British Association of Public Safety Communications Officials

BRITISH APCO JOURNAL

Knowledge Exchange for Public Safety Communications

Technology for smarter partnerships

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NEWS

FEATURES

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INVESTOR IN PEOPLE

BRITISH APCO
Knowledge Exchange for Public Safety Communications

British Association of Public Safety Communications Officials

British APCO is where active and advising members of our public safety community exchange and advise on all critical communications subjects. British APCO participates strongly in the Global Alliance of APCO Interational.
British APCO's aims include solving realtime critical communications problems, participating in research programmes (eg EU projects), showcasing technologies, and lobbying on issues such as spectrum and harmonisation.
British APCO holds an annual exhibition and development event, many regional events as well as training sessions, and is respected as the UK's (and Europe's) leading – and only – forum of knowledge exchange and transfer specific to communications in public safety.
To find out more details on how to contribute and draw from of this vibrant community, by becoming a member,
contact Tracey Langmaid, Tel: 01522 548325, admin.manager@bapco.org.uk
For more information visit www.bapco.org.uk

British APCO: President's Address

Alan House, President

April is finally here and I hope you are ready for another British APCO exhibition with its associated professional development workshops. Building on our success in 2012 we have a second year in Manchester, where improvements for 2013 include free entry into the exhibition as well as a range of carefully-selected workshops.

This great venue has also been chosen as the location for a wide variety of key meetings for technology and public safety professionals, giving them the additional opportunity of meeting and building relationships with our exhibitors. This initiative is all part of our increasing engagement with a growing range of organisations and individuals that hold a responsibility for public safety and community resilience.

A change to the Association Presidential Team will take place at the AGM in Manchester. Ian Readhead will be moving out of his position as Immediate Past President and I will replace him. Following in his shadow will not be an easy task for me, and the Association owes Ian a great deal of gratitude for his many years' work on the Executive Committee, not to mention for his dedication and his skilled organisation of our annual event.

Sue Lampard becomes our President and I wish her every success in leading the Association and building further on the foundations that have been established over the past three years.

The AGM will also see a new Vice President join the team.

I hope that everyone appreciates the efforts made by the Executive Committee in meeting the challenges that face the world of public safety communications, and providing the networking and learning opportunities that are so important to a professional association.

My sincere thanks to all those who have supported me during my tenure – I hope that I have served the interests of the Association at a level that has resulted in member benefit and has contributed to improved public safety.

Commercial Advisory Membership (CAM)

Simon Land, CAM Chairman

The Commercial Advisory Membership is in a state of transition at present, and since I took over as Chair we have had meetings to closely examine how we can further contribute to British APCO.

At present there at four Commercial Members and over the next few months we will be looking at how the commercial sector can further enhance the business of the Association. As part of this process we need to ensure that the commercial sector is provided with a clear view of the return on investment that is possible either in being or becoming a member of the British APCO. To this end we welcome any ideas that you may have to further this aim.

The Multi Agency Incident Transfer (MAIT, formerly DEIT) project is progressing and I will be giving a presentation to the stakeholder group on behalf of the MAIT Commercial Members team at Manchester later this month.

The commercial membership has a valuable role to play in the British APCO, and I have taken it upon myself to create a mechanism that will allow each commercial member to play a much more active part in the Association.

I will be visiting each stand at the Annual Exhibition to introduce myself and have a quick discussion. In order to maximise commercial investment at the Exhibition we will not have a CAM meeting during the event but instead we will be arranging one for later in the year (possibly June/July).

One thing that came out from the Executive meeting last month was the gratitude held by the Executive Committee for the ongoing support of Commercial Members for the Manchester event during what are clearly difficult times, and I would like to add my gratitude to that. Without this strong commercial membership British APCO would only be half the organisation it is – and can – become.

BRITISH APCO

Knowledge Exchange for Public Safety Communications

A sell-out event in challenging times means Executive Director Tony Antoniou is in a celebratory mood.

Against a backdrop of record winter coldness and record fiscal coldness – greetings from your shivering Exec Director. We are in a celebratory mood, with good reason. We're about to participate in the best British APCO annual event ever, and we're not just surviving against the backdrop I describe as adverse, we are blossoming and – most importantly – we are delivering.

It's not what we say it's what we do, and the delivery of so much is a genuine cause for celebration.

The importance and relevance of what we are delivering is what makes our members renew every year. It also brings new exciting members and relationships, and brings us in our droves to Manchester in April. Welcome!

This year's annual event is already a sell-out, as a result of which many of the Sessions being held over the two days are oversubscribed (unfortunately we have to give priority to members when this happens). None of this is an accident and there are two main reasons why this is the case. Firstly, we should recognise the effort, dedication and sheer hard work of the team behind this year's event – thank you from me on behalf of all the members and indeed all of public safety.

Secondly, we've been building up to a vision we created when we radically redesigned our annual event. Underlying the vision is the unique fabric that makes this the only exhibition of its kind here in the UK and Europe, and superimposed across this are sessions of increasing importance and relevance.

As I've said before, in public safety comunications we're at a time which is as significant as the PSRCP (Public Safety Radio Communications Project) days. Against a hostile fiscal backdrop and in the face of increasing expectations in terms of how we can leverage technology to save more lives, not to mention a crescendo of new technologies arriving and the difficult choices these pose – we have to find our way through multiple changes in technologies and business practice, manage the impacts of these, and continue to evidence improvement in what we deliver as the result.

ESMCP, JESIP, British APCO and other groups influence our thinking and postioning, and we are planning on maintaining the frequency with which we connect these with you directly here at Manchester, and again at a smaller more southern event in Autumn (still in gestation).

One of many changes is to make this edition of the *British APCO Journal* also contain the 2013 Event Guide, the benefit of which won't be lost on anyone.

On the delivery theme, be sure to review how British APCO is currently and directly involved in the delivery of a standard for Multi Agency Incident Transfer (MAIT) of critical data between our public safety control rooms – initially blue lights, followed by other agencies (DoT, Highways, etc). This has grown out of the DEIT work, a new workMAIT we might say.

Be sure to also review the NextGen999 activities, where again the emphasis is on delivery.

We are continuing to run exciting projects from our British APCO Projects team, in the face of extreme (and in some cases understandingly desperate) competition from across the EU. Any win against this backdrop is to be congratulated, and I can report that the team has expectations for further new business while we execute existing work. Be sure to look at some of the projects while we have your attention. We are working on bringing a new partner into our Project House – more news on this soon – and this will increase the breadth of a range of expertise that is highly respected.

Finally, on the difficult fiscal front again, it looks like an increase to a more realistic subscription price is no longer avoidable. We are confident that what we're doing (and delivering) for public safety is so well understood that our members will accept that we must now do this, and will remain loyal. In fact, renew or join at the event in Manchester and we will maintain the current price until the doors close on Tuesday evening. Tracey and the crew will be at our new members' stand (before you enter the exhibition floor) so please come by.

Above all, have a great show, and do remember you can always grab hold of me or any of the team if you need anything. I look forward to seeing you.

FUTURE CONTROL ROOM SERVICES

DCLG has published an update to the national picture of fire and rescue authority improvement plans

The latest document – Future Control Room Services Scheme – provides an update on progress made since the last publication of the summary in March 2012.

It identifies which fire and rescue authorities have entered into new partnership agreements to deliver their future control rooms projects; and which are now forecasting different resilience benefits from those set out in the original project bids, while explaining how they will continue to provide increased resilience and specific improvements at a local level, thereby strengthening the building blocks of national resilience.

Eight of the projects have provided revised forecasts for their financial benefits. However, overall, total projected savings for all projects are now £126 million, compared to a projection of £128 million in 2012, a reduction of £2 million. Four of the projects have forecast that their full savings will be realised a year later in 2021-22. However, their projected savings remain the same as those forecast in the March 2012 summary.

The full document is available at: www.gov.uk/government/uploads/system/uploads/attachment_data/file/153598/Fire_Control_Room_Service_-_National_Picture_Summary.pdf

Demo shows video over 400 MHz LTE network

Cassidian and the French Ministry of Interior (MoI) have conducted the world's first demonstration of mobile broadband services for the evolution of Tetrapol networks with 4G LTE (Long Term Evolution) technology in the 400 MHz band.

The demonstration was shown during the Cassidian customer conference SNUC (Secure communications Network operators and Users Conference) held in Cannes, France.

After a brief presentation of the ongoing experimentation of LTE network at 400 MHz, currently conducted by the French Ministry of Interior, a live duplex with Tours provided the wide international audience with the ability to share the success of this operational trial. It featured mission critical applications, including a life video being streamed in real-time between one vehicle equipped with a camera and a command and control centre in Tour using a 400 MHz LTE network.

Two 400 MHz base stations have been deployed on two Tetrapol sites in the area of Tours to allow a first on the field verification of the technology performance.

These first tests at the SNUC were described as very satisfactory. They demonstrated that by leveraging existing sites, using neighbouring frequency band, new 4G mobile broadband capabilities can be added to existing Tetrapol networks in a non-disruptive and cost-effective way thanks to a new dual mode base station by Cassidian supporting both Tetrapol and LTE services.

'The French Ministry of Interior is proud to be the first, running this kind of experimentation of LTE at 400 MHz on its Tetrapol network,' highlighted Pierre-Philippe Lidureau, INPT Program Director after the successful demo at SNUC. 'We are considering the future of our secured network, and with that respect, this solution leveraging the 400 Mhz frequency is showing a path towards the modernisation of our network.'

B-APCO Project Team: update

There will be a meeting on Project Freesic at B-APCO 2013 on Tuesday 30th April.

In the morning, the project team will consider preparations for the formal mid-term project review with the EU Project Officer (scheduled for the end of May). This mid-term review will also involve the live demonstration of newly-developed ICT in partnership with several civil protection agencies in Slovakia.

In the afternoon, the project will host an international panel that will validate the findings of the project's six 'solution workshops' (held last Autumn across Europe) on barriers to multi-agency interoperability. The panel will consist of senior representatives with crisis management and/or ICT experience from fire, police and a range civil protection agencies from Europe.

A meeting on Project Absolute will take place during B-APCO on Monday 29th April, where an invited group of contributors will discuss the use of analogue and digital radio in the broadband LTE age.

This will be in the context of Project Absolute's aim of providing sophisticated broadband services at disaster scenes and other major events. The user requirement questionnaire will be live by the end of April, and we will take the opportunity to talk about emerging requirements to add value to the user requirements document due in September.

Tony Antoniou

Shaun O'Neill

Jim Strother

Paul Hirst

Interop Lexicon

The Cabinet Office has published version 2.1.1 of the UK Civil Protection Lexicon of terminology for emergency responder interoperability.

First published in December 2010, the Lexicon establishes common, agreed definitions for terms used in the multi-agency business of civil protection. Since 2007 CCS has been working with a wide range of partners to build and maintain a single point of reference for civil protection terminology as one of the underpinning elements of interoperable communications and coherent multi-agency working. Public safety responders are encouraged to cross-reference definitions given in their own organisation's documents to the Lexicon and adopt the definitions given in the Lexicon.

Sussex Fire Control to adopt Resque 4i

The new Sussex Fire Control Centre will be among the first to benefit from the new Remsdaq Resque 4i Command and Control system. The system has been designed specifically for the upcoming generation of shared, buddying or amalgamated fire and rescue control centre facilities. According to Remsdaq, Resque 4i has been designed for the UK fire services market, with the increased focus on inter-FRS collaboration and/or 'buddying', and a host of emerging initiatives and standards such as the enhanced Direct Electronic Incident Transfer (DEIT) protocol for inter-agency collaboration and the use of AddressBase as a new standard for Gazetteers. To this end, Resque 4i supports a wide array of methodologies for 'attribute mobilising' and Dynamic Resource proposals.

Stocktaking time for ES comms

Emergency service organisations need to work more closely with each other and with the public, including using social media during incidents, says a report prepared by Analysys Mason for the European Network and Information Security Agency (ENISA).

Analysys Mason was commissioned by ENISA to assess how the technology and processes used in emergency responses could be improved, with the aim of providing guidance to policymakers in EU Member States and EU organisations.

Emergency Communications Stocktaking is based on a series of interviews conducted with a range of stakeholders working directly in crisis response, as well as representatives from regulatory areas and the ICT industry. The aim was to identify good practice and highlight potential gaps and barriers to effective crisis communications. In post-crisis reviews of major incidents, including the 7/7 bombings in London in 2005, inter-agency communications are often identified as a problem.

The report highlights a range of issues that can contribute to difficulties, and which, if corrected, could make emergency communications far more effective (see p28).

