Core Enterprise Solution for Public Safety

Executive brief

Emergency services need timely and accurate information to help them protect the public when urgent situations arise. Getting that information to the right people depends on reliable connectivity that spans multiple domains and agencies. But now there is a need to migrate today's mission critical voice and Push-To-Talk to LTE and 5G for mission critical real-time video and broadband data services. This evolution stands to greatly improve first responder situational awareness.

Nokia Core Enterprise Solution for Public Safety is a cost effective, resilient, scalable, cloud-native private wireless core that lets public safety organizations start with existing use cases and supplement them with new 4G and 5G capabilities. This core network integrates mission critical services and networks and brings new technology that help these organizations save lives.

The need for exceptional connectivity

Secure, wide-area wireless coverage is vital to support the mission-critical communications of first responders. Networks are increasingly being called upon to provide advanced capabilities, such as hyper-local position tracking, IoT and network convergence, that are made possible by 4G and 5G technologies.

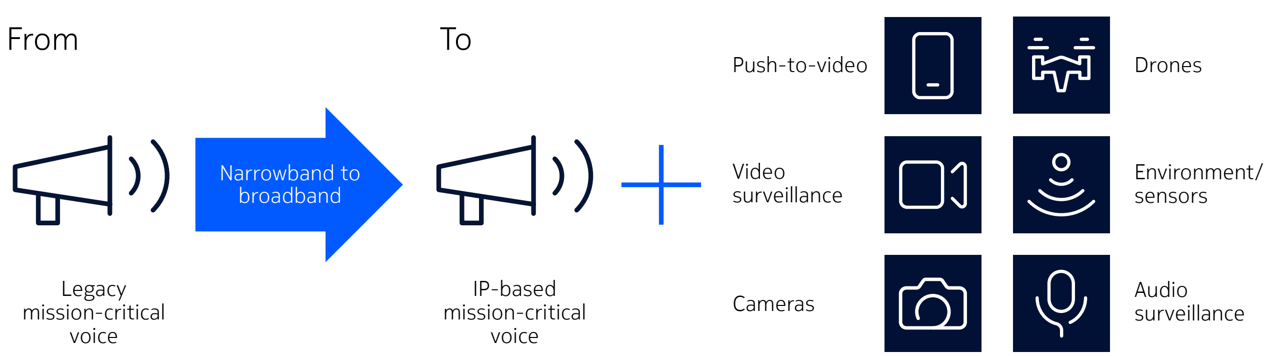
A multi-agency, mission-critical core

The Nokia Core Enterprise Solution for Public Safety is a cloud-native solution that provides scalability and flexibility, is customized for public safety organizations and supports mission-critical communications with affordable total cost of ownership (TCO). The solution supports both dedicated configurations and multiple operator core networks (MOCN) to integrate the communications of multiple agencies and radio networks.

The 3GPP standards-compliant core solution is highly elastic, supporting both small and large networks with advanced redundancy options to achieve high availability in a cost-efficient way. Tailored to mission-critical public safety infrastructure needs, the small footprint solution is pre-integrated for easy deployment and optimized for mission-critical LTE and 5G non-standalone with a clear evolution path to 5G standalone when needed.

Quality of Service (QoS) ensures critical traffic gets through when bandwidth is scarce, and the solution provides connectivity for voice endpoints, smart sensors, video cameras and many other devices. It also provides a communications infrastructure for hyper-localization, UAV/drone operations and low-latency applications.

Figure 1. Evolving from narrow-band voice to comprehensive broadband data capabilities will help agencies meet the increasingly complex public safety demands they face



A future-proof platform for applications

Nokia has extensive experience of public safety and defense networks and is a communications technology leader for public and private wireless networks. We help public safety agencies move from legacy systems to new private radio networks that use 4G/LTE and 5G to enable a wide variety of potential applications:

- Connectivity for sensors to monitor first responders and their equipment
- Video feeds for remote control of drones, security, and other use cases
- Mobile broadband to improve efficiency and safety
- Deployable cells to provide communications during response operations
- Real-time AI situational analysis to help optimize operations
- Augmented reality to improve first responders' situational awareness.

Nokia's core also continues support for mission critical push-to-talk (MCPTT), and connectivity to narrowband systems such as TETRA and P25. It offers the same rock-solid security that is in all our products, trusted by carriers and enterprises alike.

As the technology evolves and new use cases emerge that require additional capabilities, the Nokia Core Enterprise Solution offers a natural evolution path for public safety agencies to continuously enhance their networks with life-saving technology.

Table 1: The Nokia Core Enterprise Solution addresses many public safety use cases

Person to person / group communication • Voice, video, images, text • Individual, group, dispatch • Half-duplex PTT, full-duplex voice • Legacy interworking (TETRA, P25, Analog)	**Location** • Location awareness • Tracking of individuals and equipment • Guiding and direction (navigator) • 3D and indoor location
Control room applications • Dispatcher applications • Dispatcher interface • Application O&M	**Surveillance and monitoring** • Situational awareness • Voice, video, images • Ambient listening, body camera • Sensor readings • Smoke, heat, sound (e.g. gunshot), movement, humidity, biometrics, dangerous substances
Database • Database lookup, reporting • Crime registers, license registers, medical records, tax records, etc. • Fingerprint reading, facial recognition, license plate reading	

Learn more

Find out more about Nokia Core Enterprise Solution for Public Safety by visiting our web page.

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