British Association of Public Safety Communications Officials

BRITISH APCO JOURNAL

Knowledge Exchange for Public Safety Communications

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NEWS

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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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British APCO: President's address

Alan House, President

As we move into our next 'British APCO year', I am pleased to confirm that our annual event for 2013 will be back in Manchester, 28 to 30 April. We will begin again on the Sunday with the Blue Light Camp which proved to be so successful in 2012 and, which provided a new interface with colleagues involved with public safety communications, discussing and working together across a range of topics. We are currently gathering feedback from and about the 2012 event and giving consideration as to how we can build on our experience and make 2013 even more successful, recognising the desires of both suppliers and users.

In tandem, our work in reviewing our membership strategy continues, together with a focus on modernising our website and making 'The Journal' and our eBulletin both relevant and useful to our membership. To our commercial members I offer the reminder that your continued support for advertising in The Journal ensures our ability to continue with its production on a cost-effective basis.

We have also begun work to look at establishing affiliations and partnerships with organisations with whom we wish to work more closely in the future. At Manchester we signed a Memorandum of Understanding with RAYNET (see page 20), having already signed one with the PSCE and we are currently in discussions with the TCCA (TETRA + Critical Communications Association). In this ever-changing world of increased pressures in the field of public safety communications we feel that working together with others whilst retaining our respective independence and aims is important to mutual development and indeed, possibly survival.

My sincere thanks to all those who supported us at Manchester in April. Together we can make British APCO flourish and be the association of choice and influence.

The changing landscape of public safety control comms

Dave King, Chair of the Commercial Advisory Group

Hello members, I hope I find you all well and happy. I must admit in April at our annual event in Manchester most of you I met looked to be in fine fettle, well except those in the Midlands Hotel bar at 3am, happy but a little jaded would be a more apt description!

However, the big question is what will we all feel like next year? Especially at the event in April with the landscape of the control communications world appearing to be changing dramatically and quickly.

So what is happening out there? If you are involved in fire control procurements you are probably not going to get much of a holiday this year, with nearly all the tendering work happening at the same time – now! With the expectation that the majority of the awards will be made by January 2013, is/was 2012 the year of Fire? Is the next year of Fire 2022? A thought: is outsourcing the game in town for the English police? With all the media reports it would seem so with control rooms now a target. Whether it is right or wrong is irrelevant for the majority of us, as we cannot really influence this, but we will be looking to work with new customers, large outsourcers! In the meantime as these potential large procurements get debated, planned, and implemented, no one seems to want to do much and definitely not spend much.

The 1 Police force and Fire service approach for Scotland is gathering momentum but will it really mean anything for the majority of us in the next few years? Probably not, as there is a lot of high level work and restructuring to be done before technology is the focus. And again, will it be an outsourced or a large SI contract? Probably, when you consider what else is happening in the UK and the necessity to save money.

So what is the immediate future for British APCO commercial members?

Fire; in or out of the game, the next six months will decide.

Police; different game and players now, so a change in approach and maybe business model may be needed.

Scotland; great potential – but when?

Wales; are they ahead of the game (and tri-service is happening) or waiting to see what happens elsewhere?

These are my views and expressed merely as food for thought, but I would like to hear your feedback.

BRITISH APCO

Knowledge Exchange for Public Safety Communications

The Annual Exhibition and Development Sessions in focus: a knock-out event resulting in many new dialogues.

What a success! So many people pulled together to raise the bar, ignoring the worries about a totally different format and location for our 2012 Annual Event.

And here's the difference... As I left the 2011 Event at Islington, the mood was very down, and I knew that we had to change everything, to invest and innovate our way forward. But... as I left the 2012 Event at Manchester, people were still coming up to me and congratulating us, and several members urged me to ensure that we'd be there again this year, and that we'd continue to develop the format because we'd got some things right.

There will be a lot of comment on what we achieved, so I won't add very much to it here. The most important thing for me to do is to thank all those who supported the bold move – by attending, exhibiting, organising, contributing (as far and wide as the US), and sharing in British APCO's way forward. I'm focused on working with the team to ensure that we continue along the direction we've started (we will see further growth and developments)– watch this space!

Meanwhile our relevance continues to grow. We've been busy reaching out into areas that strongly influence where communications for public safety is headed, and working with those dedicated to new technologies that will complement the robust systems in place today. We're working on relevant research projects (mostly EU) that are generating increasingly real and relevant products and that draw yet more significant entities to come and participate in demonstrations and dialogues. One such product is a Multi-Bearer Router that one of our valued commercial partners intends to take to the blue-lights marketplace, and we will be proud to have been a key part in its development. There is a report on this on pages 8-10, so I'll leave you to read it.

It looks likely that, probably in greater number than last year, there will be other themed events during the time before the next 2013 Annual Event, focusing on specific developments and real needs in the blue lights communications arena. We're also working towards another series of round table events; last year's very successful series (with Wireless Magazine, Motorola and the Tetra Association) concluded with the final gathering being held in one of the many small events running alongside the main exhibition.

We have successfully bid and won three more research projects, one with the EU, and two with the UK Technology Strategy Board. Our projects team goes from strength to strength, and we'd like to involve members in some of ongoing work. Again – watch out for news which is coming out to you on this topic.

A few members in the Midlands have expressed interest in reviving this area. I live in the East Midlands, and while I'm fully loaded work-wise, I'd be happy to contribute and to help if I can. If you'd be interested in coming along for an exploratory couple of hours one evening, let me know, we hope to see where this might lead.

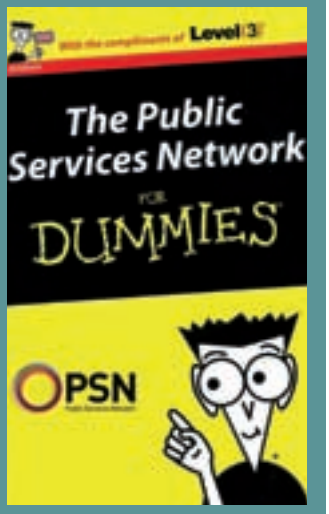
I believe that there will be some exciting announcements forthcoming on progress across all our media. Much work has been going on in the background, and the manifestations of this should soon be arriving.

So we've implemented, and reaped rewards from, many improvements and changes to British APCO, culminating in a knock-out event in Manchester – which has plenty of innovation and evolution ahead of it. New, important dialogues have been established with many relevant and important groups – and this trend will continue and will grow.

This constituency complements our existing member-base, and indeed will change, in a very positive way, the natural evolution of 'the members'. We're not throwing anything away – but we're adding. The resulting change in the mix of members will increasingly show how our thought leadership and knowledge exchange is benefiting our members and the blue-lights communications community.

Tony Antoniou,
Executive Director.

PSN FOR DUMMIES



Level 3 Communications has helped produce a guide to explain the Public Services Network. The Public Services Network (PSN) is one of the most important IT programmes in the UK public sector, and this "Internet for Government" is transforming the way the public sector connects and works together, leading the way for shared and cloud-based services. By reducing network costs, improving operational efficiencies and simplifying IT management, PSN is estimated to save government agencies £130 million a year from 2014.

FREESIC: enhancing interoperability with B-APCO

British APCO has started work on EU Framework 7 Project FREESIC.

FREESIC aims to enhance interoperability, in routine and major event operations, between civil protection agencies and emergency services, both from a technical and non-technical perspective. The project commenced in February this year and is scheduled to run for 30 months.

B-APCO is one of 9 organisations involved in this initiative. The partners are Ardaco (overall project co-ordinator, Bratislava); The University of Luxembourg; The National Security Authority of Slovak Republic; ITTI (Polish consultancy specialising in comms research); Nextel (Spanish telematic engineering company); Centre de Communications du Gouvernement, Luxembourg; World Consult (Bratislava, Slovakia); and Pramacom Prague.

B-APCO has a key role as one of the user representatives in leading the project's foundation work-package that is looking at requirements.

CEO for Cassidian

Cassidian has appointed Michael Stevens as Chief Executive Officer for Cassidian Ltd, the UK entity of Cassidian, in Newport (South Wales).

