



TETRA World Congress 2003

A delegate summed up the TETRA World Congress very well in his feedback when he said "It is the only place to meet the international TETRA user community". If you are already a part of this international community or you are considering a TETRA solution for your organisation, this year's World Congress in Copenhagen, November 24th - 27th, will be your opportunity to network with fellow users and suppliers from around the world.



Customising the Strengths of TETRA

Well established as a communications platform for public safety, commercial and operator networks, many users already appreciate the flexibility, versatility and scalability of TETRA systems. But TETRA's scope and capability offers even more possibilities which manufacturers of TETRA equipment and systems, application developers and test houses continue to build on for the benefit of users.

This year's programme will examine customisation under a wide number of themes:

- Innovation
- Scalability
- Future-proofing TETRA
- IP (Internet Protocol)
- Shared systems
- Disaster communications
- Applications
- TETRA Release 2
- Security

Some delegates will want to focus on specific issues in more detail. To do this, you have a wide choice of TETRA Seminars on the Monday of the World Congress week as well as the Masterclasses that will run immediately after the end of the main plenary session on Thursday.

Thinking of TETRA or already a user?

The plenary programme will include over 30 international user case studies in presentations tailored to vertical markets. The programme streams: Public Safety, Government & Military; Transport & Utilities; Network Operators & Deployers have been designed so you can move easily between them. This means you can build your own personal programme. Some examples are shown opposite.

Delegate profile: Public safety communications specifier. Looking to implement a new national communications network in 2 year's time. Limited knowledge of TETRA. Wanting to learn more and talk to other public safety users about their experiences with TETRA.

Here are some programme highlights to consider:

MONDAY:	<i>Whole Day Seminar - Introduction to TETRA</i>
TUESDAY AM:	<i>Opening plenary - Examining TETRA for Public Protection and Disaster relief</i>
TUESDAY PM:	<i>Public Safety stream</i>
WEDNESDAY AM:	<i>Command & Control system deployments for the police in Poland</i>
WEDNESDAY PM:	<i>Public Safety stream</i>
THURSDAY AM:	<i>TETRA protection on a national level</i>
THURSDAY PM:	<i>Masterclass - Promoting the Benefits of TETRA to your end users</i>

Delegate profile: Existing TETRA user for an urban passenger transport organisation. Looking to upgrade and integrate data services with the current voice services implemented on the TETRA network and particularly interested in ensuring data and communication security.

Here are some programme highlights to consider:

MONDAY AM:	<i>TETRA Seminars - Applications</i>
MONDAY PM:	<i>TETRA Seminars - Command and Control</i>
TUESDAY AM:	<i>Opening plenary - Customising the Strengths of TETRA</i>
TUESDAY PM:	<i>Transport stream</i>
WEDNESDAY AM:	<i>Discussions with Application developers in the exhibition area</i>
WEDNESDAY PM:	<i>Transport stream</i>
THURSDAY AM:	<i>Security issues for TETRA networks</i>
THURSDAY PM:	<i>Masterclass - In-tunnel coverage for TETRA networks</i>

(These are, of course, only suggestions. Take a look at the programme for yourself in order to build your personal timetable).



TETRA World Congress 2003 continued

Exhibition area

As well as a packed presentation agenda, the World Congress exhibition area annually brings together probably the largest TETRA focussed exhibition in the world. As the TETRA market has grown, so has the number of companies supporting it, and this growth will be reflected in the exhibition area. Take your time to view the latest terminal and infrastructure products, command & control solutions, applications and peripherals. Delegates will have opportunities to view the exhibition area during the conference breaks. The exhibition area is conveniently close to the conference theatre and seminar rooms, so you can maximise the time you spend looking at the exhibits.

