

key touch[®]

customer magazine
1/2013

Security for vital
infrastructure

Thumbs up for radios



Get
connected

WHO'S IN THIS ISSUE?

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



SATU LAMBERG enjoys sharing information with Key Touch readers, especially about the advanced Cassidian terminals and their innovative features and benefits that help to make life that bit easier for professional users who are securing the world for all of us.



JEAN-MICHEL DUMAZERT juggles his time between Cassidian, his family, scuba diving and being a local councillor. Since September 2010 he's now added to his packed schedule by contributing to Key Touch as TETRAPOL correspondent.



PETRA VAKIALA Petra enjoys researching and writing stories for Key Touch. "There are always interesting new topics to dig into and while digging one learns so much!" she says. In her spare time Petra enjoys horse riding, downhill skiing and interior design.



TERO PESONEN is continuously looking for innovative ways to advance the performance of professional mobile radio users. In particular, he has a burning ambition to help the public and professionals to connect so they can jointly make a difference to the world.



TIINA SAARISTO is Editor-in-Chief for Key Touch and has led the team of editors and contributors since 2003. In addition to Key Touch stories, Tiina is into quilting, Nordic walking and reading mystery stories. @tiinasaaristo



TUOMAS KORPILAHTI promotes Emergency Response Solutions and contributes many articles for Key Touch in the areas of new products, data and applications. Outside work Tuomas is finalizing his brand new house and learning about interior design.



TAPIO MÄKINEN has the mission to create marketing and photographic contents for the security of all. He has undertaken photoshoots for Key Touch Magazine and Cassidian to capture events, products, sports, professionals at work, city views and critical infrastructure. @tapiomobile



ANKE STURTZEL In her role as a press officer for Cassidian, Anke is filled with enthusiasm for worldwide professional mobile radio communication solutions 'made by Cassidian'. With more than 15 years' experience at the EADS Group, she continues to be inspired by the civil aviation sector and the latest technology involved.

Key Touch 1/2013 - February 2013

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Actively listening to you



ACTIVE LISTENING requires that the listener feeds back what he or she has heard, to confirm their understanding. In the secure communications business, this feed back takes the form of a solution designed to meet the users' needs.

It is therefore practical to get the views of users en masse. At SNUC - the SCS Networks Users' and Operators' Conference 2013 - users will be able to explore Cassidian's cyber security solutions and Astrium's satellite solutions and discover new ways to solve today's operational challenges.

Users also have other venues to share their ideas, such as the popular network users' days run by ASTRID, Rakel and Virve. These events show that users are extremely interested in sharing ideas and tips on using radio communications systems and that the manufacturers and network operators are actively listening.

Listening to customers gives a better understanding of the market and helps nurture a long term customer relationship. This in turn helps manufacturers keep critical communications systems in top form for many years. Turn to page 7 to see an example of a successful, long-term customer – Beijing JustTop NetCom from China. Other articles showcase how radio solutions are used in Spain, Slovakia and Aruba.

Professionals have our ear

When listening to customers, one thing comes across loud and clear: you are dedicated and committed professionals, ready to adopt solutions that bring greater efficiency.

This issue of the magazine looks at user comments on the newest member of our TETRA radio terminals family, the slimline TH1n radio. We also introduce the new portable DXT3p TETRA switch on page 13. Our standardization activities, especially in the TCCA, show we are committed to helping TETRAPOL and TETRA converge towards a common broadband protocol.

We continue to listen to your opinions and requests, building your ideas into products that we believe will continue to meet your needs.

A handwritten signature in black ink, reading "Jean-Marc Nasr". The signature is stylized with a large, sweeping initial 'J'.

Jean-Marc Nasr
General Director
Cassidian, Security and Communication Solutions

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CUSTOMER WIRE

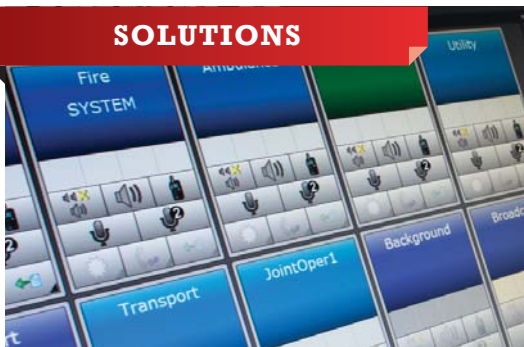
Photo: Tomislav Domes/Flickr.com



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China's first interconnected TETRA metro network

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The new dispatching console RCS 9500 can meet your exact needs

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Now using Cassidian's radios

Ambulance services in Aruba get **Connected**

Ambulances on the Dutch Caribbean island of Aruba operated by IMSAN (Instituto Medical San Nicolaas, Aruba) are now using Cassidian's THR9 radios to communicate over Zenitel's network. Marketed by Zenitel under the ChuChubi brand, the radios are water, shock and dust resistant and come equipped with a hands-free "car-kit". The radios are also equipped with GPS receivers so the dispatchers can

see how far an ambulance is from an emergency, or locate a radio should it become lost or stolen.

Zenitel with more than 80 years of experience in the area of "critical communication", offering radio services, operating under the name ChuChubi Trunking, provides its users a number of voice and data services such as push-to-talk group calls (Group Conversation Traffic), one-to-one calls (Private Calls), messaging (Short Data Services) and data

and fleet management. This system has been in place since 2004 and connects Curaçao with Bonaire, Aruba, Sint Maarten, Anguilla, Saba and St. Eustatius.

Zenitel offers ChuChubi services to the police, fire and ambulance departments and the military on the Dutch Caribbean islands of Aruba, Curacao, Sint Maarten and BES. The service also offers roaming, which allows a radio to make use of the network on any of the islands where a ChuChubi system is working.

On Aruba, the CEA (Cuerpo Especial Arubano), Customs and the Coast Guard also use ChuChubi systems to communicate, while the teams of 24ora.com and arubaherald.com also use ChuChubi to communicate with colleagues.

A decade of excellence for Beijing's big network

Ten years ago a decision was made to build a TETRA network to replace several outdated and independent networks used by the city's public safety users. We look back at the network's success and how it coped with some huge events.

This year marks a decade of successful operation for the Beijing Government Shared Radio Network, ten years that have seen it grow to become APAC's largest digital trunking network. In that time, it has proven its worth as a reliable and essential tool for the city's public safety organizations and has played a major role in providing security for special events.

The Beijing Government Shared Radio Network had its origins in 2002, when the Mayor's office of Beijing decided on a shared network to replace the nine different and incompatible systems that emergency authorities had previously relied on. As well as this incompatibility, the frequencies they used would not be available after 2005.

In 2003, only six months after the network contract was awarded, Beijing JustTop Netcom connected the first users. Just two years later, the network, supplied by Cassidian, was serving 30,000 users and has since grown to serve more than 90,000, sealing its status





as the largest citywide TETRA network in the world.

The 10-year anniversary of the network and cooperation between Beijing JustTop and Cassidian was celebrated in Beijing on 8 January 2013. The event was all the more special, as the TETRA Critical Communications Association presented JustTop with its Award of Excellence as a world class TETRA network operator.

A winning performance at Beijing Games

As a pioneer for shared radio networks in China, the Beijing

Government Shared Radio Network helped secure the largest Olympic Games in history. The Beijing Games 2008 were actually the first in which the security organizations, public safety and the Games Organizing and Administration all shared the same radio communications network.

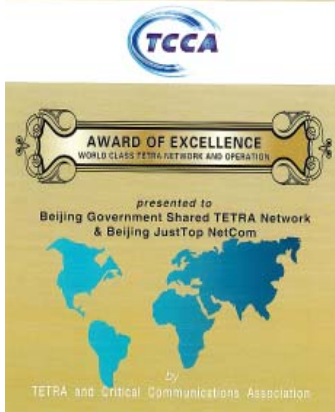
In 2008, the network achieved a new record, with 1,600,000 calls from the switch side and 6,280,000 calls from the radio side in a single day. The network handled 120,000 calls during the busiest hour.

With nearly 90,000 people involved in ensuring the smooth-

running of the Beijing games, effective communication was the key. Over the two weeks of outstanding sporting excellence, everyone involved with the games relied on the network to provide them with secure and seamless communication services.

City wide coverage

The complete network, including six DXTip switches and over 350 base stations, serves the entire 17,000 km² area of Beijing, including all the metro lines, counties, the main highways and important public buildings, with coverage



Marking a decade of excellent service to the city of Beijing - Mr Su Zhenze, President, Beijing JustTop Netcom, receives the Award of Excellence from Mr Phil Kidner, CEO, TETRA and Critical Communications Association

even extending to the air.

The network is based on a three-level structure: network, dispatcher network and user organizations. The Virtual Private Network (VPN) concept is very important, as it allows a division between technical management (JustTop) and operational management (Beijing Government Network Administration Centre).

