Alexander Heinz, VP Marketing & Product Management, Hytera Mobilfunk GmbH

Q: Hytera Mobilfunk GmbH has enjoyed a reputation spanning over three decades for delivering superior quality Professional Mobile Radio (PMR) solutions. Give me a brief overview of that history, and what makes Hytera a standout industry leader.

A: Our company was founded as an engineering office for radio equipment and professional radio networks in 1980. Already at that early stage the company specialized on the implementation of trunked radio systems for networks according to the analog MPT 1327 standard. We became the market leader in Germany as well as in Russia. From 1988 to 2012, the company belonged to the Rohde & Schwarz group, first under the name of R&S Bick Mobilfunk GmbH, since 2009 under the name of Rohde & Schwarz Professional Mobile Radio GmbH. At the beginning of 2012 the company was acquired by Hytera Communications Ltd. to consolidate their respective skills and to break new ground together.

Q: In fact, you are one of the world’s leading manufacturers of TETRA infrastructure components, tell me a little more about that?

A: Hytera in fact is one of the world’s leading providers of solutions and products in the field of PMR. Known for their “German engineering,” Hytera Mobilfunk GmbH have been pioneers in professional digital mobile radio for more than three decades and are one of the world’s leading manufacturers of TETRA infrastructure components.
TETRA-systems. We provide complete solutions, including network planning, project handling, site planning, commissioning, training, network optimization and after-sales service. Each of our mobile radio systems is a customized solution with optimized performance.

A big deal in the TETRA-systems is the infrastructure. Hytera provides high-end switches and base stations as well as a full variety of applications and controlling software for these. Our engineers develop continuously new components and adapt existing ones to the latest technologies. Thus we launched our next generation base station DIB-R5 at the Critical Communications World in Paris this year. Leading edge TETRA Release 2 and TEDS capability make the DIB-R5 most attractive for all scenarios where high-speed-data capability and availability are a must.

Q: And why is finding solutions to such TETRA infrastructure challenges so relevant in the Emergency Communications Arena?
A: Hytera has a strong expertise and experience in implementing tailored solutions for the emergency communications arena. Our TETRA-systems provide secure communication, system availability, as well as multiple features like localization, automatic call-group creation and comprehensive network management. The technology of TEDS and LTE even make it possible to deliver capacity demanding services over the TETRA-system. From my point of view wideband followed by broadband data is the next step the emergency communication will take.

Q: The term “German Engineering” gets tossed about a lot. Tell me what that really means to you, and to the quality of Hytera solutions?
A: Reliability is the key requirement of our customers. Systems have to operate without interruptions 24 hours a day and especially in crisis or emergency situations the radio system is the most important tool for the coordination of field personnel. “German Engineering” stands for this high level of reliability. Our products are developed under very high, German quality standards. This also means that our hardware and software is heavily tested before we ship and install our systems.

Our projects typically have a big portion of “Engineering” as each of our systems is tailor made to the specific needs of our customers. That means that we develop a system design together with our customers and configure the system to fit into the customer’s environment. We exactly understand our customers’ requirements and develop the most suitable integrated system solution including our own equipment and selected 3rd party components. In this context “German Engineering” means that our customers can rely on the delivery of a reliable over-all solution.

Q: As you see it, what are some of the greatest challenges facing PMR users in Emergency Response situations? Interoperability? Bandwidth? Legacy Integration? You tell me, and how is Hytera responding to such challenges?
A: Challenges are very much dependent on the region and today’s environment of our customers. There are still many of our customers who plan to migrate from analog to digital. They need us as a strong partner to support them during their migration phase. We support this migration phase with our technical solutions, for instance with our gateways, but also assist our customers in planning and setting up new systems with respect to their current and future mode of operation. Continuous operation and protection of investment over many years are key for our customers.
Q: What about the challenges of integrating with IP infrastructure? This is a concern I see coming up time and again among Law Enforcement and First Responders.
A: Yes, you are quite correct. Another challenge is the migration to IP-based backbone networks. IP is the basis for modern telecommunications systems today. We have a very smart solution to extend existing E1-based ACCESSNET-T networks with new, IP based network segments. Our existing network for the Macedonian Police delivered in 2008 was recently extended with additional, IP based base-stations. For the users, it appears as one system.

Emergency communications today are becoming more and more data centric. Ten years ago we only had smaller text messages assisting officers in the field in their daily duties. But today’s technologies like packet data and TETRA Enhanced Data Service (TEDS) allow data applications which optimize workflows and increase the situational awareness in the field. The integration of data applications into existing Command and Control environments gets important. Hytera supports this development with powerful application interfaces and technical support during the integration phase.

Q: Hytera certainly seems to be ahead of the curve in IP Network Integration, but what challenges remain?
A: Technology is complex today, but reliability and robustness of products is still the main focus of our customers. I think that the adaptation of modern smart phone technologies for the use in our customer segments will be a challenge for us as manufacturer, but also for the user community, as new kinds of applications will have a high impact on their daily operations.

Standardization and interoperability in an IP based environment will be the key challenge in our industry. LTE today is only an IP data pipe with very high data throughput. But interoperability between end-user applications and application servers still has to be established. One example is a text messaging service. Today we can send text messages in TETRA. These messages can be confirmed by the recipient. Tomorrow we could have an instant messaging service similar to ICQ, but we still need to add features like encryption or delivery confirmation to fulfill the requirements of emergency users.

Q: Without revealing anything that could be considered proprietary of course, can you tell me where and how Hytera’s radio technology is being used by First Responders and Law Enforcement Bureaus worldwide?
A: The countrywide TETRA network for the Malaysian Emergency Forces is our biggest network and was finished in 2008. With more than 500 sites it covers the Malayan peninsula and the states of Sabah and Sarawak on the island of Borneo. The network is used as multi-agency network, which means that several agencies use the network autonomously. One key requirements was, to have strong separation between user agencies for their internal communications and collaboration mechanisms for joint operations. Our solution to this requirement is called a Virtual Private Network (VPN).

My second example is the TETRA network for the police of Macedonia. The first installation of the network comprised 42 base stations, redundant exchange nodes and network management features as well as command and control infrastructure. It was delivered in 2008 on basis of an EU funded contract. In 2012, Hytera Mobilfunk GmbH was awarded the contract to expand the network by further 26 base stations to extend the radio coverage.

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