British Association of Public Safety Communications Officials

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## NEWS



## FEATURES



## REGULARS



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,
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**Printed in the UK by Latimer Trend & Co, Plymouth, Devon.**

Published by **Hemming Information Services** 32 Vauxhall Bridge Road, London SW1V 2SS

# British APCO: President's address

**Sue Lampard, President**

Happy New Year! I know that to offer such a greeting almost as Easter approaches can be very annoying! The reason I do so is because this year we will be moving into the most pivotal and critical period for public safety communications since the introduction of TETRA. Decisions made over the next 12 months will affect how the public safety community works both singularly and together. We are dependent on HM Government providing us with tools that not only match what we have today, but also build and enhance our technology to improve customer service as well as bring tangible benefits and efficiencies.

There is little disagreement that the move to broadband technology is absolutely the right way forward. There is also little disagreement that the UK could, once again, be leading the world with such an innovative approach. What is not quite so clear, nor agreed upon, are the timescales for delivery – particularly of a mission-critical, voice-over-LTE system.

An additional critical factor is that 2014 brings final preparation for the 2015 World Radio Conference where mobile broadband spectrum in the 700-800 MHz range will be released for use. We've been working hard to try and reach a consolidated public safety view on spectrum requirements, which has not been a simple task.

Whilst we may not have full sign up to our spectrum position paper, there is general agreement that some of the 700 MHz spectrum should be made available for public safety use as this will provide opportunities for greater interoperability as well as potentially much needed additional capacity.

It is incumbent on everyone who works in public safety communications (whether operational, managers and leaders, ICT staff or commercial colleagues) to be aware of the UK direction of travel – with the associated benefits and potential risks. We cannot afford to regress, and certainly need to ensure that everything is being done to ensure this does not happen.

On a different note, the annual event is nearly upon us. There's been a lot of activity over the last few months to try and make it a slightly different experience to previous years. Aside from laying a challenge to our commercial colleagues to show us what technology can achieve if a joined up approach is taken, we want to make it a two-day 'hub' of public safety interaction. Time will tell whether it works and we look forward to receiving your feedback, whether good or bad.

We're continuing to push ahead with our programmes of work for MAIT (Multi Agency Information Transfer) and the Next Generation 999 technology with some exciting innovation going on. The more we get involved, the more it becomes apparent that there is a lot of cross-over between these two programmes as well as others such as Overt National Asset Tracking (ONAT) and UK Alerting.

On the 999 front, we now have an 'app accreditation group' which has representatives from the emergency services and the commercial sector. Together we're developing a scheme which will ultimately allow suitable smartphone apps to be linked directly to the 999 technology and delivered into command and control systems. GPS location will be the first real benefit, which is something severely lacking at the moment.

On the MAIT front it's becoming apparent that 'MAIT' has two definitions. One describes the technical schema that we're developing for initial use between the command and control systems of the emergency services. The other describes a longer term 'MAIT vision' of truly effective multi-agency information transfer, which is more aspirational and will potentially take a longer time to deliver.

There will be lots to discuss in Manchester, but if you're not able to join us, the eBulletins and B-APCO Journal will keep you up to date.

When we get to Manchester I will have done a year as President and will be half way through my term. When I was persuaded to become Vice President about four years ago it was on the basis that it was 'a few meetings a year'. It hasn't quite turned out like that thanks to all of the exciting stuff happening in the public safety communications world. It's more like three days a week – it's a good job I'm retired. It's challenging at times but, for me, it feels like the world is picking up momentum and really starting to move things on (albeit at the ever familiar public safety pace).

I look forward to seeing you in Manchester at BAPCO 2014 if you can join us.

BRITISH APCO

Knowledge Exchange for Public Safety Communications

**Record visitor registrations including a wide spectrum of national groups are testament to B-APCO's growth, writes Executive Director Tony Antoniou.**

While we're obsessed with talking about the weather, the wet winter months gave us ammunition for those discussions. Last year I began this article with comments on the severity of the winter cold. This year I cannot start without offering sympathy to any of you who have suffered water ingress in homes or businesses, and joining the huge accolade to those of you in uniform and other crucial roles which placed you at the front line of providing assistance.

Welcome to what will be our third year at Manchester Central. Our last event here was a great success for us, and it fully vindicated the decision to move the venue and continue to evolve the exhibition, the development workshops, and a general 'hub' of public safety meetings and events.

This year we have stepped up another level, built upon the good things, taken onboard valuable feedback from you, and we're working to provide yet more growth in our unique annual event for our community.

As I write this, we are ahead of previous years in terms of registered exhibitors (up in numbers and with some new major industry organisations), registered delegates and the content of the free Professional Development (PD) workshops, which will run continuously for the two days of the event. In addition, we are proud to host national groups who will be holding their annual meetings under our auspices.

The Development programme will continue the work in the important and relevant subjects that we facilitated at our successful Windsor event in November 2013, plus some new and innovative super-sessions. These super-sessions will weave together all public safety communication threads – current and future – by using scenario-based themes to explore the 'Cycle of contact'; public to agency, agency to agency, and agency to public phases. More and more, the use of relatively new contact strands – such as social media – are pushing themselves to the front of all communication (Twitter use for positive and negative comment during the Winter Olympics was astonishingly high). Apps, alerting and reporting are also being exploited for public safety, and these (along with social media) will be explored and their relevance embraced throughout the workshops. Of no less importance are more familiar themes and groups of the modern public safety communications world; JESIP, ESMCP, NG999, MAIT, and the use of spectrum – which will all feature in the programme with individually-tailored sessions.

Among the national groups who will be holding their individual sessions with us are control room managers from fire, police and ambulance. They will then take the opportunity to come together for a unique joint meeting. On the subject of interaction, we are pleased to announce that there will be a networking dinner, sponsored by Capita, on the evening of the 1st of April.

The work doesn't stop though and we're working on our programme of future events beyond April. There's more to do yet, but we want to ensure that our plans for events in 2015 and beyond will be stunning, as our Association and our unique landmark in the calendar continue to grow.

Much work has been going on across public safety by B-APCO. In the year since Manchester 2013 this work has included the remit from the 999 Liaison Group to run a pilot scheme for the accreditation of apps which are intended to interface with the 999 system. The accreditation process will be robust in ensuring that apps are relevant, reliable and responsive.

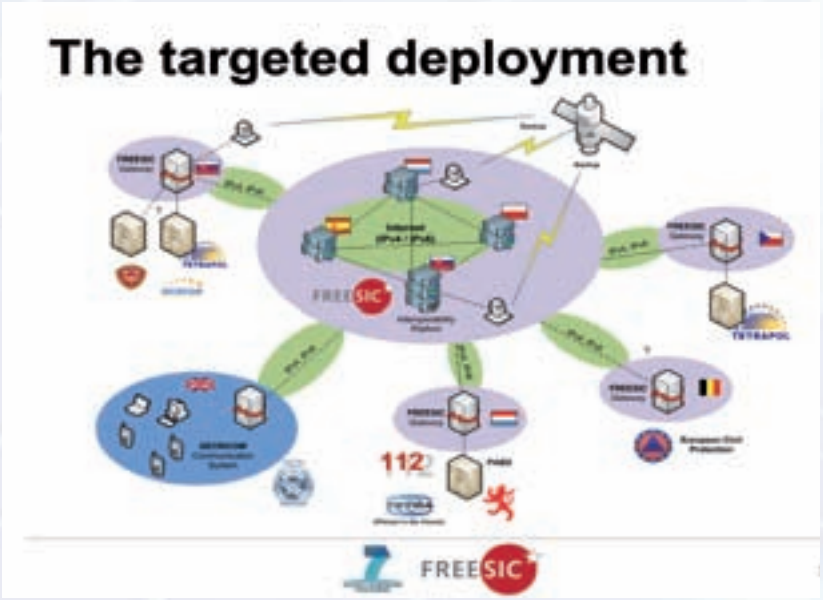
B-APCO's work within the wider European project base continues with new projects taking the place of completed ones, and the team is being kept as busy as ever. Some of these projects will be showcased on the exhibition floor during the two days of the event.

Also in collaboration with the UK Government and the Civil Contingencies Secretariat (CCS), B-APCO has been working to produce a technical open standard for data transfer between CAD equipment and personnel across the blue lights. Work on MAIT continues and an agreed schema is just around the corner.

All of these initiatives are critically needed but expensive; we rely heavily on your support at our Annual Event (but also across the year) and your membership is crucial. Perhaps we should ask that you look around your own workplace and consider just who ought also to be a member?

*Tony Antoniou,*
*Executive Director.*

# An open gateway with social media attributes




*During the B-APCO Autumn 2014 event attendees were treated to a demonstration of new technology that enables responders to communicate with each other using whatever technology they have to hand – be it smartphones, satellite phones or TETRA radios.*

## Project background

The new technology has been developed under an EU FP7 financed program which goes under the strange-sounding name FREESIC (FREE Secure Interoperable Communications). It seeks to answer the central challenge that different responder organisations face whenever they use different technologies to communicate with each other – the difficulties in intra and inter agency interoperability, especially during cross-border major incidents. For example how would a flood rescue specialist from France communicate with a firefighter in Germany during a mutual-aid operation without having to exchange communications equipment?

The answer comes in the form of a universal gateway operated from a web front-end – a little similar to Facebook or LinkedIn – which enables participants to easily create common talk groups for the duration of incidents. Unlike social media gateways, however, these groups enable participants to talk with each other using their iPhones, Android phones, or TETRA radios, as well as send messages.

Stefan Vanya, research director at Ardaco, and overall Project Coordinator of FREESIC, explained the thinking behind the project: 'We are providing an open gateway with open specification sample codes to create a network with all the attributes of a social network. This will enable partners that want to set up interoperability between their agencies to develop gateways from their systems to FREESIC. Once the gateways have been set up, they can then use the web interface – just like Facebook – to set up interoperability features such as common talk groups, and they can also specify who can talk to whom, for example.'

Central to the FREESIC ethos is the capability of using mobile phones and mass market devices for access to the gateway, explains Vanya, so as to include as many responders as necessary: 'They can use their personal phones as we've developed a push-to-talk app for mobile phones that can be easily installed via Apple Store or Google Play. All you need is the user name and password to quickly get onto a talk group.'

This technology opens up a number of possibilities, adds Vanya, not least of which is the ability to draw in expertise from people wherever they may be. 'You could be on holiday for example but as long as you have your mobile phone with you, you could be contacted and brought into a common talk group in order for responders on the ground to tap into your specialist advice.' Furthermore, during a wide-area flooding incident, crews on the ground would be able to communicate with helicopters overhead.

Shaun O'Neill, British APCO European Projects Manager (and business and user lead for FREESIC), explained that although talk groups could be set up 'ad hoc' as an event escalated, in practice it is probable that they would be arranged in advance through multi-agency contingency planning exercising and event de-briefs . 'What often happens at the moment is that when agencies exercise their contingency plans they can realise for example that agency A needs to communicate with agency B and C – say – at Silver level, but because they have different communications systems establishing the required link-ups becomes a problem. What FREESIC offers is the protocol to set up the links in advance, so when an incident does occur everything has already been agreed in terms of business and technical aspects. The talk group management side is easy to set up, and yes you can do it in "fast time" but clearly it is better to do it beforehand.'

FREESIC as a project is now moving towards a final proof of concept demonstration that will take place 5th June in Luxembourg. Three demonstration tests have already taken place in Nitra (Slovakia, May 2013); Windsor and Paris (during Milipol), the latter two in November 2013. A guidance and user manual is being drafted to define a set of operational procedures, ready for the final demonstration in Luxembourg.

Looking further to the future, it is envisaged FREESIC technology could also find interest in the commercial non-emergency services market too, points out Vanya, particularly within organisations that need to communicate with the emergency services – think power stations, utilities, and refineries, for example. 'At the moment we are concentrating on voice capabilities, but we'd be looking at adding extensions such as database access, sensor networks, and video streaming, in a follow-on project planned to start in 2014.'

**For more information visit www.freesic.eu**

## THE FREESIC GATEWAY

First responder organizations connected to FREESIC will have the ability to exchange required information with partner agencies regardless of state-borders via the FREESIC Gateway which will be made available to them with full specification upon acceptance of the FREESIC terms and conditions described in the FREESIC Multilateral Agreement.
Agencies can ask their system integrators to develop an adapter to the FREESIC Gateway that connects their own communication system with the FREESIC platform. Thus each inter-operating agency, via FREESIC, needs only to develop one adapter to achieve multilateral interoperability with other agencies.
The specification of the FREESIC gateway will be provided as shared JAVA source code with sample implementations as well as additional tools enhancing the configuration of adapters connecting to the FREESIC platform. Thus, any kind of communication system can be easily integrated with minor investment. Moreover, the system integrators do not need to share any of their own assets, specifications or source codes they consider as business sensitive information or anything related to their own intellectual property.
Thanks to the FREESIC Collaboration Web the operation of the interoperability platform is performed in a decentralised way (WEB 2.0 principles) according to transparent interoperability rules, enabling interconnection of organisations' communication systems whilst the configuration of operational interoperability parameters (talk groups, visibility of different resources per partner agencies, etc.) will still sit with the end-user agencies themselves, based upon recognised social networking rules eg configuration becomes valid only upon mutual confirmation. Thanks to the continuous involvements of end-user communities at the technology platform development, the user interface will be accommodated to end-users' expectations, ways of working and vocabulary, providing an interoperability tool that the end-users can quickly become familiar with.
The FREESIC infrastructure consists of a set of servers, secure multimedia switching software, and web management tools. The backup (load-balancing) servers around Europe will enable the system's high availability, and the meshed topology will enhance its resilience towards attacks. The system is designed with security in mind from the beginning. The FREESIC core communication platform is based on fully open and scalable ejabberd XMPP platform that allows end-to-end encryption of all the communications. The protection against denial-of-service cyber-attacks on the platform or the entire Internet will be solved by direct over-the-satellite backup links.

# Spectrum and the emergency services: Ofcom position, key issues, UK Government approach and red lines

*Peter Bury, Director of Spectrum Policy at Ofcom, speaking at British APCO's Autumn Event. Report by Jose Maria Sanchez de Muniain.*

Since 2003 Ofcom has been the regulator for the broadcasting and spectrum communications industries. In terms of spectrum, Ofcom's role is to make optimal use of the limited and finite resources of spectrum in the UK. Ofcom also represents the UK in a number of international forums that determine how spectrum is harmonised and used internationally. At top level this includes the International Telecommunication Union, part of the UN's Development Group, which determines the highest level of spectrum policy worldwide through concensus amongst UN member nations. Across Europe (including the Russian Federation) Ofcom makes representations to CEPT (European Conference of Postal and Telecommunications Administrations). It is also involved in EU work on spectrum policy through the Radio Spectrum Policy Group amongst others.

### Why issues of mobile communications are critical today

Peter Bury highlighted that the propensity of people to use mobile communications for data intensive applications seemed to have no limits, with a rate of increase in such use being widely agreed to be exponential. A conservative forecast ('as good as any') predicted an 80 times increase in volume of wireless data by 2030. 'This implies a very intensive use of a very limited resource of radio spectrum in the UK, and implies massive amount of research and development effort from manufacturers and indeed app designers and people who are representative of users like yourselves to work out how that extra demand can be fitted into the limited spectrum resources of the nation.'

