

A firefighter wearing a red helmet with a clear visor and a black uniform with a red reflective stripe is looking down at a smartphone. The background is a bright, out-of-focus outdoor scene.

key touch[®]

customer magazine
2/2015

**Solutions for
the future**

**Five things
you need
in an ATEX
radio**

A bridge to hybrid networks

WHO'S IN THIS ISSUE?

Want to know a little more about some of the experts who contribute to Key Touch? Look no further.



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PETRA VAKIALA enjoys writing Key Touch articles because there are always new and interesting topics to investigate. Petra also loves horse riding, skiing, interior design and learning about motherhood. @petravakiala



SATU LAMBERG has worked in TETRA terminals marketing right through the evolution from Nokia to Airbus. "The company name may have changed, but users have always (and still do) need reliable radios," she says.



TIINA SAARISTO, long-time Editor-in-Chief believes in sharing information. "Writing articles resembles my favourite hobby, quilting, where small pieces are sewn together to create a fascinating result," she says. @tiinasaaristo



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Barcelona beckons – read all about it here



WELCOME to Key Touch. If you're reading this at Critical Communications World 2015, the year's big event for the Professional Mobile Radio (PMR) industry, welcome to Barcelona too!

To help you make the most of your visit to this beautiful city, please turn to page 8 for a few pointers to the major attractions to visit after an intense day at the exhibition and conference.

On page 6–7 you can find a round-up of the major topics that we are covering at the show. You can enjoy a very hands-on experience with multiple demonstrations that bring alive the future of PMR for public safety and other users.

Try out our latest public safety radios (will you agree with the views (see page 22–23) of Swiss users who tested the new TPH 900?) and new accessories, experience TETRA on smartphones and investigate how communications and IT will come together to change the industry.

If your interest is in public transport, then you'll find plenty to see on our dedicated stand including the lessons to be learned from real-life case studies in Finland and Germany. And take a look at pages 28–29 for a report on how China is taking advantage of TETRA for its fast-developing metro transport landscape.

Another industry that uses PMR technology heavily is the oil and gas sector. We've got some great new products here too, with the upgrad-

ed THR9 Ex radio for use in hazardous areas and Claricor 3, a smart network solution that offers the reliability and high performance that oil and gas production facilities depend on. For a quick overview, turn to page 42–43 to see our infographic.

Going behind the scenes, we look at dispatching to show how sitting in the dispatcher's hot seat enables you to see the full situational picture of the radio network in real time. This is another example of how innovation is enabling the future possibilities for PMR. Nowhere is this more important than in the adoption of LTE and hybrid networks that offer the best of TETRA and TETRAPOL mission-critical communications with the power of mobile broadband, all monitored and controlled by the innovative Tactilon Suite – find out more on page 14–15.

Whether you are reading this issue in Barcelona or elsewhere, Key Touch aims to bring you a window on the future for PMR. We're keen to hear your views on these or any other topic too. Let us know how you see the way to the future – email us at: airbus-ds-marketing@airbus.com or if you are in Barcelona, talk to one of our stand staff at CCW.

Nicole Lecca

Senior Vice President

Secure Land Communications

Contents

CUSTOMER WIRE



9 Spain's communication networks

Across Spain, professionals rely on their radios when it matters

SENSATIONAL RADIOS



18 Five things you need in an ATEX radio

The revamped THR9 Ex radio meets the five main demands you need in a radio used in potentially explosive atmospheres

EDITORIAL

- 3 Barcelona beckons - read all about it here

NEW SOLUTIONS

- 6 The trusted way to the future
12 Network modernization: a bridge to hybrid networks
15 Smart phone users switch on to TETRA
32 A room with a Viewcor®
34 DXTA - a solution for the future

IN TOUCH

- 8 Your guide to the magic of Barcelona
20 Some talk back
30 Finnish rail transport takes express route to TETRA
38 Paris communications put to test
46 Seven top Twitter accounts you should follow

SENSATIONAL RADIOS

- 18 Five things you need in an ATEX radio
20 See your radio's network mode in an instant
26 1+2 = using one TMR880i in two places
27 Did you know you already have Java™ in your TETRA radio?
48 Ex-tremely safe



NEW SOLUTIONS



12

Network modernization: a bridge to hybrid networks

Modernizing networks gradually is a painless way to add advanced data capabilities

CUSTOMER WIRE

- 9** Spain's communication networks
- 17** Stress test proves police network before G7 Summit
- 22** Users get 'hands on' - TPH900 gets their approval
- 40** Virve wins International TETRA Award
- 41** Need temporary TETRA access? Sweden's Rakel has the answer

PICTURE THIS

- 42** Old or new?

TECHNOLOGY

- 16** Questions on LTE – part 2
- 21** Three myths about radio power

CUSTOMER WIRE



22

Users get "hands on"

Thorough field tests in Switzerland are giving users the power to assess the new TPH900 radio

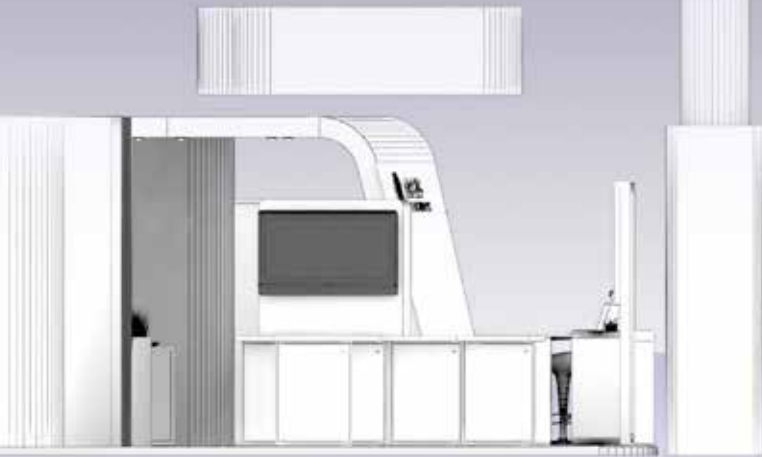
SOLUTIONS

- 24** Top radio communication tips for every firefighter
- 28** The right platform for metro communications
- 35** TETRA to go - five factors for success
- 36** Unbeatable in an emergency
- 44** Keep an ear on your calls with audio analytics

NEWS

- 14** VIRVE users get on-the-go broadband

At Critical Communications World 2015, we have something for almost everyone, with a host of demos showcasing our innovative solutions for professional mobile radio users. Whether you are a traditional public safety user, a public transport operator or an oil and gas company, we have something to interest you.



The trusted way

THE POWER OF INNOVATION

Our range of innovative solutions includes DXTA, the brand new all-IP TETRA Server that delivers more power than ever.

You can also learn how Tactilon® Suite delivers secure broadband data services to public safety users over commercial and dedicated broadband networks, while also bringing TETRA services to smartphone users.

Then see how Viewcor® can help dispatchers make better decisions with a real-time view of their radio network service.

And don't miss the real-life use case of the Finnish Authority network VIRVE, which shows how hybrid networks will bring broadband for mission critical users.

SOLUTIONS FOR PUBLIC TRANSPORT

If you want to improve your railway communications, see our stand to experience what TETRA can deliver, while saving big money. For example, Claricor® provides the necessary coverage with group calls, security and availability without disturbing rail passengers' smartphones.

Adapted to trains, the RCS9500 radio dispatch system makes communication easier than ever. See how easy it is to send a message to P8GR active TETRA pagers, calling people to work at the press of a button.

You can also select between the slimline TH1n and the robust TH9 handsets, getting superb performance whichever you opt for.

Don't miss real-life success stories from customers like Stadtwerke Bonn and Stadtwerke Köln in Germany and Finnish Railways' plan to move from GSM-R to TETRA.

SMART CLARICOR® FOR OIL AND GAS

If you are in the oil and gas industry, come to our stand and see Claricor 3 for reliable communications for field workers and SCADA.

Don't miss the brand new upgraded THR9 Ex, complete with accessories. Turn to page 18 for a guide to choosing the right ATEX radio for you.

We'll show solutions already in widespread use in oil companies and give real-life examples of benefits they can achieve from our new communication solutions.

to the future

NEXT LEVEL PUBLIC SAFETY

As ever, there is a host of solutions for our Public Safety customers. Try out the new TH9 and TPH900 public safety radios, discover the TH1n covert kit and experience professional communications on smartphones with the Tactilon Suite TSA app.

Fire and rescue organisations can see how SafeCommand gives them the vital information they need.

Learn how tactical broadband data service can be quickly deployed to support task forces where needed, and share your views on future integration of communications and IT equipment.

Saving lives is everyday business for our customers and we explain some practical use cases from the hospital and rescue segment. For example, fast and effective communication is saving crucial seconds in Finnish hospitals.

