

Germany and Estonia confirm EADS for national networks



Nationwide coverage for public safety

EADS has secured the contract to construct BOSNet, the nationwide digital TETRA radio system for Germany. The contract was awarded by the Procurement Office in the Federal Ministry of the Interior. The network is planned to serve over one million users, and will be one of the largest in Europe.

Soon after the German win, the Estonian government and EADS signed a contract to build the Estonian public safety network. Users of the network will include the police, border guards, rescue services, and other organisations responsible for public safety. The Estonian network is planned to be ready for service during the first half of next year.

The German BOSNet is scheduled for completion by the end of 2010. As prime contractor, EADS has overall responsibility for the project. Siemens is responsible for the system rollout. In all, the contract has a potential value of up to €1 billion for EADS. The basic network, known as the 'Rumpfnetz', will cover 50 per cent of each German federal state. Each state can enhance the Rumpfnetz to meet its own communication needs.

Tomorrow's terminals...

Following the completion of a worldwide market research project involving network operators, user groups and manufacturers, Software Radio Technology (SRT) has embarked on the development of its new generation TETRA technology solution.

The independent market survey was designed to gather information on the PMR and TETRA markets, and to find out what users want from the equipment and services.

The results provided essential input in defining the specification and architecture for SRT's multi-platform chipset, designed to support TETRA as well as other standards such as DMR and P25.

SRT has also undertaken a detailed evaluation into the development and production of its own range of TETRA handsets for sale to users within Europe. SRT said its handsets 'could be released into the market during the first half of 2007.'

The future of TETRA terminals?



The German police will benefit from one of the largest TETRA networks in Europe

Ten Years of TETRA – and Norway's back in the spotlight

The TETRA market is ten years old. The first commercial TETRA contract was signed in September 1996 for the supply of a Motorola system to Gardermoen Airport in Oslo. Almost exactly ten years later, the Norwegian TETRA Forum (also celebrating its 10 year anniversary) hosted a Scandinavian TETRA Seminar, attended by some 200 delegates from 12 countries.

The spotlight is back on Norway as the decision is due to be made on the preferred consortium to build NØDNETT, the new nationwide digital radio network system to be used by the Norwegian public safety authorities.

News in Brief

Shanghai streamlines communications

Motorola is to establish a TETRA network for the city of Shanghai, enabling 50,000 government agency users to communicate on a single unified platform.

The new system is scheduled to be operational by December, preparing Shanghai to provide communications services for the 2007 Special Olympics, the 2008 Beijing Olympics, and the 2010 World Expo.

TETRA stars in Danish games

TETRA technology ensured the smooth running of Landsstævne, Denmark's largest sporting event, held every four years. The TetraStar network, using Sepura radios, registered around 10,000 group calls during the games.



The crowds at Landsstævne

The busiest hours registered approximately 200 group calls per hour. First aid was the major user with over 1,000 calls.

Over 25,000 athletes from all over Denmark competed over four days in the southern Danish city of Haderslev. The event's opening ceremony was attended by the Danish Royal Family.

Rhône and Lyon choose regional TETRA

Sytral (Syndicat Mixte des Transports pour le Rhône et l'Agglomération Lyonnaise), the French regional public transit authority, has chosen a TETRA system. R&S BICK Mobilfunk received the order from its French system partner, Sabatier SA. The TETRA system will transmit GPS and maintenance data from all Sytral buses and streetcars to the control centre, enabling continuous monitoring of the transport system.

Riga public transport on the move

As part of the plan to enhance the Automatic Vehicle Location (AVL) system for the city's buses, SIA Rigas satiksme, the municipal enterprise of the city of Riga has chosen Sepura TETRA radios for the Latvian capital's public transport, through distributor Selkoms. SIA Rigas satiksme employs 6,500 staff and manages 459 buses, 252 trams and 311 trolleybuses. It also controls 61 bus routes in Riga, 11 tram routes and 21 trolleybus routes and provides parking services.