Other attractions during the World Congress

The TETRA Association will hold its Annual General Meeting on the Monday evening before the start of the main conference. All members are invited to attend. On Tuesday night, delegates are invited to a welcome drink at the Dansetten Bar in the Tivoli Gardens from 19:00 onwards after which you can spend some time enjoying the sights and sounds of the Tivoli which is truly magical near Christmas. On Wednesday, a World Congress Party will be held at the Bella Center after the finish of the afternoon's presentations. The party includes the presentation of this year's TETRA World Congress awards and live music from a Brazilian band.

You can't afford to miss this year's World Congress

The conference producers IIR, in conjunction with the TETRA Association's steering committee, have tried to respond to

previous feedback about the programme, the location and the cost of attending. This year's programme has been carefully designed to last just four days – a reduction of one day compared to previous events. As far as accommodation is concerned, discounted hotel room rates to suit all budgets have been negotiated. For flights, Copenhagen is already served by a number of discount airlines and in addition, SAS (Scandinavian Airlines) are offering discounted flights if you quote the reference DK0332 when you book.

One day tickets and a variety of discount schemes

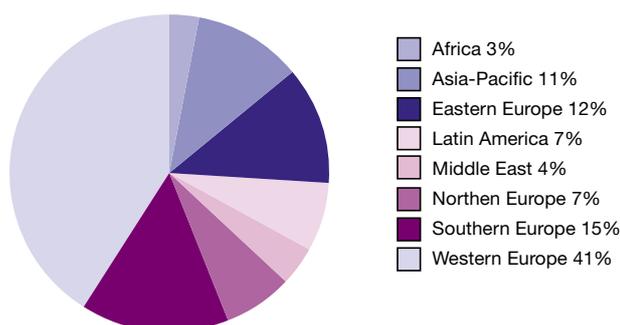
The options for tickets are the most flexible they have ever been. For the first time, one day tickets are available for the main conference. If you choose a one day ticket for the last day, attendance at a Masterclass is included in the price. Daily ticket prices fall if you choose more than one day and if you book before September 30th you will receive a further 10% discount. User discounts of up to 50% are available (subject to meeting the qualification criteria) as well as group discounts.

Details are on the World Congress website www.iir-tetra.com where you can also order the conference brochure. Registrations can be made online by emailing registrations@iir-conferences.com or you can phone +44 (0)20 7915 5055. This year's World Congress could be the biggest yet. Make sure you reserve your place as soon as possible and join fellow users and potential users from around the world in the 'only place to meet the international TETRA user community' – Copenhagen, 24th - 27th November – at the 2003 TETRA World Congress.

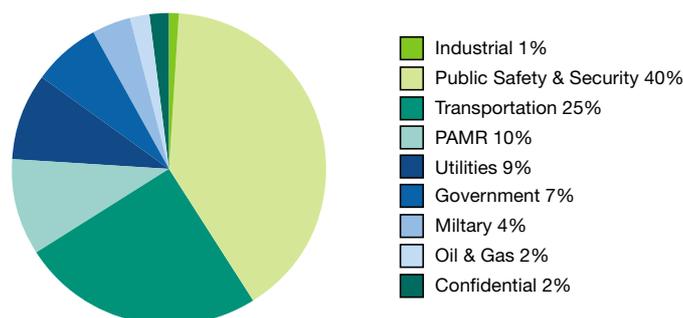
Latest TETRA contract analysis has some pleasant surprises

As part of its member services, the TETRA Association undertakes a review of the published contracts based on information submitted by members. The latest review completed in August 2003 shows some remarkable growth. Public Safety is still the largest sector overall but Transport was the highest growing sector with the number of contracts more than doubling since the last review. From a geographical perspective, Europe continues to provide a substantial number of new contracts but Asia Pacific contracts have doubled and Latin American numbers show an increase of over 150%. Full details will be available to members soon via the website.