Michael has held various senior defence and security roles in engineering, manufacturing, project and business management over the last 30 years in areas of leading-edge technology, complex systems, solutions and services.

IP67 range from Sepura

Sepura introduced the STP9000 series of TETRA radios at the TETRA World Congress 2012 in Dubai.

New features are IP67 robustness, enhanced interface, built-in RFID tag and super-sensitive GPS. The series comprises three variants: STP9000, with full keypad and colour screen; STP9100, with reduced keypad and colour screen; and STP9200, with reduced keypad and monochrome screen.

PSN framework complete

The marketplace for the Public Services Network (PSN) IS now complete with the award of a new supplier framework.

The announcement of the successful suppliers for the provision of IT services for the Public Services Network has been a major milestone in the Government's ICT Strategy, Francis Maude, Minister for the Cabinet Office, has stated. The PSN will provide a single logical network and marketplace for public sector communications, bringing suppliers and customers together to substantially reduce costs. It will be the platform for public service providers to operate, share and deliver services across traditional departmental and regional boundaries, in more cost-effective and innovative ways. PSN-compliant services and systems are already in use in local and central government and the programme produced confirmed savings of £64.2m in 2011/12. Twenty-nine suppliers have been named on the new framework by the Government Procurement Service.

Fortek acquired

Capita's secure information solutions business has acquired Gosport-based Fortek Computers.

The acquisition of Fortek will complement Capita's recent acquisitions of Beat Systems and Cedar HR and enhance its existing command, control and communication solutions.

Founder of Fortek, George Godliman, will remain with the organisation and also join the board of Capita's secure information solutions business.

'Capita and Fortek have worked closely together for a number of years, most recently on a successful programme in Wales to provide a resilient, networked solution to the three Welsh Fire and Rescue Services control rooms. In the current economic climate we anticipate a growing trend in these types of arrangements between emergency services control rooms. By joining together our next generation solutions we are well-placed to support shared service models and enable inter-agency communications and data exchange. Our capability will also support the broader requirement to facilitate an interoperable solution for all emergency services in the UK,' said Craig Rodgerson, director, Capita's secure information solutions business.

Fortek has approximately 65 employees based at its headquarters in Gosport and offices in Mansfield.

Airwave Academy demonstrates savings

Airwave has released a report that has calculated the potential savings that its Academy e-learning package could generate.

Airwave Academy was rolled out to the Devon & Cornwall Police between October 2010 and September 2011 to enable officers to further their skills base when using the Airwave Service.

During the period under review, 2,596 officers logged onto the system and spent close on 4,000 hours completing the eight training modules. The report defined the potential cost avoidance savings for two years would have been £262,786.

The results further demonstrated that similar e-learning modules could potentially cost the force only £8 per officer per year.

ICU wins award for Royal Berkshire

Royal Berkshire Fire and Rescue Service (RBFRS) has won 'Fire Project of the Year' at the Improvement and Efficiency Awards.

The Improvement and Efficiency Awards are run by Improvement and Efficiency South East (iESE) to celebrate public sector excellence. RBFRS won the award for their mobile Incident Command Unit (ICU), which was successfully put to the test at the Swinley Forest incident last May.

First Cisco emergency contact centre

The new emergency services contact centre for Dyfed Powys Police is based on Cisco Unified Contact Centre Enterprise (UCCE) technology.

The implementation is the result of Kcom working with Cisco over a three-year period, to bring its contact centre solution to the emergency services market.

Dyfed Powys Police serves a population of 490,000 people and received over 35,000 calls in 2011. With the high volume of calls and the demand for swift response times, it's vital that the contact centre can operate effectively at peak demand.

The new control centre system enables operators to view accurate real-time information, handling sub-second refresh rates which ensure they can manage the large number of calls they receive. This is significantly faster than the average call centre refresh rate of ten to twenty seconds and ensures that 999 calls are routed to skilled operators as quickly as possible.

Additionally, Kcom developed an innovative solution which automatically provides a call handler with the caller's address and a map reference of their location, giving more detailed, immediate information and creating a quicker transfer of information between the operator and response teams.

New HQ for Leicestershire FRS

A new £8m HQ and Fire and Rescue station development, with overnight accommodation for up to seven fire-fighters, is being designed by multi-disciplinary practice Pick Everard for Leicestershire Fire & Rescue Service.

The new, state of the art, three-storey HQ building in Birstall, Leicestershire, is now underway and will be ready for occupation in January 2013. The development will incorporate a range of low energy and sustainable design features including air source heat pumps, solar thermal water heating, heat recovery and an energy metering management system.

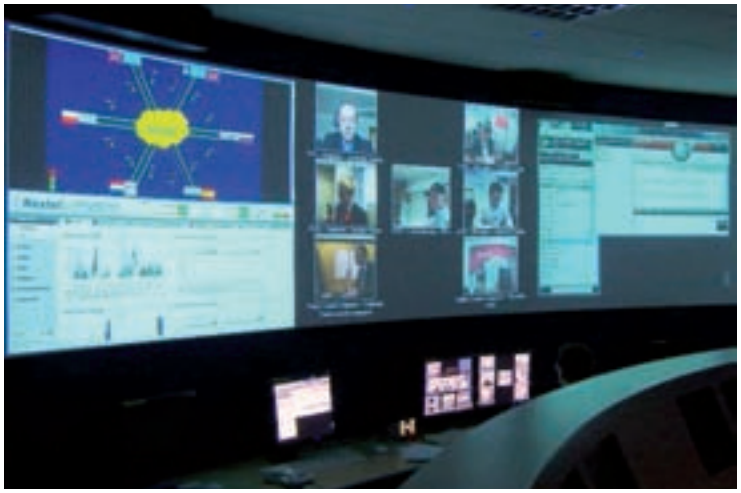
NEWS IN BRIEF

The Police National Database is celebrating its first anniversary since its delivery by the National Policing Improvement Agency. Since its launch more than 700,000 searches have been carried out for information. The PND has transformed the way police and law enforcement agencies share locally-held intelligence. They can now see the full intelligence picture immediately, and identify patterns of criminal behaviour earlier than was possible before. Successes include intelligence about an organised crime gang involved in the wholesale supply of drugs; and identifying leads in a double murder investigation.

Scottish Ambulance has awarded Arqiva with a five-year critical communications installation agreement. The preferred supplier agreement is estimated to be worth £450,000 and covers the installation of in-vehicle TETRA radios, mobile telephones and ancillaries for the emergency service's fleet of 1,400 vehicles. As well as installing new vehicles with radios, Arqiva will be de-installing radios from decommissioned vehicles and re-fitting them in other vehicles, providing flexibility and cost-effective savings. The agreement also includes the option for an extension for a further three years, which could see Arqiva providing the service until Feb 2020.

Sepura plc has acquired Austrian supplier of TETRA infrastructure 3T Communications. 3T Communications designs and implements small to mid size TETRA systems predominantly for customers in the commercial sector. This business segment is growing strongly as the worldwide TETRA market develops beyond its public safety origins. Sectors such as chemical industries, oil and gas and utilities represent areas for future growth of TETRA and Sepura is taking this key step to address the needs of a significant volume of new users.

A phone App is helping identify Police CCTV images. The Metropolitan Police are asking the London public for help in identifying thousands of images relating to low level crimes from across the capital using a new App called Facewatch id. Facewatch id, available on BlackBerry, Android and Apple smartphones, provides a selection of unidentified images of people the police would like to talk to within areas selected by distance from a postcode entered into the App by the user. If an image is known to the viewer they have the opportunity to take action and confidentially send information directly to the police using the App.



Secure comms for crisis management – Project SECRICOM

On 8 March 2012 the EU FP7-funded Project SECRICOM delivered a successful proof-of-concept demonstration to a range of influential end-user stakeholders in Portsmouth.

SECRICOM final demonstration day at QinetiQ PTP. Below: SECRICOM admin user demonstration at B-APCO 2011.

Project Secricom commenced 44 months ago in September 2008 and was focused on enhancing emergency services interoperability through improved communication systems resilience and reliability, that is seamless to end-users. It included secure communication systems, chip level encryption and authentication, security-monitoring and seamless, IPV6-ready networks.

