Hytera

TETRA system for the public security in Macedonia

Secure communication with Hytera Mobilfunk GmbH

Customer
Delegation of the European Union in Macedonia

Application / market segment
Public safety

Project time period
2009. Expansion 2012

Products
– Mobile radio network ACCESSNET®-T and ACCESSNET®-T IP
– 62 DIB-500 base stations
– 4 switching nodes (2 DMX-500, 2 IPN)
– Voice recorder system
– TETRA Computer-Aided Dispatcher with Automatic Vehicle Location

Description of solution
– Country-wide TETRA-based mobile radio solution for public authorities and organisations with security organisations
– Flexible expansion of the mobile radio system, expansion with base stations and exchange nodes
– Bridge function for switching between ACCESSNET®-T and ACCESSNET®-T IP components
– High degree of security through authentication and encryption using the TEA2 algorithm

ACCESSNET®-T IP for the public security in the

Republic of Macedonia ⯮

The Republic of Macedonia is located in Southeast Europe and includes an area of more than 25,000 km^2. As landlocked country with borders to five neighbouring countries, securing the country has a high priority particularly at the border regions. For this reason, a uniform mobile radio system for the secure and effective transmission of voice and data is essential for public safety. As the main contractor, we were able to offer the optimal solution: In 2009, we received the order for integrating our powerful TETRA mobile radio system throughout the country in the Republic of Macedonia.

A solution that succeeds
Particularly in emergency and disaster situations, an effective communication system is the basic prerequisite to coordinate task forces. With our robust mobile radio system, the enormous number of up to 20,000 subscribers can communicate with each other. In particular, the Macedonian police, border patrol and employees of the Department of State profit from our independent and interception-proof system.

We were able to implement an especially innovative development with respect to the flexibility of our mobile radio system: The existing ACCESSNET®-T system was expanded three years later with the new IP-based technology. The older infrastructure (base stations and switching nodes) was maintained and guarantees the customer a high level of investment security. The uncompromising combination of E1-based and IP-based systems demonstrates the unrestricted flexibility and expandability of our systems.

Our mobile radio solution in detail ⯮

The country-wide mobile radio system in Macedonia was implemented in two phases. The first phase in 2009 initially provided 42 DIB-500 base stations and two DMX-500 switching nodes of our circuit-switched ACCESSNET®-T system. In 2012, we were granted the follow-up order and expanded the existing system by 20 DIB-500 base stations and two IPN switching nodes of the new IP-based ACCESSNET®-T IP technology.

A bridge function ensures the coordination of the existing network management system with the new infrastructure for this combination. Each of our network management systems is downward compatible via a software update. Hence, our customer saves not only by using the existing infrastructure, but also because of minimum efforts involved in changes to the network management database.

The transmission of data from the police and State Department imposes high demands on the flexibility and security of the mobile radio system. We could meet them without any restrictions: The highly redundant design ensures a maximum degree of reliability. Authentication and dynamic encryption algorithms guarantee an enormous interception protection. With the implemented TEA2 encryption, the mobile radio system utilises the standardised encryption for public authorities for EU countries and candidates.

TETRA

Upon customer's demand, we expanded the scope of functions with applications for voice recording and subscriber management. The dispatcher also contains the function of locating vehicles and displaying it on a map at any given time (AVL).

A special challenge in Macedonia consisted of the prompt implementation on site. Despite long and cold winters, we were able to successfully complete the system in 2012 ahead of schedule.

Our tailor-made TETRA system offers Macedonia a powerful and secure voice and data communication system. Based on the extremely high flexibility, the system can be adapted and expanded without problems at any time.

Macedonia: Data and facts ⟫

Geographical position:
_ Landlocked country (surrounded by Greece, Albania, Kosovo, Serbia and Bulgaria)
Area:
_ 25,713 km^2
Population:
_ 2,050,000 inhabitants (as of 12/2010)

TETRA for Macedonia: Highlights of our solution ⟫

_ Rigorous downward compatibility: Use of older components in combination with new technologies
_ Combination of ACCESSNET®-T and ACCESSNET®-T IP network in one system
_ Network capacity for up to 20,000 subscribers
_ Maximum reliability through highly redundant network concept
_ Encryption with the TEA2 algorithm

Precisely what you need and are looking for: Solutions from Hytera Mobilfunk GmbH ⟫

Each of our mobile radio systems is a customized solution with optimum performance. No matter how difficult the conditions are or who the manufacturer of the radio equipment is. Customers in 40 countries on four continents are already using our solutions: in industry, oil and gas business, public safety and local public transit systems, at airports and for military applications. Besides the first-class technology from Hytera Mobilfunk GmbH, they particularly value one aspect: our holistic, customer-oriented project management with which we solve problems before they occur.

For more information, please visit www.hytera.de
Or contact us ✉ info@hytera.de

Hytera Mobilfunk GmbH

Address: Fritz-Hahne-Straße 7, 31848 Bad Münder, Germany
Tel.: +49 (0)5042 / 998-0   **Fax:** +49 (0)5042 / 998-105   **E-mail:** info@hytera.de
www.hytera.de