A better emergency response

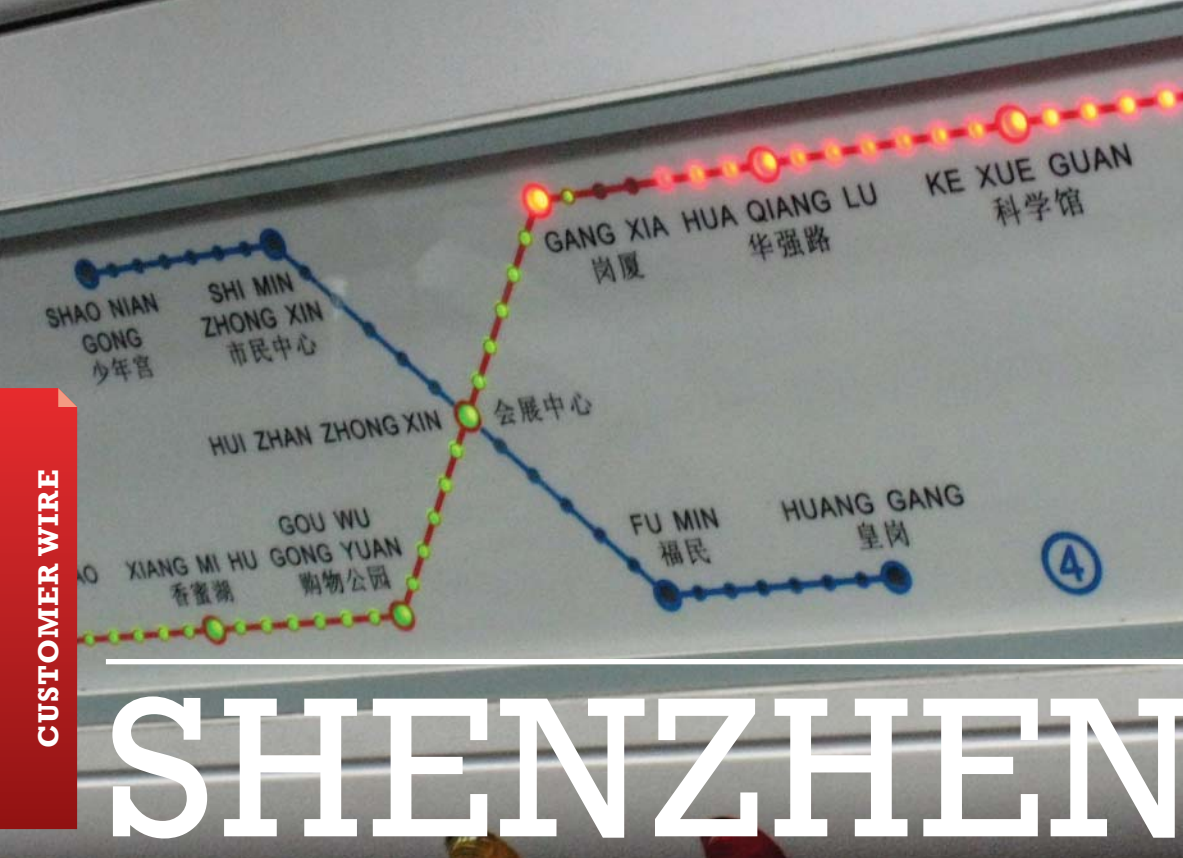
Users of the Beijing network include Police, Fire, Ambulance and other government organizations, who control their own

communications and their own applications. The latter include Automatic Vehicle Location (AVL), Automatic Person Location (APL) and the Police Mobile Data System, a common database covering person registration, missing persons registry, car registry, stolen cars database and a traffic regulations database.

The network has become a major resource for the Beijing Municipal Government, improving the efficiency of command communications and collaboration among departments, as well as its capacity to deal with

complicated events. To date, the network has provided stable communications support for important events such as President Bush's visit to China, FORTUNE Global Forum, China-Africa Forum, Beijing International Marathon, IAAF World Junior Championships and the ISF Women's World Championship.

The Beijing Government Shared Radio network, has proved its worth several times over, not only helping the 2008 games go smoothly, but also aiding the city authorities long after the tournament concluded.



SHENZHEN

- China's first interconnected TETRA metro network

Shenzhen, situated just north of the Hong Kong Special administrative area, is one of the most developed cities in China. The city is the high-tech and manufacturing hub of southern China, home to the world's fourth-busiest container port and the fourth-busiest airport on the Chinese mainland. It is also one of the country's most popular tourist destinations. The high-tech, financial services, modern logistics and cultural industries are mainstays of the city. New industries of strategic importance, as well as numerous modern service industries, are quickly

In China, metro lines and their communications networks are typically built independently. In some cities, metro lines and networks are even built by different operating companies. Shenzhen Metro Company has connected five such networks into one in a pioneering project, setting the model for future interconnection projects.

becoming new engines for the city's economic growth.

This dynamic city is currently home to some 13 million residents. To move these people on their daily journeys, by the end of 2012, the city has built a metro network consisting of five lines and covering a total distance of 178 km.

To provide communications across the metro, Shenzhen employs a TETRA network based on five TETRA switches, 125 base stations and 33 Dispatcher Workstations, providing voice and data services for 4,000 users. Since the first Shenzhen metro line became operational in 2004, the TETRA system has been

providing a reliable, efficient, flexible communication and security service.

Five TETRA networks go into one

The major challenge for the metro is that, in China, metro lines are built in each city on a line by line approach, meaning almost every line will have separate investment and a separate bidding process. In some cities, several different metro companies operate different metro lines, with Shenzhen being the first city to operate on this model.

The same is true of the communications networks serving each line, with Shenzhen Metro Company building and operating three TETRA networks for Shenzhen Metro Line1, Line 2 and Line 5. Longgang Metro Company built and operates one TETRA network for Metro Line3, while MTR HK took on the same role for Metro Line 4.

In 2010, the three metro companies agreed to interconnect the five TETRA networks into one overall network, in order to make smooth roaming and cross-metro-line communications for all users.

The interconnection work was complete by early 2011. This involved some major challenges requiring a lot of coordination and cooperation among the three companies as well as teams from the five different lines and Cassidian as the TETRA supplier. Because the network was already in operational use, the system upgrades and interconnection work needed to be performed across all five lines simultaneously within a two to three hour window in the middle of the night. Following some great teamwork from everyone involved, the five separate networks were fully interconnected and became a single unified TETRA network.

Seamless roaming is the norm

Shenzhen Metro is now a pioneering model for metro radio communication systems as the first interconnected TETRA network in China, crossing the boundaries between metro companies' metro lines.

Today, metro staff in Shenzhen enjoy seamless roaming and TETRA

communications services along all metro lines. For them, there is no longer a boundary between metro lines. With the benefits from the interconnected TETRA network, Shenzhen metro has achieved a united, safe and efficient operation.

Recent statistics show that the average passenger flow through the Shenzhen Metro exceeds two million a day and 16 million each week. Shenzhen Metro's TETRA System has been running with no malfunctions, especially during the major event of the Universiade Games successfully held in August 2012. The powerful interconnected TETRA network has worked perfectly to provide a stable, reliable, flexible and efficient service for Shenzhen Metro.

Shenzhen City is planning to build an additional 11 metro lines with a total length of over 500 km and expects that continuing to interconnect TETRA networks will also bring great benefit in the future.



Shenyang adopts China's first secure digital radio for trams

Shenyang has commissioned Cassidian to provide TETRA radio communications for its new tram line. The city is the provincial capital of Liaoning in China, and this will be the country's first tram line to use TETRA.

The deal marks the start of Shenyang's wide-ranging tram project, under which the local authorities plan to build inner-city and intercity trams. The 4.86 billion yuan project is being managed by China CNR Corp. The Hunnan Xinqu tram network will ultimately include four lines and two hub stations, covering a total length of about 60 km and serving 96 stations. The first line will enter service later this year.

Cassidian will provide a complete set of equipment for the TETRA system, including a DXT3™ switch, base

stations, Dispatcher Workstation (DWS) controllers and terminals. The system will provide communications for dispatching, operating and managing trams, and for ensuring the security of the tram lines.

"Rail transit is developing in China. Chinese cities like Suzhou, Dalian, Shanghai and Tianjin are already building and operating new tram lines. Many other cities in China such as Beijing and Nanjing are rebuilding trams and others are planning new tram lines," says Zhang Shaohong, CEO of Secure Communication Solutions at Cassidian China. "Cassidian has already provided TETRA radio communication systems for tens of metro lines in China, including in Shenzhen, Hong Kong, Guangzhou, Wuhan, Shenyang and Nanjing, and we are happy to be entering into the tram sector of the rail transit industry now, too."

Jaipur Metro chooses Cassidian TETRA network

Jaipur Metro has chosen Cassidian to supply a TETRA digital radio network to serve its communication needs. Designed to support train dispatching, operations and management, the TETRA network is scheduled for completion in mid-2013 to coincide with the opening of the new metro service.

Together with its Indian system integrator partner Fibcom India Ltd, Cassidian will provide a DXT3c switch with five TETRA base stations (TB3), Network Management Software (NMS) and an Automatic Vehicle Location Service (AVL). In addition, 350 specialised TETRA

radios (THR9i and TMR880i) will be deployed on the trains. Cassidian is also contracted to provide for training and onsite technical support services together with Fibcom India Ltd.

Peter Gutmiedl, Cassidian India CEO, says: "This landmark win has positioned Cassidian as a leading supplier of TETRA communication system for the emerging mass transportation market in India. We are committed to contribute to further developments of secure mission critical communication solutions for public safety in India."

Ehud Weizman, Head of Sales for Mission critical communication solutions, Public Safety, Indian Sub-

continent, added: "We will draw on our wide experience in deploying advanced TETRA-based mission-critical communication systems for metro rail networks internationally to make the Jaipur Metro project a success. Our team in India is building local expertise in collaboration with our partners and is delivering customized TETRA solutions to our Indian customers on time and on budget."

Secure radio coverage expands in Beijing Metro

Beijing Government Shared TETRA Network expands its coverage to serve the newly built and extended lines in Beijing Metro.

When commissioned in 2014, the expanded network will offer a further 24 TB3 base stations, completing coverage to all 17 metro lines. As well as expanding network coverage, the extension will allow the Beijing Metro Police to provide complete security cover throughout the metro system.

