



FIREFIGHTERS FROM GERMANY'S LARGEST PROFESSIONAL FIRE DEPARTMENT COMMUNICATE USING TETRA DIGITAL RADIOS FROM MOTOROLA SOLUTIONS



CUSTOMER PROFILE

Germany's largest professional fire department

Germany's largest professional fire department is also its oldest and employs 3,600 staff. With around 550 firefighters in both the day and night shifts respectively, the fire brigade responds to approximately 1,000 incidents every day. This emergency service authority operates from a total of 35 fire and rescue stations as well as 32 rescue service facilities. Its emergency staff rely on 84 ambulances, 17 vehicles for emergency doctors, 45 firefighting support vehicles, 26 turntable ladder engines and a number of other specialist vehicles. The work of the professional fire brigade is supported by 58 voluntary fire brigades with around 1,500 active volunteer members.

CHALLENGE

Facilitating the switchover from analogue to digital radio

The introduction of digital radio services for German authorities and organisations with roles in security and the emergency services (BOS) is one of the largest modernisation programmes in Germany. The project will create the first seamless, harmonised, national radio communication network for security and rescue workers from the fire brigade, police and other central administration and public safety authorities. Over the coming years, the pioneering BOS digital radio network will replace the ageing analogue radio networks, which exist only as separate entities. The digital radio systems will guarantee secure, reliable voice and data communication for these key services.

Germany's largest professional fire department will also upgrade its communication system from analogue to digital radio as part of this radio modernisation project. After all, the ability to respond rapidly in an emergency is particularly

CUSTOMER PROFILE

Organisation

- Germany's largest professional fire department

Location

- Germany

Industry

- Public Safety;
- German authorities and organisations with roles in security and the emergency services (BOS)

Motorola Solutions' equipment/services

- TETRA digital radio terminals:
- 1,100 Motorola MTP850Ex portable terminals for use in hazardous environments
- 500 Motorola MTP850 handheld digital radios
- 100 Motorola MTP850 FuG handheld digital radios
- Over 1,000 MTM800 FuG vehicle mobile radios

Application(s)

- Integrated Terminal Management (iTM) from Motorola for maximum availability

Benefits

- Intuitively operated, rugged terminals
- Unique ATEX radios for use in potentially explosive environments
- Secure, reliable voice and data communication with end-to-end encryption
- Futureproof digital radio solutions with channel separation option as well as dynamic assignment of call groups
- Good value for money
- Comprehensive range of accessories and services
- Years of experience in implementing the switchover from analogue to digital radio

CASE STUDY

GERMANY'S LARGEST PROFESSIONAL FIRE DEPARTMENT



important for the fire brigade. The central criteria for the system were defined in a national invitation to tender in order to find a suitable digital radio solution comprising handheld terminals, accessories and service products, which would satisfy every aspect of the customer's requirements. For example, the digital radio terminals would have to function reliably even under the most difficult operational conditions, such as in potentially explosive environments or in buildings with poor radio coverage. Intuitive operation and long battery life are also a matter of survival for firefighters in an emergency, especially when surrounded by smoke and under pressure to make the correct decision in order to rescue people quickly and save lives. Two further important factors in the selection of the digital radio solution were the system's ability to separate call groups more quickly when organising the various phases of a response and the dynamic assignment of call groups so that the relevant call groups can be contacted immediately to respond to an incident.

From 2008, during the invitation to tender phase, the responsible officers evaluated the performance and costs of digital radio solutions from a variety of manufacturers. The technology was also thoroughly tested by users. In early 2009, the decision was finally made to select TETRA (terrestrial trunked radio) digital radio terminals from Motorola Solutions. The devices meet all the fire brigade's requirements and also provide an impressive range of functions. They are easy to use and offer good value for money. Moreover, Motorola was the only supplier to offer intrinsically safe ATEX radios, which are specially designed for use in potentially explosive environments.

SOLUTION

Modern TETRA digital radio solutions provide firefighters with secure and reliable voice and data communication

Motorola supplied a total of 1,700 TETRA handheld radio terminals and over 1,000 TETRA vehicle mobile radios to the customer. The delivery comprises 1,100 MTP850Ex ATEX and 500 MTP850 as well as

We are particularly impressed by the large range of functions, the high degree of performance and the excellent value for money offered by the TETRA digital radio solutions from Motorola. Motorola also offers a broad portfolio of accessories and services. In addition, we have up to 65,000 call groups available for use in communication when using digital radio.