Essex Ambulance and Sepura first to respond

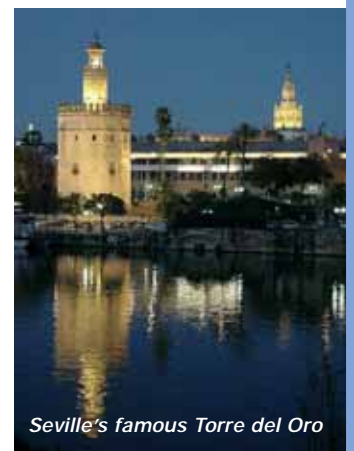
Sepura is to supply TETRA radios to the East of England Ambulance Service. This is the first order from O2 Airwave for ambulance digital radios under the Department of Health's (DH) national programme in England. The order comprises a combination of radios and special features that were developed by Sepura specifically for ambulance services.

Unified Energy System of Russia first phase complete

Russia's Unified Energy System (UES), the largest power holding in the Russian Federation, has completed the first phase of the implementation of an advanced digital communications system and has chosen Sepura radios through Russian distributor Infracom.

Telvent scores with Seville's Secora

Telvent GIT S.A. has signed a contract with Agrupación de Interés Económico de Empresas Municipales de Sevilla, the organisation responsible for running Seville's municipal companies, to implement its new SECORA communications network. The network will replace and unify the seven existing municipal analogue networks, contributing to a reduction of the environmental impact by eliminating the existing 32 repeating stations to leave 10 base stations, allowing compliance with the new telecommunication regulations. Telvent is using Rohill's TetraNode technology, and SECORA has chosen Sepura TETRA radios through Telvent.



Seville's famous Torre del Oro

TETRA system for Istanbul city trams

Istanbul Municipality Contractors have awarded Uskom Komunikasyon Sistemleri A.S. a contract to deploy a multi-site TETRA network for Istanbul City for the tram network. The TETRA infrastructure is based on Rohill's TetraNode solution.



Istanbul - the trams will use TETRA



JP-Epstar is now Pöyry Telecom

Pöyry Group, in which JP-Epstar belongs, is now operating globally under a unified brand and a new visual identity. The Group's entire business was brought together under one brand, Pöyry. JP-Epstar Oy has changed to Pöyry Telecom Oy. Contact details and company information remain the same.

The Chairman's Vision

We are coming to the close of a remarkable year for the TETRA standard. The momentum of the industry has shifted up a gear, with nationwide TETRA decisions being made in Germany, Estonia, Norway, Denmark and Portugal. This is the reality of the success of our market, as TETRA is confirmed as the leading public safety communications standard.



The strength of TETRA continues to grow in the private and public sector too, with an increasing range of organisations adopting the technology for their communications needs, and a growing number of products and services being designed for markets outside the mission-critical. In this edition of TETRA News, for example, you can see the progress being made in the TETRA Association Rail initiative.

We continue to take our messages to market, with highly successful events over the summer in Poland, Turkey and Brazil, and with China and Dubai to come by the end of the year. The team that manages these events are profiled on page 7, so take a few minutes to get to know the people behind the scenes.

Finally, as this is the last edition of TETRA News this year, I would like to take this opportunity to wish you the very best for what remains of 2006, and a peaceful and successful 2007.

Phil Godfrey
Chairman, TETRA Association

Strategic alliance for China market



Hisense, one of the largest electronic technology companies in China, and Sepura, the world's second largest supplier of TETRA radio terminals, have announced an agreement to enable the local manufacture, development and supply of TETRA radios in China. The occasion was marked by a signing ceremony in Beijing attended by leaders from the Chinese communications industry & government.

At the signing ceremony: (From left to right) Standing: Su Tong & Kevin Graham (Sepura), Fu Aishan and Lu Jiachao (Hisense). Front seated: Graham Matthews (Sepura), Yang Yunduo (Hisense)

The radio products will be provided in all frequency bands allocated to TETRA in China. Sepura was the first company to provide TETRA products for the Public Security 350-372 MHz radio frequency band in China and Hisense will produce these products from its Chinese manufacturing facility, plus other TETRA radios in the 440-473 MHz and 806-870 MHz radio frequency bands.

Graham Matthews, CEO for Sepura, said: "The relationship with Hisense will allow both companies to address the rapidly expanding TETRA market in China. This arose from the decision by the Ministry of Information Industry (MII) in 2000 to adopt the international TETRA standard for digital radio in China, particularly for use by police, fire, ambulance, transport, ports and metros. MII estimated a potential market in China for 8-9 million digital trunked radio terminals."

