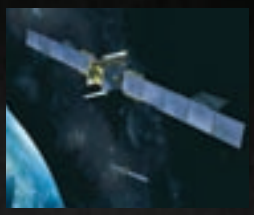
Body-worn cameras are fast gaining popularity – but are the batteries up to it?



Resilience telecoms – the Civil Contingencies Secretariat on progress in 2009.

Information management for civil contingency responders

BAPCO Journal

Volume 15 Issue No 6 • November 2009 • £3.50

Track and treat

New digital system for Welsh Ambulance

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THE QUEEN'S AWARDS FOR ENTERPRISE: INNOVATION 2008

TETRA

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President's address

This year is rapidly disappearing into the pages of history and by the time you get to read this we will be well and truly surrounded by the paraphernalia of the Christmas season.

Yesterday I attended our Coventry roadshow, having been unable to make it to the other two. The day was well supported by trade exhibitors and delegates alike and, from those I spoke to, the day was seen as a success by all.

The variety of speakers on the programme made for a topical, and thought provoking day and that was reflected by good engagement from the delegates when it came to questions. The content certainly made up for the difficulties I had with traffic getting to the venue.

Returning to a theme picked up in an earlier column, I have recently attended two meetings of BAPCO Regional Committees. The two meetings were poles apart; the first was a low key but well organised social meeting of the regional officers with a very full business agenda that covered both regional and national issues. It was clear that the region was not only very active at a regional level but, that it wanted to be fully engage at a national level also.

Olaf Baars, President.

The second meeting was a regional AGM attended by three officers who had to re-elect themselves in the absence of any regional members. Here the discussion was based entirely around how it might be possible to re-invigorate the regional structure and activities.

It is clear to me that BAPCO is a user-led organisation and therefore must have a critical mass of users willing to shape and drive the organisation.

Our regional structure must be the basis for user engagement and is therefore the backbone of the organisation. There is clearly a role for the national executive committee to stimulate and support the regions in developing a thriving regional structure.

However, a regional structure will only work if the regional members get something of value to them from being involved at that level.

So here is my plea – if you are not a member of a regional BAPCO structure or even if you are but not getting what you want from that involvement, then tell us (either at national or regional level) what it is then we need to do to ensure the that the regions thrive and provide a sound basis for our claim that we are a user-led organisation.

Unveiling the national crime map

A new interactive national map giving the public access to local statistics and details on neighbourhood policing in their area has been launched by Home Office Minister David Hanson and National Policing Improvement Agency Deputy Chief Executive Steve Mortimore.

The online map will allow residents to view figures for all crime as well as burglary, robbery, violence, vehicle crime and anti-social behaviour in their area at the touch of a button. For the first time people can compare one police area with another, compare figures over a three-month period against the same period for the previous year and see annual crime rates. The public will also be able to see details of their neighbourhood police team, local policing priorities and information about forthcoming local events such as crime prevention meetings and local surgeries.

The website was developed by the NPIA and police forces across England and Wales, on behalf of the Home Office.

Award for Underground work

The successful delivery of Airwave to the London Underground has resulted in the award of a prestigious Sir Robert Horton Award for Safety to Airwave and its partners Thales, London Underground, the NPIA, Motorola and Citylink Telecommunications.

The award was presented at the National Rail Awards and recognises the delivery of Airwave – on budget and more than three months ahead of schedule – to every sub-surface station and tunnel section across the London Underground rail network.

The project has brought significant safety and security benefits to officers from the British Transport Police, Metropolitan Police and City of London Police, allowing them to move from above ground to below ground with no loss of radio contact – even in tunnels and on trains. In addition, London Ambulance Service and London Fire Brigade can use Airwave on the tube, further enhancing the safety of the travelling public.

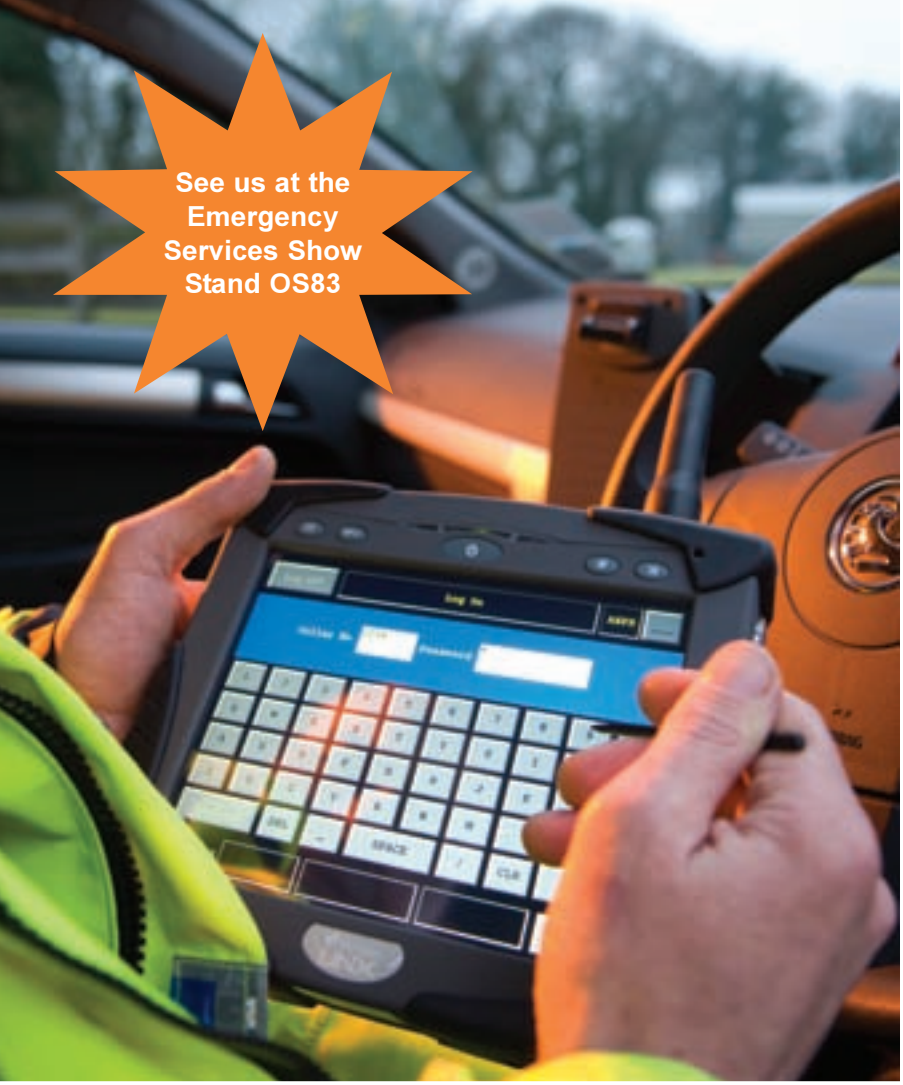
Jeff Parris, Director of Business Development at Airwave, said: "This was a highly complex project requiring strong teamwork – the fact that it was delivered ahead of schedule and on budget is tribute to the commitment of all involved."