Tetra Contracts By Region 2003



Tetra Contracts By Market Sector 2003



French urban transport companies choose TETRA

ETELM provides communications for the Bus & Metro transport communications network in Rennes

The choice of TETRA as the basis for the new communications system for the urban transport services of Rennes was driven by their desire to use a system based on an open, published standard that also offered a flexible architecture for future development. Other key factors influencing the choice were the need to interface to a variety of external applications: ticketing systems, GPS location and message display panels. Concerned as well in meeting new safety regulations and maximising the security of their operational personnel, hands-free operation of mobiles and ambient listening were also significant factors in the decision.

ETELM has deployed a 5 site network in Rennes (one of which is for the underground coverage of the metro) that gives coverage throughout the urban area. According to them, their network design gives seamless coverage between over and under ground transport systems. They also report that transport organisations in other major French cities including Marseilles, Nice, Bordeaux, Neufchâtel, Valenciennes and Grenoble are installing similar TETRA based solution from ETELM. For more information go to www.etelm.fr.

Energie AG expands digital TETRA trunked radio network

Energie AG Oberösterreich is one of the first energy supply companies to rely on TETRA standard digital trunked radio. Now the last coverage gaps in its network, developed and implemented by the Vienna-based high-tech company FREQUENTIS, are being filled.

The experiences of the disastrous flooding in 2002 have emphasised that a secure electricity supply is vital. The events also underlined that in times of crisis, TETRA can be relied upon. Energie AG has now decided to add six more base stations to its existing network, thus extending coverage for more remote areas.

"During the flooding, it was absolutely essential for our employees on duty to have access to an efficient radio system based on TETRA technology", says Energie AG Project Manager Norbert Pangerl, explaining the decision to expand their network.

Full operation by summer 2004

Energie AG is one of Austria's TETRA pioneers. With all 43 base stations operational on two TETRA switches, almost all of Energie AG's 8,100-plus transformer stations will be fully equipped with TETRA radio. Network expansion will be completed in Upper Austria by summer 2004, and will then go into service throughout the province.

Norwegian pilot system stands the toughest test

In December 2002, the largest fire in Trondheim for decades led to the city's TETRA pilot system facing and overcoming its biggest challenge. The system, supplied by Nokia, is used by Trondheim's Police, Fire and Health organisations, as well as personnel from the Norwegian Defence, Red Cross and the Energy Sector.

Experiences during the fire

Inspector Karl Kristian Hjelseth was the senior officer in charge at the site of the fire. 'The TETRA system worked perfectly all the time, providing crystal clear, stable communication to all the TETRA radio users', he said. 'A fire scene is very noisy and stressful, but both the radio users and the people working at the emergency dispatch centre could communicate without any problem.'

The incident was a test of the fire department's major incident procedures. Senior Engineer Sissel Stemland, emphasized the importance of cross-organizational communication: "Not all the rescue services at the scene were using TETRA. Had they been, the officers in charge of different units could have communicated with each other much more easily."

Call-out over TETRA

The Fire Dispatch Center will now start to use TETRA status messages instead of pager messages to alert the volunteer fire fighters. With TETRA call-outs, controllers can immediately see who responds and can communicate with them. In Norway, as in a number of other countries, a high percentage of fire fighters are volunteers, so this process of call-out provides a faster and more accurate idea of the resources available.

At the annual TETRA seminar in Oslo in 2003, Inspector Hjelseth shared their experiences of the TETRA pilot. "I need to stay in touch with my men at all times and everywhere," Hjelseth said, and used his new Nokia THR880 to call his colleagues in Trondheim over 500 km away. The response was "loud and clear" and so were Hjelseth's final words: "We've used TETRA now for a long time and we never want to let it go!"

Chairman's Report – September 2003



Ray Ginman, Chair of TETRA MoU Association

Following the cancellation of the ADONIS public safety contract in Austria, all parties involved have officially confirmed that the decision was not related to the TETRA technology. TETRA remains the first choice for public safety users in Europe, being a high capacity, frequency efficient, multi-user, cost effective network solution.