The Beijing Government Shared TETRA Network, operated by Beijing JustTop Netcom is the largest digital trunked network in Asia and the biggest citywide TETRA network in the world. It covers the Beijing city area, all venues, all the metro lines, surrounding counties, the main highways and important buildings. The network incorporates 350 base stations, serving around 90,000 subscribers.

The Beijing metro delivered more than 2.18 billion rides in 2011 and on April 28, 2012 set a single-day ridership record of 8.59 million. However, the existing metro network still cannot adequately meet the city's mass transit needs and extensive expansion plans call for 19 lines and more than 708 km of track to be in operation by 2015 and 1,050 km of track by 2020.



Do you need a portable switch?

NEW SOLUTIONS

Take this test to find out!

The area where I operate...

- ☐ ...has severe weather that can disrupt electricity supply
- ☐ ... hosts VIP events, concerts or major sporting events which require extra capacity and redundancy at different times
- ☐ ... is located outside my nation's borders in a crisis area
- ☐ ... is subject to a peace keeping mission
- ☐ ...can suffer from flooding that can cut roads, disrupt electricity supply or damage fixed telecommunications infrastructure
- ☐ ...is at risk of earthquakes

If you answered yes at least once, read on to learn how the new portable DXT3p switch can help you.

The network where it's needed

The DXT3p is a new portable TETRA switch that brings secure, mission-critical communications where they are needed.

With a small footprint and very low energy consumption, the DXT3p can be transported easily to any location, while of-

fering the same features as a nationwide TETRA network.

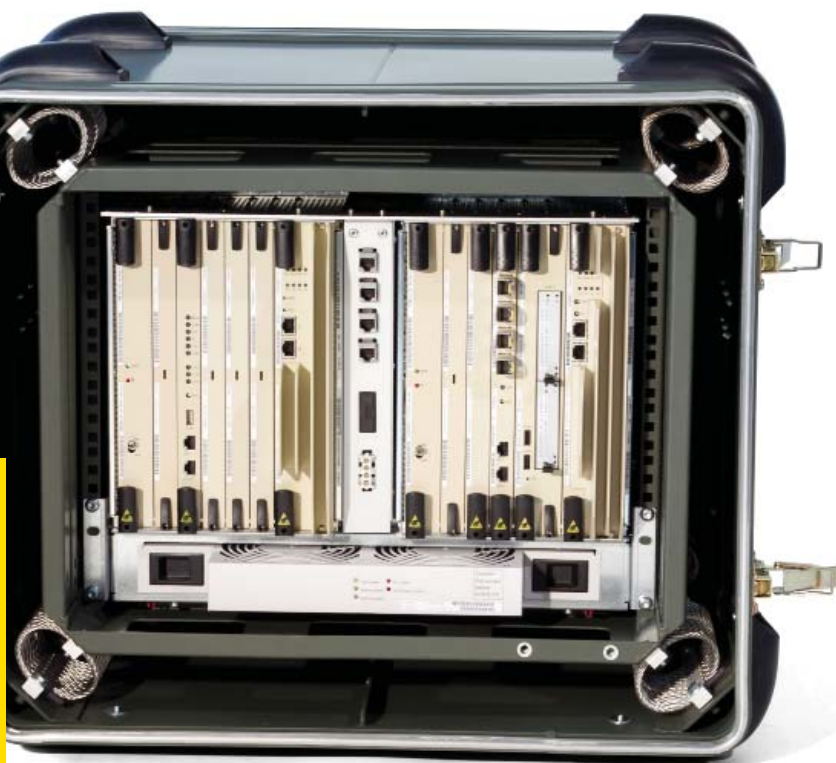
Connections between base stations and the DXT3p can be via IP or satellite, making it very easy to establish communications in crisis areas or where telecommunication infrastructure has been damaged.



DXT3p

facts and figures

- Weight: 20-30 kg
depending on the chassis
- Power consumption: 150 W
(max 300 W)
- Power supply: 24 VDC
- Up to 20 carriers
- Can be connected to up to
10 base stations
- HLR size / Active users
5000 / 1000
- Ethernet interfaces
10/100/1000 Mbs: 4
- As many as 10 3rd party
apps can be connected
- PSTN connection option



Saving money – and the environment

The DXT3p offers not only technical benefits, it also helps to protect the environment while guarding against rising operating expenses. Here are a few ways the DXT3p works smartly to provide optimal total cost of ownership:

Very low power consumption per subscriber not only saves money but also requires smaller battery backups and helps protect the environment.

Telecom grade equipment means **fewer hardware upgrades and less maintenance** is required, compared to systems based on commercial off the shelf components.

Managing the network is easier and more economical. **No special skills** are needed to set up or run the system.

IP support for transmission lines reaps the benefits of modern technology by arranging site transmissions in an easy and cost-effective way. Transmission optimisation allows DXT3p to run also in IP networks that offer only modest capacity, helping deployments in challenging environments.

Five features that can save the day

Secondary PTT: When using the DXT3p with Cassidian radios, two PTT buttons on a radio can be programmed to talk quickly to two different talk groups. Ease of use means fluent communication, fewer mistakes and more lives saved.

Genuine Group SDS: Send a text message to a group of users without overloading the network, or send a picture of a suspect using group SDS messages with Cassidian radios and a Java™ application.

Slow Associated Control Channel and SDS priorities: Ensure important alerts and task messages get through wherever needed, even when a user is listening to instructions from the control centre.

Aliasing: Log in to a radio with user name and password and the user's profile and access rights are assigned to the radio. Log out, and they are removed. This enables workers in different shifts to share any radio, simplifying radio programming and reducing costs.

Data Dedicated Channel: Move all SCADA devices onto a separate channel, where up to 20 devices can be polled per second without affecting voice traffic.



The DXT3p can bring TETRA communications to areas where they have never existed or where the infrastructure has been damaged by a storm, for example.



Satellites connect Tetrapol users — even in the jungle

Even the impenetrable Amazon jungle needn't be a barrier to effective communications thanks to the ability to interconnect regional Tetrapol networks via satellite.

Cassidian and Astrium Services recently chose Brazil to showcase their ability to deliver advanced communications in the remotest regions. The end-to-end demonstration in Oriximiná showed the range of features on offer from a Tetrapol network when connected via satellite. These included simultaneous voice, video and Internet transmissions to separate handheld devices, all while maintaining perfect network stability and excellent voice quality.

Oriximiná is a small city on the Amazon in the North of Brazil. It's a four-hour boat trip from the city of Santarém and its remote location was chosen to simulate the harsh environmental conditions that border surveillance groups face on a daily basis. Secure Tetrapol networks from Cassidian are already used by the Brazilian federal police department, Departamento de Polícia Federal. Nine regional Tetrapol

IP networks ensure reliable coverage from the country's Atlantic coast to the Brazilian borders with Peru, Venezuela, Argentina and seven other countries.

Tetrapol regional networks are usually interconnected using terrestrial connections. In remote areas such as the Amazon, where terrestrial telecommunication's infrastructure is poor or non-existent, Astrium's SKYWAN technology can now interconnect several networks over satellite with DAMA technology to share bandwidth between all the nodes.

From voice to video

The scalability of the solution enables a wide set of Tetrapol services to be offered temporarily, or to provide permanent regional coverage. The satellite link also provides Internet access, video and other applications in parallel with the Tetrapol voice communication, providing extensive data transmission capabilities.



Captain Albérico from the Brazilian National Force says: "We have been seeking a solution like this for over four years. The National Force is required to operate faultlessly in remote areas throughout Brazil, like the Amazon Forest and at the outermost points of the Brazilian Border. This all-in-one solution from Astrium Services and Cassidian combines satellite communications with digital radio trunking in such a way that the troops will have mission-critical digital radio and Internet access in the midst of the jungle and can stay connected with our headquarters in Brasília."

"This kind of solution would allow the interconnection with the radio backbone of the Federal Police which in turn would give access to information from all Brazilian States. For sure this would increase the safety and the effectiveness of operations," he continues.

Through its ND SatCom product range, Astrium Services is a leading global supplier of satellite-based broadband VSAT, broadcast, government and defence communication networks and ground station solutions. Its innovative technologies are deployed in broadcast and media, enterprise and telecom environments, as well as government and defence, worldwide.

Spanish network underpins security success at international summit

Top security was the order of the day in November 2012 when 15 heads of state and government joined 1,200 delegates and 1,300 journalists from 35 countries at the XXII Ibero-American Summit in the Andalusian city of Cadiz, Spain. The King and Queen of Spain, together with Royal Princes and the President of the European Commission, José Manuel Barroso, were among the distinguished participants at the summit.

The Spanish police relied on Cassidian's radio communications technology to secure the event. More than 2,800 members of the Spanish security forces were deployed to safeguard the summit, generating up to seven times more traffic than normal on the busiest base station of Sirdee, Spain's national mobile voice and data communications network based on Tetrapol.

The number of Sirdee network users more than doubled in the area, without any impact on network performance. Individual calls increased by 195% on the busiest day, and full availability was provided to the users. Group calls also increased by 60%. The system enabled all these users to communicate with confidence to protect VIPs, delegates and journalists.

As well as providing the technology, Cassidian helped Telefónica to provide joint continuous 24/7 emergency support for the Sirdee users, including National Police, Guardia Civil, the Spanish Royal House and Prime Minister's Offices.

New PC-based TETRAPOL software shown in Slovakia

New TETRAPOL management software that can run on a standard PC was among the highlights of the recent Forum Rescue 112 Congress in Slovakia.

