



EWR NETZ GMBH

EWR CHOOSES TECHNOLOGIES FROM MOTOROLA TO IMPLEMENT THE ENERGY SECTOR'S LARGEST TETRA DIGITAL RADIO SYSTEM



THE COMPANY: EWR NETZ GMBH

EWR Netz GmbH is a regional utility company with its headquarters in Worms, Germany. It installs, operates and maintains the electrical power grid in Rheinhessen and the Hessian region Ried as well as the gas and water networks in Worms. The company is a 100% subsidiary of EWR Aktiengesellschaft and supplies approximately 200,000 electricity, 21,000 gas and 15,000 water customers in the region. Providing reliable supplies to private and commercial customers and the cost-efficient, environmentally friendly and safe distribution of electricity, gas and water are the top priorities at EWR. The company therefore attaches great importance to investment in modern technological equipment.

COMPANY PROFILE

Company

- EWR Netz GmbH
- Worms, Deutschland

Sector

- Energy sector

Motorola Products

- TETRA digital two-way radio system consisting of 37 antenna sites, a Dimetra IP switch and MTP 850 TETRA terminals

Applications

- Smart meters and telecontrol technology applications are planned. A trial operation is currently being run with the meter manufacturer Elster.

Partner

- Blicke & Scherer.

Benefits

- Secure and independent communication platform for employees
- Telemetry functions
- Monitoring of the medium voltage power grid
- Remote meter reading
- Smart grid applications
- Workforce management applications



THE CHALLENGE

An independent solution for communication between employees and a secure fallback in crisis situations

EWR has been an active player in the market for nearly 100 years. From the outset, the company has aimed to supply energy using the best technology available. However, the demands placed on technology used in the energy sector are rising constantly. One of the greatest challenges in coming years is the ever-growing demand for renewable energies, which are feeding increasing amounts of electricity into power grids. Integrating networks of decentralised generation plants is becoming ever more complex.

Intelligent technologies are needed to keep pace with these rapid developments and also to operate power

grids efficiently in the long term. EWR invests € 30 million annually in the expansion, modernisation, servicing and maintenance of its networks. The communication technology used by EWR employees needs to be similarly advanced, equipped for the future and able to cope with the changing requirements of the market.

Thus, EWR developed a plan to replace the common frequency broadcasting system it had used with a technology capable of meeting the challenges of the future. The aim was to provide a secure means of communication for employees operating the network and offer a valid fallback in crisis situations. It was essential that this platform should be independent of the telephone network, which is prone to disruption. Finally, the new technology should enable users not only to speak with each other but also to transmit data allowing them to use value added services such as telemetry and telecontrol functions.

THE SOLUTION

TETRA digital radio for flexible transmission of voice and data

At the end of 2007, after a three-month selection procedure, EWR commissioned Motorola to set up a TETRA (Terrestrial Trunked Radio) digital two-way



radio system. As well as the construction, installation and implementation of a TETRA infrastructure, the order included supplying the associated TETRA digital two-way radio terminals. The performance of the terminals had already been evaluated as part of the selection procedure. In this process, the devices from Motorola had proved themselves with the employees. After extensive testing by their future users, the company selected the solutions from Motorola due to their robust workmanship and intuitive operation as well as their optimal combination with the infrastructure.

The TETRA system is based on the Motorola Dimetra IP platform and comprises 37 antenna sites. It therefore covers the EWR Netz GmbH's entire region of supply in Rhineland from Bingen am Rhein to Alzey and Worms. In terms of area, EWR's TETRA network is the largest yet constructed in the energy supply sector in Germany and provides secure communication for around 200 employees.

“The value for money offered by the Motorola solution was extremely persuasive. When choosing the handsets, the decision of their future users also played an important role.”

Johannes M. Krämer,
Managing Director of EWR Netz GmbH, Worms, Germany

The Dimetra IP Compact digital two-way radio solution is a flexibly scalable TETRA system. Like all Dimetra IP systems, the foundation of Dimetra IP Compact is an end-to-end IP architecture that can be adapted at any time to the specific needs of EWR Netz GmbH. In addition, EWR selected the MTP850 TETRA terminals for its employees. The MTP850 is an exceptionally light, and compact TETRA handset. It is intuitive to operate and has voice and data communication capability. Moreover, the terminals offer EWR employees a wide range of functions to support them in their daily work. For example, the MTP850 has an integrated GPS receiver, which enables the user to be located automatically, which increases user safety and helps to optimise operational planning. The terminals also support multi-slot packet data (MSPD) technology.