Planning for fire inspectors

GGP Systems has launched an innovative route planner for UK fire and rescue services.

Designed to reduce travelling times and costs and maximise the number of building inspections made by fire safety inspectors, GGP Routing uses the most up-to-date street maps to ensure optimal routing taking into account a range of user defined options, road network characteristics and other variables. GGP Routing will also help performance-related planning by delivering the quickest, shortest and most efficient routes.

GGP Routing enables users to generate tailored routes, which may include a range of variables eg taking into account user defined average road speeds, shortest route and multiple destinations together with vehicle type, weight etc.



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Microbus

Touch-screen with gloves on

Getac has announced a technology breakthrough with resistive-type multi-touch technology for "hands on" applications

The new technology allows touch-screen gestures to move and edit documents, navigate files and system applications in extreme environments

Getac's line of rugged Tablet PCs will be the first rugged computers to offer a multi-touch screen for use with or without gloves.

Having Multi-Touch technology on Getac's V100 Tablet PC will allow users to move and edit documents, rotate maps and photos, zoom in and zoom out the maintenance manuals, and navigate numerous system applications by using a series of "gestures" with their fingers.

Monitoring offenders on the move

Traffic Safety Systems (TSS) – part of AD Group – has supplied its advanced PatrolVu 100 mobile digital CCTV solution to a state-of-the-art Ford Transit demonstration cell vehicle showcased at the recent NAPFM (National Association of Police Fleet Managers) exhibition held at Cheltenham Racecourse.

The cell vehicle brings to market a new type of cell/split cell layout whose flexibility is expected to prove particularly attractive to police forces across the UK. The cell vehicle is one of the first installations to adopt TSS's latest PatrolVu 100 which features, at its heart, a robust and compact DVR (Digital Video Recorder).

The mobile CCTV solution in the demo cell vehicle has been configured to record footage from a wide angled, forward facing, CCTV camera on the vehicle's dashboard; two vandal resistant dome cameras to cover each cell (helping to monitor offenders on the move) and a rear facing

camera positioned over the back door which can provide vital coverage when prisoners are being loaded or unloaded. The vehicle's rear view mirror also incorporates a monitor with a four-way display so that images from all of the CCTV cameras can be viewed simultaneously. Additionally, microphones are fitted for sound recording.

With the Ford SVP installation, the powering-up of the PatrolVu 100 happens automatically upon ignition. This means that it is always recording when the vehicle is operational so ensuring that no vital evidence is missed. It is also possible to set-up a time delay so the PatrolVu 100 will still run for a specified period if the vehicle is parked-up. This allows officers to concentrate on the task in hand, whilst those who have been arrested can be automatically monitored in the van's cell area.

Command & control EU-wide

Intergraph has been named a member of the Emergency Support System (ESS) Consortium approved by the European Commission to begin research and development of a portable emergency command and control system that incorporates real-time data collection technologies. The system will provide actionable intelligence to managers during crisis events and will be used as a framework for future crisis management systems.

ESS will develop the core of an ESS portal, the Data Fusion Mediation System (DFMS), which will collect data from different data sources and harmonize them into one comprehensive dataset. This dataset will then provide input to the Web-based ESS portal to help support decision making in crisis situations. Intergraph will also have a significant role in the development of all work packages of the ESS project.

Part of the Seventh EU Framework Program, ESS is a four-year project expected to run until 2013. The European Commission will contribute €9.1 million over the next four years. The ESS consortium, which is led by Verint Systems, is comprised of 19 leading European technology companies, research institutes and end-user organizations. The purpose of ESS is to enable improved control and management of major crisis events such as terror attacks, industrial accidents and natural disasters.

The idea guiding the development of ESS is real-time fusion of various forms of field-derived data including video, audio, weather, location tracking, radioactivity, bio-chemical, telecom derived data, affected population reports and other information. The data will be communicated via both portable and fixed platforms including wireless communication devices, UAV, air-balloon and field-vehicles.

Fusion of the data is handled within a central system which performs information analysis and provides decision support applications for Web-based command and control systems. This provides flexible, yet comprehensive coverage of the affected area.

Once available to the market, the ESS concept would offer real time synchronization and information sharing between first responders and support forces at the site of the incident such as police, rescue teams and firefighters as well as out-of-theatre command and control centers of the various involved authorities.

Shredding made easy

Shred Easy, a leading confidential document and data destruction company, is launching a hard drive destruction service for businesses of all sizes after launching the service in four BT data centres.

Shred Easy has provided BT with a secure, hard drive destruction service for the last six months and is now launching the initiative to businesses across the UK.