Presented by Cassidian's partner RCTT, the Light Dispatch Position (LDP) uses a PC to extend the standard features of TETRAPOL terminals. The solution provides simple communication management, recording of data communications, fast access buttons and the ability to record voice communications on external devices. The LDP is connected to Slovakia's SITNO network via radio or data lines.

The LDP is already widely used within SITNO by the police forces as well as the Emergency Medical Services situated at 112 Control Centres in Slovakia. Integrating the Emergency Medical Services into SITNO has increased the total number of users by an additional 700 terminals.

With a focus on elements such as the integration/coordination of rescue tasks performed by different agencies, the Forum Rescue 112 Congress, held in October 2012 in Zilina, also

An innovative system that runs on a standard PC is being used by Slovakian emergency services to help manage their responses to crisis situations involving multiple casualties.

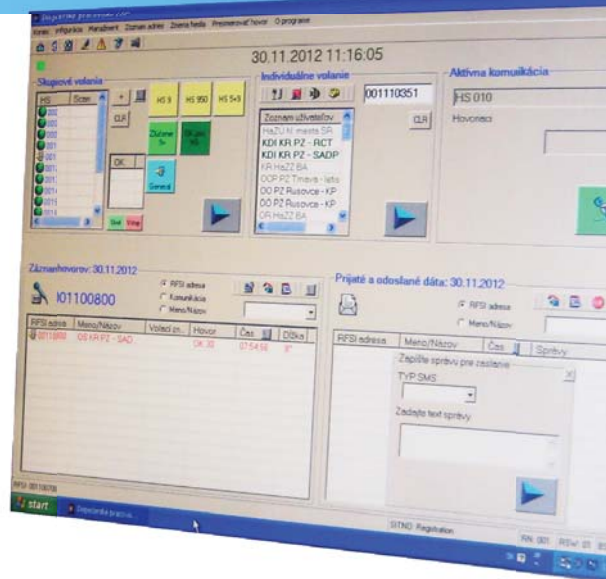
discussed current 'hot' topics, new technological achievements and saw demonstrations of a variety of rescue and communications equipment.

Both the Ministry of Interior, as the principal coordinator of the Integrated Rescue System and with prime responsibility for the 112 emergency line, and the Ministry of Health, are major customers of RCTT, which is the prime contractor for Care Services and additional supplies of TETRAPOL technology for the SITNO network.

In operation since 2008, SITNO has eight regional networks and

about 100 base stations in all, providing secure radio communications for almost 12,000 users. The network has recently been upgraded with the latest software release for TETRAPOL, the V35_08. Cassidian supplied the technology with support from RCTT.

The upgrade will enable the network to develop in future and offer capabilities such as automatic vehicle and person location services. The Slovak police have also developed a novel text message-based data query that provides remote access to the stolen car register.



TPH700

Extreme working conditions require secure voice and data communications and a radio that can withstand the rigours of daily use. The TPH700 radio is ideal for public safety users, such as police and firefighters, who need a robust and powerful radio.

Tailoring the radio is a great way to make it easier to use. The TPH700 has convenient shortcut buttons that can be programmed for the most frequently used functions.

Robustness is vital for many professional users, because splashes, dust and knocks are inevitable during everyday operations, especially in the field. The TPH700 is mechanically and electrically robust and complies with the IP54 classification.

Accessories make a huge difference to users' work. Suitable, functional and well designed accessories provide ease-of-use in daily life. Bluetooth connection is an option in the TPH700 to enable wireless accessories, such as earpieces and headsets, to be used as well as traditional devices connected by wires.

Powerful connection is important to ensure seamless critical communication between users. The TPH700 has a very powerful transmitter, with a maximum output power of 2 W.

Organisations require their equipment to be certified to specific standards to support operational tasks. The TPH700 complies with an impressive list of standards, such as ETSI standards, CE marking and RoHS requirements.

Loudspeaker voice quality and level must be excellent when working outdoors in difficult conditions. The TPH700 has a high-performance loudspeaker that provides great sound quality even in noisy environments.



Beat the criminals: facing up to Advanced Persistent Threats

Today's information society delivers a host of everyday benefits, but it is not without its risks. The very connectedness of today's IP-based networks creates vulnerabilities and raises the possibility of attack from Advanced Persistent Threats (APTs). The good news is that organisations that get the security basics right can protect themselves effectively and continue to grow securely.

While some forms of communication are extremely secure – including the latest professional digital radio networks, for example – many IP-based networks have been subject to an APT attack. What separates these “advanced” attacks from conventional, automated threats such as viruses is that they tend to use a combination of strategies and human ingenuity to get under the skin of their targets. Once infiltrated, they can expand into the system and extract tons of data out of a system for a very long time before being detected. It's therefore vital for organisations to have the right operational and governance procedures in place to stop them in their tracks.

Prevention is better than cure

It's generally the best strategy to act upfront to prevent an APT-related incident. It's typically less disruptive and more cost effective than fixing a problem later. After all, the consequences of a successful attack can be serious, leading to a loss of trust and sparking an expensive clean-up exercise in addition to any direct losses.

Prevention requires the right tools, so it's vital to maintain and develop a community that can design the detection probes and the forensic and diagnostic tools of tomorrow.

Innovation is often found in start-up companies, so governments have a vital part to play in supporting the sector. Cyber security is also a potentially important engine for economic growth. It is estimated that the market is growing by more than 10% a year, totalling approximately \$50 billion globally in 2012.

Public cyber security agencies can also help by keeping the rest of the cyber-security community up to date about the latest threats. Pooling knowledge promotes economies of scale and avoids duplication. Furthermore, sharing intelligence on the methods used by attackers will help everyone keep up to date.

The right response

If an attack is discovered, the reflex may be to "unplug everything" but it's often impractical. The first step is to accept the situation and make sure everyone is fully aware of what's happening. It may seem easier to play down the extent of the attack when

What is an APT attack?

The first stage of an APT attack often involves sending a series of bogus emails to addresses within the target organisation. The attackers hope that at least one person will open the attachment and inadvertently install the necessary malware to enable them to access the network and extract sensitive information.

Once they're in, they can search the network looking for sensitive information, ranging from classified documents and customer details to intellectual property and financial data.

Attacks are often detected by chance. On average they are discovered 416 days after being implemented, according to the latest report on the threat landscape from security analyst Mandiant.

explaining what's happened to those in authority, especially if you're responsible for security. However, maintaining trust between managers and security teams is paramount.

A trusted third party might also be needed to give objective advice on developing a response plan.

A rapid technical analysis and forensic investigation is the first priority. What input channels did the attackers use, what malware programs have been implemented and what outside command and control sites are the attackers using?

A second basic aim is to secure evidence of the intrusion with a view to possible legal proceedings. Finally, the affected organisation must develop an internal – and, where appropriate, external – communications plan.

Rebuilding challenge

The challenge is then to rebuild the information system, ensuring that

the malware programs installed by the attackers have all been eradicated. This is known as "the switchover". The infected computers are completely reformatted, the data exfiltration channels are closed, firewalls are reconfigured and so on. This large-scale operation is often completed over a weekend in the interests of secrecy and to take the attackers by surprise.

The resulting clean system will need careful supervision and management to keep the attackers out in future. Monitoring tools and the right training are essential. Antivirus software can't protect the network if the users don't recognise the need for caution, for instance.

In fact, the aftermath of an attack can even be good for an organisation in the long run, since it often presents former APT victims with a golden opportunity to look at how they can do things better in future with the right governance and operational strategies.

Cassidian CyberSecurity is your trusted partner for advanced cyber security.

Go to www.cassidian.com/advanced-cyber-security or send an email to contact.cybersecurity@cassidian.com

Total recording solution keeps an eye on crime

Video recording is one of the most useful tools for public safety operations. Recording richer information, such as dispatcher actions, CAD entries or surveillance video, needs an advanced recording and analysis solution. This case shows how one city in the US went about building just such a solution to meet its needs.

The city of Bethlehem in Pennsylvania has approximately 75,000 inhabitants. Home to several universities and colleges, it is also the third-largest metropolitan area in the state.

When the city was contemplating a video surveillance pilot program to cover high crime and high traffic areas, one initial challenge was to identify who would monitor the video feeds. As a 24/7 operation, the 9-1-1 center was a natural choice. With live video feeds, telecommunicators would be better able to assess and respond to situations.

The city of Bethlehem Police Department (PD) Communica-



tion Center wanted a solution that could bring together and synchronise video, CAD entries and other multimedia information, together with telephony, audio and radio communications, allowing a complete picture of any incident.

Capturing all information as it happens

In 2011, the city of Bethlehem PD Communications Center became the first 9-1-1 center to deploy the NICE screen encoder, which uses screen recording technology to continuously record the surveillance video as it's viewed on workstations. As well as recording video, the solution also captures CAD entries, or any activity on the telecommunicator's screen. The video recordings can then be combined with related 9-1-1/dispatch audio recordings, allowing an incident to be reconstructed accurately.

All multimedia information is synchronised so it can be replayed in one audio-visual timeline.



NICE's Security solutions help organizations capture, analyze and leverage big data to anticipate, manage and mitigate security and safety risks, improve operations, and make the world a safer place. The NICE security, intelligence and cyber offerings provide valuable insights that enable enterprises and governments to take the best action at the right time by correlating structured and unstructured data from multiple sensors and channels, detecting irregular patterns, and recognizing trends. NICE Security solutions are used by thousands of customers worldwide, including transportation systems, critical infrastructure, city centers, banks, enterprises and government agencies.