Sascha Eggert
Platoon Leader with Germany's largest professional fire department

100 MTP850 FuG portable radios. A further 1,000 MTM800 FuG vehicle mobile radios provide reliable voice and data communication between the fire brigade control centre and emergency vehicles. 80 percent of the TETRA digital radio solutions will be used locally during emergency operations. The remaining 20 percent will be deployed in the





organisational area. Guaranteeing a smooth switchover between the radio systems and the highest reliability of voice and data communication is clearly a high priority. The analogue terminals will therefore be taken out of service gradually once the migration to digital radio has been successfully completed. According to the implementation plan, the switchover to digital radio should be concluded by the end of 2014.

We are delighted to have the opportunity to equip Germany's largest professional fire department with our TETRA digital radio solutions and provide firefighters with both terminals and our comprehensive range of accessories and services. These ensure that fire service personnel are able to communicate securely at all times even in critical situations.

Peter Damerau
Sales Director BOS, Motorola Solutions Germany GmbH

TETRA digital radio solutions from Motorola allow firefighters to communicate securely and reliably – both inside and outside buildings. Within buildings, the radios use Direct Mode Operation (DMO) for

greater range and building penetration. This enables two or more TETRA terminals to exchange data directly via their air interface. Trunked Mode Operation (TMO) is used for communication outside buildings. In this mode, the terminals are connected via the TETRA digital radio network. Participants can choose between a one-to-one call, a group call or even a telephone call.

Motorola's TETRA digital radio solutions have a rugged build design that guarantees high quality communication between emergency service personnel even under extreme conditions. Due to their high protection classes – including dust zones 21 and 22 – MTP850Ex ATEX intrinsically safe digital radio terminals can also be used safely in potentially explosive gas and dust environments. Germany's largest professional fire brigade uses the Motorola MTP850Ex particularly for incidents involving leaks from gas-fired boilers or pipes where gas has been smelt.

Moreover, the TETRA digital radios from Motorola have a user-friendly design that allows firefighters to concentrate fully on the task in hand. The large buttons are easy to use even when wearing gloves and the scalable fonts and symbols are easy to read even when visibility is poor. The terminals also offer outstanding audio performance for the best possible communication in loud environments. Functions such as the „man down alert“, which triggers an emergency procedure if the user remains motionless for a specified period of time or is lying on the floor, and the ability to locate personnel when outdoors via the integrated GPS module offer firefighters an additional degree of safety in life-threatening situations. Moreover, the GPS function supports the transmission of positional data and therefore real time on-site deployment of response vehicles. This in turn allows teams be assigned efficiently and sent to the next location as quickly as possible.



BENEFITS

Enhanced efficiency and response times during operations ensure optimum task management

The TETRA digital radio terminals from Motorola are more reliable and considerably more rugged than the analogue radio solutions they are replacing. They are durable and reliable under even the most stressful conditions. The rechargeable batteries also offer exceptional longevity and trouble-free voice and data communication for long shifts. In addition, efficiency has been enhanced through functions such as group call via Callout and SDS (Short Data



Service). By separating the call groups for different incidents, it is possible to contact only those participants for whom the call is actually relevant. For example, the local officer-in-charge only has to

apply the group call settings and is immediately fully informed and ready to communicate.

The digital radio terminals also meet the highest security standards and offer features such as air interface encryption. Moreover, the terminals in the FuG series support end-to-end encryption in accordance with the requirements of the Federal Office for Information Security (BSI) for secure wireless radio communication systems.

In-vehicle mobile TETRA digital radio terminals from Motorola allow vehicles to be contacted and coordinated much more effectively. Emergency service personnel can therefore respond more quickly and accept additional ad hoc deployments and tasks. It is also possible to implement a state-of-the-art radio communication concept: the Motorola MTM850 FuG allows communication to be separated according to groups in the corresponding response teams. Analogue technology only permits transmission via one channel, so groups have to be split if they contain too many participants. Today's digital radio solutions allow the groups to be assigned to their respective operations in advance. This radio hierarchy offers the advantage that every participant receives precisely the information he or she needs. At the same time, a group leader has a better overview of voice and data communication and is consequently able to coordinate operations more efficiently.

Integrated Terminal Management (iTM) is a further advantage of Motorola digital radio solutions. This supports permanent readiness of the TETRA terminals. For example, updates can be performed on all radio terminals using an automated process without tying personnel to one location. Placing the terminal in the programming station, for example at the operational headquarters, allows updates to be installed automatically and thus minimises downtimes.



Further information about products from Motorola Solutions is available at:
www.motorolasolutions.com

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