MODERN SUITE FOR DISPATCHERS

Discover how user friendly a dispatching position can really be. Radio dispatching, mapping and operational management of TETRA subscribers and groups can fit into one workstation for the ultimate in control.

Our customers are gaining both operational and financial benefits from this solution, as it is so easy to handle and cheap to operate. Practical examples and comparisons are available on the stand.

Visit Airbus Defence and Space stand **D501** to see the future of professional critical communications.

If you missed the Critical Communications World 2015, go to



Your guide to the magic of Barcelona

The 17th annual Critical Communications World takes place in Barcelona, 19 to 21 May 2015. As well as being at the heart of the global critical communications community, you will also have a chance to enjoy beautiful Barcelona, where Gaudi, Picasso and Dali all left their marks. Here's what not to miss!

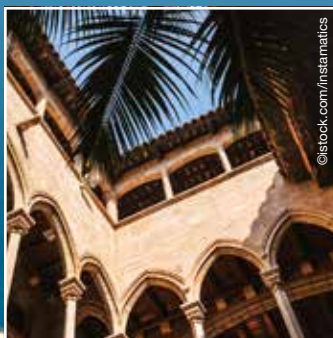
La Sagrada Familia – An unfinished masterpiece

Perhaps the world's most famous unfinished building, the church known as La Sagrada Familia was designed by Catalan architect Antoni Gaudi over 100 years ago. Since its foundation stone was laid in 1882, this very unusual building attracts millions of tourists every year. Although its interior was opened to the public in 2012, only eight of the planned 18 spires are finished. The plan is to complete La Sagrada Familia in 2026 to commemorate the 100th anniversary of Gaudi's death.



See how a master painter developed his art

The Picasso Museum shows the early works of one of the world's most celebrated artists. Born in Malaga, Picasso moved to Barcelona in 1895. Although his most famous paintings are not on show, the museum does show a unique collection of the early works of this renowned and influential artist.



A park guarded by a dragon

A bench in the shape of a serpent and a forest of Greek columns are just some of the unusual delights that await you in Park Guell, Gaudi's modernist park on Carmel hill.

A UNESCO World Heritage Site and considered one of Gaudi's most artistic works, Park Guell was donated to Barcelona in 1923 for public use.



Gaudi's fantasy castle

A mixture of Art Nouveau and Gothic, Torre Bellseguard is yet another of Gaudi's idiosyncratic creations. Built between 1900 and 1909, the house takes the form of a castle with narrow stained-glass windows, elaborate ironwork and a soaring turret surmounted by a Gaudian cross.

Torre Bellesguard is also the venue for the official CCW 2015 Gala Evening on the 20th May!



Across Spain, professionals rely on their radios when it matters – to keep them safe, help them do their work and secure the safety of the public.

Spain's communication networks



Catalonia: RESCAT lets Catalan users work the way they want

RESCAT - Red de Emergencias y Seguridad de CATaluña - is the emergency and security network of the Cataluña region. This TETRA network serves around 23,000 radios with users from the fire brigades, the regional police, emergency medical services, water supply agency, weather service, sea and fishing department, roads service and local police services.

As an example, talk groups for cooperation have been working very well for the fire services. The two kinds of fire brigades in the area use RESCAT to share talk groups, allowing them to coordinate their efforts more easily when a fire is raging at the border of their operational areas.

Spain's networks on the map

Key Touch puts the pins in the map to show where solutions from Airbus Defence and Space are being used in Spain.

SPAIN: Earthquakes or fires are no match for SIRDEE

SIRDEE (Sistema de Radiocomunicaciones Digitales de Emergencia del Estado) is the nationwide mobile voice and data security network set up for the Spanish Ministry of Interior based on Tetrapol technology. Deployed since 2000, the main users are the National Police, Civil

Guard and Traffic Police. Other users include the Royal House, Prime Minister's Cabinet, Military Emergency Unit (UME), Spanish Navy and regional public security services. Currently, the network provides encrypted end-to-end voice and data services to 70,000 TETRAPOL radios.

MADRID

Boosting safety and security in the region

The Madrid TETRA network covers the whole region and serves the city's emergency, security and rescue services. Its capacity is dimensioned so that it can supply secure radio communication voice and data services to 10,000 users.

With 6.5 million citizens, Madrid is the third largest autonomous community in Spain.



MALAGA

Keeping tourists moving safely

Malaga on the Costa del Sol is one of the most popular tourist destinations in Spain. Metro Málaga runs two lines, one in the city and one along the coast and opened in the summer of 2014. The metro network uses a Claricor TETRA system for its radio communications.



©istock.com/Joel Carillet

VALENCIA

Pope's visit no problem for COMDES

COMDES is the TETRA network covering the whole autonomous community region of Valencia. It currently serves around 8,000 users.

A visit by the Pope to Valencia in 2008 attracted vast

crowds and gave the city's TETRA network its first major test. Valencia's new COMDES network provided communications to safeguard around 1.5 million people during the papal visit

© Chris Helgren, Reuters/Lehtikuvu



© iStock.com/EdiStock

MURCIA

Serving public safety and public transport

Murcia is the seventh largest city in Spain. Initially, the Radiecarm - RADLocomunicaciones de Emergencia Comunidad Autónoma de la Región de Murcia - network was planned to serve the fire brigades and rescue services in the Murcia region. Later, other emergency and security organisations in the region also adopted it. This TETRA-based network serves more than 3,000 radios.

The tramway operator Tranvía de Murcia uses a Claricor TETRA system for its radio communications.

Wikimedia Commons © Angeliolu



GALICIA

Protecting Green Spain

The autonomous community of Galicia enjoys the services of a TETRA radio communication network that can serve up to 8,000 radios. Its users include Civil Protection, Autonomous and Local Police, Health Emergency, Fire Brigades, Forest guards, Control and Management of Public Resources and any other Emergency, Security and Rescue Services.

Galicia's area is often referred to as the Green Spain.

NAVARRA

Safeguarding the public in the land of the bulls

RRTD, the TETRA radio communications network covering the Navarra region, includes 37 base stations as well as a mobile base station. The contract was awarded in August 2008 and the network was in full operation in January 2009 with more than 1,500 radios.

The region's capital Pamplona is world-famous for the Running of the Bulls, which forms part of its most famous festival, Sanfermines, in July.

GUADIANA AND SEGURA:

TETRA protecting river basins

The organisations in charge of the Guadiana and Segura river basins have each set up a Claricor TETRA system for their communications along the water distribution networks.

© iStock.com/afraui968



Modernizing networks gradually is a painless way to add advanced data capabilities

Network modernization: a bridge to hybrid networks

Many countries have invested significantly in public safety communication, not only in networks and user devices but also in training, developing operational models and integrating their networks with other critical systems and command rooms. Such networks will continue to give valuable service, typically around 20-30 years, but only if they are kept up to date. They need to be modernized every 10-15 years, as well as undergo more frequent minor upgrades.

As well as ensuring that investments continue to bring value, a modernized network can cost less in maintenance, be more reliable and enable new user services.

Network modernization is best implemented as a series of maintenance steps rather than a single large investment. This ensures that the end-user experience and critical services are not compromised, even over a long migration period.

One very cost-effective target for modernization is to evolve to a hybrid network in which the existing TETRA or TETRAPOL network is improved and focused on mission-critical voice and data, while mobile broadband services are introduced step-by-step.

Applications reveal the value of hybrid networks

Hybrid networks enable many new mobile applications and support for smart devices. These include:

1. TETRA Smart app: This allows a smartphone user connected via broadband to use TETRA voice and messaging services, while TETRA and smartphone users can use the same talk groups. Smart device users hear the other members and all members can exchange messages within the group. (See this video at)



2. Mobile office for police officers: Much of police officers' daily work involves office-based tasks, taking them away from the streets. A hybrid network with mobile broadband enables IT applications in police vehicles, allowing officers to complete their paperwork in the field.

3. Field command application: Broadband services also make it easier and more efficient to manage units and resources in the field. The major requirements are allocation of tasks to units and efficient communication, while map-based interfaces bring better awareness of situations. Overall this leads to more efficient operations, improved co-operation between authorities and reduced reaction times.

4. Video application: Using broadband makes it possible to send video from the scene to the control room, allowing better decision-making. Video capabilities also make it possible to set up temporary communications using video vehicles and light drones. Video is also valuable court evidence.