Duncan Swan, Partner at Analysys Mason, said: 'This report pulls together a wealth of reference material that will be invaluable to organisations not only in Europe, but worldwide, which are involved in public protection and disaster recovery (PPDR), and emergency communications in particular.'

NEWS IN BRIEF

Lothian and Borders Police has taken delivery of special screen protectors for the force's entire 2,000 Bluebird Pidion BM-170 PDAs. The Tuffscreen Screen Impact Protector further enhances the robustness and utility of the mobile devices supplied by Maxatec that the force uses as its paperless system for frontline policing. Tuffscreen is a retrofit screen-protection system that is compatible for use with all types of mobile hardware. It is a dual-layer screen protector that provides impact and scratch resistance, while reducing glare. It comprises a hard-coated film bonded to a colourless, transparent gel that provides shock absorption and self-adhesion to the device screen.

Hampshire FRS's business continuity plan has been deemed a success after electrical fault impacted on a fire control room. Control room staff immediately instigated the Service's business continuity response plan at 7.30 on 20 of January after a water leak, caused by melted snow on the headquarters roof, led to an electrical power failure to the control room. Staff were alerted to the power failure by the audio alarm system and immediately organised for Royal Berkshire FRS to take emergency calls to ensure there was no negative impact on the handling of emergency calls from members of the public, or the attendance of fire appliances to emergencies. Control staff then relocated to the emergency control centre at a Hampshire County Council building in Winchester to carry on their duties.

APCO's Public Safety Broadband Summit & Expo is being held May 13-14, 2013, at the Washington Court Hotel on Capitol Hill in Washington. The Summit brings together technology experts, policy leaders, industry partners, commercial carriers, and public safety professionals to discuss recent trends in broadband policy and technology.

To register, visit http://broadbandsummit.apcointl.org/registration.html

Dyfed-Powys Police has selected Civica to provide hosted automatic number plate recognition technologies. The new agreement, which builds upon an existing relationship, will see Dyfed-Powys Police implement Civica's new hosted re-deployable automatic number plate recognition (ANPR) solution to cut crime, costs and improve internal ICT security. The agreement will see the force go from a mixture of 34 traditional static cameras to 50 traditional and hosted ANPR sites, along with additional in-car cameras.

Market report shows police ERM investment up 91%

Police Market Report has published its report on Police ICT budgets for 2013-14.

Police ICT investment will swing toward networks and records management in 2013/14, according to a new breakdown of ICT spends.

Airwave replacement spend will remain around the same as last year, with £4.8m identified. Call management shows a total of £1.79m, a 50% rise on the previous year.

However, identified network investment is up 47% to £6.7m and desktop infrastructure up 65% to £10m. The Enterprise Resource Management category is especially buoyant, up 91% to £8m and other records management applications up 74% to £7.9m.

The breakdown is published by Police Market Report, a specialist monthly newsletter, which reveals a 12% fall to £227m in ICT capital spend in England and Wales.

Unusually, the fall is due entirely to a 22% cut in Metropolitan Police ICT capital, down to £68.3m. Provincial force ICT investment will remain the same as last year at around £159m.

The Police Market Report spreadsheet, which examines spend data under more than 30 separate headings, is the first detailed look at budgets set by new Police and Crime Commissioners. Specialist software applications are bearing most of the downturn. Mobile data applications, which last year had a £17m identified spend, falls to £14m this year and HR applications are down to £799k, a sign of the ERP bandwagon starting to roll.

Report Editor John Rowland commented, 'The Metropolitan Police, which traditionally accounts for up to a third of ICT capital spend, faces a year of uncertainty as plans are reviewed.

'Elsewhere, the interest in ERP signals work to revise business processes. The network spend plans will start the move to PSN compliant systems.'

TETRA terminal wins Award

Cassidian's small TH1n terminal has won the International TETRA Awards category for 'Best TETRA Enterprise Product'. The ceremony took place at the London Transport Museum in Covent Garden in March.

In this category, the judges were looking for products that best utilise the capabilities that TETRA has to offer. All of the products nominated had to offer a wide range of features and be easy to use, including within a broad spectrum of critical communications scenarios. Five products from different companies were shortlisted in this category.

The completely new form allows the TH1n to be carried in new ways. Small enough to be slipped into a pocket clip holder, a shoulder holster or a carry case with a neck strap, it can also be carried in belt and lapel-mounted holsters. This makes it ideal for many different users, including those who have found it difficult to find a radio of the right size and weight to fit their needs, those who wear business clothing or light uniforms rather than weatherproof gear, and those who need to be discrete in their operational missions.

Digital pens a hit in NI

The Police Service of Northern Ireland (PSNI) is now using Anoto digital pen technology to record witness statements and make the associated information available as quickly as possible across the entire police force in the country. The deployment sees 4,000 front line police and Criminal Investigation Department (CID) officers being equipped with Anoto technology.

'The pen is already in wide use by the front line officers, who are able to have an online record of all their statements,' said Colin Shaw, Inspector with the PSNI. 'The solution is simple and intuitive for officers to use and during rollout we encountered nothing but positive feedback. The digital pen and paper solution provides supervisors with better visibility of investigations and that will help us to get it right the first time.'

Through working with inphoActive and utilising DevelopIQ's digital pen platform, the PSNI has now deployed a system where witness statements are automatically uploaded to the Niche records management system as soon as they are written. Today, thousands of statements are now being uploaded by the system, which has resulted in an 80% efficiency gain in back-office processing time.

HFRS selects KC for its new network

Humberside Fire and Rescue Service (HFRS) has selected Hull-based firm KC to install and manage a new communications network.

The wide area network (WAN) will connect 32 sites across HFRS's area securely to each other and to its key computer applications, which will be hosted in KC's data centre in Hull.

The five-year contract also includes the installation and management of a private broadband back-up service that will guarantee internet and system access in the event of a main network failure; and a virtual private network so that employees can work remotely and access HFRS's systems securely, providing a more flexible working environment.

The HFRS network will be monitored and managed remotely from a 24/7 national network operations centre in Hemel Hempstead.

Respond, Achieve

The city is becoming ever more vibrant, complicated as well, which brings many challenges to people who work day in and day out to make it better.

Responding to your demands of more efficient commanding & deployment both in daily operation and emergencies, Hytera delivers you reliable mobile radio communication solutions, ranging from terminal, repeater and infrastructure, to dispatching application of DMR & TETRA standards.

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Maximising technology for smarter partnerships

Now in its 15th year, the leading European multi-agency forum for public safety communications takes place at Manchester Central 29-30 April: the exhibition presents a unique snapshot of the best that technology has to offer.

The exhibition will be open on Monday 29 April 09.30-17.00 and on Tuesday 30 April 09.30-16.00. The exhibition is free to attend.

Airwave to share and exchange knowledge

Airwave will be showcasing new business propositions at British APCO this year, where the company will also be sharing its experiences during a series of interactive workshops following the theme of knowledge exchange for public safety communications.

Airwave delivers mission critical voice and data communications to the police, fire and ambulance services, local authorities, health, utilities and transport providers. The company, which recently extended its contract with the Highways Agency for a further 22 months, has invested £1.4 billion in the Airwave Network, which covers 99% of the UK's landmass and allows members of different public service organisations to communicate with one another for the first time.

Airwave's Interoperability Manager Siobhan Scott will take part in the workshop 'Convergence of Emergency Control Plans' on the afternoon of Monday 29 April where she will share Airwave's learning and best practice to consider how improved interoperability could benefit the safety of major UK industries such as oil and gas.

Siobhan will be followed on Tuesday morning by Glyn Boswell, Airwave's Control Rooms Product Manager, who will participate in the workshop 'Redefining Boundaries Through a Smarter Approach to Control Room Systems' to discuss whether organisations should be asking for more of the same, or whether they should be developing new, more intelligent solutions to technology and service delivery.

Finally, on Tuesday afternoon Airwave's Chief Technology Officer Euros Evans will offer his expertise during a seminar focusing on the future arrangements to sustain and develop the user requirements of the emergency services.

The seminars are free attend, and more details of these and more can be found in the B-APCO seminar programme on page 16-17.

Stand E12

Drive ANPR to the max

ANPR International will be showcasing its current range of advanced camera systems at this year's exhibition. The company is one of the UK's leading advanced camera system suppliers to the public sector, and its systems are flexible and robust, providing many other features in addition to automatic number plate recognition (ANPR).

Increasing demands for security and the risk of terrorist activity mean that close monitoring and immediate detection of security threats are a fundamental requirement. ANPR's systems can read number plates, open barriers, sound local or remote alarms and even output specific messages via LED signs, pagers, SMS or email.

Checks can be made against a database of known criminal vehicles so that appropriate action can be taken. ANPR can be used to monitor criminal movement, detect illegal vehicles (stolen or untaxed) – and it can be an essential tool for evidence-building for enforcement purposes. The ANPR International eyeTRAFFIC system is able to scan the DVLA shark list, which includes more than six million number plates, in less than a second. This co-operates effectively with the company's cameras to instantly recognise the offending vehicle and pursue it with appropriate action.

Stand H14

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Modelling with Cadcorp

Cadcorp will be demonstrating its workload modelling and resource planning application at B-APCO this year, and the company is aiming to show visitors how 'knowing where' can help support UK emergency services in three key areas of responsibility: protection, prevention and response.

Cadcorp specialises in geographic information system (GIS) and web mapping software, and offers a complete suite of products, the Cadcorp Spatial Information System, which addresses all phases of spatial information management. The company is at the forefront of using technology for smarter partnerships and focuses on the ability of its software to support the wider sharing of geographic information within and between organisations, assisting public safety organisations which are trying to do more with less.

The Royal Berkshire Fire and Rescue Service (RBFRS) recently replaced its Cadcorp designed bespoke mapping application with the company's off-the-shelf Web Map Layers application, which provides a map window into its Incident and Building Information system.

Anne Eatwell, IT Development Officer for RBFRS, commented: 'The integration of web mapping with IBIS makes it much easier for returning fire crews to enter location information themselves. Because the application is easy to use, firefighters have been able to take ownership of the information in this database. They know that the safety of the public and their own safety may depend on the information being accurate and up to date.

'Our vision is to contribute to a safer Berkshire by reducing the incidence of death, injury and damage to property from fire and other emergencies,' added Anne. 'Web mapping is central to the achievement of this vision. It makes information on location more widely available – to more people, and also to more applications.'

Stand D10

C&C room futures: Capita

Capita will be showcasing the future of the control room at this year's British APCO 2013 exhibition in Manchester, where the company will also be demonstrating its enhanced capability to support the emergency services sector in transforming their organisations to manage costs, improve efficiency, collaborate more effectively and integrate and increase their resilience.

Capita is a leading supplier of integrated control room solutions and services to the UK's public safety organisations. Following a series of acquisitions and investments, the portfolio has been further enhanced and integrated to deliver full end-to-end capability from the moment an emergency call is received, through to the incident being attended and the case closed.

George Godliman, Managing Director of Secure Control Solutions at Capita, said: 'Capita currently supplies services and products to around 67% of fire and rescue services, 100% of UK police forces, and every ambulance in England, Scotland and Wales is connected to Capita's technology. It also supplies advanced control room solutions to 139 public safety facilities across the UK and Ireland. Although Capita isn't a newcomer to the market, there is no doubt the pressures facing the industry are new and that they demand new ways of working to overcome the challenges.'

George points to recent major incidents like the Bunsfield disaster, acts of terrorism or the riots of Summer 2011 and recent wide scale flooding as examples of situations that required emergency responders to find more effective ways of working together. 'This is not simply in terms of physical interoperability, but also in the way they share information about events unfolding, and use new technology to get the right skills to the right location at the right time. At this year's British APCO show, Capita is tackling these challenges head on and will demonstrate how it can support the sector not only now, but also in an uncertain future.'

Stand D20

Capita currently supplies all police forces in the UK with products and services.

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CASSIDIAN

Cassidian wins TETRA award

Cassidian will be showcasing its public safety IT and network solutions, including; the world's smallest terminal which recently won the Best TETRA Enterprise Product at the 2013 International TETRA Awards; its smooth migration broadband technology including LTE; and its end-to-end systems integration and cyber security offerings.

Cassidian is a leading provider of public safety solutions worldwide with 230 networks in more than 70 countries. Cassidian also supports more than 3,000 control rooms. Its TH1n terminal won out over four other nominees in its category, where judged were looking for the product that best utilised the capabilities that TETRA has to offer.