More crimes solved

Since deploying the video surveillance solution, the Bethlehem PD has been able to solve more crimes and incident response has improved. Dispatchers have a clearer picture of events and can supply first responders with better information.

With NICE Inform's ability to provide complete, accurately synchronised multimedia incident files, police are able to solve crimes more quickly, while prosecutors can use the files as irrefutable evidence.

In one situation, a series of robberies had taken place on the south side of town. After receiving information about a particular robbery 15 minutes after it happened, the communications centre replayed video of the location that showed the robbers entering a house nearby.

Ultimately, information provided to the police helped them arrest suspects and solve 60 related robberies.

Training has also been raised to new levels with the ability to use real-life examples of recorded incidents, while the solution has also led to better procedures.

CASSIDIAN TETRA GAINS **FIRST** MULTI-VENDOR **TEDS** COMPATIBILITY

Cassidian's TETRA System Release 6 has become the first on the market to work with other vendors' TEDS terminals. Following completion of TEDS interoperability testing in late 2012, Cassidian TETRA was certified as compatible with TEDS terminals from APSI and Motorola.

Cassidian is active in building a multi-vendor ecosystem for TEDS and the fact that two TETRA/TEDS radio terminals work according to standard on Cassidian's TEDS-capable network infrastructure is a clear indication of its success. The certification represents a major step on the road to making Cassidian's TEDS solution available for customers around the world.





Public debut for new radio in Spain

Spain got its first public viewing of the innovative Cassidian TH1n radio terminal in September 2012, drawing praise all round for its small size, high output power, DMO repeater functionality and relatively large display.

The terminal made its appearance in Barcelona at the second PMR Summit on Cassidian's display stand, which also featured a TETRA LTE base station and its complete range of TETRA and TETRAPOL terminals, together with a selection of accessories. Many visitors welcomed the LTE module working on the 400 MHz band and were keen to plan for a potential migration to LTE.

Running in parallel with the exhibition was the LTE Professional Conference, during which Juan Cañas, Spanish Spectrum Management Office, State Secretary of Telecoms, announced that, to support the deployment of LTE in Spain, plans were underway to assign 5 + 5 MHz in the 450-470 MHz band for PPDR (Public Protection & Disaster Relief).

At the show, more than 500 qualified professionals had the chance to visit around 20 PMR exhibitors to see some of the latest offerings on the market. The Cassidian stand itself received a large number of users from around the world.

The event was organised by IIR Telecoms together with TCCA (TETRA + Critical Communications Association) with the participation of 3GPP (3rd Generation partnership Project).

Pilot users give thumbs up to TH1n radio

A test group of professional users has given overwhelming approval of the new Cassidian TH1n radio, with 90% saying they would use it in their work and recommend it to colleagues.

The users, selected from different countries and user organisations such as police, health care and social services, used the radios operationally in demanding environments and weather conditions.

"The best!"



The large size of the TH1n's display and its ability to show all information clearly were appreciated by all users, while almost as many mentioned its low weight as a major benefit.


The radio's pocket-fit size was also very highly valued, although some users thought this made it more suitable for offices and hospitals than field use.

Many user groups like to use their radio with different settings, with some settings defined by the organisation while others can be personally selected. For example, the split between using Grid menu or List menu was 52% to 48%.

The new concept of the dual rotary switch was considered a good solution once users had become familiar with it. Volume control was the most popular default setting for the rotary switch, with three out of four people using it this way.

The other difference to previous Cassidian radios is the button that offers a choice of either combined Hi/Lo or Duty key functionalities. Some 20% of the users had the button configured in Duty key. As most users were accustomed to using the Duty key as a second PTT, more than half had the Hi/Lo button programmed on a functional number key, which was also reported as very handy to use.

Besides the great benefit of its small size and light weight, the TH1n was found to be very reliable in real operations, with usability and user friendliness also achieving high scores.

A close-up photograph of a man wearing a dark jacket and a cap, giving a thumbs-up gesture. The background is blurred, showing yellow and black elements.

"Overall a really handy device."

"Perfect size for office use."

"Nice radio. I really hope that we would buy one after this test period."

From the Middle East to the Arctic Circle, secure radio communications are increasingly important for professionals working in some of the most extreme places on Earth.

RADIOS WORK - HOT OR COLD

Hot stuff

Heat is also a challenge, and nowhere is this more apparent than in the deserts of the Middle East.

Air conditioning is generally used to support equipment in very hot climates, but sometimes things can get extreme. For example, when an air conditioner broke down at a site in the Middle East, the temperature started to climb. The site was in an area where the temperature during the summer months can reach 48°C.

Without air conditioning, the heat was enough to melt an LCD display on the base station. The melted display was discovered during a site visit made for other reasons, but even this did not stop the base station from working properly.

The big chill

TETRA radios have been used 130 km north of the Arctic Circle by the Jaeger Brigade, Finland's northernmost defence force. The temperature can be as low as -35°C and these conditions make it one of the most demanding environments in the world where Cassidian radios are used routinely.

The Jaeger Brigade typically manages around 1,000 conscripts, training them to carry out military exercises and rescue operations in the extremely tough conditions experienced in Finnish Lapland. Military officers from platoon commanders upward have been using the TETRA radios to manage the troops during manoeuvres.

Most of the 150 radios are handportable THR880i units, with backup from a couple of vehicle-mounted TMR880i units. Officers often shield the handheld radios from the worst of the winter weather by wearing them under their jackets and connecting them to a helmet or earmuffs. The conditions are easier for the vehicle-mounted radios.

DID YOU KNOW ...

you can create your own menu?

Are there menu items on your radio display that you simply don't use? Do you sometimes wish there were fewer main or submenus, giving you faster access to those menus that you really do need?

Did you know that **you can easily create your own menu?** When programming your TETRA radio you can **personalise your display, selecting only those main and submenus that are most suitable for your work.** You can simplify or minimise the number of menus to make your radio more usable. If you wish, you can hide all the main menus or show them all. **It's your choice!**

All the menu items have an index number and this will not change, even if some items are left off the menu list that is shown on the display.

User groups are very different and their radio use varies a great deal. What is perfect for some users is not so suitable for others, meaning that the ability to configure the radio and its features is essential to achieve a tailor-made user experience.

The latest terminal software, **release 6.4, gives you full freedom of menu item selection,** so be sure that your radio always has the newest software installed.



TETRA radios take **star turns** on YouTube

Site security systems take centre stage in the latest security clip released on Cassidian's YouTube channel. The new video aims to highlight how the right solutions can help to safeguard vital infrastructure, ranging from airports and bridges to water treatment facilities and chemical plants.

The action starts in the control room, where an alarm shows a possible security breach at a chemical installation. Automatic Person Location highlights the nearest security officers, and the supervisor informs them over their TH1n radios that a gate may

have not have been secured properly.

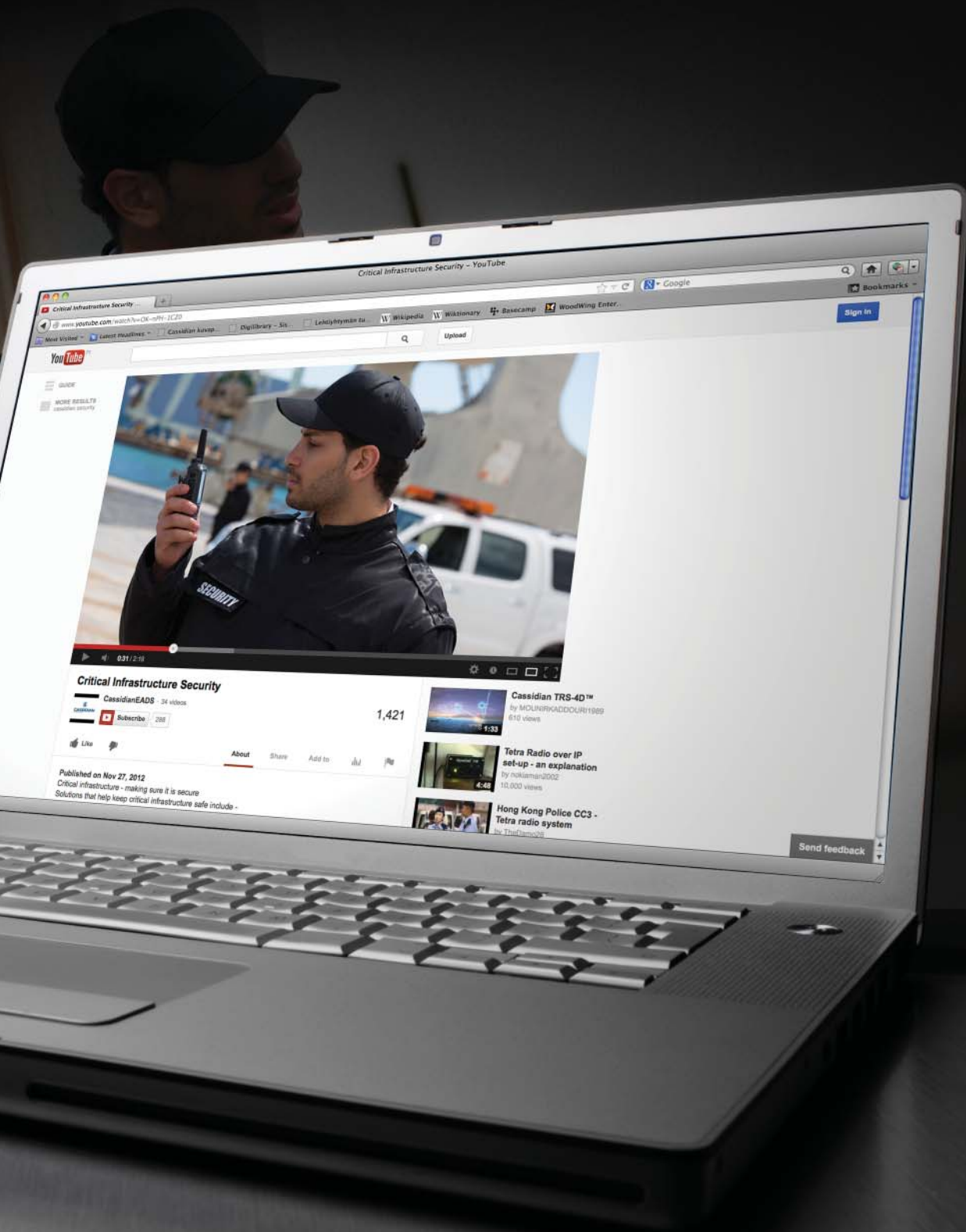
The security guards head over to check the suspect gate under the watchful eye of the CCTV system and the control room team.