Olympics to borrow spectrum

Ofcom has announced that it will borrow spectrum from public sector bodies and make use of spectrum freed up by the digital switch over to help the emergency services have access to extra spectrum during the 2012 Olympic Games.

With thousands of wireless applications needed during the seven-week event, presenting a unique logistical challenge, never faced before by the UK, the demand on radio spectrum – a scarce resource – will be unprecedented. In accordance with the Government's guarantees to the International Olympic Committee (IOC), the Spectrum Plan has outlined how spectrum will be made available to organisers and users from around 150 countries, while minimising the impact on day-to-day users.

Ofcom consulted on a draft plan earlier this year. This consultation, coupled with knowledge gained from past Olympics and other large events, indicates that the plan will meet the needs of the London 2012 Games and Jill Ainscough, Ofcom's Chief Operating Officer, said: "Consumers and businesses are using wireless technologies more than ever. In the UK, spectrum-related businesses account for one thirtieth of GDP and spectrum use is growing fast. For the London 2012 Games, this means that the demand for spectrum is likely to be at an all time high. Add to this the fact that spectrum is already heavily used in London and you begin to appreciate that managing the airwaves is a complex task. This plan provides an important blueprint for how this will be achieved."

Dell launches new Latitude PC

Dell launches its new Latitude XT2 XFR rugged tablet PC, with multi-touch technology, for first-responders in the emergency services.

The device has a 12.1-inch screen – the thinnest and smallest tablet PC offered by Dell – weighs 2.45kg and runs from an Intel Core 2 Duo processor of 5GB, and 1066 MHz of memory, so it can run software such as GIS mapping, video, data and other high-end applications. It has also been engineered to meet MIL-810G standards.

Sean Berg, Sales Director of EMEA Defence and Public Security at Dell, said: "As the new technology uses Windows 7, it is able to offer improved touch-screen capabilities which application developers can work to in order to offer improved software for the emergency service market."

The Latitude XT2 XFR has a raft of features to ensure it can operate in tough conditions such as a QuadCool Thermal Management System that enables the device to be used in temperatures from -10 to 140 degrees Fahrenheit, while the screen is impact resistant and sunlight viewable too as well as compression-sealed with rugged I/O doors and keyboard, and IP54 Ingress Protection.

Kent Award for training

Following recognition at a regional level, the Kent Fire and Rescue Service (KFRS) has scooped the national level category National Training Award for Large Employers for its Incident Command Training which gives officers the skills and expertise to deal with major emergencies and has acknowledged the contribution to this award from VectorCommand technology. As part of the "large employers" category KFRS saw off stiff competition from companies including Virgin Group, Vodafone and BT.

KFRS's Area Manager for Training, Paul Flaherty said: "It is testimony to the innovation, creativity and professionalism of all the staff at training centre who, regardless of their section, participate in the delivery of our command training. KFRS remains the south east region's centre of excellence for incident command training and this award further enhances this status. It is evidence to the Kent and Medway community that our firefighters are receiving top-level training."

Incident Command Training is held at KFRS's centre in Maidstone and is aimed at all levels of fire and rescue service commander. To date, all of Kent's commanders have been through the programme with an additional 150 ready to step into a command role.

Western Australia's Protected Persons

Western Australia Police Service (WAPS) has signed a four-year contract with covert policing software specialist, ABM, for the provision of abmpegasus Protected Persons.

Part of the abmpegasus suite of covert management tools, the solution will provide a management and recording tool for day to day activities while supporting protected witnesses.

WAPS is responsible for policing the largest, single police jurisdiction in the world, comprising 162 police stations and covering 2.5 million square kilometres. Chris Dawson, Deputy Commissioner (Operations) at WAPS, said: "Previously we used an in-house developed system which became outdated and reached the end of its operational life. We needed a commercially available, best practice solution that would help deal with recording details and sharing information in a secure environment. After a thorough review of the global market, ABM was identified as the only solution provider to meet all of our business needs." abmpegasus Protected Persons helps ensure that matters pertaining to witnesses are appropriately recorded and managed.

UK DVI signs up to G4S GIS.

The United Kingdom Disaster Victim Identification (UK DVI) has signed up to G4S's Global Intelligence System (GIS), an online information portal designed to provide subscribers with up-to-the minute geopolitical intelligence on individual country threats and hazards worldwide.

UK DVI draws its members from all of the UK police forces and specialists from the worlds of forensics and Information Technology, supporting the Home Office and the FCO with the identification of persons killed in mass fatality events. UK DVI team is coordinated by a small team that sits within ACPO.

The password protected website service will provide UK DVI with essential information, intelligence and analysis on over 220 countries, building on G4S's operations across more than 110 countries. Drawing on detailed information from a comprehensive range of open and privileged sources, GIS analysts monitor worldwide events and trends to provide businesses with an up-to-date understanding of the risks they may be exposed to.

Mapping for the colour blind

A new product from mapping agency Ordnance Survey has been designed to make mapping easier on the colour-blind by using colour schemes that help them distinguish the primary colours of maps, such as blues, reds and greens.

For many people map reading can be a struggle, but for the hundreds of thousands that are colour-blind it can be an even more arduous experience. The traditional rainbow of cartographic colours – green for grass-land and trees, red for main roads and public footpaths, and blue for motorways and rivers – can become indistinguishable, therefore making map reading extremely difficult.

Help is at hand with a new product from mapping agency Ordnance Survey that can be specifically styled to make mapping easier on the colour-blind eye.

It is the most common genetic disorder among humans, afflicting mostly men, with around 8% unable to tell the difference between reds and greens. Instead these colours appear as shades of grey or brown, making it difficult to interpret the colour coded features on maps.