What better place to see these TETRA solutions than this year's TETRA World Congress? Preparations are now well advanced for the TWC this November. This year's conference will be better than ever as it incorporates some changes highlighted from the analysis of the delegate feedback forms from last year's event. The most significant change is the increased number of user case study papers to be presented at the conference – some 30 as I look at the final draft of the programme. The event has also been reduced to 4 days to accommodate delegate's busy work schedules and to help minimise the overall cost of attendance.

Highlights at Copenhagen will be the demonstration of at least three new TETRA terminals and some exciting new applications. Book soon to get the 'early bird' reduced conference rates and to reserve a low cost flight available from the discount airlines in some countries.

I look forward to seeing you all in November.



World Congress visitors transported thanks to TETRA

As well as Denmark playing host to this year's TETRA World Congress, it is also host to a number of TETRA networks – possibly the most spectacular being the one operated by the Copenhagen Metro on their new hi-tech, driverless Metro. Delegates taking the Metro to and from the city will be experiencing TETRA first hand.

At the time when the two national network operators were planning their networks, the Metro rolled ahead with its scheme and issued a tender for the radio and data communication to support the new Metro. The TETRA network supplied by Motorola is now operating in its second year, covering 14 stations and approximately 15 km of track. It is used to supply real-time passenger information, train location data, security systems as well as voice communications. Meanwhile, the two national operators are running head to head in order to be the first to take TETRA to the next level in Denmark.

High on the list of demands from the Metro for their new communications system were well-proven modern technology, high reliability and passenger safety. Gert Vestergaard, consulting engineer for the Copenhagen Metro summed it up, "This is a prestigious project for our capital city. It is our first Metro and as such everybody has been focused on delivering success. The TETRA system delivered!"



Driverless trains use TETRA

TETRA World Congress Awards

This year's awards will be presented at the TETRA World Congress Party at the Bella Center in the evening of Wednesday 26th November. Awards will be made for the following categories:

- Best new TETRA product
- Most innovative TETRA solution
- Outstanding contribution to TETRA
- Best exhibition stand at the World Congress



Nominations for the first two categories can be placed via the TWC website www.iir-tetra.com. The outstanding achievement award will, as always, be decided by the TETRA Association Board and the best exhibition stand will be judged by a panel of independent experts during the World Congress itself.

Looking at the activity in the marketplace since last year's awards, it looks like this year could be one of the most hotly contested ever. Please get your nominations in as soon as possible. Organisations are welcome to nominate their own product or service. Voting details will be supplied later.

The secret's out – TETRA class 3 encryption available

One of the unique strengths of TETRA lies in its encryption capability, which can be tailored to meet the most stringent requirements of the security-conscious professional users. Nokia have announced they are the first manufacturer to gain TETRA Class 3 encryption interoperability certification for their infrastructure and terminals. Class 3 encryption is the most powerful encryption mechanism provided by ETSI TETRA standards with authentication and content encryption secured by automatically generated dynamic cipher keys. Other manufacturers who have announced their Class 3 encryption products include Clearstone and Motorola.

Stockholm's local buses go for TETRA

Stockholm's local public transportation company Storstockholms Lokaltrafik (SL) has signed a contract with Motorola for the supply of a new TETRA communication solution for its entire fleet of approximately 2,000 buses. The new system will replace the four independent communication systems currently in use by SL. The new system will provide real-time communication to and from the buses, bus stops and traffic lights to ensure relevant and correct transit and passenger information at any time during the journey.

"This contract represents a critical element of SL's strategy to improve passenger information by real-time communication, to provide a public transportation service with better capacity and of higher quality to our over 600,000 daily passengers" said Anders Sjöberg, President of SL infrateknik.

A single communication system serving the entire service area of the Stockholm County will improve the efficiency of the operation through better utilization of the approximately 2000 buses. A work environment with one communication system and that provides common functionality, for example AVL (Automatic Vehicle Location) will also enable SL to improve the safety and security of passengers as well as SL staff. Roll out and installation of the new system will commence during the autumn of 2003 to allow commercial operation during 2004.