The overall aim is therefore how to find the most efficient use of spectrum that delivers 'the most bang for every spectrum buck'.

In the context of international work within the sphere of the emergency services, Ofcom is focussed on two strands.

The first is on international standards and capabilities of base stations (and other equipment) to deliver what users need. In this regard Ofcom is looking to the Emergency Services Mobile Communications Programme (ESMCP) to speak for the emergency services' needs. Bury acknowledged that much was necessary to ensure that the functionality required by the emergency services was fully embedded in the standards, and that they are produced in a timely way with international concensus. 'So we can start getting advantages of standardised and ubiquitous support for a particular way of doing things, because that has great consequences for cost of equip and staying with mainstream development activity.'

The second strand is spectrum policy, and Ofcom is particularly focussed on 700 MHz, which was described by Bury as having 'desirable characteristics', and which is being used across Europe for television broadcasting. There is a question whether this spectrum could be repurposed for mobile broadband, and a decision has yet to be made.

Ofcom is working with CEPT group FM49 (Radio Spectrum for Public Protection and Disaster Relief) to define a European approach for the emergency services. This group is of the view that the emergency services need 2x10 MHz for mobile data. Requirements for critical voice communications are expected to be addressed in 2015, when the group will also express its view on harmonisation across Europe and

utilisation of 700 MHz within a band plan.

Separately, Ofcom is also preparing for the World Radio Conference (2-27 Nov 2015) in Geneva, developing a common European position as well as UK 'red lines' as regards particular requirements.

Ofcom has solicited viewpoints from UK Government and relevant departments in order to come up with a common line to take at these various groups.

## The UK position – four legs

The first viewpoint is that the use of spectrum should be as efficient as possible. 'We very much support the provision of mobile broadband which achieves the maximum spectrum and economic efficiencies. The fundamental objective is to achieve efficiency in both economics and utilisation.'

The second is that the UK government supports the inclusion of public protection and disaster relief (PPDR) in 700 MHz, 'But we want to do that in as flexible a manner as possible, and – crucially – we do not want internationally mandated exclusive allocation for PPDR.' Bury added that Ofcom – representing the UK Government's view – was standing for these matters to be decided by national governments. 'And we think we have the support from other governments to avoid somebody centrally, through majority voting, determining the allocation of bandwidth to particular applications in their particular countries.'

The third leg is that Ofcom supports the use of International Mobile Telecommunication (IMT) 4G LTE by emergency services as opposed to other channels that are not part of the comms mainstream worldwide.

And lastly, Peter Bury expressed Ofcom's concerns regarding the bottom edge of the 700 MHz band. 'The issue is that there are currently six multiplexes, about 75 channels of TV distributed to the UK population over terrestrial broadcasting in the 500/600/700 MHz band. We think we could probably squeeze that into 500 and 600 MHz only. But we definitely cannot do it if 700 MHz starts to impinge on that. So very deep in the political requirements of the UK is that the top edge of the TV band should be protected.' The so-called red lines for the UK are –firstly – that channel 48 of TV should be protected in the context of 700 MHz. Secondly, some countries have suggested other parts of the UHF band (ie 420-470 MHz) should be considered for PPDR for emergency services purposes. 'The UK does not approve of that. Those are bands used for loads of other things and some of which are fundamental for defence capabilities which the UK would find difficult to do anything else with, so should not be harmonised for emergency services use – or should not be mandated for emergency services use. If other countries find it possible then that's fine.'

## Emergency services: objectives for future communications services

Moving on from a factual basis to a more speculative one, Peter Bury outlined what he thought were the objectives of the emergency services for their future communications services.

The first he mentioned was more capacity to support broadband services alongside voice. Second was a clear roadmap for future tech innovation, 'So we don't get stuck again in a technology that does not have a large international community of research and development and innovation which keeps us in the mainstream path of mobile services.'

The third was flexibility around provision of services. 'We want to be able to use a range of suppliers to provide the communications services.'

The fourth was around reducing costs, both of services (via competitive supply) and actual equipment (end user and network), which would be likely to come from participating in the mainstream of technical communications development.

## ESMCP

Peter Bury emphasised that the role of Ofcom was to support the ESMCP project. 'Understanding the emergency services' needs, development and implementation plan comes from our colleges on ESMCP, and we rely on them to articulate the needs and requirements of the emergency services. So I want to make it clear that Ofcom is not ploughing and independent furrow, we are in support of the requirements as articulated by ESMCP, and that is our guiding principle; we take their lead as guidance.'

## Common band across Europe is essential

Ofcom expects a great deal of further spectrum to be harmonised for LTE. In the UK LTE services are already running at 800 MHz, 900 MHz, 1,800 MHz, 2,100 MHz and 2,600 MHz. Future candidates which are being looked at include 700 MHz, 2.3 GHz, 3.4 GHz. 'And it's absolutely clear to us that a harmonised band plan in Europe is valuable across Europe, and internationally a valuable contribution for the objectives of the emergency services. To increase standardisation reduces cost and it enables us to join mainstream communications.'

However, Bury urged caution as regards reserving a particular bit of spectrum to deliver the requirements of the emergency services. 'Because it is a direct route to being stuck in a dead-end cul-de-sac world of limited manufacturer support, inability to piggyback on international development community, increase costs, and limited functionality. So we are clear that a common band plan across Europe is essential.'

The benefits of mainstream development and cost are likely to come not just in the 700 MHz range but all the other LTE bands. 'Because the great thing about LTE is that it's a world community. Already a number of bands are supported and there will be more, therefore finding the functionality we require needs to be embedded in all those bands so we can access it wherever it is available – and not restricted to some limited area.'

## Summary

Ofcom's key objective is to keep all options as flexible as possible. It wants spectrum decisions to remain national but within a common and harmonised band plan. 'We think that gives us our cake, and allows us to eat it.' Additionally, although Ofcom's role is to support the ESMCP with spectrum, the final decision on how resource is allocated remains with UK government.

'The World Radio Conference of November 2015 is fundamental for taking this forward. The clearance of 700 MHz for mobile data use will be the trigger for people to start developing stuff for that, and it is then that a decision needs to be taken.' Peter Bury stressed that no decision had yet been taken in the UK about the future of 700 MHz, but such a move would not be an easy one, as 70m people in the UK use that band to watch TV every day.

Looking forward, 2018 is the very earliest ('if everything works out smoothly') for any capacity in 700 MHz to be released. 'And realistically – for planning purposes – 2020 is the time horizon for 700 MHz if that decision is taken for that to be fully available nationwide with all the TV-related equipment replaced.'

Peter Bury pointed out that 3GPP, the standards body which is setting up the standards for equipment, is not expected to finalise its work on emergency services' voice-over-LTE until perhaps 2018, 'Which implies products in the market in 2020 perhaps, so my sense is that any issues around this need to be thought out in context of around a 2020-2021 timing.'

# Sussex Police deploys tracking service via Airwave network

Airwave has introduced a location tracking service that enables the blue light services to share real-time GPS location data with a scalable and secure national platform without the need to install new hardware or software.

'Collaborate' uses the existing Airwave network and the existing Airwave service management portal, which means there is no need to deal with the challenge (and costs) of installing, testing and maintaining new IT systems.

Sussex Police are one of the first customers to use the new service: 'We are excited about the potential for efficiency gains across the force using the Collaborate service,' commented Chief Superintendent Wayne Jones, Head of Communications Department, Sussex Police. 'We have worked with Airwave to develop real-time dashboards which show how often police officers return to stations during the course of a shift. This highlights opportunities for more efficient resourcing patterns, which will ensure our officers remain more visible in Sussex. In addition, we will be deploying Collaborate as part of the Sussex and Surrey "Blue Light Collaboration" project, which means location information for key resources will be shared between police forces, fire and rescue services and ambulance trusts.'

According to Airwave, real-time analysis of more than one billion records generated each month will enable more efficient, evidence-based decision-making and immediately identify opportunities for greater efficiency.

'The entire proposition is secure and designed so that customers can choose exactly what information they want to share. Ultimately, it's all about using evidence-based decision-making to improve the effectiveness and efficiency of your resources whether they are vehicles, or radio users in the field. The importance of seeing, in the control room or in the field, where resources are at all times – even those of neighbouring users – means that you can easily see which responders are the closest to an incident, match current demands, cut response times and reduce disruption,' said Euros Evans, Chief Technology Officer, Airwave.

# Reliable Bluetooth

Audio and voice systems specialist Imtradex GmbH has created a reliable Bluetooth link to connect Bluetooth devices with headsets.

The BlueTalk is an easy-to-use tool that is compatible with many headsets and Bluetooth-enabled mobile phones and radio devices (eg connection to the Apple IPhone is possible).

In addition to a built-in talk button, it comes with a wireless send button, which can have one button (PTT only), two buttons (PTT and full duplex) or four buttons with different options available. 'Just as easy as connection the BlueTalk to the various devices, is the answering and ending of calls', said Ralf Kudernak, Managing Director at Imtradex.

The BlueTalk was developed especially for use in the police and in the wider industry. It features a long battery life thanks to the integrated lithium-polymer battery, as well as a dirt and water resistant membrane keyboard. A clothing clip to fasten the device on a belt is included in the delivery of the BlueTalk.

# Hants FRS to use Smartphone app

Hampshire Fire & Rescue Service (HFRS) has selected PageOne Communications' Smartphone Responder app to provide secure priority messaging and to enable full integration of all communications into its command and control system. 'We are making increasing use of mobile technologies to help us respond to, and deal with all types of 999 calls,' said Jerry Leonard, Group Manager at HFRS. 'PageOne's Smartphone Responder app has helped us take another huge step forward regarding how quickly we can mobilise fire officers to the scene of an incident.'

To continue to provide a service to its communities without major cost implications, HFRS decided to explore ways of enhancing the delivery mechanism of critical messages to its officers. The Responder app for Android devices presented the opportunity to extend current SMS and paging broadcasts to smartphone users, whilst eliminating 'per message' charges. Following a trial to ensure the solution would address all its communication needs, HFRS is now rolling out the service to 100 officers, who will be using the app to communicate more effectively. 'PageOne's Responder app allows officers to receive information straight to their smartphones and they need only carry the one device, rather than be weighed down with several pieces of technology,' added Jerry Leonard. 'Longer term, we aim to integrate the technology further to allow our officers to receive live updates on incidents as they travel and to be able to update their location and status through their apps.'

# LTE portal launched

MCCResources, the company that operates the worldwide TETRA, DMR as well as the local Push2talk web portal for the Benelux countries, has launched a new portal that is focussed on the public safety broadband (LTE) communications industry.

The Public Safety LTE web portal contains daily updates and offers; the latest industry news, in-depth articles, whitepapers, videos and an overview of products/services and developments on public safety broadband communications from around the world – and in particularly from within Europe. Additionally, the LTE web portal has also a strong focus on public safety broadband developments within organizations such as the Critical Communications Broadband Group, 3GPP, Salus, and PSC Europe. Manufacturers of public safety LTE (broadband) networks, devices, applications and solutions are represented via the 24/7 Exhibition Area.

# Dual control room mobilising system for Essex and Beds FRSs

Essex Fire and Rescue Service and Bedfordshire Fire and Rescue Service have chosen Remsdaq's Resque 4i for their new dual-control room mobilising system.

Resque 4i is Remsdaq's fourth generation command and control system for the UK's emergency services, with specific focus on the collaborative infrastructure and related 'ways of working' required to deliver the enhanced resilience and mutual support capability which is now required.

Resque 4i provides fully integrated call handling, mobilising, incident, resource and resource attribute management within a solution that provides a wide degree of autonomy and flexibility to each FRS to operate in accordance with their individual integrated risk management plan (IRMP), providing dynamic mobilising and routing (including road network management) and an array of methodologies for attribute/competency based response plans.

Danny Fearn, Senior Divisional Officer and Project Lead at Essex Fire and Rescue Service, and Jon Roberts, Area Commander and Project Executive for Bedfordshire Fire and Rescue Service, said; 'We are both really pleased to be working with Remsdaq for the new mobilising solution for Essex and Bedfordshire Fire and Rescue Services. We look forward to working with Remsdaq, and our other partners, in the weeks and months ahead, with a view to providing increased effectiveness and efficiency to both services and the communities we serve by exploiting the newest technology available.'

Remsdaq, based in Deeside, North Wales, is currently celebrating its 40th birthday. It was formed in 1974 specialising in the design and manufacture of world-class technology solutions for the SCADA, integrated security and emergency control room markets.

Today Remsdaq operates from a modern, purpose built 44,000 sq ft facility. This houses the firm's dedicated business units, manufacturing facility, design and development division as well as its marketing, finance and general management teams. The company employs over 100 members of staff, with the majority being long serving employees.

# TETRA gateways in Rhine-Westphalia

Frequentis has won a major contract for connecting command and control centres of the non-police public safety authorities to the German BOS digital radio in North Rhine-Westphalia.

Around 60 integrated command and control centres for fire protection and emergency medical services will connect to gateways via the German standardised 'Digitalfunk-Stecker' (specific digital radio connector), which acts as the interface to the BOS (BOS – German: Behörden und Organisationen mit Sicher-heitsaufgaben) digital radio network. For this purpose, Frequentis is supplying five command and control centre concentrators based on the Frequentis Unified TETRA Gateway. Services that support technical operations for a time period of two years are also included. In North Rhine-Westphalia (as in the other 15 federal states) the introduction of digital radio is advanced. The connection of the integrated command and control centres for fire protection and emergency medical services is part of this introduction process. In Germany all agencies responsible for public safety will use the same BOS digital radio network.

North Rhine-Westphalia is the most highly populated federal state in Germany and has a population of about 18 million with an area of about 34,100 km2. The urban centre 'Rhein-Ruhr' is, with its roughly 10 million inhabitants, one of the 30 largest metropolitan areas in the world.

LZPD NRW (state authority for central police services North Rhine-Westphalia) and Frequentis AG signed the contract in December.

## PARTNERSHIP SHOWCASES LTE

Cassidian together with partner Alcatel-Lucent have successfully conducted extensive Long Term Evolution trials in 4G LTE pilot networks in France, Spain, the Middle East and Mexico.

The partnership of Cassidian and Alcatel-Lucent aims to provide field radio communications systems with mobile broadband data capabilities, where Airbus is using its know-how in the design of PMR solutions and products in the 400 MHz range and control room applications, and Alcatel-Lucent is leveraging its expertise in LTE. All tests clearly showed the benefits of using LTE to improve public services while using existing infrastructure.

The objective of the 4G LTE pilots was to validate the performance of the new technology in terms of coverage and capacity, and to define future operational needs for applications. All tests proved that by leveraging existing sites and using neighbouring frequency bands, new 4G mobile broadband capabilities could be added to existing Tetrapol and TETRA networks in a non-disruptive and cost-effective way. The broadband services tested complied with the required levels of availability, reliability and resilience. The new dual-mode base station developed by Cassidian and Alcatel-Lucent was used to support Tetrapol/TETRA and LTE services.

# Las Vegas trials Alcatel LTE


Alcatel-Lucent and the Las Vegas Metro Police Department, along with the Nevada Department of Transportation (and other first responders), have conducted a six-month trial of a 4G LTE public safety network in a designated section of the city of Las Vegas in the United States.

The trial used spectrum allocated to the First Responders Network Authority (FirstNet), an independent authority set up by the United States government to facilitate the building of a nationwide interoperable public safety broadband network.

