NATIONWIDE PUBLIC SAFETY COMMUNICATIONS

HOW NORWAY REDUCES RISK AND CONTROLS COST WITH ITS MULTI-AGENCY TETRA NETWORK

THE DIRECTORATE FOR EMERGENCY COMMUNICATION (DNK)

Norway's Directorate for Emergency Communication (DNK) is partnering with Motorola Solutions to build the 'Nødnett' nationwide public safety voice and data communications network. The Motorola Solutions team, which has committed to deliver the network by 2015, will operate and maintain it to key performance indicators at a predictable cost until 2026, optimising taxpayers' investment and reducing the risk associated with a major infrastructure project. Motorola Solutions is also delivering many of the terminals used by agencies in cars and in the field. Already relied on by 8,000 public safety users and rescue units in the greater Oslo area, the digital TETRA system connects over 500,000 calls per month. It helps agencies respond to major events, such as the past visits of Presidents Obama and Putin, the Eurovision song contest and the Sjursøya train accident. The network is being rolled out across the country.

CUSTOMER PROFILE

Organisation
The Directorate for Emergency Communication (DNK)

Location
Norway

Industry
Public Safety

Solution scope
This full turnkey project includes the build, operation and maintenance of an end-to-end, secure, nationwide TETRA network

Motorola Solutions products
- Multiple switch locations
- 2,100 Dimetra IP 8.x base stations
- Leaky feeder and antenna systems in over 200 tunnels
- 80 fire and police control rooms
- 250 control rooms serving paramedic services, hospitals and small regional health centres
- 9,000 TETRA radios in phase one
- A choice of radios including the MTP3200, MTP3250, MTP850, MTP850S, MTP850 ATEX, TCR1000, MTM800E, MTM5400 and MTM5500

> **"We wanted to know the costs for our network over its lifecycle. We also wanted to partner with a company that has designed and deployed similar systems, with public safety at the heart of its business, and that assumed full responsibility for performance and network operation post-deployment. Motorola Solutions met these criteria. We've been impressed by its focus; its team is working hard with us to achieve the nationwide roll-out of the system by 2015, while simultaneously running the parts of the networks that are live already."**
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> Mr Tor Helge Lyngstøl, Director General, Directorate for Emergency Communication (DNK)

CHALLENGE

Previously Norway's fire, police and paramedic teams used local communications networks that didn't allow them to communicate with each other. The ageing analogue radios used by teams were not secure and lacked functionality. Working with the government, the three agencies collaborated to develop a new nationwide public safety network that would enable them to communicate with each other securely using voice and data.

SOLUTION

DNK instructed Motorola Solutions to design and build the network, supply radios and operate the network while meeting key performance indicators.

The roll-out of the radio network is happening in six stages. It began with the creation of a successful pilot network in Oslo and surrounding police districts, and will now expand into 27 police districts. A team of 500 people from DNK and Motorola Solutions will work together to complete the project by the end of 2015. Motorola Solutions will operate the network to 2026.

Work began with construction of the core infrastructure around the Motorola Solutions Dimetra Release 8.x TETRA platform. This included constructing the Network Operating Centre and independent switch sites.

The team is now rolling out 2,100 base stations and 330 control rooms for the nationwide network. The base stations support the TETRA Enhanced Data Service (TEDS) standard to enable faster data access.

Motorola Solutions' Systems Integration Centre in Berlin is accelerating construction by building base stations and running acceptance tests before deployment. The base stations are preloaded with software, cabling is connected and interfaces prepared for apps such as IP addressing for voice logging, and command and control systems. They are packed and shipped in sequence to reduce local warehousing requirements and make the network as plug-and-play as possible. Helicopters are used in remote regions to install sites which are powered using generators, batteries and solar panels. An extensive network of microwave links, with leased lines provided by the local telecoms operator, are used to connect base stations to the switch sites. When new regions are ready to come onto the network, control rooms are in place and end users are trained and ready to use their radios.

Motorola Solutions runs the Network Operations Centre (NOC) to monitor performance, and maintains the infrastructure. It uses drive testing and its unique TETRA RF Automated Coverage and Evaluation Solution (TRACES) to capture network performance as the user sees it. DNK regularly reviews this data to ensure that the network performs according to expectations.

Once a regional network is deployed, Motorola Solutions helps agencies become operational. The agencies can choose radios from Motorola Solutions and two other vendors.

BENEFITS

A single, reliable, nationwide encrypted TETRA network is replacing hundreds of ageing regional public safety systems. The network provides services from densely-populated urban areas to some of the most remote parts of Europe, enabling agencies to access clear, secure and immediate voice calls. They can connect within their own talk groups or join incident talk groups to speed up incident response. Database lookups, text messaging, form-filling and the sending of patients' ECG data from ambulances to hospitals over TETRA will further improve public safety and productivity.

The use of fixed costs and set targets means that DNK is protecting the taxpayers' investment and negating the risk associated with any major infrastructure project.

The Dimetra IP platform can be integrated with 4G networks for even faster data rates. DNK is also working with counterparts in Sweden to ensure that users' radios can operate cross border to aid crime-fighting operations.

Key Benefits

- Clearer communications:
  Immediate, clear, secure (with end-to-end call encryption), nationwide voice and data services
- Enhanced collaboration:
  Agencies communicate separately or together to improve incident response
- Increased productivity:
  Through planned applications including database look-ups, image sharing and sending of patients' ECG details to hospitals from ambulances
- Predictable cost:
  Government has control over costs – until 2026
- Accelerated rollout:
  Prefabricating base stations accelerate rollout
- Reduced risk:
  Strict key performance indicators to optimise the taxpayers' investment
- Improved quality:
  The new system replaces more than 200 networks across Norway

For more information on how the Motorola Solutions' services team can help you cost-efficiently build, run and maintain your TETRA network, please visit us on the web at www.motorolasolutions.com/services or access our global contact directory at www.motorolasolutions.com/contactus

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