The TH1n terminal, which was launched in Dubai last year, is the first in a new class of pocket-sized TETRA radios. Small enough to be slipped into a pocket clip holder, a shoulder holster or a carry case with a neck strap, it can also be carried in belt and lapel-mounted holsters, making it ideal for many different users. As the smallest and lightest TETRA device, it is particularly suited to covert use, and it was used for the first time by security staff during the Munich Security Conference in February.

Stand C30

Getac to launch new products

Getac UK is introducing two new products to attendees at B-APCO 2013, the new X500 Rugged Mobile Server, which will launch at the event itself, and the Z710, a new Android 4.1 rugged tablet.

Getac UK is a leading manufacturer of ruggedised computing solutions including semi and fully rugged notebooks, tablets and handhelds for multiple sectors.

The new Z710 7" Android 4.1 rugged tablet will be a key focus at the event, which the company believes is the only device of its kind to run Android 4.1. Built with the mobile operator in mind, whether they work in the emergency services, utilities, logistics, automotive or other field sectors, it is thin, light and portable, and offers communication and data capture functionality with the durability to operate in harsh environments.

The device has a glove-friendly touchscreen thanks to Getac's proprietary LumiBond technology which integrates Gorilla Glass, a capacitive touch sensor and an LED panel, providing unprecedented touch sensitivity even when the wearer has gloves on – full details of the X500 will be released during B-APCO exhibition.

Stand F8

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Northrop Grumman is a leader in mission-enabling public safety systems and solutions that help the emergency services and critical decision makers communicate and collaborate across organisational and jurisdictional boundaries, safely and securely. We offer advanced capabilities from command and control applications and hazardous duty unmanned vehicles, to large scale systems integration, law enforcement information exchange and secure wireless communications.

At B-APCO 2013 we will provide demonstrations on CommandPoint, IDENT1, ITRACE, and MIDAS.

CommandPoint is the latest evolution of command and control for public safety despatch and resource management for the emergency services community. In live

operation since March 2012, we designed, developed, and implemented the new computer-aided dispatch (CAD) system for London Ambulance Service using our CommandPoint application suite.

IDENT1 (see above) is an advanced and integrated identification technology that links police and law enforcement agencies throughout the UK. Its primary capabilities include finger and palm analysis, print search capabilities accessing international databases, identity verification of arrested persons, as well as information sharing between national and local agencies throughout England, Scotland, Wales and Northern Ireland. IDENT1 provides the basis for future integrated technologies for biometric or facial imaging.

Our Integrated Tactical Rapid Assessment of CBRN Environments (I-TRACE) offers a capability to monitor chemical biological radiological and nuclear (CBRN) incidents, collect relevant CBRN data, and provide analysed data to users through a web application. I-TRACE integrates third party meteorological, visual and CBRN sensors to provide situational awareness of a CBRN incident to local and remote commanders.

MIDAS is a state-of-the-art net centric data aggregation, situational awareness, and decision support system. It fuses knowledge of current operational status with powerful consequence analysis functionality, delivering a real-time geospatial framework used to manage critical fusion centre operations. MIDAS is accessed using an intuitive geospatial display and can be deployed in less than 60 days.

Stand E8

Introducing the concept of 999 telematics system to the UK

OnStar is an embedded vehicle telematics system that combines cellular communications, global positioning system (GPS) satellite location and live human interaction to provide assistance to people in need. While similar automotive telematics systems are becoming more widespread, the technology cannot function effectively in a vacuum.

Since OnStar's inception in 1996 in the US, the emergency service community has provided critical insight and guidance for the development of OnStar's safety and security services. Not only was guidance provided during the initial design of systems, such as Automatic Crash Response and Stolen Vehicle Location Assistance, but collaboration also continued during ongoing refinement of processes used to handle and triage emergency calls. These efforts streamlined the interaction between emergency services and OnStar, thus minimising the impact on the finite number of emergency responders and resources.

OnStar provides key information that can assist emergency services in their response:

- Location – cross streets, latitude and longitude and aerial imagery (including landmarks).
- Incident description – provided in a calm, objective manner with key information.
- Vehicle description – make, model, color and alternate fuel propulsion systems (ie hybrid/high voltage electric).

Once critical information has been exchanged with the 999 call centre, the OnStar advisor can perform other valuable services such as staying on the line with the occupant until first responders arrive. This frees up the 999 call centre resources for other calls while allowing the advisor to monitor the situation and re-contact the 999 call centre should the need arise.

OnStar has three core emergency and security services. The first is Automatic Crash Response, which enables the system to automatically transmit crash information to an OnStar advisor if the vehicle is involved in a moderate to severe crash.

The advisor questions vehicle occupants to determine injuries and

contacts the geographically appropriate 999 call centre to relay crash details, exact vehicle location and injury status. The local emergency dispatcher then sends appropriate help to the scene. If necessary, the advisor can flash lights and sound the vehicle horn to guide responders to the scene.

Secondly, OnStar enables in-vehicle emergencies/'good Samaritan' calls, allowing vehicle occupants to request help by pressing the SOS button. The OnStar advisor determines the nature of the emergency and contacts the 999 call centre if needed. These types of calls may include medical emergencies and reporting incidents on behalf of others.

For some circumstances it is not necessary for OnStar to contact the 999 call centre. When vehicle occupants press the emergency button by mistake, the OnStar advisor triages the call by speaking to the occupant and does not contact the 999 call centre. If the advisor is unable to make voice contact, established processes are quickly used to re-contact the vehicle and triage the call based on the location and sounds heard in the vehicle (ie vehicle located at the vehicle owner's home, repair shop noises heard, etc). If unable to verify that help is not needed, the advisor will contact the appropriate 999 call centre and request a welfare check of the occupants.

Additionally, OnStar receives many calls from members of the public reporting incidents on behalf of other people in need. Knowing that multiple callers can report the same incident, OnStar advisors can determine if the incident has already been reported by other customers and not make unnecessary calls to the 999 call centre.

Finally, there's Stolen Vehicle Assistance which enables the OnStar subscriber to report the vehicle as stolen to law enforcement and then OnStar advisor can provide location to law enforcement for recovery of the stolen vehicle. OnStar can also send a Remote Ignition Block signal,

which prevents the vehicle from being restarted once it has been turned off. If the vehicle is moving and law enforcement establishes a clear line of sight to the stolen vehicle, they can request that the OnStar advisor send a Stolen Vehicle Slowdown signal which eliminates accelerator response and gradually slows the vehicle to an idle speed.

The long-standing relationships with all segments of the emergency service community have enabled OnStar to create life-saving technologies that not only benefit society as a whole, but also help emergency services respond to automotive based calls for help. OnStar continues its commitment to these essential partnerships knowing it is a critical component of its plans in all global regions.

OnStar staff will be visiting the B-APCO Annual Exhibition

New Toughbook computers

Panasonic Computer Product Solutions will be showcasing its latest range of rugged Toughbook computers at B-APCO, which are helping public sector organisations access necessary data and applications at all times and in all kinds of outdoor environments.

The company helps organisations capture, compute and communicate information of all kinds, including image, voice and text through a number of technology solutions, and has recently added two new devices to its Toughpad range – the Toughpad FZ-G1 Windows 8 Pro tablet and the Toughpad JT-B1 7" Android tablet. Both are thin and lightweight and fully rugged, and designed to meet the growing demand from businesses for purpose-built tablets that use the latest functionality to improve workforce productivity.

The FZ-G1 is designed for mobile workers who spend much of their time working outside or from vehicles. Weighing only 1.1kg, it offers two-way touch input with its capacitive 10-finger multi-touch screen and digitizer pen. It is also the first fully rugged tablet to use Panasonic's latest IPS Panel technology to provide improved viewing quality outdoors, and the screen is purpose-built to perform in any light conditions. Other features include a front web camera and optional rear camera, Windows and customisable application keys, and flexible configuration ports which allow the device to be configured for the needs of the business.

The 544g JT-B1 7" Android tablet is ergonomically designed for one-handed use by mobile workers in industries such as utilities, public transport, logistics, asset management and police forces. It combines the power, ease of application development and enhanced user experience of the Android 4.0 operating system with the additional durability, enterprise-level security, connectivity, display technology and battery life required by businesses.

The tablet offers capacitive four-finger multi-touch, and the 7" display is optimised for viewing quality. The dimpled, concave surface of the device aids a one-handed grip, and it is fitted with a hand strap for ease of use. It is equipped with front and back cameras, features an easily accessible and user-exchangeable battery and has an operational time of eight hours in field.

Stand B21

Resque 4i system from Remsdaq

Remsdaq has announced that the new Sussex Fire Control Centre is to use its new Resque 4i command and control system, which it will be demonstrated on its stand at this year's exhibition.

Remsdaq specialises in the design of solutions for a global market in three core areas SCADA; integrated security; and command, and control and communications.

The new command and control system will serve East Sussex FRS and West Sussex FRS, making the new Sussex Fire Control Centre among the first to benefit from the new Resque 4i system.

The Resque 4i system has been designed specifically for the upcoming generation of shared, buddying or amalgamated fire and rescue control centre facilities in the UK fire services market. It features an increased focus on inter-FRS collaboration and/or buddying, and a host of emerging initiatives and standards such as the enhanced Direct Electronic Incident Transfer (DEIT) protocol for inter-agency collaboration and the use of AddressBase as a new standard for Gazetteers.

For this reason, Resque 4i supports a wide array of methodologies for 'attribute mobilising' and Dynamic Resource proposals. The four 'i's in the product name represent the focus on interoperability, innovation and integration and the fact that the system is designed to put fire services 'in control'.

Stand F24

See VectorCommand's Command Support System in action

VectorCommand is inviting attendees at B-APCO to visit its stand and see its Command Support System first hand.

Used internationally by many emergency services, the Command Support System (CSS) is an event management tool designed to manage both planned events and unplanned incidents in an increasingly broad range of sectors. From its roots as a tool used by fire services, it is now being trialled in other sectors including police, ambulance and HART teams. It is also a core element of the EU-funded Project CATO, which is currently addressing the challenges related to CBRN crisis management.

Several major players in the oil, gas and utilities market are also investigating how the Command Support System could fulfil their requirements cost effectively, as a greater emphasis is now being placed on these companies to manage their own incidents.

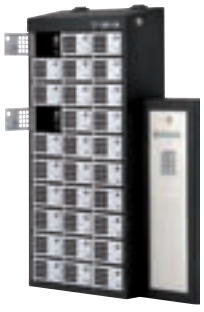
CSS delivers a common situational awareness across all levels of command, allowing – for example – any number of licensed users to access the live map information, the SOPs or organisational chart and drill down into different levels of detail concurrently.

The system can also be fully integrated with command and control/mobilising and dispatch systems, so that it is 'pre-loaded' with back office database information including asset and resource details, building plans, known hazard information and SOPs. An incident command unit is fully operational even before it has arrived on the scene.

Several fire and rescue services are also rolling out the CSS on tablet devices for their flexi-duty officers and sector commanders, ensuring that commanders have access to the information they need to make better-informed decisions on the incident ground.

The CSS also features an optional integrated training system, called the Command Training System (CTS), which enables organisations to be able to deliver on the maxim 'command as you tain and train as you command'.

Stand E20



Traka: managing radios

Traka will be launching its latest concept in mobile data and radio management at the British APCO show with its Faulty Equipment Exchange Solution that aims to increase staff visibility while reducing equipment costs and management overheads.

Traka is a leading supplier of technology for sophisticated intelligent access control, using key management control solutions and keyless electronic lockers to manage and control access to businesses' most important assets. The new solution aims to improve access to pooled equipment with an automated solution realising efficiencies in both the reduction of equipment costs and reduced management overheads.

The benefits of this new system include 24/7 access for authorised users to obtain replacement equipment for damaged items, without having to return to a central location within restricted hours, which increases staff visibility and reduces downtime.

The system is remotely managed over an organisation's network, and these locally-installed intelligent lockers give users access to equipment that can be restricted by role and is fully audited.

Stand A10

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Sponsors' Profiles

arqiva

We provide mission-critical communications solutions to public sector organisations throughout the UK and Ireland, including frontline emergency services. We work with the RNLI, Maritime and Coastguard Agency and UK Borders Agency and more than 50% of the UK's Police Authorities, including the Metropolitan Police and Strathclyde Police.

Our customers demand exacting levels of performance, resilience and availability from their communications systems. By partnering with us, they achieve these goals, and as a result are equipped to deliver more effective, more efficient and safer public services.

At the heart of our service delivery is our 300-strong team of field engineers, based at over 30 sites across England, Scotland, Wales and Ireland who help our customers to achieve seamless communications 24 hours a day, 7 days a week and 52 weeks of the year.