FirstNet is permitting trials with its dedicated 700 MHz spectrum on a limited basis to gain valuable and necessary input for the planning of the nationwide network rollout. By using real-time video, vehicle tracking, WiFi, multiple devices and other data access and communications tools, organisations were able to quickly and securely obtain – and share – detailed information in emergency situations.

Michael Barnbeck, Director, Radio Systems Bureau, of the Las Vegas Metropolitan Police Department, said: 'This trial demonstrated how an IP-based 4G LTE network can leverage resources and use officers more efficiently through the use of an interoperable, high-speed mobile broadband network. Three separate critical first responder agencies have the ability to access their own data and provide real-time sharing between dispatch and first responders at an incident. The trial also highlighted how information sharing in a secure, controlled manner between multiple first responder agencies to more effectively respond to a specific incident is enabled with this


LTE network, and can involve additional support from private sector entities on an ad hoc basis, such as accessing private video cameras in real time to monitor an incident.'

Alcatel-Lucent provided an LTE eNodeB, a 7705 SAR-8 service aggregation Router, a 5620 Service Aware Manager (SAM),a local Serving/Packet Data Network Gateway, and a hosted LTE core to provide coverage and deliver advanced IP services.

# Motorola picks up two TETRA awards

Motorola Solutions has won two of the seven categories at the International TETRA Awards.

The independent jury named the Motorola MTP6750 Terrestrial Trunked Radio (TETRA) portable radio with its Photograph and Intelligence Communication System as Best TETRA Innovation.

Together with its customer Queensland Gas Cooperation (QGC), Motorola won the category Best Use of TETRA in Utilities for one of the largest TETRA digital radio networks in Australia, which has enabled QGC to use the TETRA network for all of its critical communications in the field.

The award-winning Motorola MTP6750 was launched last year as the world's first mission-critical imaging solution for frontline officers. The TETRA handheld offers an integrated 5-megapixel camera and the Photograph and Intelligence Communications System (PICS) image management

solution. Through PICS, images captured on the MTP6750 can be managed, authenticated and shared within a public safety organisation's existing workflows, enabling verification of captured images at any point and reducing the chance of evidence being deemed unusable in a prosecution.

Motorola was also named as a finalist in the Best TETRA Innovation category for 'Making Bluetooth relevant and appropriate for mission- and business-critical users', and the Green TETRA Award for the 'MTS1 solar and wind power' TETRA base station.

# Lone worker apps

Lone working solutions company Guardian 24 has introduced an updated Android device application.

The company already provides access to its protection services through traditional mobile phones, Blackberry devices, PDAs and a broad range of specialist personal alarm devices.

In 2013 the company started work to deliver the full range of Guardian 24 capabilities through Android devices. Henry Woods, CEO of Guardian 24, commented: 'Some users may prefer a simple mobile phone; others may want to use an advanced smartphone while others may prefer to use none of these but instead to carry an alarm device. Guardian 24 allows all of these preferences to be available – and mixed – within one overall system. In addition, Guardian 24 also uniquely allows each end user to have the service available to them on two devices – in recognition of the growing trend to have both a work and personal device.'

In 2013, Guardian 24 was named the winner of the IFSEC UK Lone Worker Product of the Year for the first Android version of the solution.

# Interoperability exercise plans to make a big splash

Exercise Etna takes place in Southampton 14 May and will involve six organisations (Hants Constabulary, Hants FRS, South Central Ambulance Service HART team, MCA, RNLI, Foreland Shipping). It aims to test the multi-agency response to a complex critical incident involving a vessel situated within Southampton water.

Under the scenario, a vessel enroute to Southampton will encounter rough sea conditions causing cargo to shift and resulting in a number of the crew suffering serious limb injuries. Upon radio contact, the MCA will issue deploy a helicopter to evacuate a casualty. Subsequent information regarding trapped casualties will cause HFRS, HART and Hampshire Constabulary to initiate a coordinated response.

For the purposes of the exercise, Marchwood Military Port is once again allowing use of its facilities for which the exercise planners are extremely grateful. There will be a further escalation of response as hazardous cargo is discovered to have been displaced, leading to a Hazmat incident response.

A significant part of the exercise will be dedicated to further developing and testing the communications interoperability capabilities of the different partner agencies, as well as to validate JESIP-trained commanders within Hampshire Police.

Watch Manager (Eastleigh and New Forest) Chas McGill, who recently received the Hants FRS Chief Officer's 'Safer' award for his work on the Airwave radio system, told *B-APCO Journal* that participants were 'very keen to test the talk groups that are available, particularly the IC channels, at command level. We don't test these channels so this is a good opportunity to practice what is available to every police force and fire brigade in the country.'

Although senior Hants FRS officers are equipped with Airwave radios, additional radios for fire personnel can be requested from Hants Police for incidents such as Exercise Etna. 'This type of exercise takes us to the next level – and I would like to thank Simon Moase and Mike Batten of Hampshire Police for their assistance and enthusiasm.'

On the day of the exercise Hants FRS will run its normal UHF radios on the berthed MV Hurst Point Ro-Ro cargo ship back to the mobile control unit in Marchwood military port. 'Of course Hants Police will be on Airwave so we will want to link up the various talk groups with the Bronze commanders on the police network – that is the task we want to achieve on the day. We are yet to decide where Silver command will be run, or whether to send comms back to our emergency planning room at Eastleigh,' said Chas, adding that due to the nature of the incident it will be the Maritime and Coastguard Agency that will be taking the lead in the exercise during the initial phases.

So how has a ship with a gross tonnage of 23,235 and which– at the time of writing – was on its way to Bahrain, been commandeered for Exercise Etna? 'The MOD at Marchwood have been absolutely first class,' explained Chas, 'They rescheduled the MV Hurst Point for three days in order to make it available and the shipping agent, Foreland Shipping, is more than happy to be involved. This even extends to taking the volunteers who will act as casualties onboard the night before and looking after them.'

## WAN for ECHRC Consortium

The East Coast & Hertfordshire Control Room Consortium (ECHCRC) – a group of four fire and rescue (FRSs) services from Hertfordshire , Humberside, Lincolnshire and Norfolk – has selected Updata Infrastructure (Updata), a specialist managed service provider for the public sector, to design and manage a new shared Wide Area Network [WAN], connecting the Consortium's emergency control rooms.

The WAN will be built to PSN-accredited standards and will enable greater asset utilisation and operational efficiency, help increase community safety and lay the foundations for wider shared services amongst the group and with their respective local authorities. Updata will also provide perimeter security, remote access and application security services to deliver a secure data communication framework between each of the four control rooms. The contract is worth £1.2m over 5 years.

Hertfordshire, Humberside, Lincolnshire and Norfolk received funding in March 2012 and formed the ECHCRC. The new highly resilient, PSN-compliant network will initially connect each of the services' control rooms, including the control room data centres located in Hertfordshire and Humberside. ECHCRC procured through the Public Services Network Connectivity Framework and awarded the contract to Updata in October 2013. Helen Dowse, Programme Manager ECHCRC, said: 'Designing our own collaborative solution based on proven sustainable technologies ensures it is tailored to meet our joint and individual needs and thus will mitigate many risks and reduce costs. The solution design will provide an ICT roadmap to satisfy future demands by conjoining the control room requirements with the wider business needs of the FRSs. The new network removes any single-point of failure, ensuring far greater resilience and enables us to collectively work closer together. In the future, we will be able to dynamically mobilise resources, helping us improve our asset utilisation.'

## eNotebooks on the beat

Dyfed-Powys Police has partnered with Airwave to implement Kelvin Connect's Pronto electronic notebook and suite of policing applications to help them increase efficiencies and transform their work on the frontline.

Initially, officers will be provided with devices pre-loaded with applications that will give them remote and mobile access to all local and national backend systems such as the Police National Computer (PNC) and the data management tool Experian QAS, as well as the force command and control and crime and intelligence systems.

Dyfed-Powys Police has prioritised a range of processes that will move them into the paperless environment. These include direct crime, Domestic Abuse, Stalking and Harrasment (DASH) forms, as well as collision reports and other traffic processes. 'Next, we will work together to prioritise and deploy over 30 existing police process applications to support a truly digital first for Dyfed-Powys – paperless working,' said John Lewis, COO of Airwave.

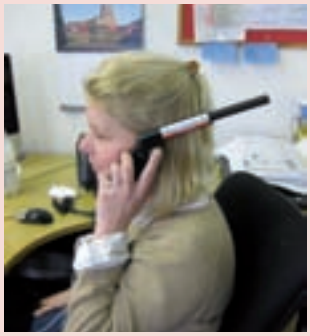
Chief Constable Simon Prince commented, 'The introduction of mobile technology for officers is a key part of our "Public First" programme. The geography of the area we safeguard is one of our key challenges and making our services as accessible as possible, especially in our more rural communities, is a top priority. It was critical that we worked with a partner who can support off-line working, so officers can remain visible in the community whilst completing all tasks digitally on a device irrespective of the mobile phone coverage.'

## Roadtest: GSP-1700 mobile satellite phone

Let's be upfront – I had never used a satellite phone before being approached by Globalstar to try out the GSP-1700, their lightest offering and one that (according to the sales pitch) would increase 'the efficiency and profitability of companies, and the well-being of individuals and entire communities.'

Promises of riches and well-being aside, out of the box, the GSP-1700 reminded me of my Nokia 5110 (circa 1990s), much beloved for its robustness and ease of use. The GSP-1700 is about the same size, but – surprisingly – it felt lighter (it actually only weights around 200gms). At the back of the phone is an aerial that you twist and slide out prior to use, and although it made me look a bit like I was holding a toy plastic gun to the side of my head, in the real world I guess it's a small price to pay for acquiring that all-important line of sight signal.

After hearing horror stories of people digging satellite phones out of their office drawers at times of crisis and struggling to use them I was pleasantly surprised at how instinctive this phone was to operate, in a home-phone kind of way. It may not be as good looking and 'wizzy' as a smartphone, but then that's not what it has been designed for. So, did it perform? In a word, yes. It was tested it both in rural areas (Dorset) and built-up areas (Woking) and conversations were crystal clear at both ends. It was even taken to Dubai for an 'extreme' roadtest, even though I'd been forewarned that signal would be difficult to acquire in this area. After several call attempts, it did manage to fleetingly get enough signal for me to leave a voice mail message. Charging the handset was straightforward and it retained its charge throughout the testing period, which tallied with the specification that it should provide four hours' talk time and 36 hours standby. With prices starting at around an ultra competitive £230 (with no minutes) I would imagine this being a contender in the cost-conscious civil contingencies sector where resilience is required.



# Are you getting the full picture?

*The first national standards for the implementation and operational use of body worn video are imminent. Jose Sanchez de Muniain speaks with Paul Kinsella of the Body Worn Video Steering Group and West Mercia Police.*

As I spoke with Paul Kinsella he was reviewing the *Draft Body Worn Video Outline Operational Instructions for Police Forces* as well as the *Draft Guidance on How to Implement Body Worn Video*. These are two documents that – it is hoped – will provide some consistency for a technology that has already been taken up (to some degree) by all police forces in the UK.

The two standards will fill some gaping holes around practical implementation, explains Paul, such as considerations for choosing the right strategy (personal issue, pool or 'in between') whilst highlighting invisible challenges such as the fact that most of the investment into body worn video (BWV) isn't into the kit itself, but rather into bolstering storage and internal bandwidth. 'It should not be about the flashest, most high-definition kit you hang on the officer, it is about making it easy for him or her to use, retrieve significant content, and delete footage according to MOPI. It's not about the front end.'

Although the new standards mark a milestone in BWV, there is still a way to go until the full benefits are realised, says Paul, pointing out that – ultimately – BWV footage is being captured for two main reasons ie to provide evidence to court and to provide evidence to deal with police complaints.

Within the ambit of court evidence, a number of agencies currently need to inspect the footage, and at different times. The defence wants to see the evidence while a person is in custody (and probably from their office); the CPS wants to see the evidence to make a decision about charging; and ultimately the court wants to see it as part of court evidence.

*RS3 chest-mounted body cam manufactured by Reveal Media.*

CPS and the courts demanding a new standard digital method for delivering that evidence, and one that didn't involve burning footage into DVDs (as is currently the case), would bring the most benefits to the whole criminal justice system nationally. Such a new output – 'YouTube for CPS' for example – would enable the CPS to make 'fast time' decisions ('think 7pm on a Friday night'); as well as do away with the cumbersome CD/DVD process of preparing, burning, labelling, and later securely storing the evidence. 'We are encouraging the CPS to give us a clear steer of how they want this pushed. We do have the Collaborative Digital Information Store group at the Home Office, who as I understand act in support of digitisation of criminal justice, but I still don't get the sense that there is a real drive to deliver this new way of presenting output.'

How existing legislation applies to BWV is another gap that still requires work, explains Paul, 'There remains a lack of clarity because existing legislation in the form of the Police and Criminal Evidence Act (PACE) doesn't cover BWV because it was written in 1984, before BWV existed.'

Some legislation has been applied to BWV on a piecemeal basis – which has rather fudged the issue. 'CCTV legislation is cited in the regard of storage retention, reading policies, and privacy impact assessments, which kind of make sense. But other legislation, such as The Regulation of Investigatory Powers Act 2000 (RIPA), doesn't. With BWV you have a uniformed cop wearing something overt and telling people that they are being recorded. You cannot claim it is covert.'

Some of these types of issues may be resolved by Operation Hyperion, a year-long study assessing the effects

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*Hampshire Police officer wearing a Reveal Media RS3-SX body camera.*

and implications of BWV in Hampshire and which is scheduled to conclude this month (March) 2014.

The project has been considering the impact BWV has on police complaints, its usefulness in the conclusion of certain crime incidents, and implications on the wider criminal justice system.

Under PACE, strictly speaking, BWV cannot be used to record interviews, meaning that officers still need to write statements. Using BWV to capture statements from people would free up time, and potentially increase early guilty pleas. It is hoped the project will provide a firm evidential basis for the updating of PACE.

## The future

It has become a given that the transparency aspect of BWV will enhance confidence in the integrity of the police – integrity that has suffered to some degree in recent months. But the widespread use of this type of technology could have unintended consequences on integrity too, explains Paul. 'If we start to make a presumption that everything is going to be recorded, then the next stop is to starting thinking that anything that isn't recorded hasn't been recorded for a nefarious reason. Not simply a case of forgetting to turn it on, or leaving the kit at the nick, or it's broken. It is the thin end of the wedge, where defendants can insert uncertainty into a case. I've had experience of that in Telford with an officer whose evidence was regarded as less sound because he was not wearing BWV. So there is a danger that once the technology is widespread, that there is an assumption that if it isn't used there is something crooked going on.'

So far the discussions have taken place around capturing video evidence in 'slow time', for review later. Already commercial organisations are highlighting potential benefits of live streaming of BWV, and indeed ambulance HART (Hazardous Area Response Teams) have the capability now to transmit and share information about a patient from a 'warm' zone. There is a growing realisation, says Paul, that there may be occasional operational needs for transmitting live footage eg a firearms dog fitted with BWV, or certain public order situations.