First Private TETRA Network in Belgium



Carinox, part of the Arcelor steel group, has become the owner of the first private TETRA network in Belgium. The Carinox factory in Chatelet had the network installed by Zenitel and Siemens in just six weeks, ready for the official inauguration of the factory.

company. Every move and handling task contains possible risks and only reliable communication assures immediate sharing of necessary information.

Terminals are Motorola's MTH800 radios, integrated in a central PABX. Over 170 people use the TETRA network.

Communication is key when it comes to protecting the lives of the employees at the

Welcome!

The TETRA Association welcomes the following new members from around the world:

Suomen Erillisverkot Oy	Finland
Anthony Gray	France
Imtradex Hor-/Sprechsysteme GmbH	Germany
Bharat Electronics Ltd	India
Federal State Unitary Enterprise	Russia
Aerial Facilities Ltd	UK
Infomatrix	UK
Telecommunications of Ukraine	Ukraine

Airwave's Richardson retires

Pete Richardson, chief executive of Britain's O2 Airwave, is to retire in March 2007. Richard Bobbett, currently chief operating officer, will be the new CEO. Airwave is one of the largest public safety networks in the world.

FCS Award for ATDI

The Federation of Communication Services (FCS) has named ATDI's online planning and modeling tools as runner-up in its Gerald David OBE Business Radio Innovation Award 2006. The award promotes excellence and recognises achievements in the radiocommunications sector.

Railway Focus:

TETRA on Track

Putting TETRA on track for rail success



Thomaz Aquino, leader of the Rail Subgroup

Earlier this year the TETRA Association announced a new initiative to concentrate on the analysis of sophisticated and resilient voice and data services specifically designed to meet the communication and control requirements of the rail industry.

Globally, operators are selecting either GSM-R or TETRA for main line railways, and TETRA for urban rail systems. In Europe, operators are currently bound by legislation to use GSM-R for main lines.

The TETRA Association is planning to formalise the TETRA rail proposition to provide operators with fully informed choice in their technology decision. The newly formed TETRA Association Rail Subgroup will identify the specific operational needs for voice and data services, particularly within railway signalling, control and train protection. It will analyse the technical interfacing needs of such applications and jointly develop guidelines and best practices for system integrators to ensure the future compatibility of TETRA systems to the railway signalling and train control requirements.

The Subgroup is also expected to advise on possible needs concerning the development of new specifications or recommendations to pursue compatible solutions. The Rail Subgroup is led by Thomaz Aquino, who has almost 30 years' experience of rail systems worldwide. Thomaz is Business Development Director – Rail, of the Integration & Services Division of Alcatel, based in Paris.

The Subgroup has requested suggestions on structure and the participation of organizations and people to lead the different key activities of:

- **Marketing** – identifying the market size and value to proceed
- **Technical specification** – developing the user & signalling requirement specification
- **Engineering** – identifying the scope of changes required to the TETRA standard.
- **Regulators** – advising and assisting on steps towards standardisation/validation.
- **Users** – advising on worthwhile operational additions

Thomaz said: "We expect to have a clear picture of the requirements, the impact on the TETRA roadmap and the amount of research and development commitment required, by 2008."

Information papers on rail communications will be added to www.tetramou.com

Those who have an interest in participating or who require further information should contact the Association on +44 1625 267886 or e-mail rail@tetramou.com, Phil Harley at phil.harley@alcatel.com.au or Thomaz Aquino at thomaz.aquino@alcatel.pt

Kowloon enhances KCR Light-Rail

The Kowloon Canton Railway (KCR) Corporation is enhancing communication across its Light-Rail network. The contract for the TETRA over IP (ToIP) infrastructure was won by Artevea conjunction with Shun Hing Systems Integration, Artevea's distributor in Hong Kong.



Tailored for TETRA by Teltronic

TETRA railway applications are on the increase. The benefits of digital TETRA, offering secure and high-quality communications in noisy environments, have increasingly made it the platform of choice for railway companies.

The tailor-made TETRA equipment by Teltronic for railways includes a console with hand-set for voice communication and MMI (Man-Machine-Interface) for controlling the main functions of the train system.