The new Ordnance Survey digital mapping has been developed to be customisable, allowing for the creation of colour-blind-friendly styles, which to most people will look very strange but could help avoid future confusion for those with the condition. Paul Beauchamp, Ordnance Survey spokesman, comments: "By using our new mapping product, called OS VectorMap Local, councils and businesses will be able to create styles especially for colour-blind people that we hope will make life easier."

Below: how a colour blind-friendly map would look to someone without the disorder.

Repeater success with Fern

Fern Communications Ltd, a leading provider of two-way radio communications systems to the international upstream oil and gas industries, has announced that its FRX-1 Portable Radio Repeater dramatically enhanced radio communications for fire and rescue teams in England and Wales during a series of recent trials.

According to Fern, by placing the FRX-1 in strategic locations that normally disrupt the radio signal, the FRX-1 dramatically improves radio coverage by eliminating radio "black spots". Trials included:

- Rail tunnel in Old Warden, Bedfordshire (Bedforshire & Luton FRS)
- Concrete air raid shelter, Bedfordshire (Bedforshire & Luton FRS)
- Underground corridors, Cardiff Barrage (South Wales FRS).

Fern Communications hopes that its radio repeaters will become the industry standard for reliable radio communications. "During the past year, every single organisation that has run a trial with the FRX-1 has experienced significant improvement in its radio communications," said Clive Cushion, Technical Director of Fern Communications.

Beyond tracking

Ambulances run by a private company are being fitted with cutting edge GPS tracking systems that will help protect staff and patients.

Ambulance (GB) Limited has started using a tracking and auditing system from leading GPS tracking company VeriLocation.

It tracks the exact position of the vehicles in real time and allows managers to view the locations on any computer connected to the internet.

VeriLocation has adapted its fleet tracking system VL-Fleet – used to track more than 10,000 vehicles across Europe – to log other essential information.

Andrew Overton is the Managing Director of VeriLocation. He said: "The GPS unit registers the location of the vehicle, and sends the information back to the central computer every second using the mobile phone data networks.

"It has been adapted to know when the vehicle's blue lights are switched on. This information is essential for the company to prove the blue lights are being used correctly. These ambulances are also fitted with panic buttons and two way text message terminals. In a crisis the staff can press a discreet button which sends an alert and their current location to a 24 hour manned control centre.

"Information messages can be sent to and from a special terminal in the ambulance. Not only can individual messages be sent to one vehicle at a time, but general information such as traffic alerts can be sent to all vehicles at the touch of a button."

BAPCO

THE BRITISH ASSOCIATION OF PUBLIC SAFETY COMMUNICATION OFFICERS

Remembering BAPCO's objectives

With BAPCO 2010 Conference and Exhibition begining to "bleep" in our collective radars, it may be worth recollecting the overall objectives of the BAPCO Association:

- Promote the development of efficient and effective communications and supporting information technologies to provide value for money and effective systems to enhance delivery of public safety and civil contingency services for the benefit of the public and for the benefit of individual public safety and civil contingency services and personnel by means of research, planning, co-ordination and education.

- Promote the rapid and accurate collection, exchange and dissemination of information relating to public safety and civil contingency communications and supporting information technologies and public emergencies between and among all agencies, local and central government to enhance the delivery of public safety and civil contingency services for the benefit of the public and for the benefit of individual public safety services and personnel.

- Maintain an effective relationship with the communications and information technology industry to ensure that developments are monitored for the benefit of public safety and civil contingency agencies and that industry is constantly aware of current and future user requirements.

- Represent its members and civil contingency communications and information technology in general by providing support and advice to policy making bodies of each participating public safety and civil contingency services to influence the provision of value for money and effective systems to enhance the delivery of public safety services for the benefit of the public and for the benefit of individual public safety and civil contingency services and personnel.

For more information please visit www.bapco.org.uk

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Kwantlen student in Cornwall

Earlier this year through its officers in the South West & South Wales Region, BAPCO helped to arrange an international placement with a UK Fire Brigade for a student from Canada, writes Keith Phillips OBE.

The placement took the form of a practicum which enabled Emma Hamilton, a student at Kwantlen Polytechnic University in British Columbia Canada, to get practical experience of working in an emergency communications centre and thus put theory into practice.

The difference with this assignment was, of course, its international dimension.

In putting this together, BAPCO, in liaison with APCO Canada and Kwantlen Polytechnic University British Colombia and the enthusiastic participation of Cornwall Fire and Rescue Service, facilitated a truly comprehensive experience for the student.

Prior to arriving in the UK Emma had attended a year long course designed for those in Canada interested in working in an emergency communications environment. Working in a simulation lab, Emma had experienced handling calls and despatching resources for all three emergency services, albeit in a Canadian context.

By way of background, in 1990 Kwantlen University introduced a one year Public Safety Communications Programme in Canada. This programme was introduced due to their perspective of a clear need for professionally selected and trained public safety communicators whose expertise may mean the difference between life and death. Rapid technological change, as well as greater social and cultural diversity, heightened their need for trained individuals who can function effectively in this type of environment.

The Kwantlen programme, overseen by Coordinator/Instructor Tally Wade, provides the academic and practical skills that graduates need to enter this dynamic and demanding role in public safety.

It is interesting to note that since 1990 over 80% of each graduating class has obtained employment in the communications field.

In British Columbia, Police, Fire and related services work with Kwantlen to provide on-the-job experience for students through practicums.

This is the first time, however, that such arrangements have extended to the UK.

In preparing Emma for her practicum in Cornwall and to ensure maximum value from the exercise, Kwantlen liaised directly with Cornwall FRS. This included the need to agree and set up a detailed work programme and participation in Kwantlen's Assessment process.

Supervised by the Brigade's Communications Officer and BAPCO Member, Ian Julian, Emma embarked on a comprehensive itinerary which entailed nine full days and included shifts working alongside Cornwall's staff .