CAPITA

Capita plc is the UK's leading provider of business process management and integrated professional support service solutions. We provide a wide range of services to the UK's critical and emergency services, including fire, rescue, police, justice and many other public and private sector organisations where care is an imperative.

With 52,500 people at more than 350 sites, including 70 business centres across the UK, Europe, India and South Africa, the Group uses its expertise, infrastructure and scale benefits to transform its clients' services, driving down costs and adding value. Capita is quoted on the London Stock Exchange (CPI.L), and is a constituent of the FTSE 100 with 2012 revenue of £3.3 billion and profit before tax of £426 million. Further information on what we do in emergency services can be found at http://www.capita.co.uk/what-we-do/sectors/emergency-services.aspx and further information on Capita plc can be found at: www.capita.co.uk.

CASSIDIAN
AN EADS COMPANY

Cassidian is a worldwide leader in global security solutions, providing Lead Systems Integration and value-added products and services.

Cassidian will be showcasing its public safety IT and network solutions - TETRA, including the world's smallest terminal, which recently won the Best TETRA Enterprise Product at the 2013 International TETRA Awards; its smooth migration broadband technology including LTE and its end to end systems integration and cyber security offering.

Cassidian is a leading provider of public safety solutions worldwide with 230 networks in more than 70 countries. Cassidian also supports more than 3000 control rooms and has provided secure managed network services in the UK for over 17 years.

For more information about Cassidian products and services, visit stand C30.

telent

service • commitment • value

Every time you pick up a telephone, 'surf the net', use the motorway or rail network, commute across London on the tube or bus, or even when you dial 999, it's likely that telent has enabled the communications infrastructure to make it happen.

With annual revenues of over £340 million, telent is a technology services company with decades of experience providing a broad range of network and communications services across a variety of industries. In the Public Sector area we specialise in systems integration and work across Police, Fire and Ambulance authorities

MONDAY 29 APRIL

10-11 (Room 1): Joint Emergency Services Interoperability Program (JESIP) Update
Chair: Joy Flanagan (JESIP)
Speakers: JESIP Senior Users

An introduction to JESIP – the Joint Emergency Services Interoperability Programme. This information session will provide a useful overview of the Government sponsored two-year programme which aims to help the emergency services work better together at major or complex incidents. The programme has been established to address the recommendations from a number of incident reports such as Operation Bridge into the 2010 Cumbria shootings, the Hillsborough independent report and Lady Justice Hallett's report into the 2005 London Bombings. The programme has also considered the best practice coming from the 2012 Olympics preparations as well as the various other interoperability projects which are underway across the country. This session will include information about the JESIP aims and objectives as well as describe the planned programme of work for the next 18 months.

10-11 (Room 4): Bluelight Camp Social Media Drop-In Clinic, Q&A and advice on Social Media

11-12.30 (Room 5): Incident Data Transfer Standard Workshop (Follow on from DEIT), Closed Session
Chair: Dave Barnes (CCS, Cabinet Office)

Cabinet Office (Resilient Telecoms Program) and British APCO founded a cross-industry and stakeholders group to determine and create a standard and schema for the technical and operational standards required to provide the interoperable transfer of data between the broad range of organisations that comprise the 'resilience community'. This builds on the successful experience of a jointly-funded pilot project by Cabinet Office, ACPO and Welsh Government involving Gwent Police, South Wales Fire and Rescue service and Newport City Council. The update is an overview of the approach and progress with this important standard evolution.

11-12.30 (Room 11): Mobile Data in Vehicles
Chairs: Jim Hammond, Andy Sigee (ACPO Intelligent Transport Systems)

Following consultation between the Association of Chief Police Officers and the Department of Transport, it has been agreed that over the next three years emergency vehicles will need to ensure that they comply with the instruction and use regulations governing the use of equipment whilst the vehicle is in motion. This workshop will bring together representatives from Government, users in the emergency services and workshop engineers who will debate how this can be delivered.

11-12.30 (Room 2): Empowering End Users to Influence the SMART Procurement Process
Chair: Rich Edwards (Delta Revelation)

Using innovative methodology, this workshop will engage and inform on key issues such as:

- How end users can accurately articulate their future requirements without technical knowledge;
- How end users, specifiers and technologists can work together to accurately inform the system requirements;
- How contingency planning can inform requirements capture;
- How to identify the stakeholders in a crisis management scenario and to understand Interoperability challenges;
- How to identify capability gaps or over capacity in current solutions;
- How to identify where security and resilience need to be built in;
- How commercial off-the-shelf technology can be assessed for suitability;
- How central policy makers can be better informed of user needs;
- How acceptance tests can be designed around the requirements even though technology has moved on;
- Above all, it will encourage a requirement which seeks a solution, not vice versa.

14-15 (Room 4): Airwave User Group Meeting (Closed Session)

14-15 (Room 11): Next Generation 999
Chairs: John Medland (BT), Superintendent Sue Lampard

The UK 999 service continues to operate on a 'voice only' basis, in spite of the fact that technology has moved to a multi-media capability. The Emergency Services could greatly benefit from the ability to receive information in different formats (such as GPS location and video streaming) when receiving 999 calls. Europe and the USA are already a long way down the path of developing this technology and this workshop will provide an overview of the UK position.

14-16 (Room 2): Convergence of Emergency Control Plans
Chair: Chief Inspector Paul Kinsella
Speakers: Martin Blunden (Hampshire Fire), Inspector David Williams, Siobhan Scott (Airwave), Howard Papworth (VectorCommand)

This workshop will bring together emergency services, civil contingency responders, industry experts, Cabinet Office representatives and utility suppliers. The debate is focused upon the future potential to align emergency response plans so as to enhance overall management and return to normality. It will involve a presentation on the Buncefield explosion and also the ramifications on the emergency services of the Royal Commission recommendations following forest fires in Australia. Commercial solutions which could assist the emergency services with regard to communications, interoperability and governance will also be discussed.

14-16 (Room 1): Emergency Services Mobile Communications Programme (ESMCP) Workshop

A briefing for operational and commercial attendees and members to bring them up to date with the current progress of the programme.

14-16.30 (Room 5): CIO Meeting (Closed Session)

15.30-17 (Room 11): Next Generation Integrates Command and Control Solution in Today's Dynamic and Challenging Environment
Chair: Peter Goulding (Motorola Solutions)

This workshop will focus on the following:

- Integrating and using video analytics
- Maximising the use of voice capabilities
- Enabling innovative new applications; creating more intelligent, intuitive work flows without overwhelming staff
- Shaping the future control room environment.

Room 3 Room 4 Room 5 Room 6 Room 11

15.30-17 (Room 4): EU FP7 project ABSOLUTE – User Requirements (Closed Session)
Chair: Jim Strother (British APCO)
This project is researching and designing a rapidly deployable comprehensive ad hoc network including low-level airborne communications (balloons) for disaster situations and also for temporary events such as the Olympics or similar occasions. The meeting is aimed at expert users, who will assist the B-APCO project manager to identify the user requirements.

16-17 (Room 1): British APCO AGM (Members Only)

TUESDAY 30 APRIL

09.30-16.30 (Room 4): Project FREESIC (Closed Session)
Chairs: Shaun O'Neill (British APCO)
Project FREESIC is an EU Framework 7 Research and Development Project that commenced in February 2012 and has a duration of 30 months. It aims to develop a proof of concept technical platform for a range of different systems that enables communications and information exchange between emergency service and civil protection agencies at the scene of major crisis incidents; this also includes events that straddle state borders. The project involves 9 partners from 6 countries with B-APCO providing the business/user guidance and inputs.

10-11 (Room 2): Joint Emergency Services Interoperability Program (JESIP) Update
Chair: Joy Flanagan (JESIP)
Speakers: JESIP Senior Users
An introduction to JESIP – the Joint Emergency Services Interoperability Programme. This information session will provide a useful overview of the Government sponsored two-year programme which aims to help the emergency services work better together at major or complex incidents. The programme has been established to address the recommendations from a number of incident reports such as Operation Bridge into the 2010 Cumbria shootings, the Hillsborough independent report and Lady Justice Hallett's report into the 2005 London bombings. The programme has also considered the best practice coming from the 2012 Olympics preparations as well as the various other interoperability projects which are underway across the country. This session will include information about the JESIP aims and objectives as well as describe the planned programme of work for the next 18 months.

10-12 (Room 6): ACPO IT Comms Portfolio Meeting (Members Only)

10-12.30 (Room 1): G-Cloud Workshop
Chair: Duncan Swan (Mason)
Speakers: Toby Stevens (Post Office), Nicola Westmoor (Cabinet Office)
Cloud computing has brought about a step change in the economics and sustainability of Information and Communication Technology (ICT). UK Government is committed to the adoption of cloud computing and delivering computing resources. The G-Cloud is an iterative programme of work to achieve this, which will deliver fundamental changes in the way the public sector procures and operates ICT. This workshop will provide an overview of the G-Cloud journey – and then illustrate how cloud computing is already making a difference to public safety agencies.

11.30-12.30 (Room 11): Redefining Boundaries Through a Smarter Approach to Control Room Systems
Chair: Glyn Boswell (Airwave Control Rooms)
Is it time for a fresh approach to control room systems? Since we saw the first TETRA-enabled control room systems installed at Lancashire Police in 2000/2001, things have moved on a long way. Now we are more than 10 years down the road, should organisations be asking for more of the same, or should we be thinking smarter, not only about the technology, but the way we expect services to be delivered? Join us in a debate to explore and prioritise the options which face us all.

12-13.30 (Room 2): Incident Data Transfer Standard Workshop (follow on from DEIT)
Chair: Dave Barnes (CCS, Cabinet Office)
Cabinet Office (Resilient Telecoms Program) and British APCO founded a cross-industry and stakeholders group to determine and create a Standard and schema for the technical and operational standards required to provide the interoperable transfer of data between the broad range of organisations that comprise the 'resilience community'. This builds on the successful experience of a jointly-funded pilot project by Cabinet Office, ACPO and Welsh Government involving Gwent Police, South Wales Fire and Rescue service and Newport City Council. The update is an overview of the approach and progress with this important Standard evolution.

14-15 (Room 2) Get Smart, Start Sharing Spatial Data
Chairs: Gary Randle (Cadcorp), Atul Patel (3tc)
This workshop describes the situation in relation to that most valuable of data – spatial or geographic data. At first sight it would appear that the diversity of what are often proprietary technologies used for handling map data make interagency spatial data sharing an unachievable objective. Cadcorp shows how by adopting open standards in the handling of geographic information, emergency services organisations can retain their existing IT infrastructure while being able to publish spatial information to, and read spatial information from, other associated agencies. 3TC builds on this theme by providing an example of deploying spatial data in the field as part of a Mobile Data Terminal.

14-16 (Room 11): Future User Communication Requirements for the Emergency Services
Chair: Commander Richard Morris
Speakers: Jim Bilsland (British ACPO), Euros Evans (Airwave), Liz Baker (Cassidian), Simon Holmyard (Vodafone), James Norris (O2), Phil Kidner (TCCA)
This workshop will involve Chief Officers, representatives from the Emergency Services Mobile Communication Programme, Joint Emergency Services Interoperability Programme, the main voice and mobile providers, TETRA and the Critical Communications Association. Under the Chairmanship of Commander Richard Morris, the ACPO Lead for IT communications will focus on the future arrangements to sustain and develop ES user requirements.

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A new age for mobile broadband

New-kid-on-the-block Ka band is being hailed as the next big thing for mobile satellite communications – but emergency services should be aware of the limitations, writes Jose Sanchez de Muniain.

Excelerate founder and managing director David Savage.

If you thought satellite broadband was expensive it's time to think again. Today, people living in remote areas can have unlimited data at speeds of 20mb/6mb (upload/download) for less than £65 a month (care of Avonline Broadband), thanks to the arrival of the Ka-SAT satellite, launched back in December 2010 and billed at the time as the world's most powerful satellite with a total capacity of more than 70 GHz.

The new satellite uses the Ka band, part of the microwave band of the electromagnetic spectrum, covering the frequencies of 26.5–40 GHz.

Why this band has become interesting is the realisation that the space for TV or data channels is greater in Ka band than in other bands, which are in any case becoming crowded with data services.

Ka band band boasts impressive bandwidth availability of between 10Mbps\4Mbps and 20Mbps\6Mbps (download\upload speeds).

What has recently changed – and what makes this relevant to emergency services looking at mobile broadband – is that recently a mobile platform solution for the Ka band has been developed.

This solution was first aimed at the satellite news-gathering market, and indeed the solution was trialled alongside the more-established Ku-band satellite platforms in the market during coverage of the Diamond Jubilee (when it worked).