Yekaterinburg extends TETRA success

R&S BICK Mobilfunk GmbH provided the Russian railway management with a TETRA radio system for the railway lines around Yekaterinburg (formerly Sverdlovsk). The system began operating in 2003. At that time, the ACCESSNET ®-T radio system covered some 180 km (112 miles) of railway lines plus the entire railway works of the Yekaterinburg railway management. TETRA radios from different manufacturers were deployed in the network, supporting the open standard.

Four base stations were all connected in series, with the first and the last station connected with one of the two exchanges, forming four circle structures. These were complemented by a direct line between the exchanges. Even if a communications line failed, the functionality of the entire system remained unaffected. The individual network elements were connected with each other via an optical network.

After the TETRA radio system had been operating for about 18 months, the Russian railway management decided to extend the system across a further 220km. A multiposition control centre will also be supplied, connected to the exchange via a LAN. Voice communications are handled via a VoIP connection. A train application server allows the staff to use train numbers as addresses instead of dialling individual numbers, helping to avoid misunderstandings or errors.

The French connection

Keolis (a subsidiary of the French railway company SCNF) will use a new TETRA system installed for the public transit authority of the Rhone and Lyon region. The system will be used primarily for data transmission



Beijing Metro replaces 30 year old system

The China Beijing Metro is replacing its existing communication system for its Line 1 and 2 Operations with a TETRA system from Motorola. The new system is expected to be fully operational by the second half of 2007. These were the first metro lines to be constructed in China in the 1960s. The migration to a digital platform is part of the five-year plan to upgrade the subway systems and equipment to integrate all metro lines on a unified communications platform.

"Minimising risks, improving passenger services and raising the safety level and overall standard of our subway operations are some of the key priorities when we were considering a system refresh," said a spokesperson from the Beijing Metro.

Second phase Russian railway project

The Russian railway is the first in the world to adopt TETRA after testing both TETRA and GSM-R technology. The Moscow – St. Petersburg line, which is 800 kilometres long, will bring the system into operation.

Teltronic won the initial contract in May 2005, and works with Russian companies Globalsvyaz and Microtest. Specific interfaces have been developed, as well as a complex monitoring system under SORM specifications. The system is also integrated within the existing radiocommunication networks in the Russian railway.

The first project phase included the two central nodes and 19 base stations for 300km of track. The second phase includes another 500 kilometres, making a total of 800 kilometres. A total of 32 base stations are going to be placed in this second phase.

Events Focus:

TETRA on Tour



Building business in Brazil

The TETRA Experience regional congress in Sao Paulo, Brazil, proved an exceptional success, both in terms of the delegate attendance and the standard of the exhibition. There is huge potential for TETRA in Latin America, which has embraced the technology for the PMR market. Networks have been implemented in major cities and provinces across the region, and the benefits of TETRA have been recognised by transportation and utility companies.

TETRA systems in Brazil include those of the Bahia State Police and the MRS-SIACO railway project, both of which were presented as case studies, together with the TETRA system used to manage the Panama Canal.

Peter Clemons, a well known personality in the TETRA world, and a fluent Portuguese speaker, chaired the event and ensured that the presentations from TETRA industry experts and existing users were delivered with a non-technical bias, encouraging interaction from the audience.

Following the congress, discussions were held with regulator Anatel in Brasilia around the release of more spectrum to serve the increasing demand for TETRA technology.

Working together in Warsaw

The TETRA Association conference in Warsaw attracted delegates from across the TETRA community, including representatives from public safety, the utilities and transportation industries, and regulatory bodies.

The Polish capital hosted the first Association two-day event in the new programme of regional activity designed to take TETRA to its markets. Central to Eastern Europe, Poland is an important market for emerging digital communications.



An excellent level of attendance plus informed and enthusiastic presenters combined to produce much interactive discussion and debate, with experience and knowledge shared by all.

Zbigniew Kadzielski, General Director of the National Telecommunication Institute, provided an insightful view of TETRA in Poland, and as a direct result of the event, a Polish TETRA Forum is to be set up so the national expertise can be consolidated and leveraged not only within the country but also with colleagues around the world.