Meanwhile, another alarm highlights a possible problem with a pipeline valve. This time the control room calls in an engineer via his THR9 Ex handheld terminal.

From spotting potential problems fast, to maintaining contact and ensuring the safety of field personnel while they handle any incidents, the right communications can transform security across the sites that provide the

vital infrastructure that everyone relies on.

The terminals and solutions shown in the footage are part of Cassidian's comprehensive portfolio of solutions that can be networked and interfaced with other systems to cover all aspects of security. The TH1n is the smallest, lightest TETRA terminal on the market today, while the THR9 Ex provides a rugged handheld for situations where intrinsically safe equipment is needed.

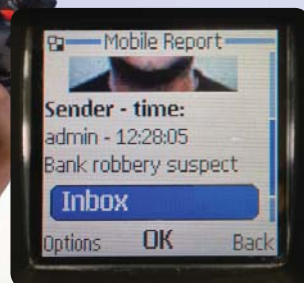
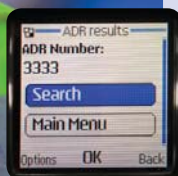


SENSATIONAL RADIOS

APPS make

Data applications, or apps, are a very effective way to provide TETRA network users with easy-to-use capabilities that simplify everyday tasks.

One of the most important TETRA data applications is a centralized location service providing location AVL and APL information to several control rooms and systems. Using a Centralized AVL solution provides the operator with control of the density of AVL traffic on the network, while also giving all applications access to location information through a single secure standard interface.



Apps make the use of location services, image messaging and database queries much easier. Here's how...

operations more efficient

Another data application that helps improve the efficiency of field operatives allows pictures to be sent, complete with text, to TETRA radios from the control room. Known as Picture Push, Image Push, or Instant Image Broadcast, this multimedia application can be used to send a photo and description of a crime suspect to selected users quickly and securely over the TETRA network.



Picture Push uses efficient group TETRA SDS messages as the easiest and most efficient way of distributing information on a TETRA network. Cassidian is the first TETRA vendor to offer group SDS messaging.

Twitter-like operational messaging is also a great application to enhance TETRA's group messaging features. Text-based instant messaging "blogs" for managing operations and delivering necessary information within operational teams is an app that has been in use for years.

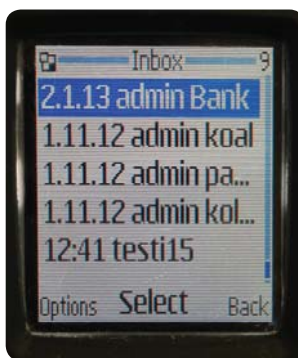
Database access from TETRA radios is also possible: users can

retrieve information wherever and whenever. The police can have access to national databases, which include information on persons and vehicles. Rescue services can access a hazardous chemicals information database, for example.

A new, even easier way to access databases is to use a reader to scan a bar code in a document and automatically query databases. A possible solution for this is to use Portalify's Java™ client and server solutions with

the Multihandset from Stopnoise.

Apps are easiest to use with a Java client on Cassidian's Java-enabled terminals, which combine best usability with optimised communications over the secure TETRA network.



The following data and ready-to-run apps from Portalify include:

- Portalify AVL Server for the central location service,
- Portalify Picture Push for picture messaging,
- Portalify Data Management Server for mobile database access and operational messaging, and
- Portalify Secure Client for Java-enabled TETRA radios, such as Cassidian's new TH1n, and Windows MDTs to provide efficiency and usability for applications, with support for smart peripherals.

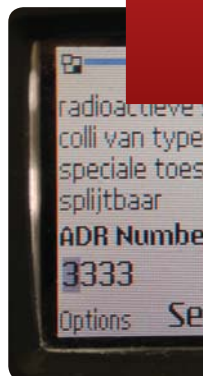
Users in Finland's Virve and Belgium's ASTRID are already using a number of apps on their TETRA networks. Portalify's products and solutions provide end-to-end, comprehensive integrated applications for leading operators and users of mission critical systems.

You can also get more out of your TETRA investment. Follow the example of others who are already using TETRA apps!

More information:

- www.astrid.be
- www.erillisverkot.fi
- www.portalify.com

PICTURE THIS



5 things you need to know about TETRA

TETRA technology is making inroads in North America. Here are five questions that frequently come up in discussions in Canada and USA, and the answers you should know.

Where is TETRA being used today? Who are the users?

TETRA is the world's most used digital PMR standard, deployed in approximately 130 countries. User groups vary from nationwide public safety agencies and utility companies to industry plant installations with just one or two base stations. More and more organisations that rely on their communication want to use data as well as voice – and many are choosing the spectrally-efficient TETRA system.

Is TETRA coverage as good as P25 or DMR coverage?

Coverage depends mostly on the frequency used and the transmission power. Receiver sensitivity is also important. As TETRA is an open standard, competing vendors have continuously brought innovation to TETRA's development so that today, using the same frequency band with similar output power, TETRA coverage is outstanding.

How suitable is TETRA for telemetry or similar purposes?

TETRA is well suited to critical data applications needing ultimate reliability. Typically, telemetry

produces multiple transactions of just a few bytes from different sources.

TETRA offers powerful Short Data Service (SDS) messaging. These messages can be delivered on the control channel, during speech and over dedicated data channels. Even the channel type can be modified according to the real-time load. Furthermore, group addressing of multiple devices can be controlled with a single message to save capacity and time.

The TETRA IP Packet Data service is the preferred choice for transactions with a higher data volume. A mixture of status messaging (16 bytes), SDS messages (140 bytes without concatenation) and IP Packet Data can make real sense especially when there is a shortage of spectrum.

Is TETRA encryption as efficient as AES with P25 and DMR?

AES is an algorithm mainly for end-to-end encryption of voice services. Its use can also be extended to TETRA for end-to-end encrypted SDS messages. Other end-to-end encryption algorithms are available.

However, security in TETRA, particularly in Cassidian's TETRA systems, involves far more than just end-to-end encryption. It begins with mutual authentication, where both the radio (subscriber unit) and the TETRA network verify each other. Then there are multiple air interface encryption methods to cipher all traffic, including voice, signalling and data. Beyond these are mech-

anisms for jamming detection with automatic retuning of base station frequencies, sandboxing of organisations and users within a shared network (called Virtual Private Radio Network (VPRN)) and more. In summary, TETRA security is very efficient at every level.

Can a TETRA network be connected with other analog and digital technologies?

The TETRA standard leaves interfacing to other networks mostly to the manufacturers. However, most combinations are possible. For instance, Cassidian connects analog and digital group call services using the Generic Four Wire interface. There is an interface for one-to-one calls for connecting to

an organisation's PABX, to PSTN or cellular networks, as well as interfaces for connecting SDS with cellular networks and IP data traffic with data networks. Typically, all legacy network services can be interconnected.




Communications systems pull through Hurricane Sandy

When Hurricane Sandy, reportedly the largest Atlantic hurricane on record, struck the Mid-Atlantic and Northeastern United States during late October 2012, local public safety communications inevitably came under immense strain. In a televised interview, Mayor Bloomberg of New York City reported approximately 10,000 calls coming into the City's Public Safety Answering Points (PSAPs) every half hour. Numerous other PSAPs across several states also saw a surge in call cen-

ter activity during the extreme weather event.

Yet throughout the crisis, Cassidian Communications' 9-1-1 call processing solutions and emergency notification systems worked reliably around the clock, helping private and public sector organizations to mobilize emergency responders and volunteers, warn local residents and account for employees.

Between Friday, October 26, and Wednesday, October 31, millions of storm-related calls were made through Cassidian Com-



munications' MassCall® notification service. Numerous other customers exercised their on-premise emergency notification systems, successfully sharing information or instructions with thousands more people before, during and after the unprecedented storm. Several of these same clients found themselves activating these critical communications solutions yet again when a dangerous nor'easter brought heavy snow to the region a few days later.

All the while, Cassidian Communications' 9-1-1 applications,

including VESTA®, Sentinel®, ORION™ Vela® and Aurora, enabled PSAPs throughout the storm-ravaged region to manage emergency and administrative calls, even when volumes were at their highest.

"Incredibly, every solution and service platform we offer was utilized in some way during Hurricane Sandy and the nor'easter," says Mary Wathen, chief operating officer for Cassidian Communications' Critical Communications Solutions and Services division. "And given the breadth

of our crisis communications portfolio, which is a powerful testimony for our company, our people and the thousands of clients we serve. We commend the countless community leaders, first responders, public service workers, volunteers and local business people who tirelessly worked to ensure public safety and to sustain operations during these back-to-back weather events."