It's when Paul starts gazing into a BWV crystal ball that things get even more interesting. 'Now let's start "imagineering" an officer with Google Glass, linked to BWV, linked to ANPR, AVLS, GPS, facial recognition, feeding back to/from police databases and CCTV. Overlay this with augmented reality, so that as the officer walks around the street he can see where certain people live etc. Put all those things together and the officer is in danger of becoming no more than an automaton, whose actions are dictated by the relevant geographical and social statistics, and fed through an intense use of data. You are potentially attaching new and modern technology to flesh and blood, and treating it as a vehicle to be directed by organisational requirements. I think that would bear some mature discussions.' Robocop anyone?

## BWV – WHY IT'S GOOD FOR POLICING

Some of the most interesting data regarding body worn video (BWV) can be found in a report carried out by ODS Consulting (*Body Worn Video Projects in Paisley and Aberdeen, Self Evaluation*, July 2011) which reviewed two BWV pilots that had taken place in Renfrewshire and Aberdeen. The report outlined a number of conclusions, as follows:

· There is an indication that there may have been a reduction in complaints against police officers when BWV is worn – and that there amount of police time that is required to deal with any complaints received is often less when BWV is worn.

· Officers have stated that they believe that the presence of the BWV has avoided them being physically assaulted whilst having to deal with volatile and aggressive individuals.

· There is evidence that the use of BWV cameras make the public feel safer.

These conclusions, however, are all qualified with the caveat that there is often no like-for-like comparison possible due to how data is covered. For example, while pilot data may suggest BWV reduces the assaults on officers, there is no comparator figure on the number of assaults per 1,000 engagements when BWV is not used.

### Costs of crime

The ODS report tries to do some clever gymnastics with data that is available, however, to try and quantify the possible savings made by the use of BWV in cutting crime.

To do this it notes that crime stats for Mastrick and Northfield fell by 26% during the pilot when compared to the previous year. It then equates these stats to actual costs of crime as per the Home Office (2003, adjusted by RPI to 2011), and concludes that these crimes equate to nearly £350,000. 'Even if (say) 20% of the reduction was attributable to BWV cameras, the value would be £69,324.'

### Increase in early guilty pleas

The same approach is used as regards the number of cases that went to trial. In Renfrewshire, three cases where BWV was used went to trial – looking at previous history, 13 would have been expected. In Aberdeen, no cases went to trial where seven would have been expected. That means 17 cases didn't go to trial that would have done, equating – in broad terms – to around £38,845. And that is without taking into account the costs of police officers attending, evidence preparation and paperwork, equating to around £12,500. 'If it is assumed that the BWV pilots reduced the number of cases requiring trial by 17, this equates to an estimated saving of £51,416.'

The capital costs for the cameras and IT equipment (and other set-up costs) amounted to around £60,000 for both pilots, with an ongoing cost of around £1,000 per annum.

## BODY WORN VIDEO – THE KIT

Andy Burke is Business Development Manager at Edesix Ltd, a UK-based company that manufactures its own BWV hardware and software. Typically, explains Andy, BWV begin as small-scale projects at department level (usually due to budgetary limitations) and which are then further rolled out once the technology proves itself and the implementation processes have been sorted.

Edesix has a number of police forces using its BWV VideoBadge system, including Grampian (force-wide) and Cambridgeshire. 'We are also working with Police Scotland, West Midlands, Merseyside and Metropolitan Police – so we have a nice portfolio of police forces. A recent surge in political will means we are looking to be involved in further trials and evaluation processes.'

The main drivers that Andy is seeing from the ground are two-fold. Firstly, greater transparency in policing processes (think 'plebgate') and secondly – the biggest 'prize' – getting evidence from the scene that translates into early guilty pleas. 'When the police have video evidence there is little point in offenders pleading "innocent" or making up a story. And when police officers and victims of crime don't have to attend court there is a real value to the criminal justice process.'


From a cultural point of view there is a degree of change management involved with the introduction of BWV, mainly around risk analysis and sensitivities around public privacy, explains Andy, as well as how training officers in practical usage of putting together video evidence. 'This can involve encouraging officers to put context around an incident, through comment for example. This aids transparency through the process and can save time on paperwork and form filling, as it can then refer to a particular exhibit, for example.'

Other cultural aspects refer to the control of footage and having processes in place to delete footage that is not required. 'It is similar to fixed CCTV where recordings are kept for 30 days and deleted unless there is an incident and therefore footage is ring-fenced for evidence processing. The other aspect of data protection is the responsibility of ensuring that sensitive footage cannot be distributed outside – which means footage should be encrypted within devices that don't allow footage to be downloaded to other devices.'

In practical terms the use of BWV couldn't be easier. With Edesix's system at West Midlands, a swipe of the warrant card automatically releases a fully charged VideoBadge from a pooled resource, which starts flashing. The software has already self-tested to ensure the unit is in full working order. The video is attached to the officers uniform, the system turned on and off with a slide switch. When the slide is 'on', an alert beeps and a recording light comes on. 'Typically – depending on the situation – an officer may wish to accelerate the deterrent side of the system by saying that for health and safety and evidentiary reasons he is recording the interactions. That solves a lot of things,' says Andy.

At the end of the shift (and VideoBadge can record continuously for eight hours on one charge) the unit clicks back into its docking place. The latest version of VideoBadge has a 72-hour battery standby time, which Andy says is 'plenty' of buffer, 'Even with the natural deterioration of battery performance over time'.

The system recognises which officer has had which unit, decrypting and downloading the footage to a management system and freeing up the unit for the next outing.

A series of access levels and audit tracking ensure that only the relevant officers can access the management side of the system – accessed via ID cards.

The management system not only handles the footage, it also identifies any issues with malfunctions whilst tracking how the system is being used across all shifts and all sites.

Looking at the short and medium term, Andy predicts it won't be too long until streaming video evidence over radio channels will begin to happen. 'The live streaming aspect will start relatively soon for some tactical applications. People are not mentioning it too much as clearly there is a question of timing. Ultimately there will have to be a trade off between what is practicable in terms of ease of use, battery performance, cost, and the management and storage of all that footage.'

# Breaking the loop

*The bandwidth doesn't exist for public safety, ergo the applications don't exist, therefore the business case doesn't exist. Airwave's new high-speed data capability seeks to break that vicious circle, reports Jose Sanchez de Muniain.*

*Above: heading out to the A3 from Guildford. The video stream shown on the smartphone is live using commercial networks – as can be seen the time delay is minimal. Top right: Andy Lloyd, ANPR Data Manager & Tactical Coordinator, Surrey Police. Opposite: Steve Durden, ANPR team, Surrey Police.*

4GMax is the name of a new product that has been conceived to enable the emergency services to explore the benefits of high-speed data – live video streaming in particular. From a certain perspective, 4GMax provides a taster for what an LTE future may feel like for the emergency services.

In simplified terms, 4GMax consists of a box which can support up to four SIM cards. It combines together the bandwidth from multiple commercial mobile networks, increasing the uplink capacity sufficiently so that for example a camera can transmit video from vehicles or – with an appropriate battery – anywhere with 3G or 4G signal. All data is secure because it can be encrypted and – in addition – no one commercial network carries all the data in transit and therefore no meaningful picture could be captured.

When installed in the back of a vehicle, 4GMax runs up to four mobile data connections in parallel, splitting data packets between networks to create a finished live video stream. As a vehicle moves between areas with different networks, it switches data 'pipes', juggling data (not the technical term) to ensure data integrity is maintained.

4GMax has been piloted by Surrey Police for the last 18 months, and the findings were presented during a demo day in February. Andy Lloyd, ANPR Data Manager & Tactical Coordinator at Surrey Police, explained that the initial concept for the technology revolved around the application of police pursuit vehicle capability. In these scenarios, highly trained drivers are expected to conduct high-speed pursuits whilst communicating the scene to the control room. 'With this technology we can communicate so much more. The operator in the control room can see what the officer in the car can see, and the officer in the car can concentrate on driving.' Fast time decisions can be taken with better on-scene information, and driver safety is enhanced.

*Euros Evans, Chief Technology Officer, Airwave.*

The pilot investigating pursuit capability led Surrey to research other potential benefits for this technology, explained Andy. 'We run ANPR teams, and ANPR vans that use data. The satellite dish on our vans is down now, it no longer gets used. We tried to use 3G dongles, but we had issues with moving data securely. This system removes those issues by providing a secure, permanent data connection. The information being collected is checked live against national systems – whilst previously the data was loaded on at the beginning of a shift.'

Surrey Police is already realising cost savings as a result of the ANPR trial, having cut down dramatically on satellite usage. 'We have also increased our service level. Our satellite is low orbit, which affected where we could park our vans. But in Surrey 3G is abundant.'

A key consideration regarding 4GMax is that this is not a mission critical or – indeed – a resilient service. Euros Evans, Chief Technology Officer, Airwave, explained: 'I don't want to pretend that this fully addresses mission critical resilience requirements. If we have a large power outage, and mobile networks fail as a consequence, it is out of our control. We are reliant on the commercial operators, unlike the TETRA network today.' Nevertheless 4GMax has a number of tricks up its sleeve. It comprises a number of ports that can be used as inputs for satellite, for example. 'It can use satellite as a pure source, but not in combination with others, as there is a latency issue with satellite, purely because the data has to go all the way up and down.'

Looking at the 4GMax project, Euros explains that the strategic aim for Airwave has been to balance the issues of cost pressure with the technology that is available today. 'If we can prove that these things can deliver what could become mission critical, then this will bring you, the emergency services, the business case. You will be able to write that business case – to change the landscape – by demonstrating the benefits and, ultimately, breaking the loop.'

# 4GMax – on the road

During a live demo I sit next to Andy Lloyd as we drive through Guildford and on to the A3.

On the dashboard is an off-the-shelf camera that is connected to the 4GMax unit, which is running two bearers, using two of the commercial networks (there is a four-bearer option too). In my hands is an off-the-shelf smartphone, which at the moment is receiving live video from the camera.

I wave my hand in front of the camera to get an idea of the delay of the live streaming. It is only about a second behind, and I joke that you could almost drive the car from the screen. 'It's not perfect, and sometimes we get a bit of a pause – but it does catch up very quickly. We may get some 3G blackspots, as some places in the county don't have 3G.'

The image is clear and smooth, and Andy explains that the quality could be increased to 1080 but this would affect the smoothness of the video feed. 'We are not using the full capability of the camera, but we've found a good level of image with no blurring.'

An ANPR system is also integrated in the vehicle, but its not connected to the 4GMax system – yet. In future it could be integrated, meaning that every number plate reading could be transmitted to the back office, for instant live PNC checks.

In fact, the video stream, explains Andy, could be viewed by any device or computer on the network.

4GMax is not being used operationally at control room level. First it has to be integrated within the business process. 'For example, radios have an emergency button that flags up in the control room. Do we want that also to automatically turn on the video on their screens?' As a concept, however, 4GMax is 'there now'.

Interestingly, the live streaming doesn't take that much data, and Andy estimates around 7 gig a month between two SIMs, which comes to less than £40 a month.

4GMax pilot data, however, is not being recorded at the moment, due to the fact there are a number of cameras on the vehicle which are recording and storing data locally.

'The main thing is having the box and streaming with whatever camera we have plugged in.'

Looking into the future, Andy envisages the data being shared at inter-service level, control to control, on certain projects. 'Video can be streamed to any computer – all you need is to give them a password and web address.'

After the demo on the Class A pursuit vehicle, we move to the ANPR van where Matt Greatwood, Product Manager for Airwave, explains how 4GMax can be WiFi bonded if there is a connection agreement with BT Openzone or other open WiFi access spots. The system can be configured along certain parameters, eg to use WiFi when available, or combine with SIM cards, etc. It is even possible to set data limits per SIM.

The difference between this box and other routers, explains Matt, is the seamless aspect – if one bearer fails the signal continues. 'And it maintains a constant heartbeat with the server, so once switched on it is live in two minutes with encryption and security.'

Steve Durden from the ANPR team of Surrey Police explains that the camera reads all vehicles driving past. The system is also able to connect all static cameras in the county. 'We have two set cameras in the van, and an additional four that can be set up on tripods. The most we've tried at the same time is five cameras, and it was no problem.' This wasn't live video, Steve hastens to add – purely pictures of vehicles.

I ask Steve if there have been any problems with 4GMax, and he says not. 'We had more issues with satellite – we've never had to relocate a van with this system. And set up time: with satellite it took half an hour until getting signal and logging into everything – on a good day. This is a lot quicker and it gives us the flexibility to move around during a shift.'

## 1 APRIL: DAY 1

| TIME | TITLE | SPEAKERS |
|---|---|---|
| 10:00 - 11:00 | Interoperability Update - MAIT | **Dave Barnes,** CCS (Civil Contingencies Secretariat) - **John Hunter,** Managaing Director, VectorCommand<br>**Tony Bracey,** Project Manager, MAIT. Joint Emergency Services Group (Wales) - **Jamie Orr,** CFOA - **Sue Lampard,** President BAPCO |
| 10:00 - 11:00 | Next Generation 999 | **Geoff Naldrett,** Operations Manager. BAPCO |
| 10:00 - 11:10 | JESIP | **Paul Lockyer,** Police Senior User. JESIP |
| 10:00 - 14:00 | **Chief Fire Officers Association** | |
| 11:00 - 12:00 | Resilience Direct | **Rob Willis,** Resilience Adviser, DCLG Resilience & Emergencies Division |
| 11:00 - 12:00 | Telematics | **Catherine Bishop,** Global Emergency and Strategy Outreach Manager, Onstar - **Andy Rooke,** EU ecall programme |
| 11:00 - 12:20 | Interoperability Vision | **John Hunter,** Managing Director, VectorCommand - **Nick Chorley,** Sales and Account Manager, Public Safety, Integrapgh<br>**Sue Lampard,** President, BAPCO |
| 11:00 - 13:00 | **ACPO IM COMMS** | |
| 11:00 - 13:00 | **Electronic Communications Resilience & Response Group** | |
| 12:00 - 13.00 | A New Perspective on Police Contact Management | **Neil Dunipace,** STORM National Account Service Manager, Steria<br>**Darrell Shaw,** Business Development Consultant, APD Communications Ltd |
| 12:00 - 13:00 | Reporting & Alerting - A Multi-Media World | **Dave Sharp,** Chief Technical Officer, RealRider<br>**Sasha Taylor,** BlueLightCamp - **Dave Barnes,** CCS (Civil Contingencies Secretariat) |
| 14:00 - 15:00 | The Future of Interoperability | **Gavin Stephens,** Assistant Chief Constable. Surrey Police |
| 14:00 - 15:00 | Changing Thinking on Communications | **Robert Leach,** Director, Police, Crime and Justice, Capita |
| 14:00 - 15:00 | Spectrum Update | **Phil Godfrey,** TCCA<br>**Jenni Cole,** Senior Research Fellow, RUSI<br>**Michele Wakefield,** BAPCO Executive Committee Member |
| 14:00 - 15:00 | **Joint TSG/EC-RRG Meeting** | |
| 14:00 - 15:00 | How Satellite Broadband is Providing Resilient Data, Video and Voice Applications | **Simon Hill,** Technical Director, Excelerate.<br>**Nicola Savage,** Sales and Marketing Director, Excelerate |
| 15:00 - 16:00 | **Developers Meeting** | |
| 15:00 - 16:00 | Developing Effective Communications Between The Control Room and the Field Unit | **Peter Goulding,** Public Safety Specialist, Motorola Solutions |
| 15:00 - 17:00 | **Emergency Services Airwave User Group (ESAUG)** | |
| 15:15 - 16:45 | *Cycle of Contact: Public to Agency (1 of 3) | **Rob Walley,** BAPCO Executive Commitee Member<br>**Klaus Dalgaard,** Security and Safety Management, Saab |
| 17:00 - 18:00 | BAPCO AGM | |
| 19:00 for 19:30 | **BAPCO Event Dinner** | |