How network operators can add value with network modernization

Modernizing a network to allow it to provide value today and in the future means adopting several key elements:

Technology	Value with TETRA/Tetrapol	Value with broadband
IP Backbone	<ul style="list-style-type: none"> ▶ Brings OPEX savings ▶ Makes system integration easier ▶ Improves disaster recovery and site redundancy 	<ul style="list-style-type: none"> ▶ Provides enough transmission capacity for broadband ▶ Brings more flexibility
Tactilon® Suite	<ul style="list-style-type: none"> ▶ Manages subscribers, organizations, security and services ▶ Lets you confirm the identity and authorization of the users 	<ul style="list-style-type: none"> ▶ Manages subscribers ▶ Controls security and services ▶ Smart device users can participate in professional operations using the Tactilon Suite TSA app
TB3S TETRA base stations	<ul style="list-style-type: none"> ▶ Offers best-in-class coverage ▶ OPEX savings ▶ Supports both IP and TDM/E1 transmission, thus allowing smooth transition 	<ul style="list-style-type: none"> ▶ Can be equipped with an LTE eNodeB baseband unit for smooth integration ▶ Cuts the cost of introducing dedicated LTE capacity
MBS Tetrapol base stations	<ul style="list-style-type: none"> ▶ Enables an IP Backbone ▶ Cuts the hand-over time by up to 50% ▶ OPEX savings 	<ul style="list-style-type: none"> ▶ Can be equipped with an LTE eNodeB baseband unit for smooth integration ▶ Can be equipped with dual mode transceivers

The new base stations, IP Backbone and Tactilon Suite are a solid basis for gradually introducing Dedicated LTE capacity when needed, for example when mobile broadband applications become more mission-critical.

VIRVE users get on-the-go broadband

Users of Finland's VIRVE network will be able to use mobile broadband over commercial LTE services in the near future without compromising operational security.

With the addition of Tactilon Suite from Airbus Defence and Space, Finland's public safety organisations like the police, rescue services and the border guard will gain secure and trusted mobile access to new broadband applications, such as video and mobile office applications.

This means public safety customers now have 'multi-network capability' instead of needing to make separate deals with several network providers, Tactilon Suite ensures that each device gets the best available connection.

Sami Orakoski, CEO of VIRVE Products and Services Ltd, a subsidiary of the State Security Networks Group that

runs VIRVE, says: "This approach will allow Finnish public authorities to use broadband applications and services anywhere in Finland, always using the best available connection or network. Instead of building a new infrastructure, Secure MVNO takes advantage of existing commercial broadband services. This is an essential strategic step towards the future of public safety networks in Finland."

Many public safety organisations are looking for a flexible way to enhance mission critical communications with broadband data. They need mobile broadband solutions that provide them with higher service availability, security and better integration with existing narrowband networks like VIRVE in Finland. Tactilon Suite meets this need by combining the best of professional mobile radio and broadband.

How can we best connect a group of people involved in a task so they can talk to each other? Set up a TETRA talk group, of course. But what if not all of them have a TETRA radio?

Tactilon Suite TSA is an app for smart devices that lets its users communicate in a TETRA talk group. This way, the people vital to the operation can be connected, even when they use different communication devices and different technologies.

What's more, this special app delivers in three big ways.

1 Users benefit from real TETRA communication features in their smart devices, allowing them to listen and talk to the TETRA groups. But that's not all. Other features such as group scanning, emergency call and status and short data messages also become available to them. There's also PTT queuing and a smart device user will also experience priorities just the same as regular TETRA users.

The cooperation between smart device users and TETRA users is easy and intuitive. Smart device users get an easy-to-use application and TETRA users communicate over their radios in the same way as always.

Smart phone users switch on to TETRA

Tactilon® Suite TSA delivers what no-one can do better

NEW SOLUTIONS

2 Tactilon Suite TSA sits easily with existing processes and tools.

You can manage user rights, talk group memberships, or even deactivate users from the TETRA network – using exactly the same process and with the same tool for smartphone accounts and radio users. With Tactilon Subscriber Manager, managing smart device users is easier and better.

And of course, you use your standard dispatcher when communicating from the control room to the field, whether the user is on a TETRA radio or using Tactilon Suite TSA.

In short, control room operators can use their existing tools and equipment to manage, coordinate and control users and talk groups, even when the users come from different networks.



3 With the Tactilon Suite TSA app, it is easy for users to adopt professional communication practices.

Completely new user groups can start cooperating with established groups when needed.

Smart devices can be used to deliver richer data, which professional operations can then take advantage of. Organisations can develop new ways of working and planning and benefit by being able to define new procedures based on their real-life experiences. In other words, the Tactilon Suite for Broadband brings new possibilities for organizations to improve their operational procedures.

To discover how to benefit from Tactilon Suite TSA while taking maximum advantage of the investments you have already made, contact: airbus-ds-marketing@airbus.com

Questions on LTE – part 2



Interested in broadband and LTE but still a bit confused about what it could mean for you? Want more information on speeds, security and reliability? Here's the second part of our two-part guide to everything LTE.

6 What is possible in LTE networks right now and what can we expect in the near future?

Standardization work concerning LTE is divided into releases. For example, data rates will improve, thanks to antenna and other innovations. Also some features important to critical users can and will be included in the coming releases.

9 How fast is LTE? What do the data rates mean in practice? What applications can you use now, and in the future?

Currently, mobile operators are advertising data speeds from 50 Mbp/s to 150 Mbp/s. To achieve this, the user would need to be the only user connected to a particular base station. More realistically, the data rates could be around 20 Mbps downlink and 10 Mbps uplink. This is enough to enjoy a movie on a laptop screen. The main advantage from the end user's point of view is that you don't need separate mobile applications – instead, you use the same applications whether you are using a fixed or mobile Internet connection.

7 How is availability and redundancy secured in LTE networks?

The current LTE standards do not address many availability and redundancy related issues. There are some definitions related to base station handover and similar areas. How redundancy and availability are taken into account in LTE networks is mostly up to the equipment vendor and mobile operator. In current networks, there are almost no specific implementations to improve this.

10 Does LTE provide cost savings compared to delivering mission-critical communication services with TETRA or other narrowband services?

Currently, LTE cannot replace mission-critical PMR voice and data services. However, improvements in efficiency can be achieved when using a hybrid solution. This would allow use of efficiency improving applications such as mobile office and efficient database queries, while still ensuring that crucial, life-saving voice and data services are available even in extreme situations.

LTE enables smarter working through next generation applications that can automate and expedite workflows of routine tasks like ticketing, criminal investigations and fire inspections. This can bring savings through reduced workloads and increased effectiveness and efficiency.

8 Could we combine benefits from TETRA and LTE networks?

Critical users have very high requirements for security, availability and redundancy and have so far used their own designated networks to achieve this. In the future, some of the benefits of LTE networks could be available for critical users as well, via s. In this solution, users would have an evolution path where two networks would complement each other. Airbus Defence and Space's Tactilon solution was developed to fulfill this need.

Find answers to questions 1 to 5 in Key Touch issue 1/2015!

Stress test proves police network **before G7 Summit**

With a G7 summit taking place in Bavaria in early June, the race is on to complete the digital radio network serving the region that covers the venue at Schloss Elmau. Being built in Garmisch-Partenkirchen and its neighbouring counties, the network will support police, fire fighters and rescue services.

The third and final test run for the new network took place in March between Garmisch-Partenkirchen and Mittenwald. A total of 500 emergency personnel were involved, including emergency preparedness, state and federal police, fire and emergency services, making use of around 1,000 digital devices.

Three so-called stress tests were conducted to show whether the TETRA radio network could deliver what it promised. The security

forces had around 400 devices in use simultaneously in the network to test whether all radio messages could get through in a timely manner. Another test looked at combining individual groups together, while how the forces move over larger areas and log into other radio cells was also examined.

The tests proved that the network can withstand the load and is functioning normally. With no restrictions or problems encountered, the network is ready to help safeguard the summit meeting.

BOS links up Germany

The BOS digital radio network in Germany is one of the largest ever technical modernisation projects in the country: the introduction of a digital radio network serving all authorities and organisations with safety functions. The introduction of the BOS radio network will mean that for the first time, voice and data services will be available for the radio users seamlessly and uniformly over the whole of Germany.



For an **explosive** atmosphere

Five things you need in an ATEX radio

The revamped THR9 Ex radio combines usability with safety and meets the five main demands you need in a radio used in potentially explosive atmospheres

1 Hear your communications **clearly**

Since you mostly work in a noisy environment, you expect your radio to have a strong loudspeaker that provides a good sound level while still being understandable. Clear communication is vital.

2 Enjoy a **highly usable** radio

Your radio is your full time workmate so it is essential it feels good to use. Is the display really large enough to show all information clearly and sharply? You want a radio with a full keypad and an advanced feature set that can make use of applications.