APCO names broadband vehicle router 700 a 'Hot Product'

PUBLIC SAFETY
Communications
2012 **HOT** PRODUCT



Cassidian Communications' Broadband Vehicle Router 700 (BVR700) has been named as a "Hot Product" for 2012 by the Association of Public-Safety Communications Officials (APCO) International.

Speaking to the organisation's official magazine, Public Safety Communications, Rich Cagle, APCO's vice president of sales for land mobile radio, outlined the benefits that the router brings to users: "For starters, the BVR700 has the ability to work on commercial LTE networks, as well as the Nationwide Public Safety Broadband Network (NPSBN) currently being designed and deployed in the US," said Cagle.

"It also provides high-speed WiFi capability which allows the vehicle to become a hot spot so first responders' COTS (Commercial-off-the-Shelf) handheld devices can communicate directly with the vehicle and subsequently across an LTE network of their choosing."

The BVR 700 was a key element of Cassidian Communications' "call-to-car" demonstration at the 2012 APCO Conference that showed its NG9-1-1 call processing solution interworking with the LTE broadband vehicle router, as well as LTE clients and applications. The "call-to-car" demo illustrated how Cassidian

Communications' advanced communications portfolio could deliver integrated voice, data and video communications across all stages of an emergency response.

According to APCO, one of the hottest aspects of the router is its ability to support multiple carriers, numerous different technologies, including Wifi, 2G, 3G, 4G and a wide range of mobile devices. The BVR700 allows public safety agencies to choose less expensive, commercially available devices while using them over secure, hardened public safety networks.

Montréal chooses Cassidian Communications for **P25** radio network

The city of Montréal has awarded Cassidian Communications a contract to supply a digital radio network based on the P25 standard.

The system will be based on the CORP25 system, operating in the 700 MHz frequency band for public safety services and in the 800 MHz band for other services. The complete contract includes infrastructure, design, engineering, installation and a long-term maintenance agreement.

When complete in 2014, the new network will replace the current networks used by the city's police and fire services, as well those used by public works staff.

The new network will serve the entire city and its surrounding cities and boroughs, over 4,500 police officers, close to 2,000 firefighters, and more than 2,000

public works personnel. Additionally, the system will be able to communicate with other mission-critical P25 networks, including the Montréal-Trudeau International Airport and the Montréal Metro systems.

Open design allows choice of equipment

"We know that the CORP25 network is the best radio communications system for us," says Daniel Tetu, director of the Montréal radio project. "The fact that all of our users can be on one system, that it can talk to other public safety networks, and that it allows us to choose both equipment and vendors, means that all of Montréal's responders can count on a swift, reliable communications solution provided within budget."

The industry's only true non-proprietary P25 solution, the standards-based, CORP25 system offers communications both within and between radio networks. Another major benefit is its open design that lets agencies select the radios, consoles, recorders and other network components to suit their needs from a variety of different vendors. This open approach enables competitive purchasing and lets customers build their networks with the best equipment for the best price – ultimately lowering the total cost of network ownership. The IP-based CORP25 radio solution also enables cost-effective migration to future applications and services.



The team that participated in the preliminary design review of Montréal's radio system, SERAM.

Events not to miss!

TETRA in Canada

April 2013

The North American TETRA Forum supported by the TCCA will be organizing a one day 'TETRA in Canada' event during April 2013.

Venue and timings will be published at <http://www.tetra-association.com>.

Critical Communications World Paris

(formerly TETRA World Congress) May 21-24 2013

TETRA World Congress 2012 was a huge success and saw a 23% growth in attendance. This year the event takes place in Paris (May 21-24 2013) and will be rebranded as Critical Communications World. As the TETRA standard and user requirements develop, the event's content and focus is also evolving. With broadband as the next big step for the industry, Critical Communications users are looking to the future and asking how they can access Mobile Broadband services (based on TEDS, LTE and WiMAX) and applications alongside their secure and reliable radio

services. This is true not only for users of TETRA, but also of TETRAPOL, P25, GSM-R and other technologies.

Critical Communications World will incorporate the key elements from the TETRA World Congress, together with a closer focus on critical broadband technologies. The conference will examine how potential Mobile Broadband technologies can be combined with TETRA to meet the voice and data requirements of Mission Critical users.

For more

<http://criticalcommunicationsworld.com>

Easy connectivity at PMR Expo 2012

 **PMRExpo**
PROFESSIONAL
MOBILE RADIO AND CONTROL CENTRES

Ease of connectivity was Cassidian's theme at the recent PMR Expo with a number of products and solutions being unveiled. These included a new mobile TETRA switch, the DXT3p and a satellite connection to the TB3p mini TETRA base station. Also on show were a smart grid control solution, the world's first ultra-compact TETRA radio, the TH1n, plus a number of emergency response centres and cyber security solutions.

Communication for disaster areas

The DXT3p is a mobile, compact and fully-featured TETRA switch de-

signed to make professional mobile radio globally mobile.

Reliable, instantly available and secure communication is critical following a natural disaster. With its small footprint and very low energy consumption, the DXT3p can be mounted on any vehicle and transported to any location in the world, while still offering the same features as the world's best nationwide TETRA networks.

Visitors saw how a TETRA service could be set up in a disaster area using a satellite connected TB3p mini base station. The general view was that audio quality was excellent and that the human ear easily adapts to the small delay caused by satellite transmission.

Design, innovation and style

TETRA and TETRAPOL terminals were of great interest among the visitors, with the TH1n inevitably being the key attraction on the Cassidian stand. The world's first really small and lightweight TETRA radio with an advanced feature set was welcomed by PMR visitors, who appreciated the look and feel of the new radio.

With its impressively small dimensions, 1.8 W output power and a large and very sharp display, many were surprised at the robustness and IP classification of the TH1n, as it looks more like a normal GSM phone than a rugged heavy duty radio.

The 'Easy Connectivity' theme from PMR Expo 2012 will continue at forthcoming events, with products and solutions to make emergency response and other mobile professionals' work better connected, easier and more convenient.

Interseg Rio de Janeiro (August 18-20 2013)

Interseg - International Law Enforcement Technology, Services and Products Exposition is the largest public security event in South America and the main launch pad for innovations in this sector.

The event offers public security professionals a unique opportunity to explore new methodologies and equipment for modernizing and streamlining their operations.

For more

<http://feirainterseg.com.br/en>

EVENTS

The main target group of TH1n was seen to be office workers and hospital and health care staff, but it is also very handy in field operations. Besides using the TH1n as a normal TETRA radio, visitors also envisaged the TH1n being used as a pager and a covert radio with suitable accessories.

The very clear and logical user interface with colourful symbols and icons on the TH1n display and the whole Cassidian radio portfolio was considered a great advantage in daily use. "It is so easy to use" was an often heard comment on the stand, one that could apply equally to a special THR9 Ex ATEX radio, a TMR880i mobile radio or any of the Cassidian handportables.

Green reliable energy

The TDM880i was highlighted for energy companies as a new way to

move into smart grids. A dedicated data module for embedded solutions that is optimised for telemetry applications, it is designed for easy integration to smart grid devices to control distributed production of low-carbon renewable energy.

Protecting from the invisible

Visitors had the chance to see IT security through new eyes by visiting the Cassidian cyber security demonstrator. This showed how various cyber-attacks penetrate industry production systems and seemingly secure IT networks, following which visitors could learn how to defend against attacks by speaking with Cassidian cyber security experts.

Dispatching the way you like

Emergency response centre solutions featured a full suite of emergency ap-

plications: a next generation radio dispatcher, the RCS9500, a Computer Aided Dispatch solution for managing incidents and units and a system to warn populations under threat.

Visitors were particularly pleased with the versatility of the RCS9500 as they could create the dispatch environment of their dreams by freely modifying the user interface and then trying it out for themselves.



See the PMR Expo 2012 Photo Gallery on www.keytouch.info

Making mobile surveillance do more

A European research project to develop new ways to share video with cars, helicopters and individuals is aiming to provide security forces with real-time surveillance and automatic recognition of incidents.

It's a Saturday night. The city centre is packed with people. Suddenly, trouble starts in a side street. An innovative automated surveillance system automatically recognises that a fight has started and instantly alerts a nearby police unit over its mobile radio link. The police move in and deal with the incident before it spins out of control.

Such real-time surveillance and automated event detection is the promise of the SPY (Surveillance imProved sYstem) project that aims to overcome the limitations of current fixed systems. Today, large numbers of people are needed to monitor thousands of images, and even then current applications can only provide proof of an incident after the event.

The project is part of ITEA 2 (Information Technology for European Advancement), Europe's co-operative R&D programme for research into embedded and distributed software-intensive systems and services. ITEA 2-labelled projects are industry-driven initiatives building vital middleware and preparing standards to lay the foundations for the next

generation of products, systems, appliances and services.

Sharing images and video

"Our overall objective is to improve surveillance systems," explains project coordinator Eric Munier of Cassidian. "We want to be able to exchange more information, particularly images and video. We can already do this with fixed infrastructure. Our target is to extend this to mobile networks to provide a clearer operational view in the field. However, this requires the type of bandwidth that public networks can provide but not guarantee for all times or with sufficient data security."