Zbigniew Kadzielski, General Director of the National Telecommunication Institute, at the TETRA Experience conference in Warsaw

Istanbul University hosts public safety congress

Over 150 delegates attended the Wireless Communications in Public Safety congress at the Istanbul Technical University in Turkey. The congress was organised by the Disaster Management Centre of Excellence of the University, with speakers from the University, the board of the TETRA Association and local industry.

The Istanbul region has one of the highest probabilities of earthquakes in the Eastern hemisphere. The studies of the Disaster Management Centre concentrate on evaluating the seismic activity and developing means for improved management of natural disasters, as presented by professors Alper Ünlü and Haluk Eyidogan in their congress papers. Assistant professor Berk Ustundag presented the current status and development plans of the Turkish emergency radio communications.

European radio user representatives Hans Borgonjen from The Netherlands and Daniel Hache from Belgium, presented the activities and goals of the European Union in harmonising the Public Safety radiocommunication procedures and technologies amongst the EU member states, and their own experiences from developing and running shared multi-agency TETRA radio networks as well as shared emergency call (112) centres for the state and municipality agencies of their governments. Both speakers stressed their experience that the biggest challenge in building a successful radio system

to serve multiple agencies is to create an atmosphere of genuine cooperation between the ministries, agencies and people.

TETRA Association board members presented to the congress, clarifying issues related to technology, security of public safety radio systems, the global TETRA market, usage of TETRA technology by the military community and the interoperability certification of TETRA equipment to ensure compatibility. Board member Mario Micheli highlighted that TETRA is currently the only professional mobile radio technology that can demonstrate certified interoperability between equipment from over 10 independent manufacturers.

Professor Alper Ünlü from the Disaster Management Centre of Excellence of the Istanbul Technical University, organisers and hosts of the Wireless Communications in Public Safety congress





TETRA Experience 2006 Dubai

Hotel Hyatt Regency, Deira, Dubai, UAE: 26th & 27 November 2006

New technology, New Market, New Ideas...

Will you be there?

Register online at www.tetramou.com

The Team Behind the Scenes

Whether your involvement with the TETRA Association is during a TETRA Experience event in vibrant Brazil, glittering Dubai, picturesque Poland, or the possibly less-visited Macclesfield in northern England, the chances are that your contact will have been facilitated and supported by the RfA team.

RfA – Resources for Associations – is an organisation that specialises in providing headquarters support to professional and trade associations. Their work includes strategic planning and consultancy, planning

association development and implementing best practice, membership management, including recruitment and retention, communications, event management, book-keeping and Board support.

RfA is headquartered in Macclesfield in the UK, from where it supports the TETRA Association from the premise of two guiding principles: delivering effective and efficient services to members while helping the Association to develop and achieve its vision.



Laura Kennedy

The key point of contact at RfA for the TETRA Association is Laura Kennedy. Laura is Association Manager with overall responsibility for the delivery of agreed services to the TETRA Association, and has specific involvement in Board support and Member Communications. Laura studied English Literature at university and is now studying Maths. She also plays the trumpet!



Alison Ghassemi

Alison looks after the books. A qualified accounting technician, Alison manages the sales and purchase ledgers for the Association, providing reports to the Board and managing day-to-day financial transactions. Alison is currently learning Ballroom and Latin dancing, so watch out for her steps!



Alex Martin

Alex is Membership Administrator. He works closely with Laura to maintain the membership database and handles delegate registrations for one-day meetings. Alex is now studying for an NVQ in Business Administration.



Robin Bickersteth

Robin is Association Systems Manager, responsible for ensuring that the database and online services are integrated to provide improved services and accessibility to members. Robin reached the quarter finals of Junior Wimbledon in 1966 (old, old news!!) and has owned a cafe/bar in Crete.



Beverley Moore

RfA maintains a strong focus on improving team knowledge and expertise for the Association's benefit. Beverley, Association Development Manager, is responsible for training and developing the RfA team as part of an ongoing commitment to the Investors in People initiative. She gained her degree in Oriental Studies but don't ask her to translate anything in Chinese... it was a long time ago!



The BienVenue Team

Sam Elliott – Business Unit Manager

Sam is responsible for the Business Unit and its operational activity. Sam has worked in the Association Management industry for many years. Sam is learning to fence, which she is finding extremely enjoyable.