3 Always **work safely** with your radio

Robustness and certification of your Ex radio is a must. An Ex radio must be strongly protected against gas and dust. Working in explosion prone areas, it's essential to your safety that you use radios with both ATEX and IEC-Ex certifications, meeting the most advanced standards for protection against physical and environmental exposure. A harsh working environment also demands a lot from a radio. Since you are almost certain to knock or drop the radio at some point, it must be rugged and at least IP65 certified to survive falls. Don't accept anything less.

4 **Stay available** throughout the mission

You should not be worried about losing power in your radio, so you need a high capacity battery. But even that will sometimes be drained, so you must be able to change it easily for a fully charged battery, without needing to leave the ATEX area.

5 **Use accessories** with your ATEX radio

If you cannot connect and disconnect your equipment inside the Ex-area, you could lose a lot of valuable working time. You may prefer to be free from wires and use wireless accessories with Bluetooth™ connectivity, bringing flexibility and efficiency to your work and giving you a better experience of using the radio.

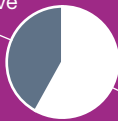
The renewed THR9 Ex from Airbus Defence and Space meets all these needs – it is clear, safe, available, easy to use and offers support for wireless accessories. To learn more, take a look at www.newtetra radio.com

As the most robust ATEX radio available, the THR9 Ex gives you what you need. IP65 certified, it offers the highest level of protection for all types of gas. Its usability is assured by the several accessories that can work with it, while its high power battery keeps you in action. As well as all that, it is a fully featured TETRA radio with advanced features such as Lifeguard, Where are you, GPS, Java and many others.

Some talk back

More than 300 delegates at the Secure Network Users' and Operators Conference SNUC gave us feedback to some searching questions...

Only **42%** of delegates regularly receive Key Touch magazine



- luckily the other **58%** took their own copy from the SNUC event



56% of those who answered expect to be using Handheld PMR type radios in 2020 in preference to other types of devices

Asked if they are using an operational solution based on commercial 3G/broadband service:

8% are using it for all data



39% of responders are experimenting with it

53% are using it but only for non mission critical data

See your radio's network mode in an instant

When you are in the thick of the action, you don't have time to read your radio's display; you just want to take a peek to instantly see if you are in Network Mode or Direct Mode.

This is why the radio display looks different in Network Mode (TMO) and Direct Mode (DMO). The

different colours make it immediately obvious which mode you're in.

And when you switch between modes, your radio helpfully speaks to you, confirming the change as voice feedback.

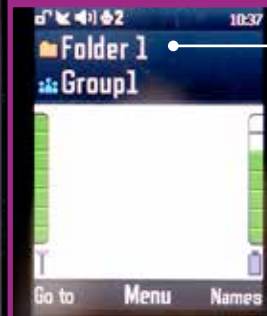
The talk group area is light blue

Network indication bars are no longer visible

Direct Mode (DMO)



Network Mode (TMO)



The talk group area is dark blue

Three myths about **radio power**

Consider this: A more powerful mobile radio enjoys better coverage, the base station hears the radio better and the radio itself will perform better. Right? Well, not exactly... read on for the real story.

Watts are not the whole story

Mobile radios have more output power but that is not the main reason they get service in places where handhelds struggle. The main reason is that the mobile has an effective and long antenna that is ideally positioned. Another is that the mobile is not blocked by the user's body, which can seriously attenuate the signal for handheld radios.

You don't have to shout to be heard

A good, sensitive base station, such as the TB3-series TETRA base stations, listens well, especially when equipped with the recommended antenna solution. TB3-series base stations can "hear" radios transmitting with lower power, which also means that the radios' batteries last longer.

Sometimes it's not possible to shout

The network operator usually defines a maximum transmission power for the radios, a figure that may vary from base station to base station. So, when a radio registers to a base station, it gets this maximum and it will not transmit using more power – even if it could. In other words, a radio will use exactly the amount of power that the network lets it use.

Examining these three misconceptions shows that more powerful radios are not always the best way to achieve the most effective and efficient communications.



Users get 'hands on' TPH900 gets their approval

Thorough field tests in Switzerland are giving users the power to assess the suitability of the new TPH900 radio to meet their needs

Users have given their 'green light' of approval to the new Tetrapol TPH900 radio from Airbus Defence and Space following a series of field tests in Switzerland. Despite being pre-production models, users had very good first impressions and praised a number of aspects and features of the radios. They particularly commented that the units were good to handle and comfortable in the hand.

The users also thought that the radio's Push-To-Talk was robust and that the overall mechanical quality was good.

Conducted between December 2014 and February 2015, the tests involved Cantonal police Basel Landschaft, Cantonal police Bern, the Swiss Border



Guards, the Federal Training Centre in Schwarzenburg and Atos AG in the role of the system integrator.

A dedication to testing

Testers from these organisations were all volunteers, demonstrating their dedication to obtaining the right product. As part of their reports, the testers took many photos and video footage to emphasise their findings. The testers emphasised that the basic things are the most important in a radio; namely that voice must work with good quality.

As well as comments about the features and usability of the radios, users also thought that participating in the field tests was

a major advantage to them. It was a big step forward being part of the testing group, increasing their confidence that the final product will have the features and robustness they need.

Testers also commented that such thorough field testing, combined with a good debriefing, helps them to understand the design behind the product. They can then use this knowledge to inform users if they ask why something is like it is.

Confidence in final product

Overall, this is a 'win-win' situation for all parties - Airbus Defence and Space can get the product to users more quickly at the quality level they expect, while

the field testers can inform potential users about the radios they can expect to be using in the near future. On the other hand, the users can have more confidence that they are getting a good product as the radios have been assessed by their own people with their interests at heart.

The testers have already expressed their willingness to participate in further similar tests in the future.

As a result of the field tests, a number of improvements have been identified. The speaker-microphone's connector will be improved to meet the expectations of the testers, while a few other minor modifications are also under investigation.



Your radio is your critical lifeline in a hazardous situation, and a trusted tool. Every day you use it and it serves you well. But are you pushing it to the max, the way your job demands your best? Here are five tips to help you get more from your radio.

Fighting fire

– Top radio communication tips for every firefighter

1. Get your radio ready for you

It may not be practical to give everyone a personal radio of their own. This is where Aliasing comes in. This feature gives you that personal radio experience even though you pick one at random from a common pool at the beginning of the shift.

When you report for duty, simply pick up one of the radios and enter your personal number. This sets the radio to work with all your rights, priorities, talk groups and other information assigned to that radio. It is your personalised radio for the time you are on duty.

Aliasing is an integral feature in Airbus Defence and Space TETRA networks and radios.

2. Use scanning with confidence

In old analogue systems, you could talk only to the selected group and could not listen to a group that was not selected.

TETRA, in contrast, allows scanning – following several talk groups at once. This is really useful if you need to follow communications in two different groups, such as the communications in your field team and in another group for task management.

Further, TETRA systems from Airbus Defence and Space employ active scanning, which prevents a user from listening to any groups they are not authorised for. Active scanning brings you a cool benefit too –

you can keep scanning the regular groups even when they are on the move, without creating additional load on the system.

Check whether the TETRA system you are using is from Airbus DS. If it is, there's no need to carry two radios to be able to listen and talk to two groups! What's more, an Airbus DS radio with the Dual PTT will give the best convenience to communicate in several groups.



3. Critical messages will make noise

There may be quiet times even when you are on duty. You do not need to keep checking your radio for tasks if you are working as backup and you can even turn it to silent mode. If you are needed, the emergency dispatch will send you a Unit Alert, which will turn your radio into a loud, vibrating alert device. You will notice it!

You can also send a Unit Alert from your own radio, if you need to make sure that your communication is noticed.

4. Don't spoil your eyes

Working at night or in the dark brings its own special challenges. Of course, you can use radios from Airbus Defence and Space most of the time without looking, but what about when you need to see something on the radio screen? You need to see the information at a glance, yet you do not want to spoil your "night eyes".

No worries! TETRA radios from Airbus Defence and Space also have a feature called Night Vision. This switches the screen to a darker and less aggressive colour scheme. It also lowers the brightness, while its lack of glare makes it much more user friendly.

Simply select it from the 'Go to' menu or through a long press of a shortcut key.

"None of us is as smart as all of us."

– Eric Schmidt

5. Make data work for you

Data can be used in surprising ways to help operations. For example, an emergency response centre sends an alarm to a rescue service station about a fire, using a standard status message.

The station's command and control application is configured to forward the status message to the application controlling the garage equipment at the fire station. The application opens the fire station doors, turns on the lights, starts the exhaust fans and even switches on the traffic lights in front of the fire station.

The fire fighters only need to get dressed, jump into the fire trucks and they are ready.

If you use a TETRA system from Airbus Defence and Space, you enjoy the benefit of two-way messaging, opening up many ways to use data and create innovative, mission critical applications.