## 2 APRIL: DAY 2

| TIME | TITLE | SPEAKERS |
|---|---|---|
| 10:00 - 10:45 | JESIP | **Paul Lockyer,** Police Senior User. JESIP |
| 10:00 - 10:45 | Telematics for Smarter Working | **Gary Randle,** UK Sales Manager, Cadcorp<br>**Gemma Polmear,** GIS Analyst, Nottingham Fire and Rescue Service - **Kevin Wyeth,** Motorola |
| 10:00 - 11:30 | *Cycle of Contact: Agency to Agency (2 of 3) | **Rob Walley,** BAPCO Executive Commitee Member - **Simon Hill,** Technical Director, Excelerate<br>**Henry Kay,** Airwave Head of SNRM Proposition - **Jeremy Carr,** Programme Manager, Security and Smart Systems, Selex |
| 10:00 - 12:45 | **Ambulance EOC Managers** | |
| 10:00 - 12:45 | **Fire Control Mobilising Group** | |
| 10:00 - 12:45 | **Police Control Room Managers Forum** | |
| 10:45 - 11:30 | Apps for Smarter Working | **Nigel Gray,** Director PageOne Communications<br>**Mike Gordon Gibson,** Police and International Operations Director, Facewatch |
| 10:45 - 11:30 | Spectrum Update | **Phil Godfrey,** TCCA<br>**Jenni Cole,** Senior Research Fellow, RUSI<br>**Michele Wakefield,** APCO Executive Committee Member |
| 11:30 - 12:15 | Mobile Data for Smarter Working | College of Policing |
| 11:30 - 12:15 | Next Generation 999 | **Geoff Naldrett,** Operations Manager, BAPCO |
| 11:30 - 12:30 | Airwave: Today, Tomorrow, the Future | **Euros Evans,** Chief Technology Officer, Airwave |
| 12:15 - 13:00 | ESMCP Update | **Richard Hewlett,** Deputy Director, Airwave Transition |
| 12.15 - 13.00 | The Role of Apps in Future Policing and Community Safety | **Dr Mike Short,** CBE FREng, Vice President, Telefonica |
| 12:15 - 13:00 | Body Worn Video | Superintendent **Adrian Hutchinson,** Police Lead for Mobile Technology, Metropolitan Police<br>**Mark Bolingbroke,** Police Lead for BWV, Metropolitan Police |
| 12:45 - 14:00 | **National Control Room Managers** | |
| 14:30 - 15:15 | Interoperability Update - MAIT | **Sue Lampard,** President BAPCO **Dave Barnes,** CCS(Civil Contingencies Secretariat) |
| 14:30 - 16:00 | **Ambulance EOC Managers** | |
| 14:30 - 16:00 | **Fire Control Mobilising Group** | |
| 14:30 - 16:00 | *Cycle of Contact: Agency to Public (3 of 3) | **Eleanor Rice,** Business Development Manager Airbus Defence and Space |

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|---|---|
| | **SUMMARY** |
| | This session will bring you up-to-date with the latest work programme for MAIT (Multi-Agency Information Transfer), which is being developed by British APCO on behalf of the Cabinet Office. |
| | This session will examine the UK Next Generation 999 service, including an overview of the '999 App' accreditation pilot being run by British APCO on behalf of the Government's 999 Liaison Group. |
| | Update on the Joint Emergency Services Interoperability Program (JESIP). |
| | **CLOSED SESSION** |
| | An update on the progress of Resilience Direct, a new service coming soon for the Resilience community.<br>The UK Civil Protection community will be well aware of Central Governments aspiration to move to the next generation National Resilience Extranet (NRE) base on increasing demands to share information, collaborate across agencies in a crisis and availability of a resilient document store. From the 27th of March 2014 a new service - Resilience Direct - goes live enabling migration of data and information held on the NRE together with a new Ordnance Survey mapping application. This will be an opportunity to see a demonstration of the new system, investigate its capabilities and finally question the Project Team about the new service. |
| | This session allows delegates to learn more about the effectiveness of telematics in emergency situations. There is also the latest news on the European eCall requirement to be introduced in the UK from 2015. |
| | Learn how the public safety world might operate with a seamless delivery of voice and data from control room to ground operations using MAIT, PSN, ESN, NATO and PMSA: if you don't know what these are - you will by the end of the session. |
| | **CLOSED SESSION** |
| | **CLOSED SESSION** |
| | Steria and APD have brought together their collective knowledge, experience and capabilities to develop a new approach for emergency services contact management. Together they will address key issues such as protecting the vulnerable, dealing more effectively with repeat callers, delivering more effective utilisation of resources and improving public perception. |
| | This session discusses how methods of contact between public safety responders and the public are broadening, including the use of reporting apps and how social media activity can be utilised to add valuable content. There will also be an update on the UK alert trials run by the Cabinet Office in conjunction with three of the MNOs. |
| | Representing Lynne Owens (CC Surrey Police) this session will explore how interoperability between public safety agencies can produce efficiencies and improve customer service. |
| | Accessing rapidly changing, readily accessible technology can bring uncertainty and risk. Capita will demonstrate how our clients can be best placed to reduce risk, increase safety and improve services through an integrated approach to communications and contact management. |
| | The next generation of voice and data services for public safety response will be moved across to broadband platform with the current TETRA system being decommissioned. This session will discuss the move and its implications for the sector. As a finite and much sought-after resource, the public safety users need to have available spectrum to meet their needs, but they must be balanced against the needs of the broader community. This session brings delegates up to date and discusses how that balance may best be struck. |
| | **CLOSED SESSION** |
| | • Resilient Voice Communications: the ability to create private and independent LTE (4G) and GMS networks.<br>• Rapid deploy and body worn applications: ensuring complete operational awareness.<br>• Utilising real-time video, voice and data solutions: the future for emergency response communications. |
| | **CLOSED SESSION** |
| | Huge information flows within cities between citizens. If we captured this data, would it help public safety agencies and responders? Hear how we can turn information into action to keep our cities safe and secure using:<br>• Pictures and biometric information<br>• Multiple communication channels<br>• Improved situational awareness to aid decision making. |
| | **CLOSED SESSION** |
| | This session is designed to raise awareness of how technology can be coordinated and seamlessly linked to provide accurate and contextual information for emergency responders, including voice and automatic feeds i.e. CCTV and Telematics. |
| | |
| | **Ticket Holders only** |

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|---|---|
| | **SUMMARY** |
| | Update on the Joint Emergency Services Interoperability Program (JESIP). |
| | Part of a series of short workshops to demonstrate how use of technology can enable smarter, cheaper and more effective working practises for public safety responders. |
| | This session focusses on how seamless technology can enable public safety responders to work together more effectively. |
| | **CLOSED SESSION** |
| | **CLOSED SESSION** |
| | **CLOSED SESSION** |
| | Part of a series of short workshops to demonstrate how use of technology can enable smarter, cheaper and more effective working practices for public safety responders. |
| | The next generation of voice and data services for public safety response will be moved across to broadband platform with the current tetra system being decommissioned. This session will discuss the move and its implications for the sector. As a finite and much sought after resource, the public safety users need to have available spectrum to meet their needs, but they must be balanced against the needs of the broader community. This session brings delegates up to date and discusses how that balance may best be struck. |
| | The College of Policing outline the randomised trial process for demonstrating the benefits derived from using body worn video within the police service. |
| | This session will examine the UK Next Generation 999 service, including an overview of the '999 App' accreditation pilot being run by British APCO on behalf of the Government's 999 Liaison Group. |
| | Euros Evans, Airwave Chief Technology Officer, will lead a team demonstrating how you can take advantage of mobile technology, applications and next generation communications to create a seamless service that positively impacts operations on the front line. |
| | CLOSED SESSION - open to public sector employees only due to engagement and communication restrictions in place during procurement phase of ESMCP programme |
| | Mobile apps are becoming ever more present in people's daily lives (260% growth by 2017 (Gartner, 2013) This trend with Data and Internet usage offers a real opportunity for the Police :<br>• Mobilising current processes • Enhanced training with consumer-friendly technology • Real-time engagement with communities • New means for citizen policing – neighbourhood watch via social media<br>• Enhancing communications and working practices with augmented reality, video, imagery and text • New approaches to evidence gathering and translation techniques<br>The key questions to be addressed will include how can police and emergency services best harness some of these trends? |
| | Speaking on behalf of the Metropolitan Police Service of the significant challenges in rolling out a significant pilot of body worn video both on a borough and for firearms specialists. |
| | **CLOSED SESSION** |
| | This session will bring you up-to-date with the latest work programme for MAIT (Multi-Agency Information Transfer), which is being developed by British APCO on behalf of the Cabinet Office. |
| | **CLOSED SESSION** |
| | **CLOSED SESSION** |
| | This session completes the cycle of contact from citizen through agency and back to citizen. It demonstrates that technology can be used effectively and in a number of ways to ensure the public are kept safe and up to date with relevant information. |

AIRBUS DEFENCE & SPACE

Over 300 million people worldwide rely on Airbus Defence and Space technology for emergency response. Airbus Defence and Space has delivered more than 3,000 control rooms, with solutions founded on principles of systems integration and designed with interoperability at the core, enabling the right information to get to the right people the first time.

In the emergency services sector, Airbus Defence and Space is a leading provider of secure communications for mission-critical users; globally providing over 280 mission critical voice and data communications networks in over 74 countries for public safety, government and transport users. Airbus Defence and Space offers a full range of public safety terminals, including the world's smallest and lightest TETRA terminal.

At the British APCO exhibition, Airbus Defence and Space is showcasing public safety networks, public safety terminals, cybersecurity, integrated command and control solutions including GetGeo, the secure collaboration portal and SAFEcommand mobile communications software. ***Stand C20***

AIRWAVE

Word leading in delivering unrivalled excellence in mission critical communications, Airwave has an established background of successfully designing, building, delivering, and upgrading the emergency services network in the UK on time and to budget.

Airwave delivers communications relied upon by 300,000 users and is continuing to deliver services to explore and support the future needs of these emergency services and public safety agencies.

With over a decade of experience providing voice and data communications, Airwave has built a strong relationship of trust and established a depth of knowledge of these vital organisations. As this relationship has developed, Airwave has worked with the emergency services to develop tools and applications which enable them to increase the use of data and information to drive operational excellence.

With mission critical broadband capability on the horizon, Airwave is looking ahead to the future and preparing by exploring LTE and data applications today to change thinking about how they can be exploited by emergency services for tomorrow. ***Stand F24***

APD

Innovation is the very essence of APD – 29 years of experience in communications technologies is testament to that. Each of our employees takes pride every day in what we achieve for our customers.

With offices in the UK and the Middle East, APD is a global leader in control room, mobile information, resource location and tracking solutions. We specialise in delivering mission-critical and business-critical solutions to organisations within the public sector, transport, security and logistics industries.

APD's products are used in over 100 client sites in the United Kingdom, Scandinavia, Eastern Europe and the Middle East. Our solutions are in daily operational use in every UK Police Force; other customers include the Swedish Police, Abu Dhabi Police and leading organisations such as The Emirates Group and London Underground Limited.

Our success is based on a simple philosophy – we listen. We work with our customers to create an understanding of their business and develop this into real solutions that work.

CAPITA

Capita is excited to be appearing at BAPCO 2014 and this year we will be further showcasing some of our most innovative solutions. Our stand will show visitors how Capita delivers transformational technology and innovation to organisations across the justice, security and emergency services sectors. It will focus on our capability across a number of specific areas: contact management, control room, command and control, mobile, radio and IT technology as well as our specialist communication centre capability.

Our comprehensive range of specialist solutions enable joined up, cost effective, end-to-end process management from initial contact, through all the essential processes to dispatch, response, charging and detention.

We work in partnership with the emergency services to help them find new ways around vital operational issues. We have spent time trying to answer some critical questions: How can costs be reduced? How can internal and external demand be better managed? How far can mobile technology empower officers and staff working out in the field? And perhaps most importantly, how much transformation can the emergency services afford in this age of austerity?

In our paper, 'Communications – do we really understand it?', we have put forward our views about how technology can act as a 'game changer' for modern policing and deliver significant operational, cost and efficiency savings at the same time. It will be available from our stand and, post the event, on our website to download.

Come along and see for yourself how Capita can help you transform your operations, manage both internal and external demand more efficiently and keep you in touch, informed and in control at all times. ***Stand D20***

excelerate
DATA VIDEO VOICE INTERNET VIA SATELLITE & WIRELESS

Excelerate Technology is the global market leader in the provision of data, video, voice and internet via satellite and wireless solutions. Our team consistently deliver mission-critical applications to a diverse range of markets including emergency services, government organisations, maritime as well as other sectors including education, oil and gas and prisons.

Our rapidly deployable applications utilise satellite and wireless technology to achieve a common operational picture allowing resilient voice communications, access to real-time video and critical information anywhere within the incident ground.

We have a reputation built on outstanding service and technical knowledge. Our customers feel safe in the understanding that all their satellite communications needs are in the best possible hands. ***Stand C35***

steria

Steria delivers IT-enabled business services and is the Trusted Transformation Partner for private and public sector organisations across the globe. By combining in depth understanding of our clients' businesses with expertise in IT and business process outsourcing, we take on our clients' challenges and develop innovative solutions to address them efficiently and profitably. Through our highly collaborative consulting style, we work with our clients to transform their business, enabling them to focus on what they do best. Our 19,000 people, working across 16 countries, support the systems, services and processes that make today's world turn, touching the lives of millions around the globe each day. Founded in 1969, Steria has offices in Europe, India, North Africa and SE Asia and a 2012 revenue of €1.83 billion. Over 20%* of Steria's capital is owned by its employees. Headquartered in Paris, Steria is listed on the Euronext Paris market. **Including 'SET Trust' and 'XEBT Trust' (4.15% of capital)*

# Welcome to B-APCO's Annual Event!

*Now in its 16th year, the annual B-APCO event provides a forum for emergency services communications professionals to gain knowledge on new developments in their field, and showcases cutting edge technology solutions. We take a look at what we can expect from exhibitors at this year's event.*

## ABM

In response to alliances between groups of police forces, ABM will be showcasing ABMpegasus, a complete integrated intelligence solution, supporting the high-risk area of covert policing. The solution enables law enforcement to manage and measure covert activities, delivering a real-time picture of available and deployed assets/ resources, mitigating risk and delivering effective intelligence for investigations, to support positive outcomes of justice. (***Stand H16)***

## Airbus Defence and Space *(Stand C20)*

Airbus Defence and Space came into the world on 1 January this year. A division of Airbus Group, the company was formed by combining the business activities of Cassidian, Astrium and Airbus Military.

In the emergency services sector, it provides over 280 mission critical voice and data communications networks in over 74 countries and, in the UK, supplies the secure and resilient satellite communications high-integrity telecommunications system to the Cabinet Office.

The company will be showcasing TH1n, the world's smallest and lightest TETRA handheld, public safety services on LTE, as well as its control room integration and cyber security offerings, and its SAFEcommand product suite.