A key aspect of the project was to examine cross-state border communication needs at time of crisis when multiple agencies from different countries need to communicate to effectively manage their combined response.

The project comprised 13 partners, with British APCO providing the business and end-user engagement and input. QinetiQ UK, which hosted the demonstration, was the overall project coordinator with Ardaco from Slovakia the lead technology coordinator; other partners contributed as regards research, associated technology development and security needs.

The stakeholders' demonstration, a key project deliverable and the last in a series of incremental demonstrations, was conducted with an audience of invited representatives from ambulance, fire and police; Civil Contingencies Secretariat and the Emergency Services Mobile Communications Programme. Senior fire and security representatives from Poland also attended as did a senior police officer from Sweden.

The demonstration consisted of two scripted live exercises set within a plausible operational scenario and involved actors (project personnel) playing the roles of various emergency personnel. The invited audience saw live voice and data communication exchanges between various sites on the QinetiQ Portsmouth campus and with and between Luxembourg, Poland, Slovakia and Spain.

Communication was seen to be seamless and uninterupted as bearer systems (3G, IP, Satellite, and TETRA in Slovakia) were changed during communication exchanges; security was seen to be dynamically monitored as new devices were moved in and out of talk-groups. The range of devices utilised in the exercises across all the five demonstration sites included TETRA and analogue handsets, mobile and android phones, laptops with secure docking modules and iPads and PDAs.

The demonstration provoked animated comment and discussion in the audience with the stakeholders commenting very positively about what they had seen and its possibilities for the future. Particular interest was raised in regard to the potential of enhancing currently deployed networks and systems with the project developed capabilities to meet present as well as future requirements needs.

The project concluded at the end this April this year, and the following partners in the project provided key contributions:

Ardaco as (Slovakia): Ardaco has been developing and validating the cross system/platform, secure communication-system SECRICOM Silentel, including:

- secure communication server and operator studio enabling smart management of human resources and end-to-end encryption and preventing any misuse of transmitted data (voice, text, images, position, status, etc);
- applications for modern mobile devices with advanced functionalities (eg smart-phones, tablets, computers, etc);
- gateways for interoperability with legacy systems (TETRA, Citizen Band), open for further systems.

Ardaco has also achieved a demonstrable version of fast deployable communication node that extends communication network for the benefit of public safety in areas with weak or no connectivity. Ardaco was also the leading integrator of SECRICOM.

Graz University of Technology, (TUG) Austria: working with

QinetiQ

Stay Connected

QinetiQ's Multi-Bearer Router (MBR) has been specifically designed to overcome the issue of intermittent connectivity and to provide seamless network transition when operating in a constantly changing dynamic environment.

Effective Communications

- Match traffic to network links
- Configure once and let it be
- Disaster recovery

Seamless Switchover

- Detect network changes
- Automatically switch
- Create resilient mesh networks

Keep Talking

- Stay connected
- Take better control
- Drop high volume traffic

MBR delivers network independence for any configurable communications device and provides enhanced connectivity to your important services.

Seamless and resilient networks ensure end-to-end connections can be maintained. Actively dropping selected high bandwidth data over limited links allows required information through.

Optimise the use of your available networks with the increased benefit of splitting traffic across multiple (single or bonded) network links.

A concept born from military research to enable multinational interoperability; the QinetiQ MBR provided the backbone resilient network used in SECRICOM.

For more information contact:

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SECRICOM user demonstration at B-APCO 2011.

the consortium, TUG identified the secure docking module (SDM) and trusted docking station (TDS) concept. The concept ensures the load time integrity of security critical software components. This helps to protect security critical software components against malicious software attacks (such as computer viruses), on COTS computer and mobile phone hardware. The SDM is a security token which, when plugged into a secure docking station (SDS), not only serves to authorise the user, but also ensures that no malicious software has been loaded on the TDS. The concept was applied to protect secure agents, as well as the SECRICOM PTT communication suite.

CEA LETI (France): CEA-Leti designed secure cryptographic components and characterised their security. In the SDM architecture, the communication between the host and the SDM is encrypted using the Advanced Encryption Standard. Because data manipulations are sensitive, the AES module is a key component of the security chain. Potential threats on security chip are physical attacks, which aim to recover secret data by exploiting physical weaknesses of the device. Once the functional requirements were implemented into the AES module, new countermeasures were designed to protect it against state-of-the-art attacks. This security strategy was then validated using the test benches available in our laboratory.

University of Patras (Greece): University of Patras conceived, designed, realised in hardware and verified a special hardware accelerator module for providing cryptographic operations within the SDM structure that is resistant against popular hardware attacks. This contribution is based on devising hardware in chip protection mechanisms to thwart special hardware security attacks if the chip is stolen and manipulated by non-authorized, malicious, entities. The resulting hardware implementation acts as an add-on to the SDM chip for managing long term security.

ITTI Sp zoo (Poland): ITTI has been working on enhancing the SECRICOM security including leading the 'threat analysis' task, developing the ITSCM plan and involvement in IPv6 related analysis. ITTI also took a supportive role in each phase of the system development life cycle; from requirements engineering, through system design and development and last, but not least, testing, where ITTI's ISTQB certified testers brought their experience and knowledge from past and present research and commercial projects.

NEXTEL SA (Spain): it designed for SECRICOM and applied in the SECRICOM communication infrastructure, the Communication Security Control Centre which provides security monitoring and control. In addition to this security model, the development of a Security Middleware Services and Framework has been necessary to measure, document and maintain the security of SECRICOM services based on telecommunication systems.

Université du Luxembourg (Luxembourg): the University of Luxembourg was leader of the new Internet Protocol version 6 (IPv6) technology testing and implementation, to have SECRICOM solution ready for future internet. IPv6 support was clearly shown during live demonstrations, showing ability of IPv6 to end-users, during the emergency situations. The main objectives were:

- Provide a secure communication system, enabled with IPv6 capabilities.
- Prepare solution of SECRICOM project for the running out of the IPv4 address space.
- Verify the component of overall SECRICOM solution in IPv6 environment.
- Using new mechanisms to distribute and manage QoS negotiation data.

The main result of SECRICOM project in the case of IPv6 technology can be summarized as IPv6 Silver Logo Program; IPv6 Tunnel Freenet 6 cooperation; creation of the Public Safety Laboratory; and future connections with EU projects.

QinetiQ (UK): QinetiQ upgraded its Multi-Bearer Router to operate with the new IPv6 and provided an ever-changing, Europe-wide, multi-bearer network for SECRICOM partners to integrate their systems with. QinetiQ also undertook the project coordinator role.

Other partners included the Institute of Informatics at the Slovak Academy of Sciences (Slovakia, working on Secure Agents); Smartrends sro (Slovakia); Bumar (Poland); and Infineon Technologies AG (Germany).

FOR MORE INFORMATION

SECRICOM has built on past EU FP6/7 projects. The results from project will feed into the upcoming FP7 project FREESIC. Many dissemination activities have been undertaken, with all consortium partners' involvement, accumulating with the SECRICOM final demonstration 2012. Further details are contained within the SECRICOM website: www.secricom.eu. For more information contact John Stoodley, Project Coordinator (jastoodley@qinetiq.com), or Shaun O'Neill, BritishAPCO European Projects Manager (euprojectofficer@bapco.org.uk).

Ian Charnock, Business Hub Manager for Greater Manchester Police's Operational Communications Branch, explains how Greater Manchester Police is taking police forecasting and scheduling to the next level with the help of Sabio and Verint Impact 360 workforce management software.

Take forecasting to the next level

Greater Manchester Police (GMP) had a requirement to create a centralised resource management function to support its complex call handling and radio dispatch activities. After extensive stakeholder engagement and process reform, GMP's Operational Communications Branch engaged with Sabio to implement an advanced workforce optimisation solution – not just to support centralised resource management for the force's multi-site contact centres, but also to help drive efficiency benefits in line with the Spending Review.