In the last few months the UK emergency services have seen the introduction of the first Ka-band mobile satellite solutions, prompting the question, is it time to consider this technology seriously?

To answer this question I visited Newport-based satellite broadband specialist Excelerate, and spoke with company founder and managing director David Savage.

Years back, Excelerate pioneered the introduction of the concept of satellite broadband to emergency services' mobile command vehicles, and quickly found some vocal supporters of satellite such as Strathclyde FRS. David is proud to say that his company is still the only player in the game that has complete control of satellite bandwidth, in real time, as a result of its investment in direct purchase of bandwidth – as opposed to becoming a bandwidth reseller. *B-APCO Journal* readers will no doubt be aware that this is also the company that delivered the 18 comms-packed mobile incident response vehicles that supported the national Hazardous Area Response Team programme, which was devised to respond to major emergencies, terrorist attacks, and USAR incidents. The HART programme was created as a result of the 7/7 London bombings but the requirement was for a 'fit-for-purpose', completed rollout in time for London 2012.

To those emergency services considering Ka as a mobile satellite solution David urges some caution, even though Ka band is already part of the Excelerate portfolio. 'Ka is inevitable and it will be very good for certain applications, but potential users should be aware of the fact that Ka services at the moment are pay-as-you-go. The ones that are not pay-as-you-go, are only offering speeds similar to that of KU service which seems to defeat the object. And like broadband at home, the faster it is, the easier it is to consume data. The risk is that if a data threshold is exceeded, you get throttle-back or are asked for more money.'

The nightmare scenario could be an incident where the satellite package threshold is exceeded (eg by using too much video) and one of two things occur; the networks slows down back down to 64kb – dial up speed – or stops. 'If you are lucky and have a provider that is in control of the network – which we would be – you would make a frantic call and something could be done. But most resellers won't be in that position, and they will then be ringing their provider and eventually it could come down to providing credit card details over the phone during an incident.'

To further explain the implications for the emergency services David puts Ka in context of Excelerate's established satellite broadband network which runs in the Ku (as opposed to Ka) band.

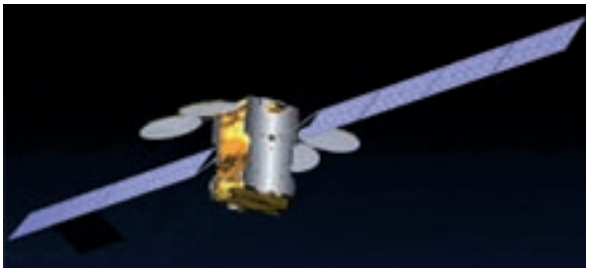
"I think the emergency services could end up with both Ku and Ka-band networks on the same vehicles"

This network is described by David as fully resilient because it runs on two satellites. If one satellite were to fail (an extremely rare event) the other would take over as a failover, something that is unique to Excelerate, adds David.

Excelerates' additional network was added as a result of a resilience exercise carried out in the run-up to the London Olympics. 'The Cabinet Office asked us a question relating to solar flares, because every year – regular as clockwork – we have solar flares and they create some issues with communications. And it so happens that every 11 years, in a cycle, there are heightened solar flares and these were to coincide with the Olympics.

'Coincidentally we had plans to enlarge our network and we realised that there were benefits to having two networks rather than having more capacity on the same one.'

Excelerate's new satellite network provides a higher elevation than the existing satellite network, and understandably some emergency responder clients in urban areas have been migrated to the newer network to enhance their line-of-sight capabilities. 'And that is another consideration for certain Ka band satellites. They have a low elevation in the UK, lower than other satellites we use



Eutelsat's Ka-SAT launched in December 2010.

– and we think that this is asking for trouble. Saying that, Ka is great for placing at the top of buildings, and indeed the concept of Ka was invested for consumers, mainly as a solution to delivering broadband economically to millions of subscribers in Europe who were never going to get fibre into their homes.'

The other Ka-band issue that David mentions regards the band's susceptibility to signal attenuation under rainy conditions ('rain fade'), a worrying characteristic in the context of mission-critical comms.

All these things aside, Ka band is here to stay if only because it is 'blisteringly quick' for video, says David. 'I think the emergency services could end up with both Ku and Ka-band networks on the same vehicles because both are very good for certain applications. But people need to be aware of Ka's limitations and potential hidden costs.'

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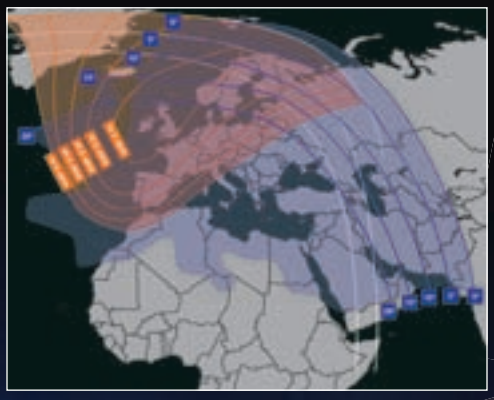
- Excelerate offers the **greatest range of tariff and performance options** – and the most competitive pricing in Europe, using fully accredited mobile services supporting connectivity anywhere, anytime.*
- Excelerate brings to market the **largest range of hardware** to deliver optimum performance, size, weight, power & speed of deployment - at the lowest prices available today.
- Excelerate is the world's leading provider of data, video, voice and internet applications via satellite and wireless solutions. As such, we can **guarantee your service levels**, quality of service and performance commitment for the life time of your solutions.



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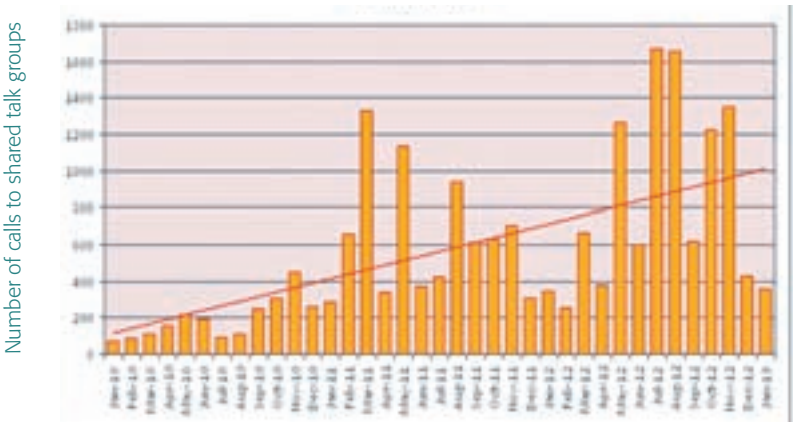

Charting the voyage to interoperability

Creating a culture of interoperability within all three emergency services and then – crucially – keeping that momentum is an ongoing challenge. British APCO Journal finds out what is next on the comms side for a critical concept that has all-too-often been identified in post incident investigations as the weakest link.

The NPIA-hosted Multi-Agency Interoperability Programme (MAIP) ran for two years with the aim of rolling out interoperability throughout the three emergency services and one of the key outcomes enabled local resilience forums to compile their own individual standard operating procedures.

At the end of this programme MAIP members Keith Donnelly, Mike Webster, Chris Lucas, and Jim Bilsland were charged with the ongoing promotion and support of interoperability within each of the three services. Today they are also supporting the newly set up Joint Emergency Services Interoperability Programme, whose aim is to ensure that the blue light services are trained and exercised to work together as effectively as possible at all levels of command in response to major or complex incidents. Comms is an important part of interoperability, which also includes guidance, procedures, training and exercising amongst 10 work streams within the JESIP programme

'Once MAIP was disbanded, Mike and I were left with the challenge of educating the fire sector in the principles of voice interoperability using Airwave. We approached this by delivering a one-day "train the trainer" course to all fire and rescue services in England and Wales. The idea behind this was the trainers who attended our one-day course could then cascade the training to personnel within their own organisations. We also include a section on interoperability on our Airwave Operational Advisor Course. Hopefully this will keep the interoperability message current within the fire community,' comments Keith Donnelly (currently CFOA-NR Interoperability and Fleetmap Manager).

So how often are interoperability communications – ie common talk groups – being used today in England and Wales?

Looking at the Airwave statistics (see chart above) Keith Donnelly is upbeat as the data for 2010-13 does demonstrate an upward trend. In January 2010 the number of calls made to shared talk groups in England and Wales was 71, in 2011 this jumps to 284, in 2012 it leaps to 343 and in 2013 it creeps up to 360. Call spikes tally nicely with major events such as the London Olympics and the Queen's Jubilee celebrations.

Keith remarks that the stats demonstrate a journey that began with the remit of changing the culture in the emergency services and embedding the new technology and procedures. 'Initially the process was about realising that there was a need for interoperability; secondly it was about learning how to do it; and then thirdly it was about putting it into practice so it became second nature. We are now onto the final stage.'

Whilst the data reveals the number of times interop talk groups have been called, there is (unfortunately) no way of ascertaining when common talk groups should have been used – and weren't. 'But we've been with interoperability for so long, three years now, that I'd be surprised if during a large incident it wouldn't be used – or if during a debrief a question wasn't asked about its use. I am confident that if there were a large incident now that comms interoperability would be considered, and if it were needed it would be set up.'

As part of his support role Keith keeps an eye on Airwave statistics and if a significant incident takes place he aims to contact the fire service involved to see if any good-news stories or interop learning can be shared nationally. The most common learning points don't tend to be significant, but instead lean towards involving something as basic as understanding what common talks groups are available and actually being able to find them in the radio terminal in the heat of the moment. 'That's why we always encourage people to practice using their radios, just to stay familiar with them.'

Looking forward, Keith believes that JESIP will assist the emergency services in continuing to get the Airwave message out and help keep the momentum going. 'Airwave interoperability comms is part of one stream of the programme, and we hope it will give it a new momentum.'

Chris Lucas, Senior User Representative, Ambulance Radio Programme (Department of Health) has been involved with Airwave for just under three years, and he was previously seconded from Yorkshire Ambulance to the Multi Agency Interoperability Programme. He too is looking forward to JESIP reinvigorating the interoperability process.

He has been running a Tactical Awareness course for some time which – as with fire and police – contains an interoperability element. Indeed, a new set of training sessions are due to begin in May. 'We have been running this course for the last 18 months but it is a challenge due to the recent austerity measures combined with the commitment necessary from Trusts to release personnel for two days.'

The ambulance service uses Airwave differently to the rest of the blue lights, with most communications taking place point-to-point or using data status messages with control rooms. 'During large incidents we do resort to group calls but because this is a different mode of

working to the norm it is one of the main challenges for the ambulance service,' explains Chris.

Interoperability training tends to be focussed at command level but front-line staff are also trained to change talk groups if and when required. 'All agencies recognise now that communications are key, and that this goes beyond Airwave. But being able to speak with each other via Airwave is the common tool. Culturally speaking, the challenge is to share information rather than work in silos.'

In Chris' opinion one of the biggest hurdles to reaching interoperability in the ambulance service has been culture: people who are happy to communicate face to face or by telephone are simply uneasy about speaking with each other on the radio. And this is in spite of the ambulance service having a fairly standardised fleetmap of radio channels, due to the fact there are only 10 NHS Ambulance Service Trusts in England. 'All our multiagency interop talk groups are in the same slot number. Every Trust has its own hailing group that is only available to ambulance services, and each Trust has its own set number of mutual aid talk groups. So when five crews from each Trust went to London to support the Jubilee Weekend, they knew which talk groups would be allocated to them by the receiving Trust before they arrived.'

Chris believes that when it comes to interoperability 'nothing is broken' but there are nevertheless plenty of opportunities for improvement. 'It all comes down to training, and you can't do this as a single service, there has to be a tri-service approach.'

As an example (and putting on his Yorkshire Ambulance Service hat on), Chris highlights how his home Trust has put the tri-service approach into practice at local level. 'There is a talk group that is permanently live between South Yorkshire Fire, South Yorkshire Police and Yorkshire Ambulance control rooms, which means people can drop onto that talk group straightaway. South Yorkshire Police have been very proactive with this approach. During one incident one of my colleagues received a briefing from a police commander whilst travelling to the incident – and I believe that this is what it's all about.'

Chris is careful to point out that this approach would be difficult to push forward nationally, however. 'This is where having 10 Ambulance Trusts goes against us, because for example East of England Ambulance covers six police forces and six fire services, so potentially you would need infrastructure to cover six extra talk groups.'

To overcome challenges such as these Chris encourages local services to work together to reach a solution that is best for their area. 'I like a generic framework to work by, but I don't think one size fits all the country.'