In summary the itinerary encompassed Jurisdictional Familiarisation eg Administrative and Operational Boundaries. Organisation and Structure, Operational Familiarisation, Systems Familiarisation eg command and control system (in Cornwall's case Fortek's Vision) including fire station end equipment, dispatch procedures and incident processing.

Visits to HM Coastguard Maritime Rescue Coordination Centre at Falmouth, a trip aboard Cornwall FRS's rapid inflatable fire boat at Falmouth, Cornwall's Regional FireControl Project Team and a chat with the Chief Fire Officer also took place.

Pictured here with Emma are the Brigade's Communications Officer, Ian Julian on her right and on Emma's left, Interim Chief Fire Officer Terry Standing.*

BAPCO South West & South Wales Region are enormously pleased to have been able to have helped to facilitate what was not only a first but undoubtedly an extraordinarily worthwhile exercise.

The lion's share of praise for putting this on however must go to Cornwall Fire and Rescue Service and in particular Ian Julian who though extremely busy, managed to put together and expedite an excellent programme for Emma.

Those of us who have worked in this arena know only too well there is only so much one can attain in a classroom environment. There really is no substitute for real experience. In Emma's case the chance to undertake a placement here in the UK hopefully provided her with a much broader appreciation than otherwise might have been the case.

*** Chief Fire Officer Terry Standing (Gloucestershire FRS's current CFO) stood in as interim Chief Fire Officer of Cornwall pending the appointment of Cornwall's new Chief Fire Officer Des Tidbury.**

Keith Phillips OBE is BAPCO South West & South Wales Regional Representative. Top, left to right: Communications Officer (Cornwall FRS) Ian Julian, student Emma Hamilton, and Chief Fire Officer Terry Standing (Gloucestershire).

BAPCO

British Association of Public Safety Communications Officers

MEMBERSHIP APPLICATION

1. PERSONAL DETAILS

TITLE	
FORENAME(S)	
SURNAME	
POSITION HELD	
ORGANISATION	
MAILING ADDRESS	
POSTCODE	
BUSINESS TELEPHONE	
FAX	
HOME ADDRESS (If different from above)	
POSTCODE	
EMAIL	

I agree to BAPCO sending information to me regarding its events, products and services. BAPCO will not pass on any information to other companies or third parties ❑

2. CATEGORY OF MEMBERSHIP APPLIED FOR

ACTIVE ☐ ASSOCIATE ☐ COMMERCIAL ☐ INTERNATIONAL ASSOCIATE ☐

OFFICIAL ORDER NO

Please send further details of Corporate Membership ❑

3. ORGANISATION TYPE

Please tick one item that best describes *your* organisation

PUBLIC SECTOR AREA SERVED		ORGANISATION TYPE		COMMERCIAL	
Parish	☐	Law Enforcement	☐	Manufacturer	☐
District	☐	Fire / Rescue	☐	Distributor	☐
County	☐	Ambulance / Medical	☐	Dealer	☐
Regional	☐	Emergency Management	☐	Maintenance	☐
National	☐	Local Authority	☐	Consultant	☐
Private	☐	Central Government	☐	Network Provider	☐
Other	☐	Public Utility	☐	Training	☐
		Other	☐	Personnel	☐
				Other	☐

BAPCO
British Association of Public Safety Communications Officers

4. POSITION RESPONSIBILITIES

Please tick the item that best describes *your* responsibilities in each area:

POLICY & PROCEDURE

- ❑ I approve/develop policies and procedures
- ❑ I oversee implementation
- ❑ I have a limited role in implementation
- ❑ I do not have a role in implementation

PURCHASING

- ❑ I approve purchases of products and services
- ❑ I select specify products and services
- ❑ I recommend products and services
- ❑ I do not have a role in purchasing

PERSONAL TRAINING

- ❑ I approve training programs
- ❑ I develop/purchase training programs
- ❑ I implement/teach training programs
- ❑ I do not have a role in training

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How did you hear about BAPCO?

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Gender: ❑ Male ❑ Female

Date of Birth: Day_____ Month_____ Year____

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I hereby apply for membership in the appropriate class of **BAPCO,** and agree to abide by the Constitution and Bylaws of the Association. I understand that by joining I also become a member of the BAPCO region serving my area and that my subscriptions are payable annually, based on my first day of membership.

SIGNATURE _____ DATE _____

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Seamless, interoperable

BAPCO has been working closely within the EU-funded project SECRICOM to establish user requirements and in this exclusive article we provide an update on an ambitious project that aims to address seamless interoperability between multiple agencies and nations.

Today's emergency services require a range of information and data to carry out their responsibilities effectively; there is an increasing need for the core responders (ie category 1) to inter-communicate seamlessly To achieve the necessary network-enabled capability across the ES as well as inter-communicate with co-operating responders (ie category 2).

Seamless Communications for Crisis Management (SECRICOM) is an EU-funded research project within the Seventh Framework Programme (FP7). SECRICOM is addressing secure inter-communications amongst all agencies that are involved in the management of large-scale, multi national, crises (eg flood, earthquakes, large scale fires, etc). This is being achieved through the integration of a number of comms technology solutions driven by a comprehensive set of user requirements.

The SECRICOM consortium consists of 13 partners drawn from eight countries with representatives from industry, universities, SMEs and non-government organisations.

The project started in September 2008 and is being co-coordinated by QinetiQ. BAPCO are very active members of the consortium with responsibilities that include establishing the user requirements and making sure the end user is considered during each aspect of the project – which is a significant challenge! From project initiation BAPCO, through Shaun O'Neill, have been working closely to identify/capture a comprehensive and traceable set of user requirements through a project scenario.

Shaun quickly established a user team and has called upon members of the team during this last year to collect, validate and expand the user requirements and flood scenario (see BAPCO Journal Volume 15 Issue 2).