The force had been working to redevelop its multi-site contact centre operations after a critical Her Majesty's Inspectorate of Constabulary (HMIC) assessment reported the force's contact operations as 'poor and failing'.

Ian Charnock, Hub Business Manager for the Operational Communications Branch at Greater Manchester Police, recalls that the HMIC report began a lengthy process to implement best practice resourcing and scheduling within GMP's contact operations that include some 800+ contact centre agents and other staff. 'The reality was that GMP didn't have an effective management structure underpinning its call handling and command and control activities. Calls were taking an embarrassingly long time to answer, work patterns were static and based on fixed shifts established in the 1990s, and overtime was running at 10% of the overall call centre staffing budget.'

GMP embarked on a performance optimisation and value for money programmes, well in advance of the current Spending Review. This will see the overall budget reduce by some £134 million by 2015. 'Before starting on a more detailed resource optimisation strategy across our contact centres, we needed to address the core issue of inflexibility across our operations – particularly our 12-year old shift patterns. This was a complex process and involved a time-consuming and sensitive negotiation with Unison, the Police Federation and the Police Authority to make sure we kept all our stakeholders either onside or fully-appraised of our intentions,' added Ian. 'We eventually got to the stage where we had negotiated three shift patterns for each business area that would match our resource demands.'

With the right shift approach in place, GMP was able to drive forward the forecasting of call and incident demand across a range of forecast groups including five inbound call groups plus radio dispatch. 'We were determined to achieve the right balance between driving and delivering improved performance, managing the branch overtime budget, and ensuring that a customer-focused approach was maintained, with a commitment to continuous improvement of service.

'We made some good initial progress – and were awarded the CCMA's Emergency Services Team of the Year award in 2009. However, we knew we still had more work to do around resource management.'

Having virtualised the force's core ACD telephony platform, the Operational Communications team was able to manage its customer contact workforce as a single entity, and start working on implementing a centralised resource management function for GMP. 'We knew that this would involve the restructure of some our contact centre support services, bringing together several disparate functions such as resource management, performance management, quality assurance, internal communications and operational support into a single unit,' recalled Ian. 'However, it was also clear that we needed a more comprehensive workforce management approach, so we started looking for a WFM solution for our operations.' GMP put in place a detailed procurement process to decide on a best practice workforce management approach and a specialist partner to work with. After a lengthy process GMP chose Sabio to implement a WFM solution based on Verint's Impact 360 workforce management software. Having achieved benefits from the application of more structured processes/flexible shifts, including a 60% plus reduction in overtime levels, and an increase in forecast accuracy to over 90%, GMP was keen to identify further improvements with the deployment of WFM.

For the Operational Communications team, this involved building a business case around further overtime savings, a reduction in schedulers needed for the consolidated contact centres, productivity improvements in overtime and leave processing, and a reduction in supervisor hours thanks to the WFM tool's automation capabilities. 'With our Impact 360 tool and Sabio's support, we're now looking to build on this with a more consistent service delivery level, reduced service level volatility with the application of intraday performance, and increased focus on optimising shrinkage and not ready time. Our goal here is to get the 'not ready' figure down to around 15%. Having put the right organisational structure in place, we're now ideally placed to realise further forecasting and scheduling benefits from our WFM deployment. It's essential to have all the people, processes and communications in place for WFM to be successful – having built the foundation, we're now looking forward to refining our workforce optimisation activities.'

Ian Charnock, Business Hub Manager for GMP's Operational Comms Branch.

The two convoys of high volume pumps made a most impressive sight as they made their way from Hampshire HQ in Eastleigh to the forward strategic holding area in Fawley.

Interoperability in action!

Exercise Shannon was a major UK multiagency exercise that took place in the south coast home of multiple top tier COMAH sites on 4-5 May. Jose Sanchez de Muniain was there to report.

Exercise Shannon was held in Fawley, Hampshire, and involved all the emergency services including ambulance Hazardous Area Response Teams, Roads Policing units and Police Hazmat personnel. The main industrial partners were Exxon Mobil, FloGas and Calor Gas, and the Environment Agency was also in attendance.

During the two-day exercise the Fire and Rescue Services National Control Centre was invoked and it subsequently contacted a number of brigades from around the UK for the mobilisation on a national scale of a number of high volume pumps (HVPs). After an initial mustering at Hampshire FRS HQ at Eastleigh, the HVPs made their way to a forward strategic holding area in an impressive blue lights convoy escorted by Hampshire Constabulary.

As well as Hampshire's high volume pump, HVPs were mobilised from the Isle of Wight, Dorset, Oxfordshire, Surrey, and Berkshire. Station Manager Mick Thompson explained: 'We simulated a failure of the pump that supplied fire water and process cooling water to multiple top and lower tier COMAH sites in the area.

'The hose lines ran to two different points, and the water supply was taken from a fresh water lake containing over three million litres of water.'

The temporary fresh water main was used to address three separate incidents in different areas of the COMAH site, one of which was a Hazmat incident involving an overturned tanker and three casualties (one supplied by Amputees in Action).

Silver Command was set up in Hardley Fire Station, comprising all the senior officers and managers, who were supporting the incident and planning for an extended scenario over a number of days.

An important aim of Shannon was to test interagency communications using TETRA radios, as Watch Commander at Hardley Station Chas McGill explained: 'This was a real opportunity to call the other brigades and test the Airwave radio comms with Hampshire Police, who conducted themselves as if it was a real incident.'

Hampshire FRS's officers were issued with TETRA radios by Hampshire Constabulary for the duration of the exercise: 'Our vehicles have TETRA radios but currently our officers don't have their own terminals. The exercise tested our officers in their use of national talk groups.

'Interoperability is an issue that continues to be problematic as shown in previous multiagency exercises. We have made it work,' said Chas McGill.

Fire officers taking part in the convoy of HVPs were guided into the scene by VIP convoy officers using the police hailing channel, and upon arrival were advised by Hampshire FRS to move to emergency interoperable channel (ES3) for the duration of the live exercise. 'Deliberately we ensured that normal communications wouldn't work in these areas so comms-wise the participants had to use Airwave,' said Chas McGill.

Roads Policing Officer and Hazmat Advisor Mike Batten played a key role in the exercise planning. He has previously been involved in four hazmat exercises in the Southampton area, including a scenario involving a container leaking phosphorus on a ro-ro ship. 'Our past exercises have proved what we already knew – currently if the police lose contact with the firefighter on the ground then there is no way of renewing contact: as soon as a firefighter goes into the hot zone that's it.' He further explained, 'Prior to the exercise I arranged and delivered an Airwave training package for the HFRS personnel who would be involved. The emphasis was to ensure that the attending Police Officers would have continuous direct communication with their HFRS counterparts. This included training the use of the point-to-point facility. In another first for both services, HFRS staff were given personal issue Hants Police Airwave sets after they had been trained. Although there are differences on the HFRS and Police handsets with the available talk groups (TGs) , this was overcome by targeting the training at the use of the Interoperability TGs only. We wanted to ensure that everyone involved was confident in the use of the Airwave sets and to avoid unnecessary confusion on the day.'

Mike Batten also explained that although communications had been major part of Exercise Shannon, there were further training criteria being met by the project: 'It also gave the Hazmat Advisors the opportunity to work with their counterparts in Fire and HART (hazardous area response team). It exposed Roads Policing officers to hazmat incidents at an RTI, and they saw Hazmat Advisors at work facilitating communication between the different services using Airwave. The exercise was planned from the outset to be part of an ongoing program to integrate the working practices and command and control of all three 999 services. I am very pleased that we have been able to build on the previous work and pull together many threads that up to now hadn't been brought together before.'

High volume pumps were mobilised from the Isle of Wight, Dorset, Oxfordshire, Surrey, and Berkshire (as well as Hampshire). Several incident response units were also in attendance.

The Exercise highlighted the procedural differences between agencies during radio communications.

Lessons learned for the future – the fire side

Paul Turner, Radio Systems Engineer at Hampshire Fire, was responsible both for setting up the talk groups for interagency use, as well as briefing all the incoming teams in the HVP convoy regarding comms talk groups.