*Cadcorp will be demonstrating how smart GIS software can enable better value and more efficient working practices (pictured, Gemma Polmear, Cadcorp).*

## Airwave *(Stand F24)*

Airwave will be unveiling ground-breaking 4G mobile services and new mobile application technology, which positively impacts front-line operations for all blue light agencies.

The theme for the 2014 event is 'Change your thinking on communications', and together with input from customers, Airwave will share how front-line operations can truly benefit from new capabilities during the development workshops.

Airwave will be participating in following workshops:

· Tuesday, 2 April [10:00 – 11:30]: Cycle of Contact: Agency to Agency (2 of 3): This interactive workshop will demonstrate how, for the first time ever, police forces, fire and rescue services and ambulance trusts can proactively share their GPS location data using a truly scalable and secure national platform without having to install new hardware or software. Using big data technology, Collaborate delivers real-time analysis of more than one billion records generated each month to enable more efficient, evidence-based decision-making. (Henry Kay, Head of Smarter Network Solutions, Airwave)

· Tuesday, 2 April [11:30 – 12:30]: 'Today, tomorrow, the future': Euros Evans, Airwave Chief Technology Officer will lead a team demonstrating how you can take advantage of mobile technology, applications and next generation communications to create a seamless service that positively impacts operations on the front line. (Euros Evans, Chief Technology Officer, Airwave)

## Axess International *(Stand H24)*

Axess International has been appointed an official UK distributor for Otto products. The company has been representing Otto in the UK with TETRA accessories since last year; however, since the start of 2014 it can now supply the accessories for all radios.

In addition, Axess is also a distributor of Panorama Antennas, Alfatronix power converters and Itech analysers. This product portfolio allows matching of products across the range to meet not only audio accessories needs, but all ancillaries for two-way radio. Products to be showcased at the event range from earphones with acoustic tubes and various microphones, and push-to-talk solutions, right through to full noise-attenuating headsets, speaker microphones and other headset solutions.

## Cadcorp *(Stand C12)*

At B-APCO this year Cadcorp will be demonstrating how the use of smart GIS software can enable better value and more efficient working practices in the emergency services. This British developer of geographic information systems (GIS) and web mapping software is running a joint workshop on the morning of Day 2, in conjunction with Nottinghamshire Fire and Rescue Service (NFRS). Together, they will be showing how Cadcorp software has been used to add value and intelligence to a digital map of the county's road network, supplied by Ordnance Survey, Great Britain's national mapping authority.

You can see further examples of Cadcorp software working closely with and enhancing Ordnance Survey map data on the stand, which Cadcorp will be sharing with Ordnance Survey. You will also have an opportunity to register for a copy of Cadcorp's newly-released free desktop GIS software – 'Map Express', and enquire about populating it with a range of Ordnance Survey data.

## CAPITA

Capita is excited to be headline sponsor at B-APCO 2014 and this year will be showcasing some of its most innovative solutions. The stand will focus on the company's capability across a number of specific areas, including contact management, control room, command and control, mobile, radio and IT technology, as well as its specialist communication centre capability.

Capita's comprehensive range of specialist solutions enable joined-up, cost-effective, end-to-end process management, from initial contact, through all the essential processes, to dispatch, response, charging and detention.

A recent paper published by the company entitled 'Communications – do we really understand it?' puts forward views on how technology can act as a 'game changer' for modern policing, and deliver significant operational, cost and efficiency savings at the same time.The paper will be available from our stand. ***(Stand D20)***

### Cyfas *(Stand A26)*

Present at this year's event in Manchester will be Cyfas's latest mapping software, Cytrack. Cytrack integrates with the C-Soft PLUS dispatcher and potentially interfaces LTE to provide operators with a comprehensive control position. Asset tracking, customisable playback and the ability for an operator to add an incident to Cytrack are features that prove useful in day-to-day operation and potentially life-saving in emergencies.

LTE, TETRA, DMR (Hytera & Mototrbo), PMR and telephony can all be interfaced to the company's range of control systems, and the user-friendly screen designer allows operators to choose a layout that suits them.

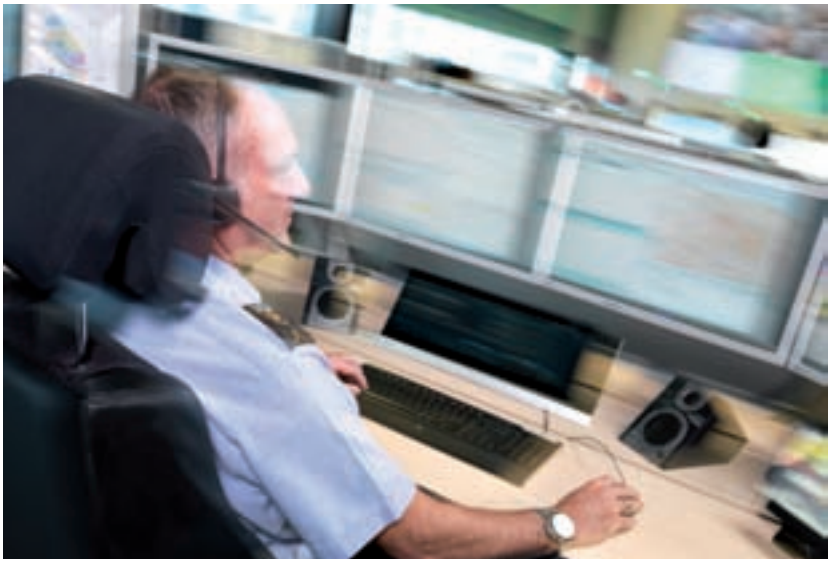
Also being showcased is Cyfas's range of 'Messenger' messaging platforms, which incorporate advanced scheduling software to ensure that you reach the right person, on the right device, at the right time. Automated or free-typed messages can be sent via the software to smart devices, mobile phones, digital radios, portable pagers, DECT phones, email addresses and more.

### Edesix *(Stand G24)*

Edesix is a manufacturer of body-worn camera systems, and supplies police forces across the UK and worldwide. New to the Edesix product suite – and to be showcased at the exhibition – is VideoBadge 2, designed and developed in conjunction with police customers to deliver improved functionality and evidence capture on the frontline.

Body-worn video is proven to help increase safety and prevent incidents from escalating, as behaviour is moderated by the presence of a video camera. The technology is increasingly being adopted by the police, not only to calm aggressive situations and capture evidence, but also to improve transparency and trust with the public.

VideoBadge 2 offers a number of interesting features, including eight hours of continuous recording, with 72 hours of battery standby, and a pre-record function enabling users to define a set duration to pre-record footage, so that events are captured from before the 'on' switch is activated. This extra buffer can be crucial when incidents unfold at a fast pace, to help determine the trigger if an offence is committed.



### Fire Times *(Stand H8)*

Fire Times is the voice of today's fire and rescue service. The editorial content of the magazine reflects the broader role the fire and rescue service has taken on over the past 50 years, beyond its traditional firefighting role.

It is the only free publication sent to over 5,000 operational officers, buyers and specifiers of equipment and services in today's fire and rescue sector, throughout the UK and Europe. The magazine is required reading for operational firefighters with purchasing responsibilities such as training, communication officers, brigade engineers and hazmat personnel.

### Frequentis AG *(Stand B24)*

Frequentis, a supplier of control room solutions to the world's emergency and critical service providers, believes

*Frequentis is launching what it considers to be 'the most advanced platform for public safety control room ICT solutions ever seen' during B-APCO 2014.*

that technology alone is not the answer to increased pressure on control room ICT, and that the private sector has to be a more willing partner in the desire to drive up the citizen experience. With this in mind at the event, the company will launch what it considers to be 'the most advanced platform for public safety control room ICT solutions ever seen', with an 'evergreen' philosophy, designed to ensure that the public safety control room constantly adapts.

The new control room ICT proposition delivers flexibility and agility through a modern, safety-critical, highly-extensible and fully IP-based integration platform, together with a suite of easy-in, easy-out applications.

### Handheld UK *(Stand H18)*

During B-APCO 2014, Handheld will be showcasing the new Algiz 10X and 7X rugged tablets, providing high performance dual-core processing and U-Blox integrated GPS, along with the updated Algiz XRW3 rugged notebook and the-all new Nautiz X1 rugged IP67 smart phone.

All handheld products have memory, storage capacity and processing power to handle the most demanding applications, and include integrated GPS, 3G, Wi-Fi and BT. Every product carries IP65 or above IP-ratings and meets stringent MIL-STD-810G military standards for water and dust ingress, drops, vibration and extreme temperatures.

### Hytera Communications *(Stand C4)*

Hytera Communications is a leading provider of two-way radio systems for government, public safety, rescue, emergency, fire, transport, logistics and private sectors in over 80 countries. It offers reliable and efficient communications solutions to respond to the increasing frequency of natural disasters and other emergencies. The company has been rapidly expanding over the past few years and will be showing portable and mobile series from its TETRA and DMR ranges, including conventional Tier ll and trunking DMR Tier lll systems, with supporting applications.

### Infographics *(Stand E25)*

Infographics will showcase a major new release of its FireWatch Enterprise Resource Planning and Management Software at B-APCO. The company will provide an overview of the new version of the software, which includes bi-directional mobilisation system interfaces, enhanced dynamic fleet-based crewing and skills allocation, a new mobile/PDA web client for availability changes, and many other features.

The software provides a strategic framework for the enterprise-level planning and management of: human resource, availability and time management, integrated personal development and training, fleet and asset management, health and safety, occupational health, reporting and analysis, and other areas.

A presentation will highlight the key product features, give an overview of the company's integrated approach to fire and rescue systems and processes, and include client case studies.

### Juma *(Stand F4)*

Juma Communications will be showcasing their new range of covert communications equipment, including fully interference-free digital wireless earpieces. These can operate in areas of high wireless interference, such as modern cars, with total immunity from any interference from the car control and instrumentation systems. There will also be a range of tactical communications accessories, including products designed for use in fire ground environments. These can be interfaced to any of the radios currently available for fire control applications.

Juma are an approved distributor for 3M Peltor and will have a full range of Peltor products on display, offering full hearing protection in high noise environments. The company has also recently been appointed as UK distributor for the full range of equipment from US manufacturer Digital Ally. This includes advanced in-vehicle and body-worn video camera and recording systems, specifically designed for use in police and law enforcement environments.

### Managed Connections *(Stand G22)*

Managed Connections' easy-to-use cloud-based platform offers an exciting new way for organisations in the public and private sectors to set up and operate their own secure and legally compliant wireless networks.

Providing innovative 'platform as a service' solutions, Managed Connections provide carrier class wireless access management services, including BYOD. These white labelled cloud-based services are accompanied with real-time support and network monitoring, providing customers with comprehensive assistance 24/7.

Its solution, known as 'Device Ranger', can be used to operate and control several types of internet access networks. These networks include wireless broadband, Wi-Fi hotspots and wired/wireless community building networks.

The company also supplies a range of rapid deployment solutions for strategic operations, including gold control rooms and vehicle Wi-Fi (EWS).

Nigel Coster, Client Services Director said, 'As the insatiable demand for Wi-Fi grows exponentially throughout

the private and public sector, senior management are faced with the challenge of finding a secure Wi-Fi solution that is legally compliant, easily managed, deployed at speed and has a low impact both on their existing IT network and on their bottom line.' He adds, 'The last thing your highly-qualified IT team wants is to waste their valuable time dealing with lots of Wi-Fi related queries. A platform like Device Ranger removes the majority of these challenges, resulting in an improved and positive experience for all Wi-Fi device users.'

### Mason *(Stand D2)*

In ICTthe only constant is change, and the new arrivals of recent years – mobile broadband, cloud technology, the increased use of social media, and the emergence of big data – are all having an influence on the emergency services and the application of technology. Current hot topics such as the 'Next Generation 999' concept and the prospect of the new 4G mobile 'Emergency Services Network' (ESN) are two of many such examples.

The potential to deliver richer, more closely integrated services to operational personnel and control rooms, and the use of remote hosting and shared platforms for critical service delivery, present public-safety agencies with opportunities for improved efficiency and performance as well as reduced costs – the same qualities that have driven the uptake of these technologies in other sectors.

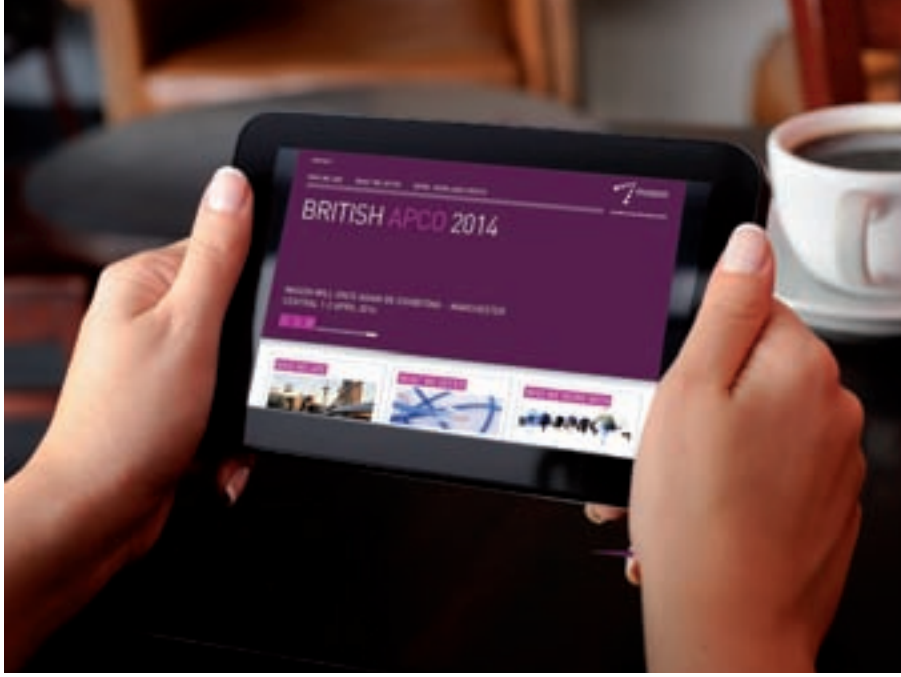
Investing in such innovations means making tough decisions. For over 20 years, Mason has helped police, ambulance, fire and coastguard organisations – in the UK and overseas – to get those decisions right, and to ensure that those decisions stand the test of time.

We provide independent advice that covers:

· Strategy and business planning – understanding the operational requirements and developing compelling business cases

· Procurement – ensuring requirements are translated into the right ICT solutions, and managing the process to select a supplier who fits both the operational and commercial objectives

· Implementation – managing the delivery of integrated ICT systems, on time and to budget




· Security – protecting private information and mission-critical systems, and ensuring business continuity.

Mason welcomes the opportunity to meet with delegates at the British APCO annual event in Manchester to understand your ICT priorities, talk through key issues, and give our view on meeting the current challenges and preparing for the future. We will be at Stand D2, so come along and meet the Mason team.

Mason is a division of Analysys Mason Limited, focusing on ICT for the public sector.