A comprehensive Seminar and Masterclass programme at the TETRA World Congress 2003

Each year, the Seminar and Masterclass programme is chosen to complement the main conference agenda with a series of specialist topics covered in detail – more detail than possible in the main agenda. This allows delegates the opportunity to investigate of a specialised subject with the guidance of the relevant industry or user specialist presenting the session.

Seminars – Monday 24th November

The ever popular 'Introduction to TETRA' will be led by specialists from the TETRA Association and will run for the whole day. Updated each year to include the very latest information, this Seminar is ideal for technical and non-technical personnel who want to learn the key basics of TETRA in a single, convenient seminar. All other Seminars are half day events. The subjects for this year are:

- TETRA Applications
- Planning, implementing and optimising TETRA networks
- TETRA Radios: Interference, EMC, Health & Safety issues
- Direct Mode Operation
- Command & Control Applications
- The Challenge of Interoperability
- TETRA Security
- TETRA Release 2

Masterclasses – Thursday 27th November

All Masterclasses will run from 14:00 after the close of the main conference. They now form part of the final day ticket package. One day tickets for the last day of the conference include attendance at one of the Masterclasses. This year's topics are:

- TETRA scalability
- Seamless TETRA coverage in confined areas
- Promoting the benefits of TETRA to your end users
- IP over TETRA and TETRA over IP
- Optimising network performance for TETRA applications

Full details of the Seminar and Masterclass programmes are in the World Congress brochure which can be viewed at www.iir-tetra.com.

TETRA Association helps promote TETRA in Latin America

Latin America has some impressive statistics - it is the 4th largest continent, has the world's longest river and the world's largest tropical rainforest. With a population of some 450 million people and such a large landmass, effective communications, especially at times of major emergencies, present a real challenge.

An important initiative has been launched by the European Commission to help reinforce the partnership between the European Union and Latin America in the field of the Information Society. It is known as project ALIS (written as @LIS – a shorthand form of the programme's full title, ALiance for the Information Society). The objectives of @LIS are to establish dialogue and cooperation on policy and regulatory frameworks in key areas and to boost interconnections between research networks and communities in both regions.

As part of the @LIS activities, the TETRA MoU will be participating in the ETSI village at Futurecom, Brazil's international seminar and business trade show for communications. The event will be held at the conference and exhibition centre on the island of Florianópolis, capital of Brazil's Santa Catarina state, running from the 27th to 30th October. For more information, please visit the Futurecom website at www.futurecom.com.br.

News from the Australasian TETRA Forum

First live demo of interworking for Australian users

The Australasian TETRA Forum (ATF) appreciated the support earlier this year of the MoU's Chairman and CEO when they presented at a major radio communication technology conference in Sydney. The conference was attended by key industry representatives from public safety, government and commercial markets. Not only did attendees get a very good update on the tremendous progress with TETRA but they were able to experience for the first time on Australian soil live demonstrations of interworking terminals in trunked and DMO modes thanks to the efforts of Siemens, Motorola, Nokia and Sepura.

Spectrum

At the conference, the Australian Communications Authority outlined the spectrum constraints for Government users seeking new digital trunked radio technologies like TETRA. Their approach, limiting them to the 420-430MHz band, ensures compatibility with incumbent licensees below 420MHz. It also gives an opportunity to maximise channel availability now and offer further expansion should some spectrum clearing below 420MHz be possible over the coming years.

New ATF website

ATF recently launched its specialist local website the www.tetraforum.com.au which contains all revised contact details and additional ways for locals to link to the vast information database on the TETRA MoU website.



Interworking

As there are now several digital PMR wireless communication technology choices, both TDMA and FDMA, problems exist in providing intercommunication between organisations using them. An effective way to assess the operational acceptability of these problems is to look at the possible interworking methods that can be used at a major incident scenario such as that of a large aeroplane crash at a major airport.