Most of these benefits come directly from the fact that Airbus radios work in a synergistic way with Airbus Defence and Space TETRA networks – in this case, the whole is definitely greater than the sum of the parts.

Keep up-to-date on the possibilities of advanced radio communications: Subscribe to the Key Touch magazine at www.keytouch.info/subscribe_now



1+2=

using one TMR880i in two places

Want more flexibility in using your TMR880i mobile radio in a fire engine or ambulance? Are you using it while seated inside the vehicle, but sometimes would like to use it also in the rear seats or even outside? If this is you, read on and see how to make your wish come true.

Traditionally, a mobile radio is installed so as to be easily used from the front seats, for example when on patrol. However, in many situations it would be very convenient to use the radio while outside the vehicle. For example, firefighters are in the fire engine only during the journey to the scene of the incident and then work outside. Yet, the radio with its control unit is inside.

Up front or in support

The solution is the Split-Box for TMR880i, developed by TC Con-

nect in Sweden. The Split-Box allows two control units to be used with the same radio. In an ambulance, you can, for example, use one control unit on the dashboard and use the other in the back. Installation is very easy using the existing cables - just plug-in the

control units to the Split-Box and only a single cable to the radio and you are ready to use the control unit that is closest to you.

Two as easy as one

Operating with two control units is very simple. Both displays are active simultaneously, meaning they show identical information. Only one of the control units is in use at a time. A user simply presses the PTT or any button once to activate the control unit and it is

TC Connect Sweden AB

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692 71 KUMLA
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E-mail: info@tcconnect.se
Web: www.tcconnect.se

Sweden's leading system integrator for voice and data communication solutions for professional users.

Distributor for TETRA radios from Airbus Defence and Space



ready for any function. The other control unit shows a red light, indicating it is not currently in use. With a touch of any key on this control unit the roles change.

Not just on the move

And the solution is not restricted purely to vehicles. It has also been taken into daily use at three OKG nuclear reactor units in Oskarshamn in Sweden. OKG has two operations centers for supervision and communication. Each operations center has a TMR880i connected to a Split-Box with two control units, which are located on two different operational tables. This makes it easy to handle communications, both internally in their own TETRA network and in the nationwide Rakel network.

DID YOU KNOW...

you already have Java™ in your TETRA radio?



Did you know that Airbus Defence and Space TETRA radios have built-in Java support? And that this is a unique feature that no other manufacturer offers? This means Java functionality is already in your radio and ready to be used.

You may think you don't need Java – after all, you never have in the past and you doubt that you ever will. This might be the case if the world was not constantly changing. But it is and quickly. With Java support in your radio, you can adapt to this ever-changing world by developing new applications, throughout the life of your radio.

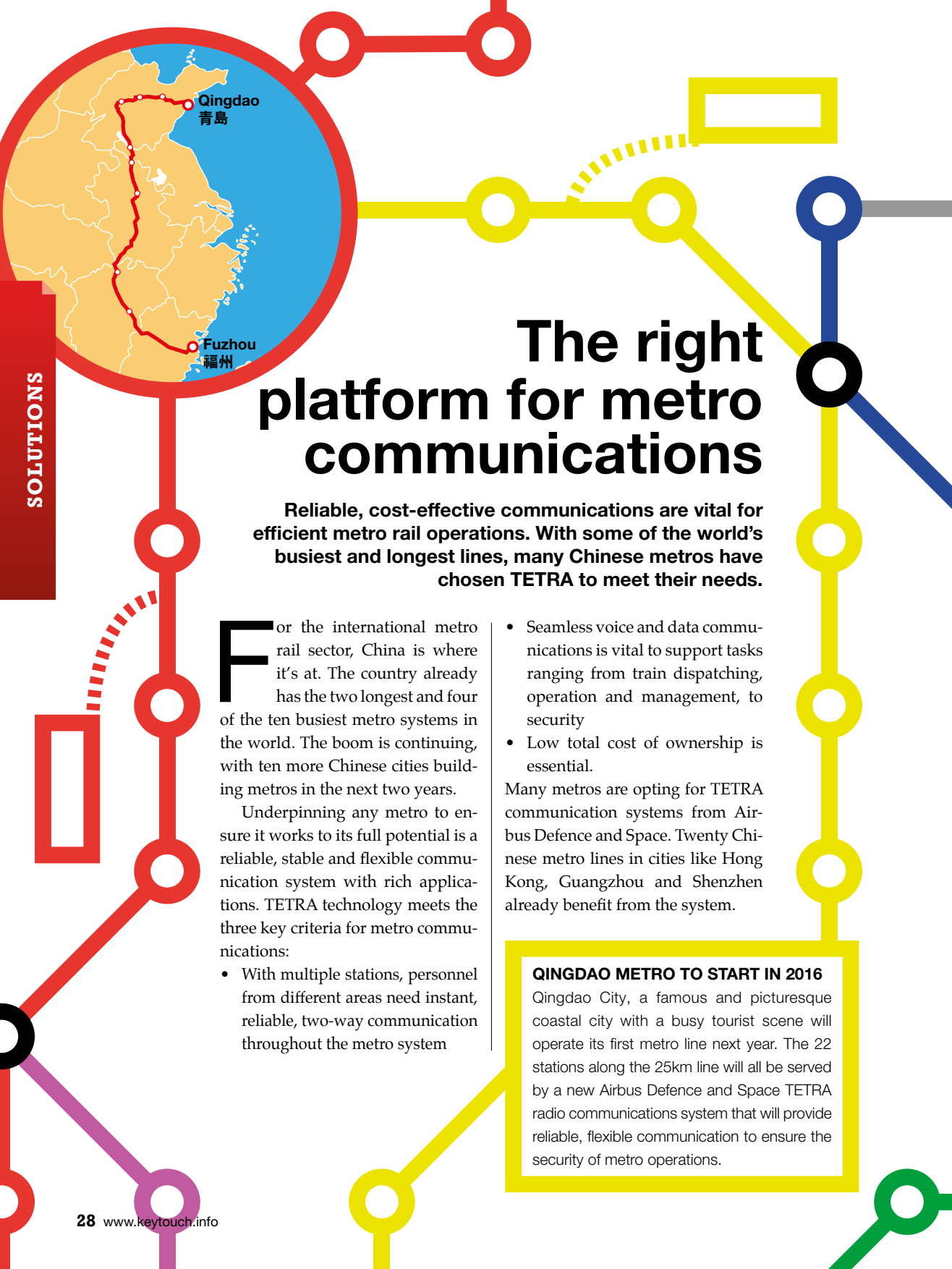
Java applications can also be tailor-made for your organisation. Alternatively, you can use the many ready-made solutions provided by dedicated Java developer companies. There is a huge variety of Java applications available, while the creation of new ones is limited only by your imagination.

Millions of people and devices use versatile Java applications dai-

ly. There is no reason why TETRA radios should be excluded, with good examples of commonly used Java applications in TETRA being database queries, task dispatching, status reporting and field reporting. Making these daily routines easier can save time and money and bring added efficiency, especially in data use. As well as being user-friendly, such applications can also remove the need for officers to return frequently to the office or station as many tasks can be performed in the field.

When you realize the great benefits of Java in TETRA radios and the ability to customize radios with specific user or task based demands, you will see how well it fits your operational processes. You may not need a Java application today, but who knows about tomorrow? Be prepared for the future and consider how Java can help you.

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The right platform for metro communications

Reliable, cost-effective communications are vital for efficient metro rail operations. With some of the world's busiest and longest lines, many Chinese metros have chosen TETRA to meet their needs.

For the international metro rail sector, China is where it's at. The country already has the two longest and four of the ten busiest metro systems in the world. The boom is continuing, with ten more Chinese cities building metros in the next two years.

Underpinning any metro to ensure it works to its full potential is a reliable, stable and flexible communication system with rich applications. TETRA technology meets the three key criteria for metro communications:

- With multiple stations, personnel from different areas need instant, reliable, two-way communication throughout the metro system

- Seamless voice and data communications is vital to support tasks ranging from train dispatching, operation and management, to security
- Low total cost of ownership is essential.

Many metros are opting for TETRA communication systems from Airbus Defence and Space. Twenty Chinese metro lines in cities like Hong Kong, Guangzhou and Shenzhen already benefit from the system.

QINGDAO METRO TO START IN 2016

Qingdao City, a famous and picturesque coastal city with a busy tourist scene will operate its first metro line next year. The 22 stations along the 25km line will all be served by a new Airbus Defence and Space TETRA radio communications system that will provide reliable, flexible communication to ensure the security of metro operations.