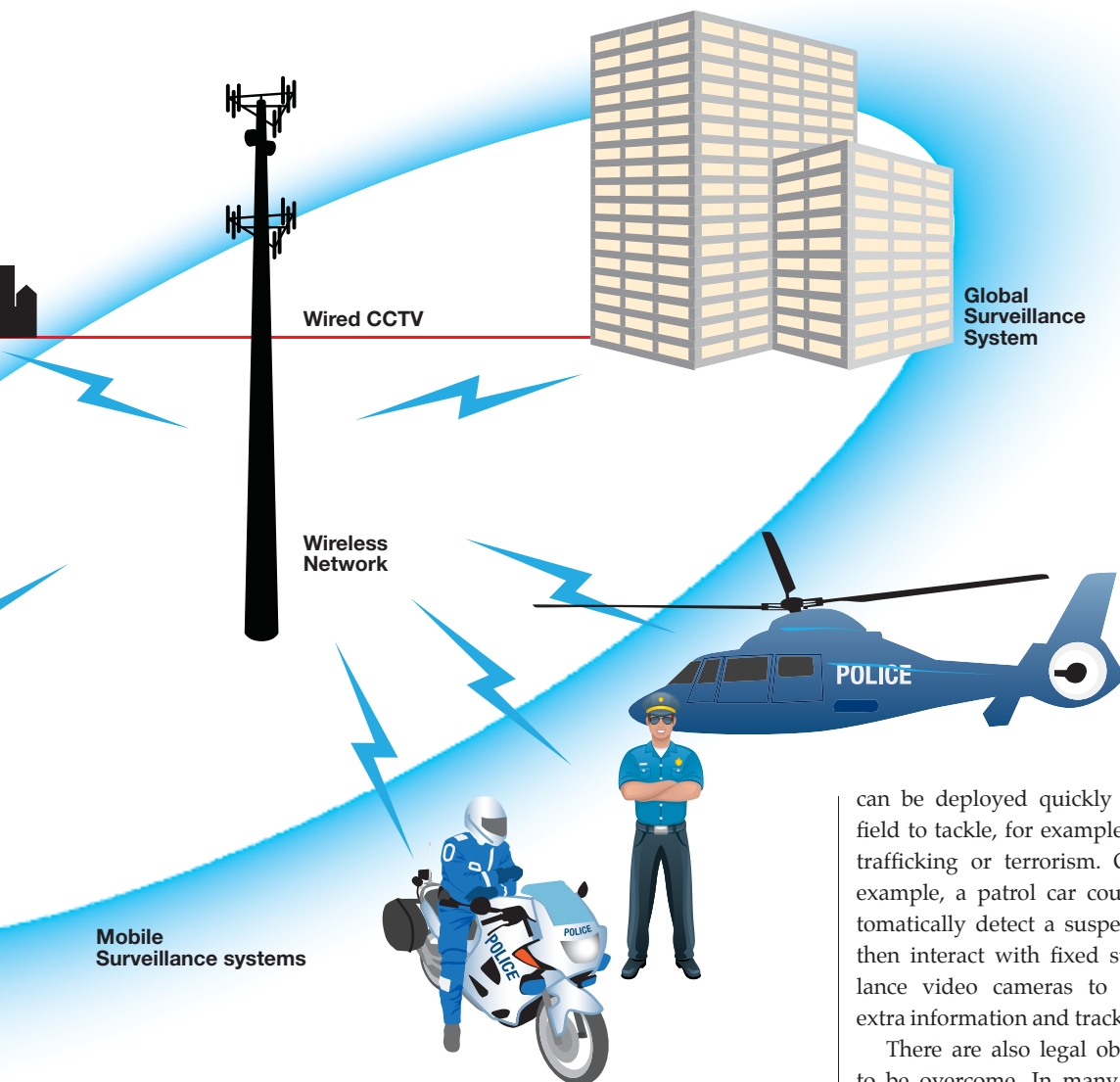
The project is developing new multi-camera surveillance techniques, new data integration methods and timely communication of information over mobile and multi-sensor platforms. The aim is to improve the way information is shared between security control rooms and supplied to mobile operators in the field. A key element is the ability to share rich media such as video with metadata to give officers smart situational awareness in the field.



SPY scope



Such real-time coverage requires lots of bandwidth. While it is already possible to handle signals from four or five vehicles, there is still a need to optimise bandwidth with new types of compression. "We know how, but are looking at new ways to store mobile video and only uploading it when necessary to minimise the use of bandwidth," says Munier. "Security is an issue too, because even if the network itself is secure, the same security is required in



the mobile unit and control room to enable video to be used as evidence. We are also working on a 'watermarking' solution for alteration detection and security encryption as well as security of people."

Adaptive video streams

Short-term advances have already been made with compressed video streams for sharing between mobile and fixed units. Adaptive coding is now needed to deal with the quality of service

variations created by the wireless network and to eliminate irrelevant information, for example if monitoring a vehicle, it is not necessary to retain the road details.

Smart adaptive cameras are also being developed that are robust and easily reconfigurable to a specific application.

The system could be used for facial recognition to identify individuals or to spot incidents such as fights. Applications include video surveillance units which

can be deployed quickly in the field to tackle, for example, drug trafficking or terrorism. Or, for example, a patrol car could automatically detect a suspect and then interact with fixed surveillance video cameras to obtain extra information and track them.

There are also legal obstacles to be overcome. In many countries it is very difficult to use video in evidence, due to privacy issues. "We may have to take some action on the information in a video to protect privacy, such as blurring faces and removing private zones such as gardens. SPY is working with public safety agencies on this," says Munier.

"We are not attempting to replace policemen but rather to help them," concludes Munier.

www.itea2-spy.org

Key Touch 10 years ago

After a decade at the helm of Key Touch, Tiina Saaristo revisits a couple of highlights published ten years ago.

Things have evolved a lot in ten years, and as Editor-in-Chief of Key Touch (formerly TETRA Touch) I have been privileged to be able to report on much of that change. How far we have come is reflected by these two items that caught my eye when looking at an issue from a decade ago.

Best TETRA radio and hyping the benefits of digital PMR

Ten years ago the THR880 hand-portable was chosen to be the best new TETRA radio of the year with its unique features like voice feedback and a double-sided design. It was also stated that many public safety authorities around the world were still stuck with outdated analogue radio systems, and readers were reminded of the benefits of digital radio communications such as:

- efficient communication
- secure communication
- available communication and
- clear communication

Of course, these benefits still remain at the core of Cassidian's radio solutions today.



The kingship of voice

Another thing that was emphasized was voice, and voice remains king even now, in 2013, even though data seems to be on everyone's lips. Of course, technologies are advancing rapidly and nowadays people are used to sharing their experiences with their friends by sending pictures and videos directly from their smartphones to their contacts. Things are moving forward really quickly and all this is part of the mobile communications revolution. With this revolution we are realizing that public safety authorities have the same needs when working; sending and receiving pictures and videos is essential in today's world.

All in all, things are developing and moving forward really fast which I at least think is a positive thing and makes the professional radio communications world interesting. So bring it on, we here at Cassidian are ready for the next 10 years and more to come!

Cinfodin

– online support the way you want

The Extranet service for Cassidian's customers and partners has been re-vamped to reflect what users actually do on the site. Formally known as PMR Online, the site has also been given a new name: Cinfodin.

Instead of the eight main categories of tabs, there are now only five, giving easy access to your most common tasks:

Markets – General information on Cassidian products, solutions and services. You can also find downloadable case studies and customer success stories in this section.

Explore products and services – More detailed descriptions of the systems, products, and services. Check here for more information on your own and related products.

Get help and support

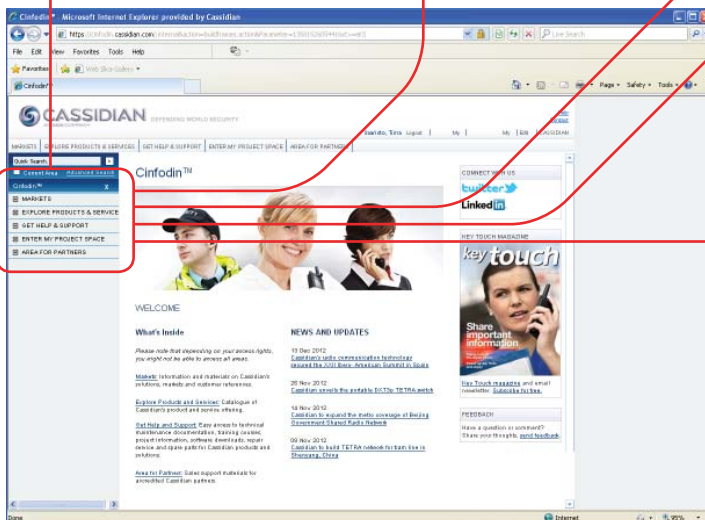
– The place to go if you have a problem, and if you need really detailed technical information on your product. This category collects all active help and support mechanisms, from technical documentation and training, to solving an incident and repairing a unit.

Enter my project space

– PMR Online's "Team Service" has been changed to "project space" and is the tab to choose to go to your project team's common area.

Area for partners

Distributors, Value-Added Resellers and members of the Application Programme can find their specific information under this tab.



Easy access

Getting information on Cassidian's solutions is now quicker than ever.

Simply log on to Cinfodin at <https://cinfodin.cassidian.com>.

If you are a registered user, log in with the same username and password that you used in PMR Online.

If you are not a registered user but would like to become one, please contact cinfodin@cassidian.com.

Customised – Convenient – Compliant



The RCS 9500 is a new type of dispatching console.

It lets you build an interface that suits the way your organisation really works.

Choose to use the touch screen with very large buttons

Choose to use the mouse and keyboard

Choose to see two windows – or ten

It is just a matter of choice – and very easy to make happen.

Start with a blank screen, and up with an interface built any way you want!

**The RCS 9500
can meet your
exact needs.**