According to European public safety organisations participating in ETSI Project TETRA, this major incident scenario would typically require 17 talk-groups of 15 users each, operating in Direct Mode Operation (DMO) across a 1 km² area with high amounts of voice traffic being experienced on all DMO channels.

Major Incident Communications Analysis

Figure 1 shows the Fire Service using DMO linked into an FDMA network (red) and the Police using DMO linked into a TDMA network (blue). Other public safety organisations have only been excluded to simplify the description and evaluation. For intercommunication to take place the same RF coverage will need to be provided by both technologies. For incident co-ordination purposes Fire Officers and Police Officers need to be in the same talk-group.

As TDMA and FDMA terminals cannot communicate directly with each other a tie line has been established between the Fire Services control room (Control Room 1) and the Police Service control room (Control Room 2). So that localised base stations can link DMO communications, mobile gateways are used by both Fire and Police vehicles situated in the incident communication area.

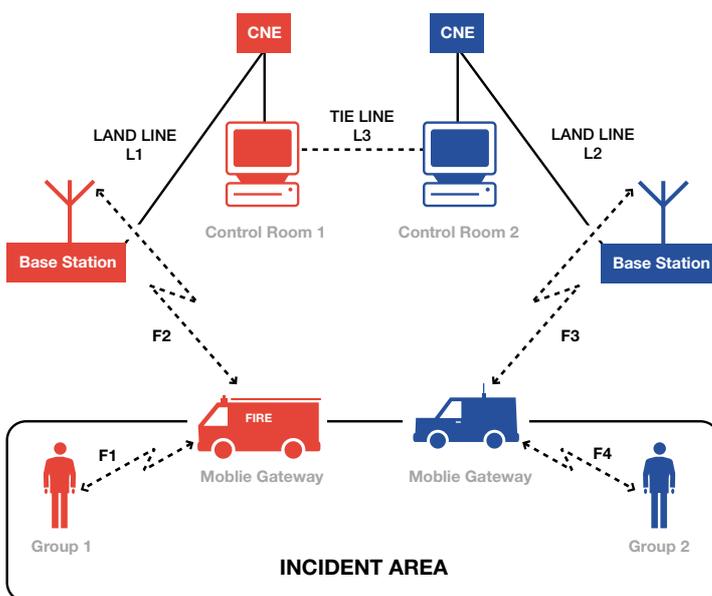


Figure 1: Major incident communications using Gateways and Control Centre Tie Line Interworking

The result of this configuration method between the Fire and Police is that it requires the use of three land lines (L1, 2 & 3) and 4 RF links (F1, 2, 3, & 4) to support one talk-group communication. Double vocoding will need to take place somewhere in the networks because of vocoder incompatibilities. The control room tie line is simple to provide but there are many disadvantages, including:

- Additional distortion and increased end-to-end time delays from double voice vocoding
- Needs very good RF paths so as not to introduce unnecessary distortion
- Single frequency simplex DMO requires an effective means of automatic send/receive voice switching at control centres
- Bearer circuits could add more noise and distortion
- Less reliable than DMO because of multiple links
- Ties up wide area channels on both the TDMA and FDMA networks for DMO communications
- Requires more spectrum
- Number of independent communication channels is limited to number of wide area channels available on the networks

Because of these disadvantages, it is highly unlikely that this form of interworking will be operationally acceptable and practical to implement at the major incident scenario described.

Other possibilities

There are suggestions that mobile repeaters can be deployed in the incident area to relay TDMA to FDMA and FDMA to TDMA signals. However this method is also unlikely to be acceptable because of performance, reliability and dependency on an adequate number of mobile repeater equipped vehicles being at the incident scene to provide the required number of independent co-ordination channels. Equally, as far as cross border operation for policing is concerned, the cost and logistics of installing repeaters as well as the limitations of DMO range and operating protocol agreements between nations make it unlikely to be a successful solution.