The point of the briefing was to ensure that all participants as far as possible used 'plain speech' with no coded messages, as each agency does not necessarily understand what is meant by the others – and according to Paul this worked well. Three talk groups were assigned on the day (Ops3 for all fire-to-fire communications at the incident, SHG1 for use whilst being guided by police during the convoy run, and ES3 for all silver command messages between police, fire, and ambulance HART). Two were later added to allow direct communication between Silver Command and an officer at the overturned tanker scene, and another for a vehicle responding to an initial call to Fawley Refinery (pre-exercise kick off).

The day revealed one issue to Paul, who was based in the forward strategic holding area during the exercise: Royal Berkshire FRS and Dorset FRS were working on a later software release (as a result of their involvement in the Olympics) in their radios which meant they had slightly different numberings – although the channels were the same. It didn't cause any problems on the day, however, 'It was nice to have all the groups coming in and knowing how to change and select talk groups – only one team didn't know how to do it and we resolved that at the initial briefing.'

Some of the organisers in action: Chas McGill (below, centre) and PC Mike Batten (opposite, pictured with a smiling 'casualty').

Some lessons were learned. Silver Command didn't have its own radio operator which meant that Silver had to listen to all radio comms in case there were specific requests for them, which proved disruptive whilst trying to make high-level decisions. 'So ideally we need to move that radio away from them and have a dedicated operator on it.'

Lesson two highlighted the lack of instant recording facilities that not only record everything on a particular channel but also enable playback. 'Someone listening in may not necessarily pick up on a call for them, so it would have been good to be able to roll it back and listen again, similar to what is in place in the main control room.'

Lesson three regarded the proper management of talk groups during a major incident: 'A radio comms engineer needs to be present and none of us have been on the Airwave Tactical Advisor Course. Now we are using interoperability more, how we allocate talk groups and how we bring people into them affects our partners. That needs to be managed properly because if 20 people each have their own talk group it can start causing problems with congestion at the base station.

'Our control rooms need to be trained – and some have done – but also commanders in incident command vehicles and anybody that is supporting IT.'

Lesson four underlined the impact that aggregating talk groups can have on an operation. The command unit was expecting – and able to monitor – three talk groups, but two others were added on the day. 'They didn't have enough facilities to monitor five – we had three terminals and three operators listening to those, but when it went up to five we didn't have enough resources. We have to bear in mind there are only four operator positions in the vehicle at the back. We've asked Airwave if there is some kit that can scan four or five talk groups but we don't know yet if we could do that. And a scanning device may not be the best solution because you don't know which talk group you've locked into.'

Lesson 5 regarded that perennial issue with Airwave terminals – training. 'It needs to be addressed because some of our firefighters are not that familiar with them. They can use them but they could do with better training and – importantly – ongoing training. We know there's a brilliant interactive system that was designed by Airwave with Devon and Cornwall Police, but the trouble with that is that they are on Sepura radios and we are on Motorola.'

Lessons learned aside, Paul was very satisfied with how the exercise went: Airwave worked fine, as did interoperability between the police, HART, and fire. 'HART did very well – they just turned up, did the briefing and they were away. Very impressive.'

Lessons learned for the future – police side

Simon Moase of Hampshire Police attends the telecoms sub group of the local resilience forum and during Exercise Shannon was based in the forward strategic holding area. He also played a part in the planning of the multi-agency communicationss aspect of the exercise, with a view to testing Hampshire and Isle of Wight's standard operating procedures on Airwave interagency interoperability.

In terms of lessons learned, Simon says that the Exercise highlighted the procedural differences between agencies during radio comms: 'For example we know that when the fire services speak on the radio their speech is scripted when they have standard things to say. The police environment on the other hand is 'open speech' within reason, and we have addressed that already in some local resilience forum meetings to encourage people to use open speech.

'The other thing we hadn't considered regarded people coming onto talk groups and speaking before listening if anything else was going on. So a couple of minor learning curves there.'

Next lesson learned touched upon the necessity for intrinsically safe radios for COMAH environments. 'While HART have intrinsically safe radios available, we as a force don't have any. This meant that when our forces were initially deployed to Fawley – one of the top COMAH sites in the country – we were told we couldn't come in with our radios. We had to overcome that locally on the day, but it has given us a potential requirement to procure some intrinsically safe radios.'

Hazmat incident involving an overturned tanker and three casualties – one of the three incidents that took place in and around the COMAH sites.

Notwithstanding these minor issues, Simon is confident that the standard operating procedures in place are fit for purpose and that no changes are required as a result of the exercise. 'I am happy with how it worked out. We can say the exercise worked and I think taking it forward we could make it work in a live scenario, making use of Airwave tactical advisors and making use of trained control room supervisors in each agency so they are aware of how the process works and how to invoke it.'

As for advice to other agencies tempted to carry out a similar exercise, Simon says it is important to ensure Airwave tactical advisors are involved, and that control room staff are well briefed on how interoperability works and, lastly, to include all the relevant people in the planning process. 'The type of advice these advisors provide is very important and covers things such as the capacity of the Airwave network; allocating the most suitable talk groups by incident type and the agencies involved; and making sure the talk groups are available to everybody and that they can interoperate on them.'

Praise has already been heaped upon Exercise Shannon, as Mike Webster, Fleetmapping & Interoperability, CFOA, has commented: 'From a high level communications point of view I thought it went very well indeed. It's amazing how things fall into place when planned by people who know and care about communications. Well done.' PC Mike Batten (pictured left) added, 'I was very pleased with the outcome of the exercise overall. It is vitally important that in the event of a major incident the emergency services are able to integrate their communications, which will facilitate improved command and control. Exercise Shannon demonstrated that we can make that happen.'

Airwave 2012-2019: improving how we talk

Improving Airwave was the theme for a lively debate during one of the many free-to-attend workshops at B-APCO 2012. Hosted by Syntech Systems and facilitated by Rich Edwards, an expert panel from the Airwave community was on hand to offer opinion and context. Jose Sanchez de Muniain reports on some of the highlights.

BRITISH APCO DEVELOPMENT SESSIONS AND EXHIBITION: DATE FOR YOUR DIARY

The new format Development Sessions offered high level roundtable debate, training sessions for control room staff, and presentations on the latest technologies in the public safety arena, while the exhibition offered a taste of the newest solutions for every aspect of emergency and critical communications from over 100 suppliers. The new venue in Manchester won overwhelming approval for ease of access, good facilities and the proximity of good value hotels and restaurants - Jon Gwillym of Peter Jones ILG, said: 'Thank you for moving the show, it refreshed the event and gave it an upbeat tempo. And £65 for a hotel instead of £130 per night!'

HQ hotel The Midland immediately across the road from the show provided a social focal point where 250 guests networked and were entertained at the annual Gala Dinner sponsored by Fortek.

The 999 Futures and the Blue Light Works meetings focused on the future requirements for civil contingency technologies, with a very constructive mix of public and private sector contributions. On the exhibition floor, ACPO ITS offered the first opportunity to see brand new in-vehicle technologies, and Capita (pictured) took a highly innovative approach to the show, with artists creating a live customer proposition and outline of how the company approaches client solutions on the walls of the stand across the two-day show.

Visitors to the event were welcomed by name on the rolling screen at the show entrance thanks to Motorola-supplied RFID technology in association with Codegate.

The next event will take place 29-30th April 2013 at Manchester Central, Manchester.

The debate on how to make the best out of Airwave for the next seven years kicked off with a presentation by Jim Bilsland on Airwave Max. This NPIA initiative was prompted by ACPO and aimed to go back to comms basics, reviewing lessons learned with a view to drive operational efficiencies and savings. 'One of the key things we wanted to do with Airwave Max was understand the business needs of different forces, questioning why they thought they needed to use Airwave, and looking closely at their operational practices.'

The in-depth Airwave Max approach included analysing interviews across a wide range of Airwave users ranging from call room supervisors to dog handlers and front-line officers, in order to get to the root of the question of normal Airwave usage. 'As a result of Airwave Max a national training project was set up to move towards national standards and accreditation for Airwave training for end users, including control rooms and advisors. We now have a set of learning descriptors in the community for final consultation,' said Jim.