### Motorola Solutions *(Stand B8)*

Public safety and law enforcement officials need to reduce crime and create safer communities in a cost-effective manner, and are investigating how technology can assist this process. With this in mind, Motorola Solutions will be showcasing its latest innovative TETRA radio terminals at this year's BAPCO event. The company will feature its MTP6000 handheld radio series, which includes the MTP6750 radio with an integrated five-megapixel camera, and the Photograph and Intelligence Communications System (PICS) image management solution. The device enables frontline officers the capability to capture evidential images at the scene of a crime or incident.

Visitors at the show will be able to experience the world's first Bluetooth 2.1-enabled TETRA handset, allowing mission-critical users the benefit of Bluetooth capabilities in a secure environment. The devices are engineered to enhanced security pairing through Bluetooth, standards-



The Motorola MTP6750 radio has an integrated five-megapixel camera to enable officers to capture evidential images at the scene of a crime.

based Secure Simple Pairing, encryption algorithms and fast PTT. The earpieces provide exceptional audio clarity and volume, so messages come through loud and clear, even in noisy settings.

Peter Goulding, Strategy Team, Motorola Solutions EA, will be presenting on the first day of the show, discussing how to develop effective communications between the control room and the field unit, (Tuesday 1st April 14:00-15:00).

### Multitone *(Stand H22)*

Multitone will be showcasing its new smartphone applications at B-APCO this year. The apps provide full voice and data communications services via its i-Message communications hub – offering a highly flexible, robust and reliable critical communications platform.

Emergency Services Sales Manager at Multitone, Jim Lanyon, comments, 'Our new smartphone applications are designed to offer the emergency services a new critical communications option, which can be incorporated into existing smartphones, for a flexible approach that allows teams to use the system that suits them best.' Lanyon adds, 'The world of communications technology is evolving rapidly and organisations are feeling the pressure to adopt the latest technologies such as smartphones, touch screen tablets and Wi-Fi devices to improve vital communications. We will be showcasing exactly how we integrate new smart technologies with existing platforms.'

### Priority Dispatch Corp *(Stand E28)*

The Priority Dispatch Corp (PDC) issue of Protocol 136: Active Assailant (Shooter) follows the recent and tragic events involving firearms and other weapons used against multiple victims and comes in advance of its scheduled release as part of Version 4.1 of the International Academies of Emergency Dispatch (IAED) Police Priority Dispatch System (PPDS).

The 4.1 PPDS protocol will update cardset licensed users and include a new Case Entry sticker, and a pullout protocol with Key Questions and Pre-Arrival Instructions (PAIs).

PDC Police Consultant Dave Warner heralded the timely release of the newly completed protocol. 'This global release of Protocol 136 will be a valuable resource for all communication centers PPDS users or not,' he said.

This protocol can be used by all communication centers, whether or not they are licensed PPDS, FPDS, or MPDS users, although the information contained within the protocol cannot be incorporated into any third-party products or CADs, modified in any way, or re-distributed for any other uses.

Protocol 136 was developed by the IAED with the assistance of the National Tactical Officers Association and in association with PPDS users from California, Colorado, New York, Maryland, Florida, North Carolina, Washington DC, Canada, and UK.

### Promcom *(Stand G20)*

Procom will be showing the PRO-MIX-PHY-TETRA-4-N; a four-channel TETRA combiner which the company says ensures the highest possible decoupling between several TETRA radios.

The four-station TETRA combiner provides trouble-free connections for four TETRA stations into a single TETRA antenna. It has a highly selective helical duplex filter for each input, and this filter separates the transmitter (TX) signal from the receiver (RX) signal, sends the TX channel to an isolator, and the RX channel to the passive RX splitter.

From the isolator, the TX signal is fed through a low-pass filter into a hybrid. And from the hybrid, the signal is fed to another helical duplex filter and is then connected to the antenna.

The RX signal runs from the antenna through the output duplex filter to a hybrid splitter, where it is divided into two and sent to the four input duplex filters. The company will also be offering a two-channel version of the product at the event.

### REMSDAQ

Remsdaq specialises in the design and manufacture of technology solutions for the emergency services, SCADA and integrated security markets.

Providing command and control, communications and incident, resource and resource attribute management for the emergency services, Remsdaq's control room solutions are renowned for their high levels of reliability, innovation and customer satisfaction.

The company will be demonstrating its latest product development, Resque 4i – an incident management product specifically designed to meet the demands of modern control centre and resource management applications. (Stand C30)

### SAAB *(Stand E30)*

SAAB will be showcasing SAFE; a next-generation security management system for role-based situational awareness and information distribution between users. This flexible, scalable and robust system is designed to offer enhanced situation awareness and provide tools for implementation and improvement of mission critical processes, and for optimising both security and business flows.

It is based on a powerful command and control system and an advanced integration platform for managing security and efficiency needs in daily operations.

The system covers all the security needs of blue light services, airport, energy production plant, port or correction facility. It allows clients to view the exact same situational picture, as well as share information about areas, routes, layouts, track labels and more, between them. The system's easy-to-use interface can be customised for different roles and users, and is easily adapted when operational flows or processes improve, or change.

### Seed *(Stand D4)*

B-APCO 2014 is an exciting exhibition for Seed, as the company will be demonstrating several additions to its suite of BRIGID solutions.

MDT2 is the second generation of Seed's mobile data terminals and is built using cutting-edge techniques to maximise performance. It is designed to ensure modern MDT hardware delivers relevant, timely and accurate information to front-line crews. This is the key driver behind the new application, BRIGID Risk Management, which has been developed with Staffordshire Fire and Rescue Service. Implementing the PORIS model, this system captures risk information (on any device, any platform, any OS) and gets it to front-line crew, on their MDT, across the county in hours. The company also has a new water management system that enables in-field, mobile management of water sources and features automatic appointment booking. Underpinning BRIGID Risk Management and the water management system is a novel new system called BRIGID In-Forms. This allows you to create, manage, capture and control data, on forms anyone can easily create, using any device or platform.

### Selex *(Stand D28)*

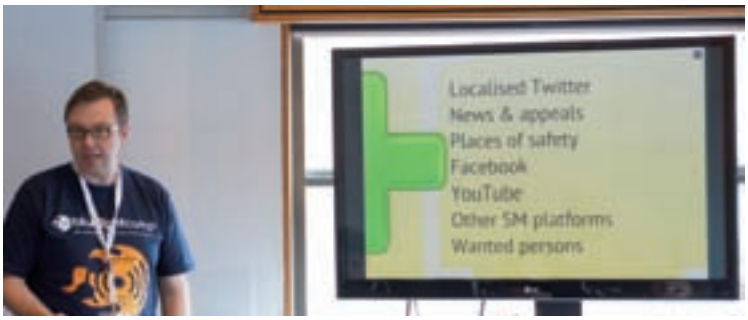
With the UK's ESMCP plans for ESN gathering pace, Selex ES will be exhibiting its Tetra/LTE integration capabilities to support end users as they face challenging migration and transition to the new networks. At this year's exhibition, Selex ES will be showcasing network interoperability – connecting multiple bearer technologies together – and public safety functionality, enabling vital public safety features and functionality, such as PTT, pre-emption, and group calling across multiple bearers.

### Varlink *(Stand A22)*

Displayed on Varlink's stand you will see the company's recently-expanded Trimble MCS product range, which now includes the new Trimble Juno T41 R.

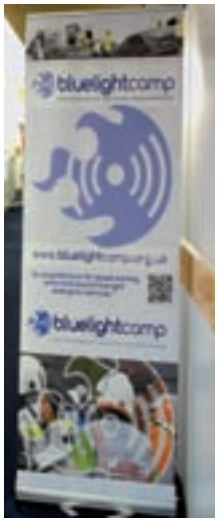
The highly flexible, fully-rugged handheld range now includes an RFID configuration with integrated ultra-high frequency RFID capabilities. In addition to this, not only is the smartphone-inspired device IP65 or 68 and MIL-STD-810G rated, it also delivers optional high-speed 1D/2D barcode imaging technology, smartphone capabilities and enhanced real-time 1-2 metre GPS accuracy.

Varlink offers Trimble MCS' full portfolio, which in addition to the Juno T41, comprises of the ultra-rugged Yuma 2, the Ranger 3 and the Nomad. Like the Juno T41, the Yuma 2 IP65 rated rugged tablet also offers optional 1-2 metre GPS accuracy, for location-based data collection in the field. It is designed for ease of use and high performance, with everything users expect from a tablet. Built to survive the stress of working outdoors, the IP67 rated Ranger 3 is designed to withstand a multitude of conditions, while providing reliability. The Trimble Nomad packs high functionality into a powerful, rugged handheld computer.




# Data driving change for critical communications

*BlueLightCamp – the Unconference and Hackathon for emergency responders and those who work with them – is returning for a third year. It's free to attend and open to British APCO members, supporters and the public, writes Sasha Taylor.*




To get your ticket for BlueLightCamp in Southampton 10-11 May visit http://blc14.eventbrite.co.uk.

The venue this year will be Ordnance Survey's headquarters in Southampton. BlueLightCamp – which this year is held in association with British-APCO, the Hampshire Hub and Ordnance Survey, takes place over the weekend of 10-11 May 2014, with an 'unconference' on the Saturday and Hackathon on the Sunday. Tickets will be released in batches closer to the time via Eventbrite and will be linked to from the BlueLightCamp, British APCO, Hampshire Hub and Ordnance Survey web sites nearer the time.

We hope to make an even greater impact than previous years by not only having its annual unconference and hackathon but to generate ideas at the British APCO annual event in Manchester on the 1-2 April.

As part of its commitment to BlueLightCamp, British APCO will be providing BlueLightCamp an area in the main foyer of Manchester Central so that we can showcase to the the British APCO visitors what BlueLightCamp is, and what it's trying to achieve.

This year, we're inviting British APCO members and attendees to suggest issues and challenges that they see with the emergency services field for BlueLightCamp to address. As well as the BlueLightCamp area, we will be working with the Ordnance Survey team to tease out insights from attendees to the Manchester event.

We'll add these to a discussion board, and explore them online before BlueLightCamp, and will be working with Ordnance Survey's team around the area of resilience as well as any other ideas that come out of British APCO 2014.

As with the 2013 event, ideas will be pitched at the hackathon, and ideas worked up and presented to a judging panel. Depending on how many sponsors we have we hope to support as many good ideas as possible, hopefully providing seed funding, links to organisations that can help or to individuals prepared to work with the project.

It's intended that BlueLightCamp feed back on ideas generated at the Annual Conference, BlueLightCamp, Ordnance Survey events and at British APCO's Autumn event. We'll showcase the great ideas and how they are being progressed.

If you are attending British APCO's Annual Conference, look out for BlueLightCamp as you will need us to stamp your 'passport' which will enable you to enter the British APCO event competition. We look forward to welcoming you to our area and discussing how you can be involved or help BlueLightCamp in the future.

If your organisation would like to make a difference by sponsoring a winning idea please contact Mark Braggins or Sasha Taylor via www.bluelightcamp.org.uk – or visit the BlueLightCamp area at British APCO.

## ACCREDITATION PROCESS FOR 999 APPS

The first workshop to create a process for the effective integration of apps within the 999 system took place at the end of January at West Mids FRS – thus was the 999 App Accreditation Group born.

Led by B-APCO, this workshop added further structure to the four-stage pilot process for the accreditation of apps that will link into the 999 system. The accreditation system seeks to formally link apps that could genuinely save lives with the 999 emergency system.

The first step of the process would entail apps being reviewed by a panel formed of representatives from all the emergency services – regardless of whether the app is intended for fire, police, ambulance or MCA. During the second stage developers would be paired up with a suitable agency for further development in the area of technical and operational requirements.

Following successful beta-testing during a third stage, the app would be presented to the 999 Liaison Committee for final approval and link to the 999 system and command and control systems. The work has been given the green light by the 999 Liaison Committee.

The initial workshop was attended by a mixture of emergency services operational staff and British Telecom representatives (another workshop is planned for April). Also in attendance were personnel from North East Ambulance Service and app developer REALRIDER, who recently collaborated on a pilot app that automatically detects whether a motorcycle rider has had a crash and contacts the ambulance service with the patient's GPS location and other details such as medical history.

**A session on Next Generation 999 (including update on the 999 App pilot) will take place 11.30-12.15 on April 2nd, during the B-APCO annual event.**

## BEST PRACTICE FOR CONTROL ROOM MANAGERS

The inaugural meeting of the CFOA Fire and Rescue Service Mobilising Officers Group took place earlier in the year – and things are set to move to a new level.

A number of fire and rescue services are collaborating to enhance resilience and this is likely to see a reduction in the number of fire control rooms in England from their current number of 43 to around 34.

Whilst there is a lot of new technology being procured and deployed, there is also a considerable amount of business change. Control room managers are at the forefront of this change and up until now there has been no national forum in the fire sector for them to meet and formulate best practice and proceed in a co-ordinated way. That was until the recent formation of the CFOA Fire Mobilising Officers Group, or 'MOG', as it is affectionately known.

The inaugural meeting of the Group was held at CFOA's Headquarters in Tamworth, Staffordshire on Monday the 3rd of February. There were 28 delegates representing 25 fire and rescue services.

The meeting started off with an address by Assistant Chief Fire Officer Stewart Thomson who outlined how the group would fit into the CFOA structure and the potential it had to guide the future of mobilising and control room operations going forward.

The Group went on to discuss a range of topics including: training and development; quality assurance processes; the development of National Guidance for Control Room Operations and Emergency Call Management and the current progress of the control room replacement and upgrading projects. Work has commenced to refine the terms of reference and priorities for the Group.

**CFOA MOG will be meeting on April 2nd at 10.00, and a joint session is expected at 12.30 (details to be finalised).**

## MAIT – LIGHT AT THE END OF THE TUNNEL

**The next major update of Multi Agency Information Transfer (MAIT) takes place on April 2, 14.30-15.15, during the British APCO annual event in Manchester Central.**

At the time of going to press, the open standard XML schema for sending key incident details electronically between mobilising systems was about to be made available for public consultation. The MAIT protocol seeks to facilitate interoperability between systems from different manufacturers.

The main driver for using MAIT within the public safety family is its delivery of quick, reliable information exchange between control rooms and call handling centres, saving time and providing a clear understanding of the assistance required to resolve an incident.

Publication of version 1 of the schema on the British APCO's website is 'imminent' according to British APCO President Sue Lampard. 'Following the consultation there will be a two-part review by the Standard's Panel and Board, after which MAIT will become an open standard for public safety information exchange. We can see the light at the end of the tunnel.'

Central to the MAIT project is a resilient data hub that acts as an enhanced data switchboard between all the organisations taking part in MAIT.

The advantage of a resilient data hub is that it reduces the number of connections an organisation needs to establish and maintain in order to connect with other agencies.

B-APCO is currently looking to establish a MAIT test site in England in partnership with Vector Command, who will be building the hub as part of a European project.

A number of potential sites have already expressed an interest in taking part in the MAIT project, explained Sue Lampard, adding that the objective of the exercise would be to have the MAIT site in England interoperating with a MAIT site in Wales.

Wales is some way ahead of England in this type of technology, following a successful pilot of Direct Electronic Incident Transfer (DEIT) technology. The original DEIT pilot enabled South Wales Fire, Gwent Police and Newport City Council to interoperate using a MAIT-type hub. The original pilot is to be scaled up to include all emergency services in Wales and (potentially) the Maritime and Coastguard Agency, British Transport Police, local governments, and Environment Agency at a later date.