As with fire and ambulance, the police service has an ongoing commitment to interoperability.

ACPO has a Working Group on Interoperability under governance of the Operations Business Area headed up by DCC Simon Chesterman (West Mercia) with a comms strand that includes an Airwave section. This section lists a set of priorities/projects that have been identified to enhance interoperability, with a delivery date of summer 2014.

'Simon Chesterman oversees the strategic delivery of the interoperability work stream, relying on Commander Richard Morris from the Metropolitan Police who is responsible for delivery of products within his overall Airwave portfolio,' explains Jim Bilsland, Airwave Business and User Assurance Co-ordinator (Home Office IT Function), who has oversight on the delivery of the Airwave priorities within the Airwave work stream. 'Five deliverable priorities and 14 products have been identified, and they include training and exercising, understanding and managing Airwave capacity. These areas have grown from the learning of high-profile incidents such as the Derrick Bird shooting. One of the products identified is the need for the introduction of a national Airwave training package, which we will deliver to the police by summer of this year, and which will be a significant launch.'

The new course is in addition to the current Police Force Operational Airwave Tactical Advisor course, and it is aimed at end users, control room dispatchers and control room supervisors. 'A national computer aided learning package will support the delivering of learning descriptors so that each force can identify their own Airwave training needs.'

Part of Jim's work for this project has involved matching interoperability developments with all police training, ensuring that wherever communications interoperability may be required that it is included in the relevant courses, eg command/firearms/public order courses etc. 'This means interoperability communications will be part of a permanent training cycle at all levels – for new recruits, officers that are new to a rank/responsibility or officers that are new to a particular specialism. We are trying to install in the service a recognition that interoperability is not just a question of a one-hour course, but that there is a permanent need for a training cycle.'

Furthermore, the work that ACPO's work stream has carried out in the field of interoperability is being shared with JESIP. The five thematic (and generic) priorities identified in comms could fit across the board of the emergency services. 'JESIP has been looking at these priorities against theirs to see what we can share to ensure we are as effective as we can be in the emergency services partnership.'

In the medium term, Jim is also looking beyond voice interoperability, and is planning to commission a project on automatic resource location data, ensuring this data can be pushed across control rooms. 'So if a resource is moving say to west Surrey from the Nottinghamshire areas, the west Surrey control room can have sight of the Notts resources as they enter their area. So we are now looking at what can be further integrated to enhance operational effectiveness.'

Key to making this type of new practice a reality is ensuring it has minimum requirements in terms of cost and resource, but Jim is adamant that it is possible and he points at the work carried out in Scotland where the amalgamation of police forces has pushed commonality in procedures within control rooms with different legacy IT platforms. 'That is less likely to happen in the current policing structure in England and Wales but I suspect in the future it might. The best example here may be found in collaborative work carried out in West Mercia and Warwickshire, and that's not to say that they are doing it, but these are areas where we may be more likely to see it happen in terms of effective policing and resourcing. 'What we are seeking to do with the national project is create a platform that allows forces to use creatively – and as they see fit – the resource location data that is presented to them.' Forces may just want to use such resource data in events that invoke mutual-aid agreements, or within incidents occurring in borders and which would involve resources coming in from different areas.

Concluding, Jim too is upbeat about interoperability – within limits. 'Do I think we will get to the stage where at an incident everybody will interoperate in the correct way? That's probably where human nature comes in. What you can do is seek to achieve an optimum environment where you have done as much as possible to control those risks and you are satisfied that interoperability is second nature. And some people would argue we are not far off that.'

Training the 'super users' of the future

Using the Airwave network efficiently during large and/or protracted operations takes specialist skills – B-APCO Journal finds out about a unique course that prepares FRS personnel to do just that.

Keith Donnelly (top) and Mike Webster (above) are both serving fire officers and they run the Airwave Operational Advisor course.

The Airwave Operational Advisor course is run by CNR (Chief Fire Officers Association – National Resilience), essentially a trading arm of CFOA.

The people behind the course are Keith Donnelly and Mike Webster, two serving fire officers (North Yorkshire FRS and Gloucestershire FRS respectively) on secondment to CFOA.

The origins for the course go back a number of years when it was realised that there was no equivalent training for the Fire Service to the Airwave Police Tactical Advisor course – an intensive four-day course aimed at the police sector only.

Keith Donnelly and Mike Webster, CNR Interoperability and Fleetmap Managers, attended the police course and then designed a version specifically for the fire service, and one that focussed on ensuring smooth comms for pre-planned and spontaneous events.

'We had been approached by members of our community in the fire service because they were interested in attending the Police Airwave Tactical Advisor Course, but of course it wasn't appropriate for them. We recognised that such a course would benefit our community, so we decided to run one. We prepared a pilot course for selected members of the FRS to see if it was pitched at the right level and the right people, and then integrated the feedback. We changed the name to Airwave Operational Advisor course as the word 'tactical' has different connotations in the two services.'

45 people have attended the course since its inception and there is a long waiting list. So why is there such a demand, and shouldn't the fire service already be an expert on Airwave?

Keith is quick to point out that this course is aimed at 'super users', people who have a real understanding of comms and who might be called upon to provide this expertise during complex scenarios, in the form of setting up an Airwave cell or preparing a comms plan.

A comms plan in its simplest form could involve allocating a talk group to a water sector made up of a number of fire engines and ensuring that they can all communicate with each other, as well as with personnel at the seat of the fire; then allocating another talk group for the incident commanders (police, fire and ambulance); and then a different one to enable comms between the fire incident commander and fire control.

'There is an additional dimension of complexity when an incident occurs in a rural area where there is only enough capacity to handle two or three talk groups. So the Airwave Operational Advisor has to study an incident from a communications point of view and bear in mind the needs of other agencies. It is no good one agency setting up its comms and leaving no capacity for the other agencies. So the idea behind this is one of our Operational Advisors would sit with the Police and Ambulance Advisors and between them form an Airwave cell and a comms plan – rather than all be fighting for capacity.'

With around 1,800 radio talk groups allocated to the fire service for local and national incidents, it is understandable that fleetmapping should also form a significant part of the course. 'In its most basic form, we train people to look at what the needs are of the individual users and then ensure

the radios are loaded with the appropriate talk groups to meet their needs.'

An Airwave Operational Advisor has to know the fleetmap of all the radios before a comms plan can be created. 'They have to ensure that the talk groups they allocate are on every radio. An officer in Wales has to know what talk groups are on a Welsh terminal as well as on an English terminal, so if an incident for example occurred on the Severn Bridge, it would be necessary to know which talk groups would be in common between the terminals. There is no point an Operational Comms Advisor pointing people to a talk group that only exists on a Welsh or English terminal. So we have to look at what is common between them, and what is common between ambulance, police and fire terminals, in case we need to bring all three commanders into one talk group.'

Most fire and rescue services aim to have a number of 'super users' trained up so that there is always at least one Airwave Operational Advisor on call to respond to an incident, says Mike, which explains why there is such a high demand for the course.

'In years gone by, communications have often been criticised in the aftermath of large incidents. Our main aim is to give people the skills to manage their comms in such a way that it is effective and achieves their objectives.'

Places on the Airwave Operational Advisor course are in high demand: for more information email Keith Donnelly or Mike Webster on firelink@cfoa-nr.co.uk

Southampton's crashing success

Exercise Alcourse was held at Southampton Eastleigh Airport on Sunday 10th March 2013, and by all accounts was a fantastic collaborative effort by the many parties involved, writes Mike Batten, Roads Policing Officer and Hazmat Advisor, Hampshire Police.

Designed to build on the previous exercises held in the Southampton area and the central themes of interoperability of both command and control and radio communications, it was also an opportunity to engage those agencies not involved in prior exercises.

The Airport Authority was keen from the outset to test its internal response plans and this also created the opportunity to simultaneously test the Hampshire Constabulary action plan for an air emergency. The initial proposal involved a light aircraft incident, however, in planning meetings and with the willing assistance of all participants this was rapidly escalated into a medium passenger jet with 30+ casualties. The proximity of a railway yard with an area of disused sidings and rolling stock provided the perfect combination, enabling complexity to be built in to thoroughly test responders.

The final scenario agreed by the planning team was a passenger jet declaring an air emergency, overshooting the runway on landing and crashing into a train loaded with hazardous chemicals. The passengers and crew on the aircraft as well as railway workers on the ground would present a range of injuries and once again the involvement of Amputees in Action, as well as volunteers from the Casualty Union, were key to presenting responders with a realistic crash scene.

Although the exercise itself was designed to test responder interoperablity, from the outset the commitment and willingness to adapt and work together by everyone involved (and there were many) was a fantastic example of how people and agencies can come together to make a project work. Representatives from each of the 12 participating agencies were invited to present their 'desired learning outcomes' in order that everyone gained the maximum benefit.

After six months of preparation by the multi-agency planning team, Sunday 10th March dawned grey and very cold. The aircraft fuselage (a section of Boeing 737) had been craned in the previous Wednesday, and fire officers from the Airport Fire Service and staff from London and North Western Railway Company worked hard to create the illusion of a scene of devastation. This even extended to clothing flung into surrounding trees and undergrowth! A member of the AAIB team on site provided the ultimate compliment by declaring the

Members of the Joint Emergency Services Interoperability Program attended the exercise as observers.

scene 'realistic.' This even extended to black box flight recorders being provided by the AAIB and placed in the 'debris field.'

Six 1,000-litre IBCs were strewn around the site to simulate the cargo from the train, two of which were punctured to release 'chemical product,' in this case water masquerading as UN 1990 Benzaldehyde.

The exercise was declared 'live' at 09.15 and the initial response was made by the Airport Fire Service, closely followed by HFRS. As more responders arrived on scene the need for collaborative working and command and control rapidly became apparent. Managing the marshalling and holding areas, securing cordons and controlling access became an increasingly difficult undertaking. Fire vehicles and personnel needed access to the scene with fire fighting and cutting equipment; Hampshire Ambulance and the Hazardous Area Response Team needed to evacuate casualties to a triage area before onward transport to hospital; Hampshire Police and British Transport Police needed to secure and manage both the scene and evidence. The potential for conflicting priorities and needs of the responders required careful management to ensure that everyone was working towards common goals. This was particularly true where the respective agencies may not necessarily work or exercise together as a matter of routine.

A Silver Command cell was established within the airport and a Casualty and Relatives Reception Centre was also opened.

Once again, the use of the emergency services interoperability talk groups on the Airwave radio system was employed to link the various agencies on the ground back to the Silver Command Cell. A Hampshire Police mobile control vehicle and Airwave Tactical Advisor were present on site throughout to ensure that communications between the various agencies ran smoothly.

Hampshire Police Hazmat Advisors also made full use of the ability to talk to their counterparts in HFRS who had been trained and issued with Airwave sets in the weeks leading up to the exercise. This enabled continuous contact even when HFRS Hazmat officer entered the 'hot zone' where the police officers could not follow.

In another first, the Airwave interoperablity talk groups were monitored in the HFRS control room (as distinct from the dedicated HFRS-only radio system) throughout the exercise. This was a precursor to HFRS control room staff being trained in the near future by Hampshire Constabulary in management of Airwave systems and talk groups.

Also present throughout the exercise were 'senior users' from the Joint Emergency Services Interoperability Program (JESIP) acting as observers. The opportunity to gain insight from members of the JESIP team was seen as a priority from the earliest days of planning. It was hoped that not only would their expertise be vital to the ongoing local interoperability project work, but it was also viewed as an opportunity for the work being done in Hampshire to be fed back into JESIP for assessment.

The exercise was concluded at 13.30 hours with all involved satisfied that the incident had run to a satisfactory conclusion and all practical tasks completed.

Inevitably there were aspects of the exercise which did not run as expected. However, if one subscribes to the view that exercises are the best place to learn lessons, then there is no such thing as either mistakes or failures! A hot debrief was held at the scene with a formal debrief to be held on 17th April.

A number of key learning points were identified on the day and work has already begun to address some of them. No doubt more will be brought up at the formal debrief. The most heartening thing to be taken away from the day was the dedication of all involved in making both the exercise itself a success and commitment to building towards the common goal of all the agencies to work together to save lives.

London and North Western Railway Company staff created a realistic scene of devastation.

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Cross-agency comms: commonly identified for remediation

David Cohen, Lead Consultant at Analysys Mason, reports on the outcomes of a major project recently completed with the European Network and Information Security Agency.

