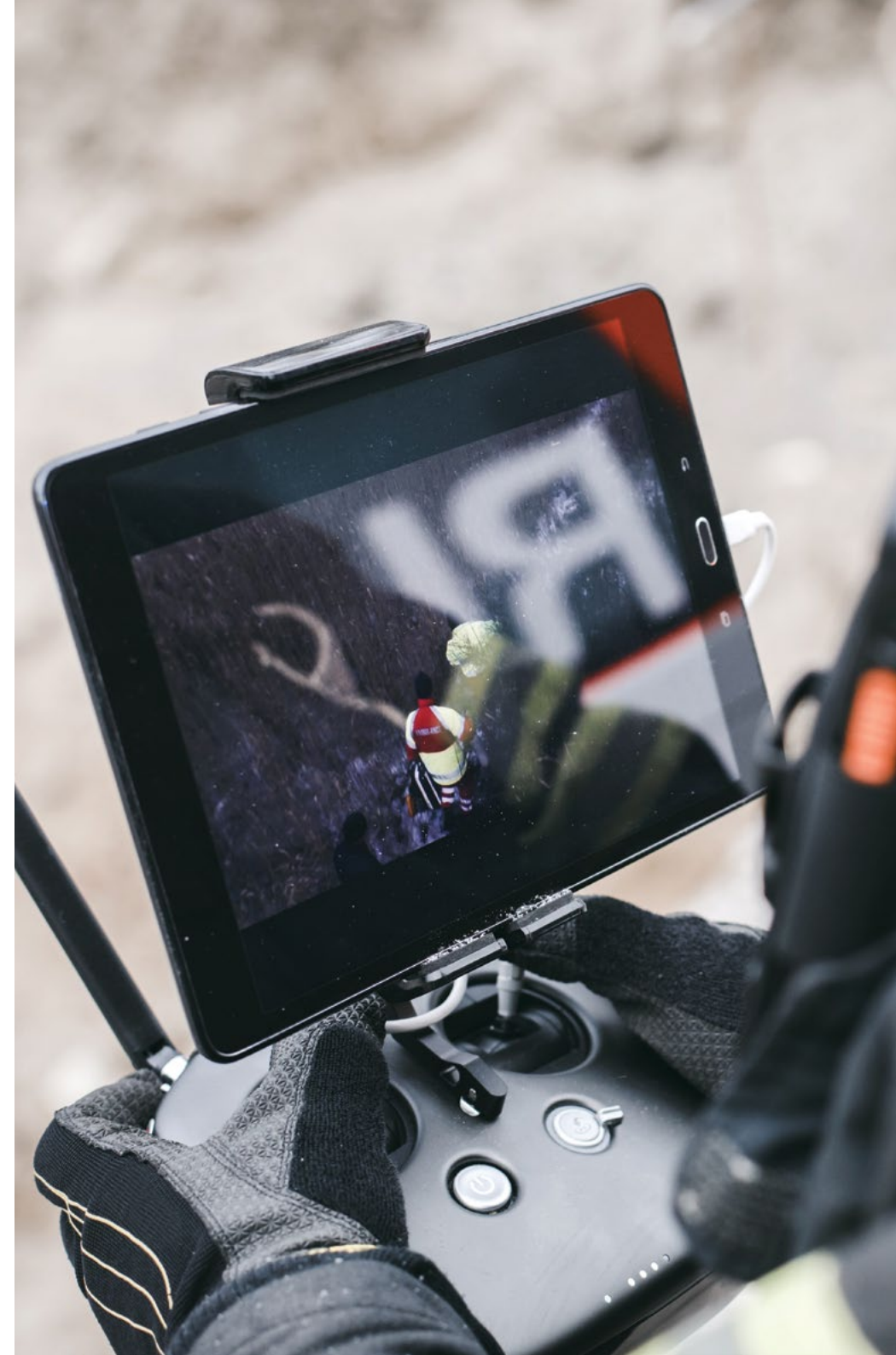
Moving to LTE or 5G is a technology leap for public safety agencies. A partner who understands mission-critical requirements and the evolution of technology and services is vital to ensure the best planning and implementation of your transition to LTE / 5G for public safety.

Nokia is that trusted partner. We offer deep expertise that goes beyond just the technology. We have a history of helping commercial operators to move from legacy technologies to today's LTE networks. We are also actively supporting them on their journey to 5G.

Our LTE/5G end-to-end networking approach and standards-based solutions, combined with a comprehensive service portfolio, help you safely adopt broadband technologies that meet your specific public safety deployment needs.

We are also working with public safety agencies to build resilient networks and manage them reliably and efficiently.

We have a 60-year history of working with government customers such as security agencies and other governmental departments. More than 190 organizations across the globe have chosen Nokia IP, optical, microwave, or LTE / 5G technology for their mission-critical networks.



Elevate awareness and response

At Nokia, we create technology that
helps the world act together.

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At Nokia, we create technology that helps the world act together.

As a B2B technology innovation leader, we are pioneering the future where networks meet cloud to realize the full potential of digital in every industry.

Through networks that sense, think and act, we work with our customers and partners to create the digital services and applications of the future.

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