

# Gardermoen

TETRA Voice and Data Communication System, Norway



## BACKGROUND

In September 1996 Motorola was awarded the world's first commercial TETRA contract for a digital communication system by the OSLO Gardermoen Airport Authority through Siemens Norway, the contractor for all telecommunication at the airport, and Motorola distributor Zenitel.

OSL Gardermoen is the airport owner and responsible for all of the infrastructure and facilities at the Norwegian airport.

Ole J. Hansen, Manager, Rescue & Fire fighting in OSLO commented "Gardermoen is an airport for the next century – it is the best in the world – the best design, the best technology and the best operation. The radio system is central to this. It forms the backbone of our facility and, without it we would not be able to operate. A project of this scale involving aircraft and passengers leaves no room for error."

The TETRA system went live in October 1998, providing advanced voice and data communications for several organizations operating in the airport. These include support and security organisations as well as the private service providers. At the time of the TETRA network implementation, the airport serviced up to 80 flights an hour and with a capacity of up to 15 million passengers a year.

The TETRA system provides coverage for the Gardermoen airport, including the open-air, indoor and underground areas. In total, the potential capacity numbers of mobile and portable radios amounts to 4000.

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#### **MOTOROLA SOLUTION**

Motorola delivered a fully TETRA compliant Dimetra system operating in the 410-430 MHz frequency band integrated with the airport telephone system and an underground leaky feeder system that ensures radio coverage at all underground areas.

The importance of security required within airport operations was taken into account in the system design and thus a high level of resilience was implemented.

If one component fails, another is immediately activated as backup. This important factor in the design of the Motorola system architecture ensures a high uptime of the system.

Motorola's Dimetra system provides seamless roaming across the entire airport which means that calls can be set up anywhere in the airport, no matter whether the teams using the radios are in the open-air, inside the airport buildings or operating underground. The users can roam during the call while maintaining the call connection.

#### **BENEFITS**

##### **Safety:**

- High quality voice and data communication
- Immediate information to users in case of emergencies
- Personal safety features

##### **Reliability:**

- Efficient and reliable dispatch operations for user groups
- Redundancy of critical components ensures high level of reliable communications at all times
- Increased reliability of system means reduction of maintenance and repair costs

##### **Performance:**

- High level of redundancy and resilience ensures reliable communication at all times
- Simplified monitoring and reporting procedures allows continuous optimisation of system resources
- High voice quality ensures that the message gets through – even in noisy environments

##### **Ease of Operation:**

- Fast identification and correction of problems
- Enhanced capability to analyse traffic data



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