Most recently an exercise was carried out in London to begin to identify the specific information exchange requirements (IERs) associated with the high level requirements. Recognising the user team have limited availability, the approach taken was a cut down version of a process used by QinetiQ to establish the IERs of military communication networks. The purpose of the exercise was to begin to identify the capability gaps that will become apparent by modelling the IERs against current communication architectures. Knowing where the capability gaps are will help to better scope the project and identify priorities for the final demonstration. This should ensure that the project will not only address the technology solutions for seamless interoperability across multiple agencies and nations, but also address the key problems being presently faced by emergency responders during a large scales crisis.

Interoperability is being addressed by QinetiQ in conjunction with BAPCO and other collaboration partners, with a focus on the technical aspects. The Internet Protocol (IP), as a future-proof open standard for networking, is being used to provide the solid foundation to efficiently achieve technical interoperability through the facilitation of the flow of business information over legacy and future communications; business information includes command and control, geographical information, computer aided dispatch, mobile data, push-to-talk voice, video, conferencing, telephony, messaging, email, web, etc as appropriate to each responder.

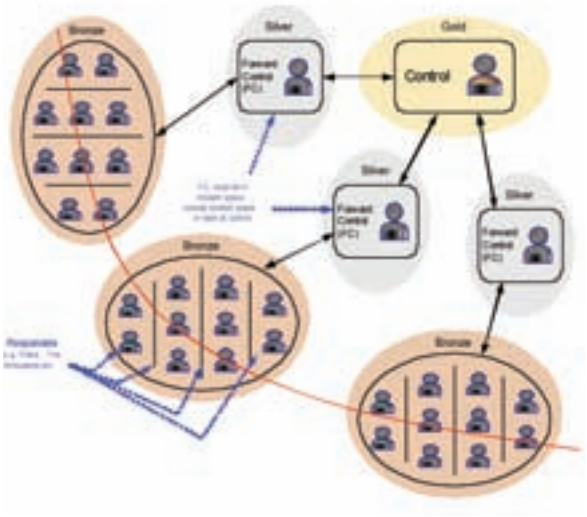
Support for emergency services business continuity is also being addressed by the SECRICOM consortium through the facilitation of consistent and continuous communications in support of ongoing operations.

In particular, QinetiQ's proven multi-bearer approach is being used as the basis for a secure, managed and seamless mobile networking solution for connecting the various tiers of the chain of command across different core and co-operating agencies.

The adopted multi-bearer approach enables a self-forming self-healing diverse IP network to be managed with low skill levels whilst being fully compliant with open standards. SECRICOM is aiming at integrating and managing the dynamically available bearers as a single network by drawing on the unique dynamic policy-based re-configurability which is inherent in the multi-bearer approach. Other aspects being considered include end-to-end security and secure multi-agent system for high integrity information retrieval.

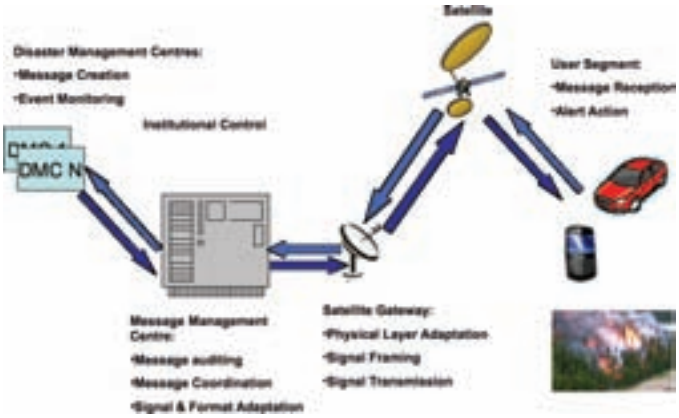
SECRICOM concludes in April 2012 with a demonstration of sufficiently de-risked technology solutions which may act as a frame of reference for future National or EU-funded procurements.

Shaun O'Neill has been representing BAPCO within Project SECRICOM. Below: SECRICOM Scope – Multi-National/Multi-Agency/Multi-Incident Crisis Management.



Satellite solutions

A recent feasibility study has shown that satellite systems offering a resilient approach to alerting the public are within reach, writes Shaun O'Neill, BAPCO European Officer.



"The maximum benefits from the system are expected to be found in cases where a large area is affected and there is significant infrastructure damage."

Major emergencies over recent years have highlighted the critical role in communicating with the public before, during and in the immediate aftermath of such events. Existing mechanisms have often not been adequate to meet the needs of emergency services and disaster coordination agencies in their desire to deliver vital information to the public.

Many of the issues associated with communicating with the public during major emergencies concern: who has responsibility to communicate? What should be communicated? What is the desired response of the public? These are challenging questions.

But what mechanisms are available to authorities once these questions have been addressed? And critically, how resilient are they to the actual impact of major emergencies? Such mechanisms include TV and radio, public telephone and mobile phone networks, as well as personnel on the ground. Previous disasters have demonstrated that existing mechanisms can be severely degraded.

Existing mechanisms often share common lines of failure with extensive reliance on terrestrial infrastructure or sensitivity to network overloading. To address this, a study initiated by the European Space Agency (ESA) and undertaken by a UK-based team of Avanti Communications, Helios and BAPCO has examined the feasibility of a satellite based system for alerting the public, complementing and enhancing existing mechanisms.

The study has investigated the possibility of providing simple alerts to the public via a satellite broadcasting system. We affirmed that for maximum benefit from the concept, the system should be compatible with small, widely adopted user terminals, avoid propriety technologies and allow for a harmonised approach at regional level. This led the objective to pursue a system based around the use of mobile phones and Personal Navigation Devices (PNDs).