The use of dual mode handportable terminals may be seen as the ideal solution. Unfortunately, the cost of developing such units to provide acceptable performance, within terminal size and weight constraints, is prohibitive. Similarly, carrying of two separate handportable terminals is a theoretical option but the additional equipment weight and costs again rule this out as a viable alternative.

Summary and Conclusion

From these analyses, it is unlikely that any of the interworking solutions would be operationally and economically acceptable. The only acceptable solution is for all public safety organisations to use a single communications technology, whether this is used on a shared network or different independent networks.

Westica's microwave adds security to Slovenian TETRA system



The Slovenian Ministry of the Interior (Mol) will soon benefit from a reliable and secure TETRA communication system thanks to the deployment of Westica's MRR800 microwave radio system. Operating in the 1.4GHz international frequency band, their microwave radio systems will be used to provide the infrastructure for the Ministry of Interior's TETRA network, currently being supplied by OTE Spa (formerly Marconi). According to Westica, their point-to-point communications solution was selected on the basis of being fully compliant to the Mol's stringent technical requirements and its compatibility with the Mol's choice of OTE TETRA base station equipment.

Westica will be presenting and exhibiting at this year's TETRA World Congress in Copenhagen. This year's presentation is entitled, "A Quick Fix: Overcoming the Transmission Challenges Faced When Deploying Mobile Operations Centres" and they can be found on Stand 50 in the exhibition hall. For more information, see their website at www.westica.co.uk.

A more secure future for TETRA



Motorola has announced a new range of security products for TETRA systems that, they state, will further protect emergency services' communications. The new suite of software products, named Dimetra SecureNet™ will provide an important new level of protection against criminal eavesdropping on communications, impersonating officers on the air and deliberate attempts to saturate radio systems at crucial times.

Their Class 3 encryption has been on trial with the Police Service of Northern Ireland (PSNI), another first as far as Motorola is concerned. A spokesperson at the PSNI explained, "Security of communication is essential to our operations and this upgrade to our [TETRA] system is part of a programme to give us the most secure, wide area police communications system in the British Isles."

In mainland Britain, 11 police forces using the Motorola-supplied TETRA infrastructure of the Airwave system are also protected from eavesdropping thanks to encryption. Older analogue systems in use by other forces and other emergency service organisations remain vulnerable to eavesdropping from scanning devices.

Siemens TETRA Computer Aided Dispatcher

Siemens have announced a new TETRA Computer Aided Dispatch (CAD) application for a personal computer and implemented in a client-server architecture. The dispatcher will enable central control of calls, short messages and data communications between individual subscribers and groups of subscribers deployed in the field.

Featuring a modular design, Siemens say their TETRA CAD application has a flexible hierarchy with different dispatching roles and can be extended with different modules or connected with other applications. It is based on a Rohde & Schwarz A-CAPI applications programming interface. The whole solution can consist of one or more CAD clients and a CAD server, all of which are deployed in the TETRA network environment. According to Siemens, the system's performance values comply with the TETRA standards - for example, in terms of call setup time or transmission delays. For more information, please go to www.siemens.at/tetra.

The CatchAll drive-test receiver from MAC Ltd. now has Internet interface

As suppliers to O2 Airwave in the UK and to ASTRID in Belgium, Multiple Access Communications (MAC) Ltd. has continued to add to its list of customers using its mobile CatchAll drive-test receiver. This system captures, time-stamps and position-stamps a detailed picture of radio frequency activity across the whole TETRA spectrum. The data collected is then used to assess signal coverage and interference over the geographical area driven. Their latest product enhancement is TCP/IP support for the CatchAll product. This support enables remote control and data capture across intranets or the internet making it ideal for remote spectrum monitoring applications. According to MAC Ltd.'s Business Development Manager, the CatchAll has 'unparalleled performance in drive test applications'. For more information, please visit www.macltd.com.