As reported in the *British APCO Journal* website at the end of January 2013, Analysys Mason recently worked with the European Network and Information Security Agency (ENISA) to examine the technology and processes used in emergency communications. The aim was to identify good practice and highlight potential challenges in effective crisis communications. The twin drivers of constrained resources and new technological capabilities mean that the opportunities for emergency services to work more closely with each other and with the public have never been greater. While the output focused on policymakers, there is value in examining how the recommendations could be addressed by the emergency services in terms of strategy and service planning.

Examination of post-incident reports from around the world demonstrated that even the best planned procedures and processes for emergency communications in response to a crisis can be overwhelmed by the unexpected. For example, a Royal Commission examined the response to the bush fires that occurred in the Australian state of Victoria in February 2009, and identified a lack of co-ordination between emergency services responding to multiple simultaneous incidents, an inability to share information between ICT systems, multiple radio systems that could not cross-communicate, and an inability to effectively communicate revised evacuation policies. Such issues hampered the response to ferocious fires in which nearly 200 people were killed.

Similar problems with interoperability and inter-agency communication were mentioned in a variety of other post-crisis reports, such as the Elbe Floods (2002), Hurricane Katrina, the London Bombings (2005), and the Queensland Floods (2011). Several of the incident reports that were reviewed identified technical failures and, in particular, organisational radio systems (normally from external environmental factors such as mast loss due to fire or flood), that further hampered inter-agency communication, suggesting that even the most resilient infrastructure cannot be relied on in a geographically wide crisis.

The issue of cross-agency communication is the most commonly identified remedial opportunity in post-crisis analyses. While most first responder agencies participate in exercises relating to co-ordination with other services, and disaster planning will include multiple services in a unified response, the development of communication requirements and processes within each organisation is focused very closely on single service needs. In a crisis situation, plans for cross-agency operation can be undone by technical or organisational breakdowns arising from the pressure of the crisis response. Even within a single service, logical organisations mapped onto underlying communications technology can limit flexibility (such as the arrangements of TETRA talk groups when police officers were redeployed to London during the 2011 summer riots, complicating the communication domain).

"The issue of cross-agency communication is the most commonly identified remedial opportunity in post-crisis analyses"

Further complexity is found when looking at the ways different organisations use communications technology. Police communications doctrine in the UK is principally voice-based for dispatch and data exchange, and allows for direct officer-to-officer communication. Medical services make far more use of text-based radio services for dispatch and information transfer, and send that information to vehicles rather than staff – with much less information being sent from vehicles back to the centre. Fire and rescue services rely on centralised dispatch over fixed lines, and use radio more for on-site command control and management. Finding appropriate integration regimes for cross-agency crisis response is complex.

Discussions with key emergency response stakeholders across the world revealed that much of the planning for improvements to emergency communications is centred on voice systems and telephony, with data services being less of a priority. This is especially true when looking at interactions with the public – traditional emergency call taking for

David Cohen has more than 15 years' experience of providing IT consultancy on all aspects of technology strategy, design, procurement and implementation.

receiving information from the public is the expected mechanism, and for many countries communication to the public is left to the broadcast media (often under the direction of a separate government department of information or communication). This focus means that potential opportunities for using the power of a 'crowdsource' approach (the practice of obtaining needed content by soliciting from a large group, particularly online) to incident response and situational awareness may not be realised. The fact that in many communities a high percentage of the public carry a camera-equipped Internet-connected mobile phone means that emergency services have a new rich data source to allow them to determine circumstances on the ground – if they can find a way to use that information effectively. Also, messaging from first responders on emergency directives, recommendations and advice might potentially be sent directly to the public in a more timely and direct manner than through broadcast media channels.

Examples of the crowdsource approach to situational monitoring include the Deepwater Horizon oil spill (2010), where the public viewing the live video feeds of the capped spill noticed increased oil flow when a problem occurred with the cap – this resulted in media questions about the problem before the internal management reporting processes had passed this information on to the management leadership. Similarly, in the Great East Japan Earthquake (2011), many district civil defence organisations found social media servers to be one of the few effective ways to interact with the public about shelter, water and power provision given the huge destruction in buildings and fixed infrastructure that resulted from the disaster.

In summary, key points identified during the study were:

· there are often challenges in inter-agency communication in large crisis incidents

· inter-agency communication issues can be complicated further by technical loss of service or logical organisational arrangements in systems

· developments in emergency communications often focus on traditional models and voice systems, in particular

· public data services are an underexploited resource for emergency services to communicate to and interact with the public, especially in times of crisis response.

These findings can be used to influence the strategic development of communications systems in the future, by providing a wider perspective on potential requirements rather than a focus on pure operational needs. In this way, opportunities can be taken to respond to crisis incidents in a more effective matter and ultimately provide better protection to the public.

Given that improved inter-agency communication is needed, emergency services could investigate using common system platforms for communications. Where this is not possible (due to operational requirements) the potential for technical interconnection to other organisations' systems could be examined. This examination is best applied widely to all communications and management systems used by an organisation – not just voice or radio, but also associated data systems involved in command, dispatch and incident management. The drive for improved collaboration within the UK public sector means that business cases that justify investment with inter-agency collaboration may be more readily accepted than vertical proposals.

Technical loss of service during a crisis could be mitigated with a broader array of communications channels (and the associated processes to use them operationally). For example, the use of data messaging for information exchange between control centre and incident scene could, with the correct operational framework, be extended to support a reduction in voice capability. Similarly, such channels could be used to work around logical limitations in the arrangement of other systems.

The previous points demonstrate how a wider approach to emergency communications rather than a focus on pure voice systems can help to improve communications and enable more flexibility. As such, strategy and planning for emergency communications could be further extended to encompass newer, more data-orientated technologies (where this is not already being considered). For example, much of the discussion and information exchange traffic that can occupy a TETRA talk group would be suitable for a social-media style text discussion channel on a data device, with the added benefits of user attribution, text search capability and historical archiving.

"The challenges in delivering such developments may seem insurmountable in the light of shrinking budgets and reductions in staff resources"

An extension of a growth in the use of data services could include making much wider use of public data systems, such as smartphones and social network services, not only for broadcast of official emergency information to the public, but also for increased information gathering and situational awareness during incidients. Delivering this level of interaction with the public over such systems requires more than just equipping operators with the appropriate access tools; in order to achieve meaningful crisis management information, the incoming data must be analysed and processed to validate information. Semantic analysis systemsare now becoming readily available to do this.

The challenges in delivering such developments may seem insurmountable in the light of shrinking budgets and reductions in staff resources. However, it is worth bearing in mind that as current systems age and are due for replacement, new market offerings will be able to offer some of the technical capabilities needed to meet these goals as part of their standard specification. In addition, the use of collaborative communications solutions and the improvements they bring may allow levels of operational flexibility, agility and crisis response management that deliver cost savings independently of the investment required.

Built to keep you policing

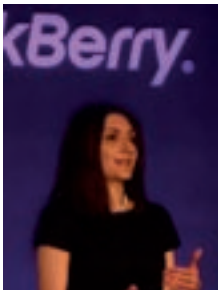
The BlackBerry International Police Summit took place in January in Amsterdam and B-APCO Journal went along to see at first hand the new BlackBerry 10 and BlackBerry Enterprise Service 10 as well as find out how these smartphone devices are being used by law enforcement organisations.

RIM Global Government Solutions Vice President Paul Lucier.

'Revolutionising mobile computing like we did in 1999' is how Research in Motion's Global Government Solutions Vice President Paul Lucier introduced the new offerings to an audience of mostly law enforcement professionals, adding that the aim was to bring secure devices that people wanted to use, were desirable and had sex appeal. Strong words, admitted Paul, from a company that had in some quarters been written off and yet one that – he pointed out – still had 79 million customers around the world and one with a) a war-chest of money to spend and b) no debt.

The new Enterprise Service 10 is RIM's completely new platform and has been built on the architecture from QNX Software Systems, a company RIM acquired two years ago and which forms the 'heartbeat' of the new platform.

'Imagine technology so sophisticated it can send images from space, so reliable it keeps air traffic control working, power plants operating, Hollywood cameras rolling, so fast it keeps high-speed trains running, and so advanced it's in the most innovative cars. Now imagine all of that in the palm of your hand.' So ran a promotional video clearly designed to highlight the new operating system's reliability, security and speed to an audience well acquainted with the meaning of mission-critical communications. 'The new server is underpinned by two components. First, a lot of people don't realise that we have a massive global secure network that backs up all BlackBerry data, and connects all the users so they can use BlackBerry in any country. And it is backed by a strong global tactical support plan, which is the ability to manage your mobile computing platform on current and future devices,' said Paul.



Maria Psaltaki, BlackBerry Services Portfolio Manager.

In general terms Paul sees law enforcement as benefiting along two broad lines. 'Productivity and efficiency; we want to highlight that customers tell us that the technology allows them to lessen the administrative workload. Secondly, it allows for more community engagement. Being able to spend more time out in the patrol car and on the street engaging with the community is critical. It really boils down to better service for officers and the people you are serving.'

Paul then offered a glimpse of some of the features that the new BlackBerry 10 device will be sporting – and it must be remembered at this stage the official launch of the device was still a week in the future.

'BlackBerry Balance is one of the things that gets the most attention. Pulling down on the menu comes down with two perimeters – work and personal. And what is exciting about this if you chose "work", the background changes and of course the applications change. If you then open up the App World you'll see it opens up into corporate apps, which we have certified within our corporation.'

The complete separation between personal and work apps means that both sides are separately encrypted, and that the work apps – using the police as an example – would all be pre-approved by the individual force involved.

BlackBerry 10 device

Maria Psaltaki, BlackBerry Services Portfolio Manager, highlighted some of the features of the new touch-screen device. The keyboard 'learns' the particular typing style of the individual. 'If I press a bit to the left of the centre of a key it will adjust to my way of typing, as there is another virtual keyboard underneath.'

The predictive typing feature has been honed so it learns from an individual's normal usage of vocabulary, whether it be in Facebook, email, tweets etc. It can simultaneously predict in three languages and if a message begins in French it will start suggesting words in French.

The Calendar has been taken to a whole new level with a number of enhancements that are more Sci-Fi than most users will be used to. On the agenda screen, busy days are

bigger and bolder the busier the day, so it is possible to see straightaway which days are slower. Picking a particular event not only shows the people who are invited, but brings up the email trail for that meeting. And clicking on a particular invitee will bring up previous messages (eg LinkedIn, FaceBook etc); 'Also, if it is a person I am meeting for the first time, I can see the latest news about their company at that point of time. If I know them, I can see when we last met – whether by conference call, email etc, and what communications we've had. It is very useful for meeting people. And the useful thing about the Calendar is that it is built into the operating system – it is not an app.'

A key aspect of the new device is that it has been designed so that all notifications and content are only one gesture away. 'And as well as allowing you to type faster, when you are composing an email it will make suggestions about the recipients based on who you email the most. Similarly, for the calendar, depending on the title of the invitation it will automatically search through emails for similarities in subject type and who was there before, and suggest the invitees. And the more you use it the more accurate it will become.'

BlackBerry PlayBook tablet, case study: Chief Inspector James Asser, Sussex Police

Like many forces Sussex faces challenging targets for saving money – in this case £50m over a five-year period – and to this end the force actively looked at reprocessing the way it delivered policing.

The Mobile Policing Sussex Pilot involved 50 PlayBook tablets with Bold and Curve Smart phones being deployed on the front line via police response teams backed up by a team of five IT support staff.

The force had researched a number of operating systems and concluded the only one that was robust enough and with the right level of security was the RIM solution.

In Lewes, Sussex Police developed 20-30 applications for the RIM PlayBook tablet and James highlighted some of these, starting with the stop-and-search app, which not only shows who has been stopped and searched but also where someone has been stopped and searched in the past.

A command and control application is used to assign officers to incidents. 'Not only are officers presented with the location of the incidents, but they also have the ability to research what has been done about them in the past.'

The last app James highlighted was the digital witness statement, which enables statements to be taken and also signatures to be captured and used/accepted in court as a physical signature, 'This means the data goes straight from the crime scene to the investigating officer. It is about taking information and making it that much more valuable.'

A benefit highlighted by the tablets has been the usefulness of accessing key information when necessary – and not purely during thrice-a-day briefing sessions. 'One of the apps in development will enable the officers to get the information on their PlayBooks as they move through their beats, so the information only becomes visible when it's pertinent to what they are doing at the time.'

The ease of deployment of the tablets was described as being a significant benefit for Sussex Police, which historically had been reliant on hardware being correctly configured and then sent out – a long and difficult process due to the number of officers involved. 'Scale that together for 3,000 officers throughout the force, add breakages, and it becomes a logistical nightmare. So we needed a device we could deploy ourselves.