'In Wales they are very keen to get on to the next stage and build a MAIT-compliant hub, so we could soon see a hub in England talking with a hub in Wales. That is the plan, and I'd like to also say that all the command and control suppliers have been very supportive of this initiative,' concluded Sue Lampard.


# A robust cornerstone for PSN compliance

*Public Services Network – some pointers to compliance for fire and rescue services, by Des Ward, Information Risk Manager, Updata Infrastructure.*

The Public Services Network (PSN) is, arguably, one of the largest change management programmes currently being undertaken anywhere in the world. All fire and rescue services will need to have their networks accredited to the PSN standard by spring 2014, when the arrangement with Vodafone to provide the Government's current connection standards – GCSX and GSI – will cease. At best, this will mean that those still planning to connect to the legacy services (if they are still available) will no longer enjoy the current prices that they pay. At worst, it may mean that the legacy services are not there at all.

PSN is not simply a replacement to the GSi Convergence Framework (GCF). PSN is a procurement framework providing a fully meshed infrastructure that far exceeds the scope of the hub and spoke GSi community system. It also offers the opportunity for fire and rescue services to benefit from accessing and using shared services right across central Government as well as the wider public sector. The new infrastructure will give fire and rescue services across the UK, far greater asset utilisation and operational efficiency. It will help increase community safety and lay the foundations for wider shared services with each other and their respective local authorities. However, a greater ability to share requires more accountability to be placed on connected organisations and a much greater focus on compliance.

The secure and economic sharing of information and services relies on public sector organisations implementing their information assurance (IA) controls effectively. A Code of Connection (CoCo) submission, and an end user's implementation of its controls, remains a PSN cornerstone. It proves to other organisations with which you share information that you have implemented appropriate IA controls. To ensure end users remain connected to PSN, they will need to complete and return their CoCo and other requirements (eg IT healthcheck, ancillary requirements) annually in advance of expiry.

Before your fire and rescue service can be connected to PSN, or use it to receive PSN services, you must be accredited and achieve PSN compliance. Current guidance from the Cabinet Office makes it clear that no remedial action plans or weak compliance positions will be imported into PSN. The Government is ceasing the issue of remedial action plans and any oversight of actions arising from an on-site assessment or IT health check – you will either be assessed as compliant or rejected.

Whilst no doubt compliance and accreditation is a large undertaking, end users should focus on asking themselves some very straightforward things, it will pay dividends when, ultimately, they are assessed for compliance.

*Des Ward emphasises that your effort to enable the assessor to accredit your approach will not only achieve compliance but will create the structures for compliance challenges in the future.*

## Define the flow of PSN data

One of the most common areas I see that benefits the PSN customer and also the assessor, concerns defining the flow PSN data. In doing so, an assessor's rationale to approve the approaches within a CoCo are increased; whereas a lack of available information can mean that the CoCo gets rejected merely due to not having enough evidence available at the time.

To avoid rejection, organisations should:

· Start with the applications that you consume from government partners; if in doubt look at the PSN transition guides. We have extracted all the relevant information from these guides relating to the applications available for consumption from the GCF for our customers, and you should have something similar from your PSN suppliers.

· Next, determine the business areas that use this information; firewall rules can be a good source if you're unsure, and can also identify the internal systems involved.

· Once you find the internal systems involved, then you should be able to identify not only how the data is accessed, but where it's stored.

· Document the controls that you have in place to ensure that access to PSN data is constrained to those who need it.

All of the above allows you to quantify the boundary controls you have for your PSN, and will allow you to create flows of PSN data within your organisation

## PSN-derived data (is it really sensitive?)

An area of concern to many people is their belief that they are accessing PSN-derived data, but take the time to determine what exactly it is that you are accessing. Remote access from a team leader to management information reports from home relating to call volumes of a call centre is wholly different in terms of risk profile to accessing the system that contains the revenues and benefits data from the Department of Work and Pensions.

### Talk to your tester

Whilst IT healthchecks (ITHCs) are very useful for both the customer and assessor to reference technical issues, it is important to ensure that they don't cause more confusion than necessary. I would recommend the following:

· Consider the CHECK/CREST assessment company you use, there is little benefit employing someone who can't explain the issues to both the technical team and your Chief Fire Officer in manners that they can understand.

· Ensure that you submit plans you have to decommission legacy equipment, if relevant; there's always a danger of trying to resolve issues on a system that's being replaced within six months, that would take resources away from resolving enduring systems.

· Ensure that you communicate any compensating controls to issues found within the ITHC; allowing full network access to a system that has a well maintained firewall or similar controls can often skew the perception of the compliance assessor.

· Work with the ITHC assessor to communicate key issues as they are found. If the issue can be addressed during the assessment then it allows validation that the issues have been addressed and saves time and effort for all parties.

### Show you're in control of the risks

The above areas will show that you understand the information important to the central government agencies, and what the risks are; these are all important in the development of trust across the PSN. Another key component in building the trust model, is showing the management of risk. Whilst the management of risk is mature at a technical level, the key is a merging of technical control maintenance into a wider information governance structure.

The impact of failing to comply with the PSN codes of practice pales in significance compared to the legal and regulatory obligations required.

### Summary

The Public Services Network is a huge undertaking in a relatively compounded timeframe. The amount of information to be consumed by those people assessing the CoCo has to negatively impact the veracity that can be undertaken during the assessment. Therefore, make it as easy as possible to allow the assessor to accredit your approach; this effort will not only allow you to achieve compliance now, but create the structures to prepare you for the compliance challenges of the future.

# Alert and ready

*Gloucestershire Fire and Rescue Service (GFRS) had a reliable but limited alerter infrastructure, with no capability for remote management, monitoring or network integration. The organisation assessed its existing emergency communications systems and turned to a critical communications provider for assistance in upgrading its alerter system.*

With the majority of its stations being staffed by retained crews, the critical communications alerting system is a key component to Gloucestershire FRS being able to maintain the levels of service required to keep the public safe.

Rob Lacey, Head of IT, Telecoms and Resilience, Gloucestershire FRS, took up the story: 'Originally we had an ageing alerter system for the retained side of the fire service and it had become out of date for our needs. Our previous system was relatively inflexible, with pre-programmed functions and no remote access.'

GFRS had initially replaced one alerter system with Multitone MG4 system in 2009, and impressed with the benefits thereof it went on to replace additional units in key locations. 'Remote management, historical logging and ease of configuration were attractive features, as was a 24-hour battery backup. We could see that these were highly desirable benefits, both in terms of resilience and maintenance – working perfectly with our existing IT to make the collaboration of communications and IT a lot easier.'

Over time all alerter systems were replaced and integrated with the wide area network, and following funding in 2012 for new control room infrastructure GFRS again chose Multitone. 'Gloucestershire FRS is different from urban brigades in that the majority of its fire stations use retained firefighters – no one is permanently on site. This brings its own challenges. In the retained station there is no one there until the alarm is activated. There is only the Multitone Station End Equipment and we rely upon the MG4 transmitter that pages crews in the local area.'

One of the key benefits of the new system is the ability to be able to check for potential faults and to run diagnostic checks remotely from a central point. 'With the old equipment the mobilising outstation would be checking that it could see your alerter equipment, but if the mobilising outstation failed you had no idea if your alerters were working. The new system, however, uses IP networking, so you can connect to them independently to test them remotely.'

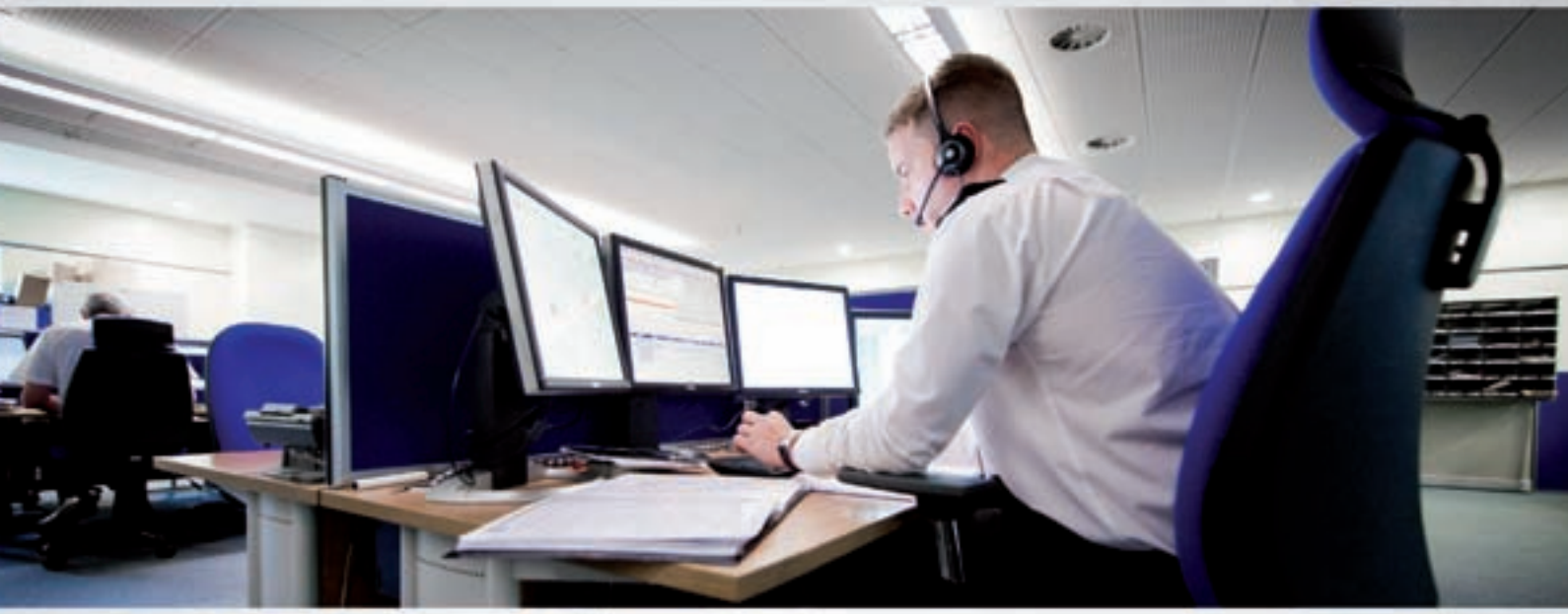
The new solution constantly checks communication to both the mobilising outstation and the alerter system, and if there is a failure it sends emails to inform the IT team and control room. If there is an outage, the team know certain stations have problems and that alternative methods of communication to the alerters (such as phone lines) will need to be used.

The practical benefits of using the new alerter system have been two-fold. Whilst Gloucestershire FRS has benefitted from big improvements in flexibility and control of its vital communications, the changes for the firefighters themselves have been minimal, which has actually been a benefit in itself, as Lacey explained, 'There has effectively been no real difference for the firefighters as such – the alerters still go off in exactly the same way, so this is not different from their point of view. We also kept their existing firefighter alerters, so additional training was not required.'

Another obvious benefit is managing alert logs remotely from one location, 'Before we had to physically visit the station to make changes. Now we can browse remotely and it can tell you if there are any problems. We can look at the activity of alert activation, knowing exactly when the alarm went off so there is no confusion.'

One of the more impressive results has been the ability to improve alerter coverage in difficult locations. 'There is a feature called "selective alerting", which allows one fire station to transmit the alert for others. In some areas of the Cotswolds and the Forest of Dean we have stations transmitting alerts for three or more of their neighbours. On undulating terrain we've found alerter coverage increase significantly, which helps both firefighters and the public.'

# Mission Critical Solutions



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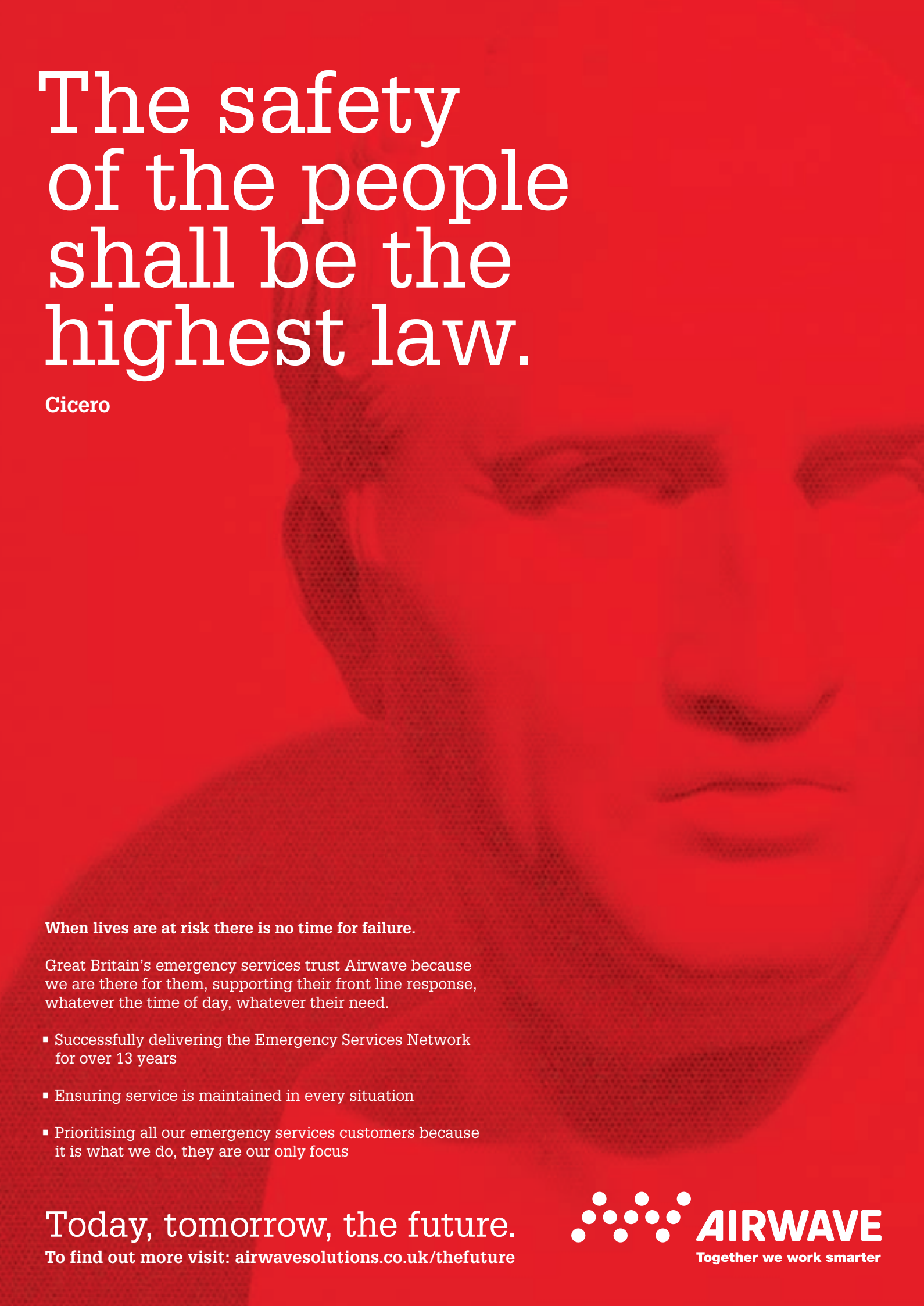
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