Check out the website - www.tetramou.com

Our website is the place to look for the most up-to-date news and information about TETRA. A lot of work has been going on in the background to review its content, archive very old material and transfer the whole site to a new host to improve the services which we offer. July statistics continue to indicate a healthy interest in TETRA with over 27,500 user sessions

generating 2.63 million hits. One of the most popular pages is the Forum with 17,000 access requests and which provides a wealth of information in answer to the many questions posted. Visit the Latest News to see what has been added to the web site recently. One of the most useful reference documents is a new Glossary and Definition of Terms in TETRA that you can view or download in the Standards and Technology section of the site.

News from the Secretariat

The Association is delighted to welcome three more new members since the last issue of TETRA News:

- Ministry of Interior (Bahrain)
- APD Communications Ltd (UK)
- Etherstack Pty Ltd (Australia)

We continue to promote TETRA around the world by providing speakers or exhibiting at a number of upcoming events. Members will be delighted to talk to you about TETRA at:

- SATA Workshops in South Africa
- All Russian TETRA Congress, Moscow
- China Trunked Radio Conference, Beijing
- PMR Expo, Leipzig
- TETRA World Congress, Copenhagen

We will also be participating in the 'ETSI village' at the Futurecom exhibition and conference in Brazil during October.

TETRA MoU Association's AGM

The Annual General Meeting (AGM) of the TETRA MoU Association will be held at the World Congress in Copenhagen at 18:00 on Monday 24th November. Members will be circulated with full information well before the AGM. A report will be made to the members on the Association's activities over the past year and a number of issues will be voted on. If you are a member, make sure you don't miss this important opportunity to discuss the Association's achievements and plans with the Board and its CEO.

Neat new architecture product from Nokia

Nokia has announced they are launching a new and innovative solution concept called Nokia TETRA Neat (Nokia Expandable Architecture for TETRA) that should enable businesses to benefit from one highly integrated concept for entire workforce. According to Nokia, the main characteristics of TETRA Neat are: reliable, easy to use, highly integrated, easy to maintain, efficiently constructed architecture and with a matchless set of communication functions. Find out more at the TETRA World Congress.

TETRA Events Diary

Event	Date	Venue	Information
TETRA Association Seminars	17–18 September	Kyalami Exhibition Centre, S.Africa	cschneider@capetown.gov.za
Trunked Radio International	25–26 September	Beijing, China	www.iir.com.hk
All Russian TETRA Conference and Exhibition 2003	7–9 October	Moscow, Russia	congress@tetraforum.ru
Futurecom	27–30 October	Santa Catarina, Brazil	www.futurecom.com.br
PMR Expo	28–30 October	Leipzig, Germany	www.pmrexpo.de
6th TETRA World Congress	24–27 November	Copenhagen, Denmark	www.iir-tetra.com

More information on products and companies in this edition can be found at www.tetramou.com > signatories

Subscribe at www.tetramou.com/subscribers/index.asp

For any other information contact the TETRA MoU Association's Secretary e-mail: secretary@tetramou.com or visit the TETRA MoU's website at www.tetramou.com.

Published by:

The TETRA MoU Association Ltd. PO Box 88 St Ives PE27 6PD UK

Compiled and edited on behalf of the TETRA MoU by Bob Lovett.

This magazine is published in September 2003 by the TETRA MoU Association. Reproduction is permitted in whole or part if referring to the source.

The views expressed in this magazine are not necessarily those of the editor or The TETRA MoU Association Ltd. While every effort has been made to ensure that the information in this publication is correct and accurate, the editor and the TETRA MoU Association cannot accept any liability for any consequential loss or damage, however caused, arising as a result of using the information printed in this magazine. Printed in the UK, 2003.

The TETRA logo is registered to The TETRA MoU Association Ltd.

All other trademarks and logos are the properties of their respective owners.