The presentation on Airwave Max and its low-cost strategy of analysing Airwave usage within forces, to provide efficiencies in operations and costs, then led to the first of three pre-formatted questions for the panel: after 12 years of existence, what improvements/changes are needed?

Necessary improvements

Simon Orbell of Syntech further qualified the question: 'Do you know what Airwave is costing you? Do you think it is value for money? If you don't know how much it is costing you, you won't know if it is value for money.' A staggering £11m (approx) per annum is spent on 'over the threshold' usage of Airwave, he added.

Graham Herniman of Airwave stepped up to the question, acknowledging that many discussions had taken place around comparable costs between mobile phones and

Airwave. 'It's been very difficult to give a cast iron answer because we are not comparing apples with apples. There is an understanding that the way our customers use Airwave is very different to the way people use mobile phones. And when you think about the facilities and features that you need and have asked for, it is very difficult to compare like for like.'

Although no conclusive assessments exist, Graham said that considering the number of users on the Airwave network and the sorts of service fees the government paid for the users, a per Airwave handset cost could compare with a high-end Blackberry user. 'In terms of the future we are keen to get feedback on how we can improve the service and that is key for us. However, you have an emergency services communications programme that is looking at next generation comms and the need for greater data will probably come to the forefront of that, alongside some radical thinking around devices.'

One delegate questioned whether some users actually needed Airwave, particularly emergency responders in remote areas that responded to incidents on an infrequent basis: 'Are there services they can use to fill that gap?' Dave Webb agreed that that subject area would be under pressure, as government circles sought to reduce costs – the challenge would be on how to maintain the requirement for interoperability in view of the pressure on cost reduction. 'The two are not compatible because you are not going to have interoperability if you move to a mobile phone-type system.'

Dave added that interoperability wasn't necessarily required for day-to-day operations, and he questioned whether having all three emergency services talking to each other 'at will' was desirable. 'Do we need everyone to talk to everybody? I don't think we've bottomed that one out.'

Time is running out

It quickly became clear during the course of the debate that 2019 was not the key date – especially in the context of national interoperability. Some services begin to drop off the main Airwave contract in 2016 (eg Lancashire Constabulary) with other members of the emergency services running until 2020 – should no extensions be taken up.

The debate then turned to ESMCP (Emergency Services Mobile Communications Programme), a UK-wide programme looking to replace the radio systems for all three emergency services. 'As I understand it, it is about the future from the Airwave Service perspective but also broader than that, looking at mobile comms in the realm of public safety, comms on the fire ground, phone usage, and comms spend,' said Graham, and Dave Webb added: 'In simple terms it is about the replacement of the Airwave Network for everyone – what it might look like, where the tensions are, and the trade-off between interoperability, resilience and cost.'

The discussion then focussed on the issue of cost, and Simon pointed out that initiatives like Airwave Max seemed to be encouraging police forces to modify their behaviour in order to save on cost. Jim Bilsland added that the way usage costs were structured tended to favour some forces over others over others eg a large metropolitan force. Graham from Airwave added that his organisation was looking at the issue of traffic units: 'There clearly is a need to manage the traffic of the network from a cost and capacity point of view… and we are looking at a number of initiatives to help our customers through difficult financial times.' Jim Bilsland then pointed out that the NPIA was looking at bringing to the forefront the capability to 'ring-fence' capacity for certain events, so that users could not communicate with officers beyond a certain distance. 'It is something we are prepared to look at, but it is incumbent on us to say we want it. We have a working group that will be reporting to the national group on this.'

Sue Lampard (B-APCO Vice President) remarked that for the most part the police service had mirrored (with Airwave) what it did previously with push-to-talk, and therefore imposing restricted coverage wouldn't necessarily be disruptive. 'People are using Airwave often just because they can, for example by dragging talk groups all the way to London during the riots. The individual officers have little or no idea of either the cost or the potential impact on talk group capacity.' Human behaviour and training were the

Simon Orbell, Director, Syntech Systems.

Dave Webb, Chief Fire and Rescue Officer, Leicestershire.

main issues, but they were often not visible factors because not many police forces were monitoring what they were spending on Airwave.

ESMCP

With only four years to go before having a system in place, user requirements need to get 'in the pot' quickly, and Dave Webb outlined some of the work being done and areas being taken into consideration by ESMCP: 'One of the users in a senior position said he liked what he had and he didn't want something different. If you'd asked that individual about Airwave when it was first introduced, he would have probably said the same. Culture is quite interesting, and sometimes we don't need to ask too much about additional requirements.'

Dave then pointed out that the working relationship with Airwave was better now, and that it needed to continue in this way to drive down costs and improve functionality.

The panel kept returning to the issue of influencing human behaviour around Airwave usage, and how unless Airwave training and practice become mandatory and part and parcel of officers' targets, efficiency and cost-cutting objectives would not be fully engaged with.

Ambulance service and data

Ian Hough, National Service Director, Ambulance Radio Programme, commented on how Airwave had delivered the requirements put forward by the ambulance service. 'I was expecting more from the data side. We are big data users and we decided that our primary carriers would be mobile network operators, but we also needed TETRA connection because these mobile networks can drop off. The data side has not kept up with our requirements, in particular with Tough Books sending records back and forth between hospitals.'

In comparison with other comms standards such as GSM the TETRA standard for data has not progressed very far. 'Everyone is saying we cannot go onto any new technology for mission critical, so we have to stay with Airwave until something out there can give us the same standard for mission critical and resilience. I want to make sure Airwave is there until we are ready to leave, but my concern is, if we are going to take money away from Airwave, how is Airwave going to continue giving us the service that they provide at the moment?'

Graham pointed out that Airwave 'does data', but of the SMS type only, due to the nature of the standard. 'And when you look at TETRA, it is great for mission-critical, but while there are billions of 3G users, there are only a few million TETRA users, hence that answers the question of why one has evolved more than the other. The debate for the future is to what extent should the focus be on mission critical, and having a global standard that will drive efficiencies of scale.'

The future

Sue Lampard shared one of her bugbears regarding the need to think outside the box: 'I'm lucky over the past few years to have been exposed to different technologies, which has enabled me to develop vision for the business that is much broader than it would otherwise have been. There is always a danger when you ask people what they need, they tell you based on what they use here and now. What might be possible in the future could be more efficient with different technology but we may not be able to feed that in. I think we need to think outside the box about how we might be working in 10 or 15 years time. So I'd like assurance in terms of gathering user requirements that that process is there.' This type of approach is not without challenges too, and Jim Bilsland used social media as an example of a technology that could evolve beyond recognition in that sort of time scale. 'I don't think anyone could come up with a fool proof way of doing that.'

Dave Webb outlined how the ESMCP process was currently being driven by the three blue lights as a deliberate policy to avoid too many users at the initial stage. 'We are trying to constrain the user requirements at this stage to a manageable amount – and when that is almost agreed we'll then expose it to other users and see what the significant differences are. But let me reassure you that the other users are not forgotten, just not fully engaged at the moment.' Simon then rang a note of warning regarding user requirements; 'Do not be seduced by technology nor constrained by it. You need to tell suppliers what you are trying to achieve, and what the processes are. Don't feel you can't ask for something because there is no technology for it. Push the boundaries.' Dave Webb then countered that one of the issues to be cautious about was raising false expectations that couldn't be afforded.

Summing up, the main messages seemed to revolve around influencing human behaviour; that money could be saved if people were trained to do things differently; and that users needed to consider their requirements and find out how to have their voices heard for future systems. 'My message is, you don't have a lot of time if you have to do it in the next four to six years, but we can see that fundamentally there haven't been any great problems with the technology. The system is perfectly capable of doing what it was designed to do,' concluded Simon.

THE PANEL

- Jim Bilsland, Superintendent, seconded with NPIA.
- Richard Edwards, Consultant, previously with Qnetiq (Facilitator).
- Graham Herniman, Business Manager, Airwave Solutions.
- Ian Hough, National Service Director, Ambulance Radio Programme.
- Simon Orbell, Director, Syntech Systems.
- Dave Webb, CFOA Communications Lead, Chief Fire Officer Leicestershire.