This function was another of EWR's key selection criteria and allows employees greater data throughput, for example for sending low-speed videos or searching in databases.

THE BENEFITS

A communication solution with greater security and value added services

The TETRA digital two-way radio system from Motorola gives EWR a secure communication solution – independent of cable-based telephone networks. Voice and data transmission capabilities are therefore provided at all times. This makes it easier to coordinate service employees and significantly optimises workforce management. Even if there is disruption to public telephone networks, network control station employees and service field staff can be contacted.

Another benefit for EWR was that the migration from the old common frequency broadcasting system to the TETRA digital two-way radio system was not necessary as the district offices could be switched over to the TETRA system one-by-one as it was implemented.

The new radio system also enables EWR to use value added services such as telecontrol and telemetry functions. For example, if required, the network control station can use it to visualise alerts from every area of its network – even from the installations that were previously out of reach by communication for technical reasons. This allows EWR to monitor and control all the facilities and installations in its network in real-time. Furthermore, the network control station is more easily able to detect and repair the sources of faults and disruptions. That saves time and minimises downtime. EWR profits from a clearly more efficient and cost-effective operation of its systems and is now equipped with the optimum communication technology to meet the future challenges of the energy sector.

“The TETRA digital two-way radio system provides EWR with secure communication and enables the use of value added services.”



Interview with Johannes M. Krämer, Managing Director of EWR Netz GmbH, on the migration to TETRA digital radio systems at EWR

Mr Krämer, EWR Netz GmbH has been using TETRA digital radio to manage and communicate with its service personnel securely during normal operations and disruptions since 2008. What has been your experience with the technology so far?

Switching from the old common frequency broadcasting system to TETRA digital radio has proven to be an extremely worthwhile investment. Our old analogue private mobile radio system was outdated and it had to be modernized. However, the new system was not just intended to replace existing functions but also offer new opportunities for the future. The logical consequence of this was that, after a thorough evaluation of all the possible alternative technological solutions, we selected the TETRA system as it allows us to increase our efficiency continuously and be a reliable service provider for our customers.

Can you describe in more detail how the TETRA network helps you to increase efficiency?

The employees in our control centre can monitor our entire electricity, gas and water networks in real-time. Parts of these are now covered with the help of our digital TETRA infrastructure – and the expansion continues. Our staff can access all the key data from all networks and plants in our region of supply at the click of a mouse. If a fault occurs, they can react immediately: either by eliminating the fault centrally from the control centre itself or sending all the relevant information to the nearest available service field employee so that he can repair the fault on-site as quickly as possible. This in turn allows us to reduce downtimes to an absolute minimum.

Why should employees communicate via TETRA when very efficient mobile phone technologies are already available?

The TETRA network allows our employees to communicate with each other at all times – securely

and with no interruptions to service. The TETRA system gives us a communication platform that is independent of the public telephone networks. This is particularly important for us because we know that the volume of calls in public telephone networks increases rapidly during emergencies or when there are major disruptions. The existing mobile phone networks therefore quickly overload at precisely the moment we need them. If they fail completely due to a disruption, it is critical that we have an effective fallback in order to restore energy supplies as quickly as possible.

Would you describe TETRA technology as “future-proof”?

Absolutely! That is one of the great advantages of TETRA: the technology is flexibly scalable and grows with our requirements. This is extremely important – especially in today’s world. The concept of “smart grids” is key to the present and the future. It is becoming increasingly necessary that we quickly make our networks more intelligent through greater use of communication technology. For example, in future, TETRA will allow us to monitor the feed-in of renewable electricity more easily and therefore ensure that networks do not overload at peak times and are not underutilised at other times.

Has the switchover to digital radio technology gone smoothly? And how are your employees coping with the technology?

The migration to the TETRA digital radio system was very smooth indeed. The Motorola project management and service team gave us excellent support and we were able to start operating some parts of the new network just three months after approval was granted by the German Federal Network Agency. And our employees had no problems in adapting to the new system. Firstly, our internal training courses ensured that they were familiar with the technology from the outset. Secondly, they had already tested handsets from a variety of manufacturers and discovered that the solutions from Motorola were very intuitive and easy to operate.



Johannes M. Krämer,
Managing Director of EWR
Netz GmbH

For more information on how Motorola’s MTP850 Radios can improve your field sales and field service operations, please visit us on the web at www.motorola.com/tetra or access our global contact directory at www.motorola.com/Business/XU-EN/Pages/Contact_Us

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