Our design has therefore sought to harness satellite platforms which have inherent compatibility with small form factor mobile terminals and the potential for future integration into mobile phones and PNDs. We have proposed two systems, based on either the European GNSS Navigation Overlay Service (EGNOS) or S-band DVB-SH. Much user equipment is already compatible with EGNOS and possible in the near future with S-Band, but for a full capability system, evolutions still need to be made in partnership with PND and mobile phone manufactures. Our design also relies on the inherent location-knowledge of increasing numbers of these devices in order to provide geo-specific alerts so that key messages can be communicated to targeted communities rather than a scattergun approach that could include non affected areas.

In both our proposals the system collects alerts generated by authorised actors (eg emergency services), acting simply as a delivery mechanism. For this purpose we have also proposed a Messaging Management Centre that coordinates alert requests and permissions under institutional control. The establishment of this centre results in various governance, and command and control related issues which need to be carefully considered. In particular, the authority to communicate to affected sections of a community or indeed any associated accountability.

Achieving future resilience

The study aspect of the project is now complete and the results are being communicated to the wide range of stakeholders. To support this, the project has produced a detailed breakdown of costs and benefits for the system and a roadmap for its potential development. The maximum benefits from the system are expected to be found in cases where a large area is affected and there is significant infrastructure damage. Based on the frequency of disasters we have estimated that annual benefits could be between €16m and €178m per year in Europe – but highly variable depending on surrounding conditions. These annual benefits take into account the number of deaths or amount of damage that can be avoided through use of the satellite based alarm system. These benefits compare positively with the estimated total capital and operation cost associated with system design/implementation/operation.

The success of the concept will ultimately depend on the desire of emergency and disaster authorities for the increased resilience achievable, the development of workable operational procedures for public alerting of this type, and the co-operation of mobile phone and PND manufacturers in developing compatible equipment. It is along these lines that future activities will be focused.

A highly resilient system to alert the public appears to be within reach, if supported by both those in the emergency and disaster response communities, and manufactures.

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Martin Ferguson, Head of Policy, SOCITM

Dermot Padden, Project Manager, FiReControl

Nicola Smith, Business Information Manager, Cambridgeshire FRS

Presentation of the NLPG NSG Exemplar Awards, including: FiReControl Award for Best Integration of the NLPG by a Fire and Rescue Service

Most Effective Data Sharing Partnership

Anyone that is interested in delivering services to a location, quickly and accurately will be interested in this conference. As well as demonstrating the importance of the NLPG and NSG to the fire and police services, this event will explore the role of these datasets in enabling partnership working between local authorities and fire and police, and we would particularly like to welcome delegates from those sectors.

Conference themes:

- using the NLPG to save lives
- the importance of location to service delivery
- case studies from Exemplar authorities and fire services
- use of the NLPG in national projects such as ePIMS (OGC's Electronic Property Information Mapping Service), the 2011 census and FiReControl project
- approaches to and the importance of sharing data across different agencies and partnership working
- using location information to generate business savings
- benefits of a widely used web based system based around common data
- an insight into new technology and services that enhances interaction between the public sector and its customers

Gold sponsors of the event include:

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For more information on the conference programme, see www.nlpg.org.uk.

The conference is free to all signatories of the Mapping Services Agreement, that is all councils, police forces, fire, national parks, conservation boards, passenger transport services, parish councils and local government run Local Education Authority (LEA) schools.

Registration is now open on the NLPG and NSG websites.

For more information about the conference and exhibition opportunities, contact:

Gayle Gander
ggander@intelligent-addressing.co.uk

or **Laura Brown**
lbrown@intelligent-addressing.co.uk
on 020 7747 3500.

Visit www.nlpg.org.uk or www.thensg.org.uk

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The National Land & Property Gazetteer

Going digital in Wales

Earlier in the year the Welsh Ambulance Service awarded Staffordshire-based Terrafix a major contract for mobile data and tracking for its 701 vehicles. With installation expected by the end of 2009, BAPCO Journal spoke with Terrafix Managing Director Chris Green to find out more about what the new system will deliver.

"In our experience going from nothing to something like this can seem quite daunting, but we usually find that within one or two months the users would not be without it."

The £4m contract is to supply, install, integrate and maintain the Terrafix Vehicle Computer (TVC3000) with custom software for the whole of Welsh Ambulance Service A&E and Patient Care Services fleet. The TVC 3000 will provide dispatch, satellite navigation, and status functions, using a multi-bearer communication platform in the in-vehicle system.

The decision to buy a mobile data and tracking system was made 18 months ago through the Airwave Radio Replacement Project, and Wales is one of the last few remaining ambulance services in the UK to switch over to a digital system. The TVC 3000 was created specifically for Wales and Terrafix MD Chris Green explains that as a result of modifications to the hardware the system is more resilient to communications outages. "We can choose from a multitude of bearers to ensure information is passed back to control rooms. And as a result of the lengthy nature of the Welsh Ambulance project we have been able to supply the same enhanced version to customers elsewhere."

Although the installation of the system in all vehicles is on track for the end of 2009, the integration of the complete system may run into next year due to the Welsh Ambulance business policy to "lock down" a month before Christmas, which means – explains Green – that no new technology can be implemented which may affect the smooth running of emergency response during the busy period.

"The whole mobile data system is new to Wales and will include the installation of the patient transport service with our equipment." Train-the-trainer courses are now in place, with Terrafix supplying a bench version of the vehicle system so that courses can be run in-house.

There is no doubt in Green's mind that the new system will be a benefit in Wales, providing the paramedics a system with sat nav and OS maps. "In our experience going from nothing to something like this can seem quite daunting, but we usually find that within one or two months the users would not be without it."

Benefits

The traditional benefits of mobile data and tracking are well known, and it is expected the system will improve the speed of reaching patients, not to mention improving the data transfer between ambulance and control room. It is now widely accepted that data is more efficient than voice communications. "This will give a control room full visibility of where ambulances are and what exactly they are doing, there is also the capability for the next generation of information coming from the vehicle – such as electronic patient report forms – which provide ambulances with more information prior to reaching the patient, or the patient reaching the hospital. So in principle it will improve performance."