999 futures: app needed?

The 999 Futures closed session hosted by Sue Lampard saw senior leaders from the emergency services, OfCOM, DCMS, Civil Contingency Secretariat and commercial partners discussing high level user requirements to guide development plans. Jose Sanchez de Muniain reports.

A summary of the situation today served to set the scene. The technology explosion of the last 10 years has resulted in the public having a range of smart devices that have outpaced the emergency services' technical capabilities ie in only being able to communicate by voice data. BT and Cable and Wireless have been pressing for the adoption of new technology and the 999 community has been looking at the area for a while – but strategic decisions still need to be made. 'For whatever reasons this hasn't progressed very far and that's why B-APCO is becoming involved – we have to decide whether we want to change the technology or to stick to the old voice capability, and if we are going to change the technology how are we going do that? And who is going to take the lead? The purpose of today is to show the decision makers round the table what is available.'

Currently all 999 calls are forwarded to call centres belonging to BT and Cable and Wireless, who then filter them to the appropriate emergency service. The four main core types are mobile (dominant); fixed calls; pay phones; large private companies; and voice-over IP (eg Skype). Out of around 34 million calls more than half are filtered out as being accidentally dialled/prank calls. There is also a centralised 999 SMS service for deaf or speech-impaired people (around 10 users per day), as well as a telematics service from cars (120 genuine calls per month).

In terms of location information, BT and Cable and Wireless provide automatic location to all control rooms but not every control uses the data. Mobile phone location averages around 2.5km radius, which presents a challenge and a frustration considering GPS capability is present in most smartphones.

VoIP calls are on the increase and while determining location is possible the process is neither quick nor automatic.

A growing number of members of the public expect to be able to use SMS 999, and around 500 messages are sent every day via this medium – but these messages are not read. Users sending these messages receive a standard reply pointing out that they are not eligible to use the service and that they should use other means to call for help. 'It is important legally that it is known that they are not read, otherwise there are potential issues of liability.

'To think we live in a world where you can't call 999 via text or Twitter is almost unthinkable to the younger generation.'

An important point is that the world is moving to IP-based communications, and this includes control room equipment and public networks as well as consumer devices. This opens up the possibilities for data communications – but these need to be managed correctly to avoid information overload.

Work being undertaken in the USA in terms of accepting multimedia (Next Generation 911) was mentioned as a soon-to-be-working initiative that is leading the trend. A European equivalent is being worked on by EENA (European Emergency Number Association), and its NG112 Committee intends to establish requirements so that emergency services can be accessed via a whole range of IP communications.

However, even with end-to-end IP communications there are a number of hurdles to be overcome, mainly due to the high number of internet service providers, which would require a long transition period. 'We need clear emergency authority as to what is wanted for the future 999 service in the UK. We need government co-ordination to ensure we move together, particularly as there are several different emergency departments. The third thing is that as a country we participate more in what is happening with NG112.'

Afternoon session – the answer beckons

Instant messaging models were discussed as a singular problem: these platforms are typically embedded in other applications and they act as 'islands', which means they cannot communicate from one to the other.

Then the answer that all had been waiting for came to the forefront: 'I think what we need is a 999 and 112 application that can be used by the deaf and the non-deaf. Location – which is the most important thing we can possibly do – would be provided that way very powerfully.'

Such an application could overcome the uncertainty of whether an emergency SMS/email had been received, because the 999 app could be capable of providing instant messaging as well as visual communications. 'Apps do not take that long to develop – they are not expensive and we could include medical information. It also becomes even better for those who are deaf or speech impaired. With an app, you could voluntarily opt to give access to GPS to the emergency services.'

The idea was enthusiastically taken up around the table, along with the potential ability to release upgrades as more features – such as images and video – became available.

Potential challenges were also discussed, such as how these facilities would be undertaken by BT and Cable and Wireless, as well as how any extra costs would be allocated. 'It is not the cost of developing the app, it is the cost of servicing it.'

The last word of the meeting identified the appropriate level of leadership that a future 999 app would require: 'Our issue is there is no one department that looks after the emergency services. We now need to make the case to get the Government involved.'

MOU is signed with The Network

On the 16th of April British APCO President Alan House and The Network Chairman Cathy Clark signed an MOU that recognised the common objectives of both organisations in the promotion and influencing of public safety, civil contingency, information management and communications technologies.

In the Memorandum of Understanding RAYNET is identified as "The Network", and in addition to the MOU a Schedule of Agreements is included which sets out some of the ways in which both organisations will work together, including networking opportunities and invitations to attend management meetings; website content sharing; joint working and sharing of publications; and engaging The Network in regional and national events.

Operations Manager at British APCO Colin Millar, commented: 'Chris Hampson from The Network and Peter Prater from British APCO were responsible for initiating the process following a brainstorming session two years ago. This resulted in the original draft documents which in turn led to the production of the final version as signed by British APCO and RAYNET.

'The British APCO Executive is keen to develop the MOU concept,' added Colin, 'and it is anticipated that further similar agreements will be signed of at future annual events, with other like-minded voluntary sector organisations.'

In the cab with the Red Cross

One of the six British Red Cross newly-rolled out national communications vehicles* sat outside the exhibition hall bristling with enough comms equipment to turn any engineer green with envy.

John Blake, the Red Cross National Emergency Communications Manager, took me through the story of the new fleet: 'We were tasked with reviewing our resilient communications following the floods of 2007. We had vehicles but they met only a local need, and we realised we needed a suite of resilient comms to manage our assets.'

Initially the organisation worked with a vehicle in Newcastle that was rapidly evolving as a result of the strong commitment of the volunteers there. This became proof of concept, and the technology used there was then rolled out to six vehicles with the help of coachbuilder MMB in Macclesfield and North East Radio in Newcastle.

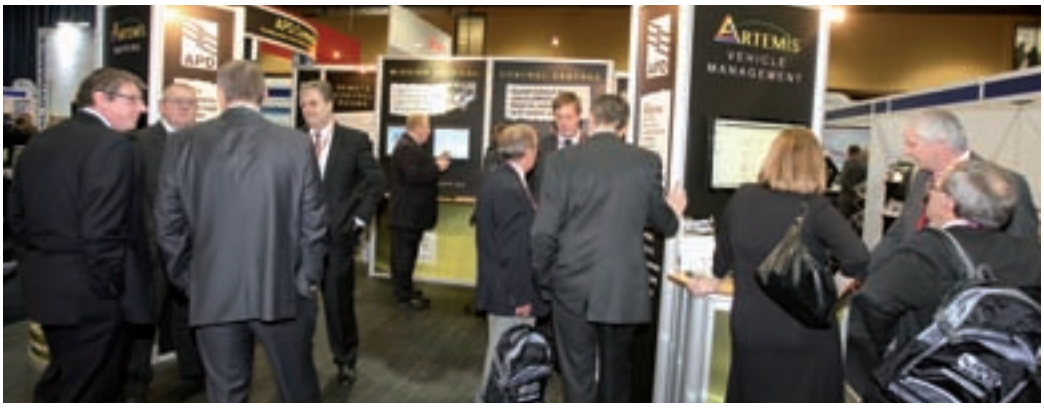
John was keen to emphasise that as a charity Red Cross is scrupulously aware that people very generously give their time to volunteer as fundraisers, and that a lot of money has been invested in this equipment: 'Every single piece of equipment on this vehicle has therefore had to justify itself fully.' First off, the vehicle is equipped with TETRA capability and indeed Red Cross is the only charity to have secured a TEA2 licence: 'We work extensively with the blue lights services, and with them going down the route of Airwave we were running the risk of becoming marginalised. But because we don't have the funding we couldn't consider migrating everything to Airwave.'

The vehicle contains a sophisticated suite of communications capabilities for warning and informing both staff and volunteers and for interoperability with partner agencies via UHF/VHF analogue and digital capability. The primary operator can use Motorola Airwave terminals whilst the secondary work station carries a holster set for a Sepura terminal from the Department of Health, in the event a paramedic requires use of the facilities. Holsters for Airwave terminals enable operators to use headsets for table-top TETRA communications.