FUZHOU SIGNS CONTRACTS FOR TETRA

Fuzhou City, the provincial capital of Fujian, has selected an Airbus Defence and Space TETRA system for its Metro line 1 with 21 stations on a 29km line. The system includes the DXT3c switch, TB3-series base stations and dispatcher workstations, as well as THR880i handheld radios and TMR880i mobile radios.



WHY METRO COMPANIES PREFER THE TETRA SOLUTION FROM AIRBUS DEFENCE AND SPACE

- They get excellent radio coverage inside subways and tunnels - whether trains run on the ground or under it.
- On-the-move, drivers change area cells frequently, making rapid cell handovers essential. The seamless handovers in Airbus DS TETRA ensure that communication is not interrupted when trains move from one station to another.
- Thanks to clever design, good quality, and high performance, the cost of building and operating the TETRA network stays low. In other words, the solution from Airbus Defence and Space delivers extremely competitive total cost of ownership.



Finnish rail transport wants to switch from GSM-R to TETRA for its critical communications – we speak to Tapio Raaska from the Finnish Transport Agency to discover why

When something exceptional happens on the railways, a train driver's radio is their lifeline. With hundreds of passengers to protect, getting permission to proceed from traffic control is vital. The teams working in shunting yards and the teams maintaining the railway tracks also rely on their radio connection.

Yet in Finland, this lifeline has not always worked as it should. In their efforts to offer train pas-

sengers the best possible coverage, commercial mobile operator networks interfere with RAILI, the Finnish GSM-R communication system. In the worst interference areas, train drivers, shunting leaders, track maintenance leaders and traffic control have been completely cut off from each other.

To solve this, Finnish rail transport wants to move from GSM-R to the TETRA based VIRVE network and has asked the EU Commission for an exception to allow this. The

exception is necessary because EU legislation currently recognises GSM-R as the only option for radio communications in rail transport.

Tapio Raaska from the Finnish Transport Authority tells us more.

Key Touch: What are the reasons for the change?

Tapio Raaska: There are at least three reasons. The first is a technical one. Over the last couple of years the commercial mobile networks have started to interfere with the GSM-R system due to increased usage of broadband radio technologies (3G, 4G). Mobile operators obviously want to offer a better service for train passengers and to some extent they

Finnish rail transport takes **express route** to TETRA



have not been sticking to limits governing the provision of their services near railway track areas.

The result has been that in some areas, GSM-R traffic is totally disturbed by commercial frequencies, resulting in a situation where a train driver cannot be reached and he or she cannot call railway traffic control. This is a very serious safety risk.

The second major reason is that the current GSM-R network equipment is close to the end of its lifecycle. The radio network needs to be completely replanned and within two years almost all the equipment would need to be replaced with totally new software and hardware. This

is obviously a major investment.

The third reason is that European railways have started a process to change their “technical specifications for interoperability” due to changes in technology. They are trying to define a successor to the current GSM-R radio system and the EU Commission directive that governs railway communications in Europe is expected to change accordingly. Finland follows and participates in the specification process closely and expects to adopt commonly agreed new system.

KT: What advantages will be gained from the change?

TR: The main advantage is the cost savings; the change will save taxpayers’ money. By purchasing the

radio access as a service from the existing VIRVE TETRA network, we can dismantle our GSM-R network and reduce communication system costs significantly. Interconnecting the railway traffic communication system with the TETRA network can meet the technical and functional requirements of railway communications.

KT: When will the change take place?

TR: As soon as possible. The necessary EU derogation and procurement process will take some time, as will the changing of radios for the whole fleet of trains. Optimistically, the change will be finalised by the end of 2016, but it needs to be done by the end of 2017 at the latest.

“Joining the VIRVE TETRA network will reduce costs significantly, while also meeting the railway’s technical requirements.”



Photo: VR Group

A room with a Viewcor®

Viewcor in a nutshell

The Viewcor solution uses maps, tables, trend graphs and reports to show the current status of the radio network. These visual aids help the viewer quickly and easily understand what is happening.

For example, Viewcor can show

- the status of base station air interfaces for each channel
- the status of the radio network and radio coverage on a map
- the current status as well as historical views.



Viewcor for user organisations

Dispatchers need stay on top of every situation. What if teams at an incident complain they cannot talk to each other?

With Viewcor:

- The dispatcher can see **the status of nearby base stations, channel capacity and coverage**. If everything is normal, the problems must originate with the users and the dispatcher can give appropriate advice.
- The dispatcher can also see **which groups are generating the most traffic**. If there's too little capacity, the dispatcher can combine some groups.
- Cleverly, Viewcor can **warn of imminent congestion**. The dispatcher can instruct the users, or cut off one-to-one calls if necessary. Alternatively, they can activate reserve capacity at a base station.
- **The level of coverage** at the incident area is also shown. If needed, the dispatcher can send out a mobile base station to help the situation.



Viewcor for **the network operator**

The operator must keep the network in proper working order to serve users properly.

From Viewcor reports:

- The operator can check **where radio access needs to be improved**.
- The operator can be prepared. It's possible to **predict trouble spots** that may cause user organisations to complain. If possible, the operator can fix the issue before any complaints are made.
- The operator can **optimize**. Network capacity can be better used by identifying which base stations are handling less traffic than they are dimensioned for, enabling capacity to be re-allocated elsewhere to meet demand.

A solution for the future

The new DXTA TETRA Server from Airbus Defence and Space is built to reduce operational costs and to serve as a key element for new broadband solutions

Network operators are facing a growing need to reduce their operational costs. They are looking for equipment with more capacity, smaller size and the most modern technology, offering both transmission capability and energy efficiency. They also need to prepare for the broadband future.

As a response to these needs, Airbus Defence and Space has developed a next generation mission critical communication solution, the DXTA TETRA Server. The DXTA is based on the Advanced Telecommunication Computing Architecture (ATCA), which is widely used by the giants of the telecom industry and delivers high capacity and service availability under all conditions.

Modernized or new – the same benefits

TETRA operators planning to modernize their network can achieve major benefits by basing their projects on the new DXTA TETRA Server. New installations will also enjoy the same benefits and achieve a “best of breed” total cost of ownership from the beginning. The DXTA supports Airbus Defence and Space’s software cycles, as well as all the core products in the TETRA system.

The road to broadband is also taken into account: Tactilon® Suite can easily be integrated with the DXTA Server. This will make it possible to handle subscribers and assets beyond TETRA, such as commercial broadband services, and also to extend TETRA services for smart de-

vice users with the Tactilon® Suite TSA app.

Performance that's streets ahead

The DXTA has many strengths: for example doubled capacity for subscribers, more base station and carrier capacity and the ability to connect more dispatchers. This increased capacity will allow a much larger single-server system, or larger multi-server systems with fewer DXTA sites.

In addition to the continuous development that is enlarging the feature portfolio for professional users, Airbus Defence and Space has a clear roadmap to the future.

Welcome to the future of mission critical communications!

Remote area, no network coverage or poor radio conditions? Just take your TETRA network with you, but check these five factors that can make the difference between success and failure when creating secure communications in crisis areas

TETRA to go:

Five factors for success

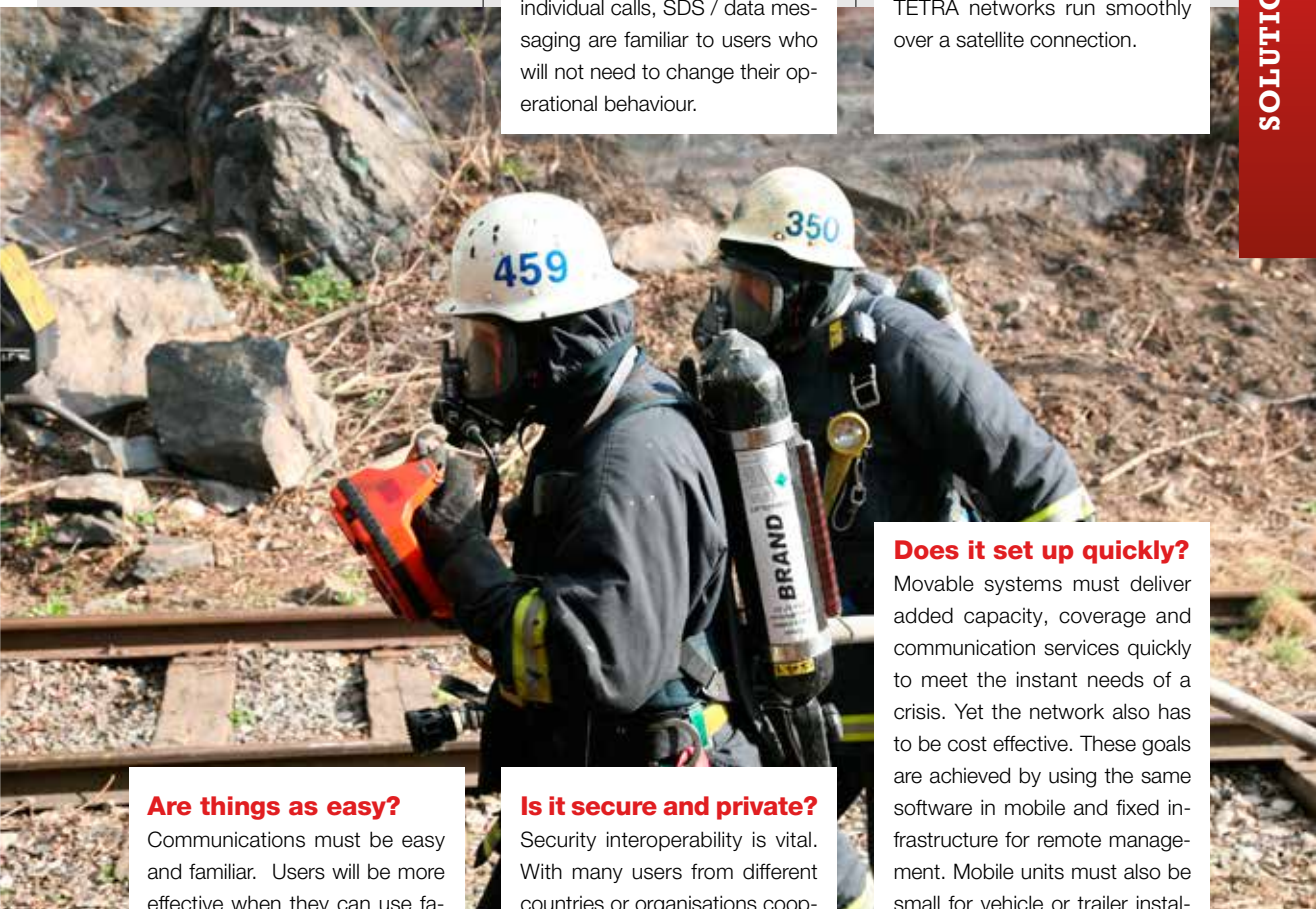
Does it work as usual?

Make sure TETRA's full capabilities are available even though users may not be connected to the main network. Features such as group calls, emergency calls, individual calls, SDS / data messaging are familiar to users who will not need to change their operational behaviour.

Not out of reach?

Ensure seamless network-wide services. Even when operating outside your normal environment, it's vital that services between the mobile and fixed TETRA networks run smoothly over a satellite connection.

SOLUTIONS



Are things as easy?

Communications must be easy and familiar. Users will be more effective when they can use familiar ways to connect with the same people they normally talk to.

Is it secure and private?

Security interoperability is vital. With many users from different countries or organisations cooperating, everyone must be able to communicate easily and securely to be able to properly coordinate a mission.

Does it set up quickly?

Movable systems must deliver added capacity, coverage and communication services quickly to meet the instant needs of a crisis. Yet the network also has to be cost effective. These goals are achieved by using the same software in mobile and fixed infrastructure for remote management. Mobile units must also be small for vehicle or trailer installation and they must be able to meet the required coverage needs, for example tunnel coverage.

The red emergency button on your radio can make a difference between life and death.

Press the red key to start an emergency call to a pre-defined number.

Once you have pressed the red key, you do not need to use the PTT key. The radio transmits automatically.

The radio can be programmed to transmit its GPS position during the emergency call. This makes it easier to find the user in trouble.

A well-planned and pre-programmed red key turns a radio into a trusted friend in the field.



It's a day like any other in the city, but one that is about to go wrong for the people on one particular metro train returning home from work. It's not quite rush hour yet and the train is between stations. Suddenly, a rowdy group of youngsters start to make trouble and start a fire in the carriage. The automated fire alarm alerts the metro driver and the security centre.

The metro driver hits the red button on his radio – instantly, he is connected to his controller, top priority. This immediately opens the communications because the system will guarantee resources for emergency calls.

You probably already know that such an emergency call would be easy to make and get high priority. But did you know that TETRA systems from Airbus Defence and Space offer unbeatable possibilities for emergency calls?



Unbeatable in an emergency

Unbeatable convenience

The user does not have to worry about the recipient of the emergency call because this is defined in the system. Users in one organisation can all have the same emergency call recipient, or they can have different recipients – it all depends on what is best for them.

Unbeatable choices for recipient

An emergency call can be either an individual call between the person in distress and the dispatcher - or another radio user - or a group call where all group members hear the same emergency calls.

Unbeatable safeguards

To make sure all emergency calls are answered, the call can have up to three possible recipients. If the first

choice does not answer, the system will automatically route the call to a second choice, and to a third choice if necessary.

Unbeatable geographical area

The person in danger can make an emergency call to a group no matter where they are in the network area. If they are outside their group area, the system will automatically enlarge the area.

What's more, any participant in an emergency call can move outside the talk group's area without losing the connection.

Whatever the circumstance, with Airbus Defence and Space TETRA, the emergency call is connected.

To discover more about emergency calls and much else, contact Airbus Defence and Space today.

Paris communications put to test

The January 2015 attack on journalists in Paris and the subsequent incidents shocked many worldwide. In the hours that followed, three million people gathered in Paris, congesting the commercial mobile networks. Key Touch hears what it was like from one who was there.

Just days after the deadly attack on the French satirical magazine Charlie Hebdo in Paris, more than 6 million people took to the streets on 11 January 2015 in one of the biggest rallies ever seen in France.

More than 3 million protesters gathered in Paris alone and with so many people packed into the urban area, it is easy to imagine the major challenge this created for the public safety agencies that had to ensure security. To cope, a significant number of additional forces were drafted in, which meant extra users of the public safety communications network.

What was it like to be there? Lionel Marciano, Operational Marketing Manager, Airbus Defence and Space, explains: "There were so many people walking around on this Sunday afternoon. Or I should say 'trying to walk'. I was on the Place de la République for three hours and managed to move just 150m. The commercial mobile networks were quickly overloaded and became completely congested. I lost my 3G coverage for three hours."

Yet there were no service interruptions or network incidents reported on INPT, the French TETRAPOL network. The network remained 100% available and successfully absorbed the

substantial extra load without any waiting time for traffic channel allocation or impact on the service delivered.

This is a graphic example of how commercial networks can become quickly overloaded during major events and why nar-



Photo: Lionel Marciano

row-band public safety networks will stay as the only way to ensure voice traffic for mission-critical operations. It's why hybrid networks that combine the best of public safety and commercial networks are rapidly becoming a reality and a major step in the evolution of public safety communications.

"We all have our memories of the events in Paris from 7 to 11 January, with the killings in Char-

lie Hebdo's offices, the death of a young policewoman and the dramatic hostage-taking in a grocery. 21 people died, generating a feeling of indignation, revolt and solidarity without precedent among many people regardless of their race, religion or political opinion.

I live 600 m from the spot where the policewoman died and I can assure you that I still feel the same emotion when seeing so many flowers placed there every day, even three months later," concludes Marciano.

VIRVE wins international TETRA award



©TETRA Today



From left to right: Tero Pesonen (TCCA CCBG), Jarmo Vinkvist (VIRVE), Mats Fagerström (HELEN), Timo Varsila (HELEN) and Yrjö Pylvänäinen (VIRVE).

Finland's public authority network VIRVE has won the award for Best TETRA Innovation at the International TETRA Awards 2015 in London. VIRVE, an Airbus Defence and Space customer, won the award for its "Five Steps to Critical Broadband" plan that looks ahead to 2035 and the hybrid network that will provide users with broadband services.

Based on a survey of 80 people on various aspects of security communications, the results show that cooperation between TETRA and commercial networks

can provide a well-functioning broadband solution for security authorities.

"We are extremely delighted at this major international recognition that acknowledges the work of VIRVE in leading the way, conducting an excellent survey and engaging in fruitful collaboration with stakeholders," says Jarmo Vinkvist, CEO of Suomen Virveverkko Oy. "First and foremost, I would like to thank our stakeholders for expressing their views in our survey, and everyone participating in conducting it, as well as all VIRVE personnel

©TETRA Today



From left to right: Tero Pesonen (Chairman, Critical Communications Broadband Group at TCCA), Richard Lambley (Consultant Editor of TETRA Today) and Jarmo Vinkvist (CEO of Suomen Virveverkko Oy).

©TETRA Today



for their dedicated efforts in operating and developing the public authority network.”