'Currently as a deployment model we use a cable from laptop to tablet, but we are moving to 'over the air' so the officer basically picks up a blank tablet sent over internal mail, plugs it in or over the air and within minutes the device is theirs. This is really important because things do get broken.'

James focussed on the benefits of encouraging officers to take their tablets home with them, because this enabled 'self service'. 'They can then click on "work" and download the apps wherever they are.'

This also encourages officers to 'self service' and 'self support', meaning that training is more likely to be carried out by individual officers because they have 'bought' into the technology.

James then tackled the tricky subject of 'benefits management', outlining three main areas of; reduced operational cost; improvement of service delivery; and increase of customer satisfaction. James also emphasised the practicality of installing the PlayBooks in police cars, which only entailed an £80 holder as opposed to the more sophisticated technical installations that can cost thousands of pounds.

Sussex Police wants to do more than just digitising manual processes, and James pointed at the dynamic information-sharing capability of an in-house stop and search app that is currently under development. 'If I'm searching a member of the public and my colleague has done it previously, a green dot on the map means that officer is currently on duty, and you can touch it and fire off a message instantly to them. We are also looking at optimising character recognition, so that we can hold a device over a driving licence and gather all relevant information. Officers are more willing to agree to use

James Asser highlighted the potential benefits of sharing information between agencies and UK forces across a secure and dynamic platform.

Chief Inspector James Asser, Sussex Police.

the technology if they see it results in less effort.' James added this app would also improve the quality of information placed within core corporate systems, reducing the error rate and ensuring future decisions were based upon an accurate history.

Dynamic information sharing is a concept that has also been extended to the public, so for example following a stop-and-search operation the member of the public's email can be typed in, and an email with a secure login code (to ensure their identity) will then be sent out requesting feedback.

Looking to the future, Sussex is planning to further mobilise some applications, particularly as regards authorisation and signatures for the judiciary process, so custody orders can be carried out online. It is also looking at deployment via access to command and control; and further work on integration with other databases.

'Sussex Police is not simply looking to mobilise current processes but rather re-engineer the interactions we have to leverage the benefits technology bring in terms of improving the customers experience while reducing the cost of a more traditional practice.

'The mobile medium has the potential to create a secure and dynamic platform for sharing information between agencies and UK forces. Improvements will provide the public with a more complete history thereby creating an opportunity to deliver an individually tailored product,' concluded James.

South Wales Police; Chief Inspector Darren Phillips and Sergeant Andy Berry

Darren Phillips and Andy Berry shared their experience of deploying 2,700 BlackBerry smartphones to front-line officers, which has led to £5.5 m of efficiency savings as well as officers being able to spend 11% more time out of the station.

South Wales Police is decreasing its numbers of officers but increasing in community support officers, all of which are issued with BlackBerry devices, explained Darren. 'Our key objectives for our mobile data project were, first of all, increased visibility by increasing time out of the station via providing a tool for our staff that prevented them having to come back for administrative purposes – the "yo-yo" effect. At the same time we wanted to enhance the quality of service by making sure that when interacting with the public we came up as professional. Policing is a dynamic business and having up-to-date information is something BlackBerry devices provided.'

Since the mobile project started in 2010 there has been a process of continuous improvement in applications. When a contract and device refresh was due in April 2012 Darren, as project manager, decided to offer a choice of three devices to the workforce in order to encourage their usage.

South Wales works closely with neighbouring force Gwent and as such it made sense to make backend data visible to both forces, which has in turn lead to a share of costs and efficiency savings.

Mobilising policing systems is at the core of the project, so PNC and command and control are available through the BlackBerry. 'Security is of course absolutely essential but at the same time we recognised the challenge of making the system as appealing as possible to the users. So one password provides access to all core systems without having to enter additional passwords.'

Another key aspect that was deemed important was ensuring functionality on the devices replicated the functionality on desktop hardware. The result is that personnel trained on desktops now find it easy to navigate on the handhelds. 'And to support security every button pressed is recorded and audited to ensure it is used for the right purposes.'

To further encourage buy-in, a 'relaxed' internet usage policy has been instigated.

Andy Berry, the architect of the present mobilising network, took over the presentation to concentrate on the detail, beginning by emphasising how operational officers were instrumental in creating applications and functionality for the apps store.

The searching and updating apps comprise person search; vehicle search; current call; my workload; road traffic search; internal intranet; and South Wales Police app menu. Report apps include intelligence; stop search; missing persons; occurrence enquiry logs; and search history.

'Person search' will come up with data and images (eg custody) from a number of sources (including the PNC). 'Vehicle search' again will look through a number of databases and will include information such as insurance details (eg conditions of insurance) as well as vehicle data. The 'my workload' app is linked to the network management system and enables officers to select particular tasks with minimum key strokes. Officers can hyperlink to an enquiry log, replicating desktop functionality, and if a new task needs to be created from the street, requests can be made for investigation officers to attend. 'Everything is linked to the back end, and we are seeing tangible benefits because information comes in straight from the command and control system, and we can update from there. Phone numbers come up so we can use texting to tell an informant if we are going to be late. It makes it more personal.'

After wowing the audience with some more clever apps and capabilities, Andy outlined how a performance reporting tool had also been deployed. This allows reporting of six key indicators (including number of PNC searches and transactions out of station). Data can be interrogated at Force, BCU, team and individual level, and is accessible to sergeants and above.

Andy ended his presentation with some hard evidence that the devices were indeed being used: since 'go live' in April 2010 there have been 3.1 million searches and updates on the Force's systems; and on a weekly basis 3,000 PNC searches are currently made.

Darren then took over the South Wales Police slot with some further impressive statistics; a peak into the future; and some lessons learned.

Phase 1 of the rollout allowed the Force to increase time out of the station by 8%, with cashable savings of £4.7 million.

Phase 2 resulted in out-of-the-station time increase of 11%, with cashable savings of £5.5 million. 'And it has reduced investigation time by the equivalent of an incident being updated one day quicker.'

As regards future capabilities, these were summarised as:

- Enhanced camera capability
- Direct officer entry eg 'criming'
- Witness statements
- Fixed penalty tickets
- Road traffic collision reports
- Waymarker entry notification.

On the last point, Darren commented that SWP was one of three IR3 forces that has a resource demand management system that allocates officers to a job depending on where they are on a map. 'We want to link that to the BlackBerry so that when an officer passes a waymarker, they can be identified and sent alerts and tasks.' He added that future developments would also concentrate on further integration of cross-platform working, linking tablets/laptops, desktops and BlackBerry devices with Niche, PNC, NSPIS, WMS etc. 'Whatever we do on the desktop has to be replicated on laptops and on a BlackBerry, around forms, crime reporting etc.

As regards lessons learned, a few were highlighted: 'This was not an IT-led project, it was operations led. I'm an operational Chief Inspector and I was project manager.

'It is important to hold people accountable through project management, and we are fortunate that our Assistant Chief Constable is passionate about mobile data – it is important to have that at the top.'

On the phased approach Darren mentioned three key words; design, develop, deliver. 'And maintaining buy-in is key, because it allows us to make continuous improvements.'

Future developments by South Wales Police will concentrate on further cross-platform integration.

Not just a radio with a camera

Motorola introduces the world's first TEDs-ready portable radio with evidence-gathering capabilities.

The new MTP6750 holds a number of advantages over a smartphone (see slide below), including a much reduced risk of unexpected obsolescence.

'A new way of engaging with public safety' is how the MTP6750 was introduced last month by Motorola Solutions' VP and General Manager Tom Quirke and by the end of a presentations-packed press conference in London many journalists were inclined to agree.

A series of quick-fire case studies highlighted how giving officers the capability to immediately gather digital image evidence could prove invaluable. Being able to take snapshots of witnesses at a scene – eg a car crash – could help track them down later. Footsteps of a suspect in the sand or snow; snapshots of a scene before evidence is moved/removed by other agencies; bruising on the face of a domestic violence victim; all were cited as examples where relevant evidence could be gathered by the first responder before said evidence disappeared or started fading away.

Of course images are already used by law enforcement agencies; special teams exist for this purpose alone, and it is not unheard of for officers to use their own personal devices to take pictures. But Motorola's offering rests on two compelling arguments. Firstly, it can take time for specialist photographic teams to arrive at a scene, that is, even if they are dispatched. Secondly, pictures taken on standard devices can be altered (think red-eye reduction, cropping etc) – which means they can be classified inadmissible in court.

Motorola has focused much of its effort on making sure that a.) the pictures taken by their camera cannot be rejected by any court and b.) the processes involved in handling the images seamlessly fit into front-line current work practices i.e. an officer doesn't have to do anything he doesn't do already.

When an officer takes a picture a series of metadata is translated into a digital fingerprint. A time stamp is included – and one that is controlled by the TETRA radio network manager. GPS location data is also recorded with that picture, and even if a picture were to be taken inside a building the stamp would pull the nearest TETRA cell ID. The radio ID is logged, as well as the officer's ID – and interestingly, also which talk group the officer was on at the time. 'So this gives you who took it, where they were, when, and who they were talking to at the time,' said Tom.

An algorithm inside the camera creates the digital fingerprint that is later uploaded separately onto a central server when the radio is placed on its charging cradle back at the station. If an image is tampered with, the system will flag it up.

The actual images on the camera (which cannot be deleted by the user) are removed automatically when the radio is placed in its charger at the end of the shift, and transferred to a database separate to the one containing the digital fingerprints.

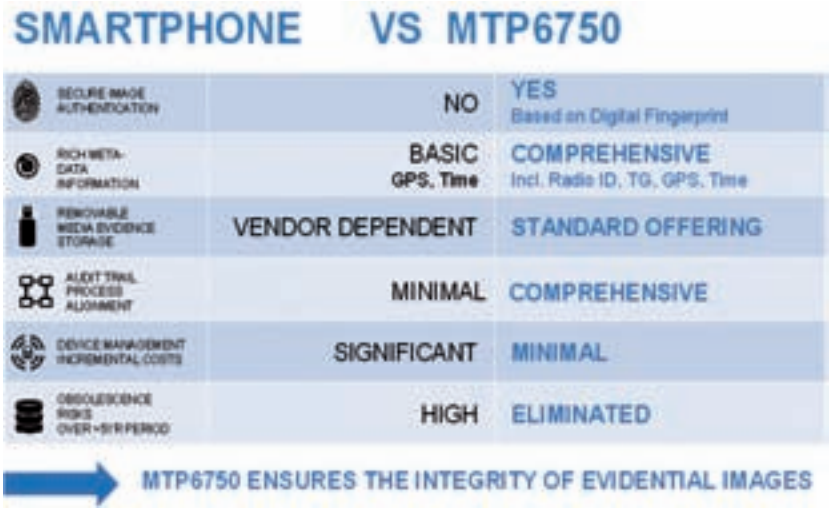
In terms of savings, Tom looked at domestic violence and highlighted (Garcia CA 2003, Digital photographic evidence and the adjudication of domestic violence cases') that research showed that it cost an average of $1,000 to prosecute a case where a suspect pleaded 'not guilty', with the cost dropping by 85% when they pleaded 'guilty'. Without photographic evidence Tom pointed out that in 65% of cases a perpetrator would plead 'not guilty'. With photographic evidence, however, this switched round completely to 65% pleading 'guilty'. 'A population of 100,000 has on average 724 domestic crimes a year, so this saves a lot of money.' ('October 2005, Crime and Justice Bulletin, New South Wales ((Australia)) Bureau.)

The MTP6750 has Bluetooth connectivity which can be used to connect to a secondary device, and it can also be used to collect images from other devices (eg if a witness has taken an image with their smartphone). 'Similarly, if in car, you can drop the radio on a data cradle and pass information from device to an onboard computer. So there is lots of flexibility on how information can be shared,' said Tom. Another operational scenario for data sharing is for briefings: data including notes and images can be uploaded onto the radios before shifts begin.

Motorola is expecting the public safety sector to (eventually) want to send images over the air, and as such it has made its latest model the world's first portable TEDS-capable radio, enabling data to be sent ten times faster than is currently possible (note TEDS is not used in the UK yet). 'This will be considered mission critical information. You may want to send a picture of a missing child to every officer in a 20 mile radius.'

Whilst much of the fanfare related to the new features of the phone, it is worth noting that there are several performance enhancements included in this device. Receiver sensitivity has been upped (2db) so its ability to pick up a signal is better. Audio performance has also been boosted to enable officers to better hear radio communications in noisy environments (eg pubs). The radio is IP 65 and IP 67 so it can work after being submerged into 1m of water for an hour.

Concluding, Tom underlined that now there was a solution that could transform public safety. And he may be right.



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