Other capabilities include mobile broadband connectivity via a satellite dish supplied by Excelerate, as well as a 3G modem in case of disruption. And that is not all: 'The work stations are modular and the vehicles scalable so we can link multiple vehicles together. We have also taken the IT suite and a radio from each vehicle and put it in a box, so we have a modular kit there as well that is scalable. This will give us the ability to not only link multiple modules, but to set up a control room in a tent, hall, or wherever.'

Internet connectivity in conjunction with conferencing software and a smart podium means that the organisation can gain and use expertise from anywhere in the world in a matter of minutes, whilst a TV in the vehicle provides the broad operational picture as an incident develops. 'Primarily this is a facilitator vehicle that will ensure that the right people are able to be placed in the right place at the right time to support our Cat 1 partners.'

**The six vehicles are deployed in Northern Scotland (Fast Water Rescue Team); Glasgow; Newcastle; Warmley; Enfield; and Mitcham.*



Presenting ARTEMIS portfolio

Exhibitor APD Communications used the British APCO exhibition as the launch pad for a portfolio of resource and information management modules that all share the aim of promoting efficiency and enabling significant cost reductions across the emergency services.

ARTEMIS, as the suite of products has been named, comprises a number of strands. The first one, INCA2, is one with which many B-APCO members will be familiar. This is APD's multi bearer unit that connects all a vehicle's devices to the outside world (TETRA can be used for safety critical information and GPRS for lower security comms).

A second significant strand came about as a result of APD's work with the ACPO ITS Working Group and the One Box consortium on driver and vehicle data management. Jonathan Hamill, Sales & Marketing Director, APD, explained how the so-called XDR unit on a vehicle contained the same type of gyroscope and accelerometer technology that is used in a Wii, which senses movement such as vehicle braking and cornering performance. 'The police have loved what we have done with in-vehicle solutions because it's a way of corroborating what a driver says he has done. And short of going on a refresher course, how do police drivers receive feedback on the manner of their driving? This gives the ability to consider behaviour without intervention. It provides live driver feedback together with useful management reports.'

Providing management information on vehicles and their drivers could bring tremendous cost benefits in a number of areas: 'We have a trial taking place right now monitoring oil levels in vehicles. We can look into the canbus and know what level the oil is and then report findings back to the fleet manager for each vehicle. So instead of waiting for an engine to blow up, it can be fixed with a few pence worth of oil. This is expected to deliver several thousand pounds worth of savings.'

Accurate miles per gallon consumption can also be measured for individual drivers and it is envisaged that forces will encourage their drivers to improve their driving performance through the new technology.

The benefits of ARTEMIS reach far wider than driver behaviour and performance, with the development of APD's already comprehensive mapping capabilities. 'We have been working with another force that had a challenge around utilisation of human resources. They wanted to find out what proportion of an officer's eight-hour shift was spent in the station and/or beat. The ARTEMIS management tool enabled them to provide reassurance to the community about the amount of hours specific areas had been policed and how many officers were on patrol in those areas. Human resources utilisation is a significant aspect of the ARTEMIS portfolio.'

Concluding, Jonathan Hamill said: 'UK police forces are under severe financial pressure to produce results whilst reducing costs, therefore solutions that assist forces to realise their transformational goals whilst taking into account smaller budgets are of critical importance. ARTEMIS plays a vital role in realising more efficient resource management, improving environmental footprints and increasing public confidence in the excellent service already being delivered by our police forces.'

Two-way paging from Multitone

There was much excitement at the Multitone exhibition stand over two new products being introduced into the emergency services market: a two-way pager and a water-proof pager (duly submerged in a tank of water!).

The two-way pager uses POCSAG, GPRS and multiple wireless networks to ensure that any messages get through. 'When the call out is made the pager will beep and automatically acknowledge receipt back to command and control without the need to press any buttons. The fire crew can then bring up a menu of preformatted messages (can come in, can't come in, car has broken down, stuck in traffic etc) to reply via GPRS to command,' explained Jim Lanyon, Emergency Services Sales Manager, Multitone Electronics.

The main benefit of the new two-way pager is that commanders have immediate visibility of who has received the request to attend a situation; who is available; and who will assist.

'This instantaneous communication enables critical decision making and resource planning in the shortest possible time, an essential element in reacting to an important event.'

In addition, the GPS functionality means that the pager knows where it is at all times, and sends co-ordinates with every transaction that takes place. 'Even when there are no

transactions there are regular "handshakes" taking place in the background with mapping data, so officers can be put on a map at all times. And because you can see them on a map, you can decide not to call them to a particular incident if they are on the other side of the county.'

The new pager can also interact with an optional board, the i-Message "Live Board" which includes boxes representing each member of a station: 'The boxes change colour depending on the availability state of each firefighter; whether they are on holiday, on their way, or arrived. An optional RFID tag means they can swipe themselves in as they pass through the doors. Crew can also use the pagers to send unsolicited pre-formatted messages, for example if they are on holiday. These messages are not part of a mobilising event but are ad hoc status updates.'

A key safety feature of the new technology is lone worker protection and location tracking. 'When activated the SOS call will go back to command and control through the mobilising network, providing data on the ID of the pager and who it relates to. And if the message doesn't get through it will keep on trying until it does.'

Next on the new-launch list was the waterproof Multitone WP pager, which has been tested up to 1m deep and is IP67 standard rated. This pager, emphasised Jim, is not two-way but is expected to attract attention from the emergency services both for its ruggedness and extremely long battery life of 4,000 hours. 'Fire is the main market for it as well as rescue agencies like the RNLI – although it doesn't float unfortunately. We also see it working in the petrochem industry, where mobile signals are not allowed or where there are transient networks,' concluded Jim.

On the 'Traka' to success

A visit to the Traka stand provided an unexpectedly interesting insight into the world of access and equipment management, care of Paul Mazaher.

Traka is currently riding high following its win of a £5m Ministry of Justice 'call-off' contract to roll out key management systems to UK prisons. This means that prisons will have the opportunity to upgrade their existing manual practices to a more efficient system through the Traka intelligent secure biometric key and radio management system. Paul emphasises that the attraction of intelligent access control is different for everybody. For the prison service, it was about enhanced security; the fact that an audit trail can be followed for each bunch of keys; and the fact that it significantly speeds up the process at the beginning and the end of shifts.

One of Paul's main challenges is to try and work out what the return on investment would be for different organisations looking to embrace intelligent access systems. The police service is an interesting case in point, regarding fleet management: 'One of the issues hasn't changed in 20 years – how do you stop people hoarding vehicle keys in their pockets? This means a vehicle is unavailable for the next person, and if vehicles are unavailable then they have to buy some more. We can provide more efficiency by providing data on what is available through controlling the access mechanism to those vehicles. We have a range of reports on our system that provide the fleet administrator the data on what vehicles are used most often and where, so vehicle deployment can be better managed. Some forces have reduced their hire car costs by using our system and seeing how many vehicles they were using, eg with Traka they can see that a vehicle is available in a nearby station so they don't need a hire vehicle.'

Traka is currently working on solutions with around 20 police forces at different levels, and one of the most popular is radio terminal management. Traka has developed its radio access system to such an extent that it's not just about picking up and returning radios to a cabinet. The sophisticated (auditable) automated system allows users to report fault types, which in turn generate job lists and associated reports – and allows officers to then pick up fault-free terminals from a common pool. 'But each force is different. For Northamptonshire Police we developed a bespoke system with an automated telephone line and touch tone operation that enables officers to input additional information.'

Other bespoke systems have comprised fault notification by email, SMS and even Windows Messenger. 'Our most sophisticated system was for the Highways Agency, which has our systems across 13 areas and managing over 1,000 radios on a pool basis.'

The key to Traka's continuing success (and it is worth noting it exports 50% of its products) is being able to shift the focus away from 'keys in boxes on hooks' to the concept of equipment access. 'We want to ensure that the right trained people use the equipment – we move the mindset from keys to process control, allowing individuals to take responsibility for the equipment those keys are used for.'

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