Christine Morris – Event Manager

Christine is Event Manager. Her comprehensive meetings industry experience combined with an extensive knowledge of logistics and production techniques ensures the management and delivery of a successful event. Christine enjoys falconry and has flown a Steppe Eagle, one of the largest of the Russian eagles.

Beth Swindlehurst – Customer Service Consultant

Beth looks after our client liaison, nurturing relationships with our clients to ensure their objectives are reflected in their requirements. Beth is a keen artist and has been successful in selling some of her work.

Lynne Ridge – Venue Search Consultant

Lynne is responsible for working with hotels and venues to ensure that the client's needs are met. Lynne is a very keen swimmer and is part of a synchronised swimming club and has competed at a regional level.



Carole McKellar

Carole is Managing Director of RfA, the company she founded in 1993 to remove the organisational and administrative burden from key members of professional and trade organisations, freeing their time to focus on their core activities. Carole was formerly an archaeologist, she worked on excavations across Europe and North Africa discovering a 15,000 year old hunting camp in North West Greece and Roman pottery kilns in Tunisia.

For a three-year term beginning this July, Carole joins the International Board for Meeting Professionals International (MPI). MPI is a professional association for meeting planners and suppliers with 20,000 members worldwide. Carole is heavily involved (as a volunteer) in professional development and standard setting within this Industry. This knowledge is transferred into the internal training programme for all RfA staff, the BienVenue team, and for the benefit of all clients.

If you need to contact any member of the TETRA team at RfA, please telephone +44 (0)1625 267886, or email administration@tetramou.com

TETRA events in 2006/7

Full details can be found on the websites below

2006 Event	Region	Date	City	Website
TETRA 1 day conference	China	08 November	Beijing	www.tetramou.com
TETRA 2 day conference	UAE	26-27 November	Dubai	www.tetramou.com
2007 Event				
TETRA World Congress	Spain	11-14 June	Madrid	www.iir-tetra.com



Motorola launches new compact TETRA system

Motorola has launched its new Dimetra IP Compact TETRA solution for small digital wireless networks. The Dimetra IP Compact is based on Motorola's established Dimetra IP-based nationwide platform and offers the same range of features, but with a smaller footprint and at a price point for enterprise market entry.

The Dimetra IP Compact switch offers users the option of purchasing a basic voice supported system and adding functionality and /or sites as their needs grow. Add-ons include features such as Multi-Slot Packet Data offering up to 28.8kbps gross data transfer, in addition to telephony, air interface encryption and voice logging.

The Dimetra IP Compact solution utilises Motorola's new MTS2 and MTS4 TETRA base stations, Motorola's latest Vortex dispatch console, and its range of subscriber devices including the MTP850 portable, now shipping in 380 – 430 MHz band in addition to 800MHz.

New versatile in-vehicle radio



With a full range of advanced voice, data and security services, the new TMR880i TETRA mobile radio from EADS features an integrated GPS receiver with waypoint guidance, support for smart card based end-to-end encryption and Java platform, meeting customer requirements in both mission-critical and civil use. The product is available in two configurations: voice & data or data only. Deliveries will start in December 2006.

Special delivery

Belgian fire fighters had an early Christmas present when Interior Minister Patrick Dewael made the decision to equip all 250 regional fire services with a total of more than 5,000 ASTRID radios, making co-operation with the other public safety services considerably easier.

Daniël Haché of ASTRID said: "All firefighting schools received a full set with courses and radios for training purposes. We trained a team of 60 specialised firemen who in turn trained 600 trainers according to the 'train-the-trainer' scheme. All radios should be in operational use by the end of this year."

Early Christmas presents - hundreds of boxes waiting at the Firefighting School of Jurbise. These TETRA radios and paging terminals were handed over to the 25 regional fire services of the Hainaut



More information on products and companies in this edition can be found at <http://www.tetramou.com/signatories.aspx>

Subscribe at <http://www.tetramou.com/subscribe.aspx>
TETRA News: Comments and contributions welcomed – please send to: editor@tetramou.com

For any other information please contact the TETRA Association's administration office by email: administration@tetramou.com or visit the Association's website at www.tetramou.com

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