Utilities category award for tunnel coverage expansion

In addition, the proposal “HelenNet (TETRA) merger to VIRVE (TETRA)” received an honourable mention in the Utilities category. HelenNet is Helsinki region network managed by power company HELEN. An agreement between HELEN and VIRVE operator Suomen Virveverkko Oy will see the HelenNet radio signal transmitted on VIRVE's frequency, expanding the radio coverage of the VIRVE network to the approximately 56 km of tunnels and other key premises.

Switching to the VIRVE network will improve occupational safety in the tunnels and ensure efficient communication with the authorities both above and below ground.

Expansion of radio coverage for Helsinki Power company HELEN: 56 kilometers of tunnels and key premises.

Need temporary TETRA access? Sweden's Rakel has the answer

Organisations can now get temporary membership of Sweden's Rakel TETRA network, allowing them to make use of the network's facilities to deal with emergencies or short term events.

Known as a contingency subscription, Rakel operator MSB launched this new form of subscription following last summer's large forest fires. The subscription can be temporarily activated at events, exercises or during a crisis to enhance communications for a limited time. A contingency subscription can be used to support large-scale planned events, such as a charity or sporting event organised by a local council.

It can also be used for temporary operations where additional staff are required, such as a contractor in the energy industry during a temporary effort to reconnect downed power lines.

The activated contingency subscription has the same functionality as a regular basic subscription to Rakel. When inactivated, it can be used to support a walkie-talkie function in direct mode (DMO).

For each basic subscription, an organisation can have three contingency subscriptions.

Activation for an event or unexpected crisis lasts for a month from the start date, while activation of the subscription for the purpose of an exercise lasts for two days from the start date.



OLD or NEW

PICTURE THIS

Why should I update my old communication system? What advantages will my business get? Will the new communication system make a difference in everyday duties? How will it help me to cut costs and boost efficiency? After reading this comparison table you should be able to launch your project.



Typical/traditional communication system

VS

Modern, hybrid communication system for oil & gas

PERFORMANCE

A lot of time and money is spent on management issues, such as introducing new users and new groups to the network and the technical management of the network elements. These tasks cannot be done from one place with modern and easy to-use tools.

Easy-to-use modern tools for both operational and technical management. Rights to manage can be defined exactly as the company hierarchy requires. Management can be done from one point (command centre) or can be divided over several areas.

Limited dispatching possibilities

The oil & gas company's foreman wants to know where his employees are, how work is progressing, what the situation is at the oil pipeline and how pumping stations are doing. Versatile dispatching, both centralised and mobile (over the radio network) give him the answers he needs. The user interface can easily be adapted to meet oil & gas requirements, supporting him in his duties.

Limited radio offering

When a technical manager needs to order new radios or radio terminals (for RTUs), he has several manufacturers and models to choose from, including ATEX-terminals.

COST

Spare parts and maintenance are expensive.

Long-term support and telecom grade equipment available, with attractive prices reflecting competition in the market.

Support ending in some cases

Modern system offering long agreements and evolution path via hybrid networks.

Supporting separate systems in different areas is expensive

One system which can be managed from one central point or from various regional centres.

Transmission expensive

IP transmission, which saves costs and can be shared with oil & gas company's other transmission needs.

EFFICIENCY

Oil & gas companies are used to working with their SCADA based systems. Unfortunately, integration of analogue radio system is very limited.

SCADA system can receive data from refineries, oil pipelines and pumping stations via Airbus Defence and Space TETRA system. Integration to other IT systems (SCADA etc.) is easy, resulting in efficient workflow and practices.

Regional systems separate and impossible to integrate, thus system does not support central hierarchical command and control centres, limiting the company's ways of working.

When the oil & gas company plans its operations with the new communication system, Airbus Defence and Space TETRA system supports the desired management structure and command and control centres. It can be scaled from one region to several and with no limits between regions, calls and other services work seamlessly.

PICTURE THIS

Keep an ear on your calls with audio analytics

In any investigation, time is of the essence. With a wealth of incoming calls, officers need to quickly find and retrieve every relevant call relating to the incident. They also need to search calls for particular sounds, words and phrases, improving the chance of gaining insight from otherwise unrelated calls. Such an ability would also enable the identification of trends, based on time, location and activity.

As well as its obvious operational benefits, such digital evidence also has regulatory and compliance implications. In the UK, the Home Office has mandated all Police forces must be digital evidence compliant by April 2016. Meanwhile, forces around the world are also looking at how they can implement their digital evidence management strategies. These forces are all coming to the same conclusion - the recording systems (audio, screen and data) in their control rooms are the foundation of a future of scalable digital evidence.

A maturing technology

One such technology is audio analytics, which is currently being put through its paces by some of the largest Police forces around the world. Tried, tested and proven in commercial contact centres, the technology is now seen as a powerful application for control room environments. Using audio analyt-

ics in conjunction with recording means that not only is every incoming telephone call captured and stored, it can also be monitored, analysed, categorised and indexed.

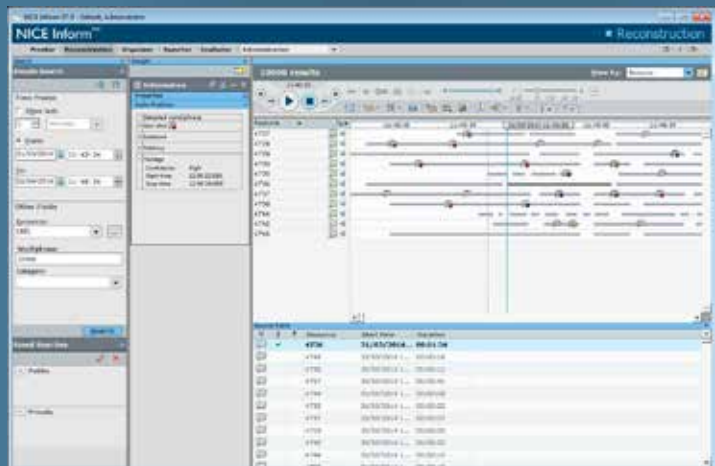
Put simply, audio analytics uses what is known as Speech Indexing to analyse recordings of completed calls with a word discovery engine, which identifies possible matches between sounds in the recorded audio stream and a vocabulary of known words. By indexing whole words rather than individual phonemes, the search process is much faster than anything phonetic indexing technology can achieve.

As well as helping to speed up investigations, audio analytics can also be used for quality assurance and liability management. In this role, it can help identify best practice as well as knowledge

gaps or policy issues that need addressing, as well as monitoring adherence and divergence from protocol for all types of calls. For example, identifying calls where actions were taken and where important phrases such as 'Help is on the way' should have been used but were not.

Whether mandatory or not, digital evidence management is coming. Most forces are finding that they are better prepared than they initially expected, and that even in the face of tight budget constraints it is possible to ensure compliance and at the same time actually improve performance. The key is to start the journey and adding audio analytics is an important step along the road.

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SOLUTIONS

Seven top Twitter accounts you should follow

Next time you need a break or a quick jolt of information on radio communications, start with these seven top twitter accounts



Critical Communications World **@CritComms_World**
Producing worldwide events for Critical Communications Professionals - Find out more at www.criticalcomms.com Has **1,300 followers** across the world. Followers and the accounts it follows are most active before lunch time.



Key Touch **@Key_Touch**

Key Touch® is the longest-running customer magazine in the public safety industry. Visit www.keytouch.info, learn more and share your ideas

10,749 is the average number of tweets of users followed by Key_Touch



TETRA and Critical Communications Association **@tandcca**
TETRA and Critical Communications Association (TCCA) promotes critical communications worldwide



Has 669 followers

These people are active on Twitter: **45% have more than 100 followers.**

TETRA applications **@tetraapps**

Follow us and stay tuned on the latest developments within the TETRA and Critical Communications Industry. Daily updated news, blogs, video's events reports....

Has 4,100 followers.

Social Authority score is 36

40% of followers have been on Twitter for more than four years
25% of followers typically tweet at least once a day.

IN TOUCH



Secure solutions
@SecureSols

Critical communications related news, views and stories brought to you by people working for Airbus Defence and Space

New kid on the block.

30% of followers have been on Twitter more than five years.



Tapio Mäkinen **@tapiomobile**

Marketing and photography for the security of all. #digital #marketing #SocialMedia for business #CMO #photography #golf #yoga

Social authority score 40 – a good number

Followers are active: they have 451 followers and follow 820 accounts

Followers have tweeted 600 times on average.



TETRA Today magazine **@tetratoday**

Advocating the progression and integration of TETRA systems worldwide, TETRA Today is the only global publication dedicated to TETRA communications

More than 1,200 followers

Over 30% of these use a language other than English in their own tweets.

Social Authority is Transparently Calculated and composed of:

- The retweet rate of users' last few hundred tweets
- How recently they were tweeted
- A retweet-based model trained on user profile data

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- Use accessories



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