There are additional benefits such as demographic information and field management data for comprehensive management reports, and this sort of information could result in a better business strategy. Green comments that because Terrafix manufactures its own mobile data and tracking units from its headquarters in Stoke, it has been able to create a system just for the Ambulance service. "People will have noticed that when running more than one application on a standard PC the primary application can take over. What we have done is embed all applications including automatic form-filling into the primary application, so incident dispatch is kept primary."

With most of the UK's ambulances now digitally mobile, the question may arise of what can the future bring. Green admits that the market may appear saturated now, but he sees a future where ambulance services move from simple message transfer systems to more complex systems that can help drive performance on the back of the rich seams of data that are becoming available.

In essence, new functionality could create a fleet of mobile offices, making ambulance stations a thing of the past.

The user experience – how it works in practice

In the control room a dispatch person sees an on-screen map peppered with icons that represent all the ambulance units. The icons are not static, they are moving around because of the real time tracking (GPRS and Airwave), with updates taking place every five or ten seconds.

When there is an emergency call, the dispatcher's command and control system interfaces with Terrafix to choose the nearest available resource, using the data provided by the in-vehicle tracking unit.

The dispatcher chooses an ambulance, and a pre-alarm message is immediately sent to the vehicle – while the emergency caller is still on the telephone. The message contains only a small amount of data, but it is enough to get the ambulance on the road.

The ambulance driver presses a button to signal they are on the move, and that changes the status of the icon on the screen. Meanwhile the dispatcher is still on the phone gathering more information on the incident (such as whether there is a potentially risky situation), to pass onwards to the ambulance.

No messages can be displayed whilst a person is driving, but an indication is given when a message arrives, and the tone of the "beep" changes depending on how critical this message is.

Once the ambulance arrives at the incident, the driver either presses another button to signal arrival, or the system automatically signals arrival when within 200 metres of the scene – the system can be set up to do one or the other, or both.

Once the patient is in the ambulance another button signals the ambulance is about to exit the scene. This also presents the medics with a dynamic list of hospitals they can drive to, and once a hospital is chosen the system navigates there automatically.

On arrival at the hospital another button signals arrival, and the next step clears the job. A variety of other status signals can be created, such as meal breaks etc.

The system can work for single crew vehicles, which can provide a level of confidence to the driver, because the system has an emergency capability should any trouble arise.

A path to the INCA

Since INCA 2's launch last year APD has been extending its functionality in a variety of ways, concentrating on bespoke software capability and developing a comprehensive report package that can be integrated into different end-user environments. BAPCO Journal interviews Martin Worrell, Technical Director.

Last time *BAPCO Journal* spoke with Martin Worrell was exactly a year ago, six months after the launch of INCA 2. It was reported that the launch had been so successful that APD is putting in further measures to ensure supply keeps up with demand.

The first area that has seen development is the front end interface. Worrell explains that APD has developed a front-end web based interface, which means that users can quickly access INCA 2 information via a simple browser, without having to install and invest in specialist software that is time-consuming to install. The system can integrate freely available web mapping such as Google maps and Microsoft Bing maps, explains Worrell. "Some organisations need the ability to integrate the data they receive from the INCA 2 into their own solutions often with a number of mapping layers. Many of our recent customers have wanted this capability as an option."

Next APD has been looking at creating end-to-end software solutions that go beyond merely sending tracking information from the vehicle. INCA 2 end users and integrators can now effectively create their own applications across the whole platform, from the vehicle device to the web mapping and on to the web-based reports, in much the same way that apps are being created for iPhones. "These custom applications deal with a particular customer's data, eg we could be dealing with sensory data from a locomotive, or remote fleet management monitoring, and representing that in a web-based co-ordinated manner as part of a reporting system."

While few end users have gone as far as writing their own applets (ie programs written to run in the Linux framework in INCA 2), APD is writing applets for around six customers, albeit not (yet) any from the emergency response sector. Worrell believes such flexibility will be useful to the emergency services, especially as public sector accountability is resulting in greater scrutiny – and the current economic climate suggests this will increase: "We are seeing a greater demand for visibility in how business processes are running, as well as far greater integration between the vehicle, the mapping and the control room technology." Norfolk police is one such example of integration, where APD has supplied a mobile data solution that is also a tracking and automatic routing solution: "Here there is integration with the command and control system, so the ICCS sends a message to deploy and automatically shows where the scene is, while automatically plotting a route. And if a higher priority turns up then this a vehicle can quickly be re-directed."

EU project – INCA 2 in Europe

APD is involved in the EU Seventh Framework research project Emergency Support System, which aims to outline a framework and prototype for a European crisis management strategy. The end result will include a set of agreed and open protocols that will help guide procurements across the EU, as Worrell explains: "We are working with 14 other partners on the four-year programme, which has been running for around six months. Here we are using INCA 2 to capture sensory data of crises happening in the EU and then processing and combining the data before sending it to crisis managers."

Field personnel gathering sensory data (chemical/radiological) with their PDAs will be using INCA 2 to send it back to a crisis centre: "Or INCA 2 could be in a permanent installation, interfacing with sensors that are constantly monitoring the area."

INCA 2 – in brief

Usually described as a single pipe to the outside world, INCA 2 is an IP-enabled vehicle tracking, monitoring, control and connectivity solution that does away with additional broadcasting components for MDTs and PDAs.

The system architecture is simple: the on-board INCA 2 connects to onboard equipment (MDT and antennae), as well as the communication cloud to the gateways and thus to AVLS database, map clients etc.

INCA 2 has dual bearer capability, so Tetra can be used for safety critical information and GPRS for lower security radio. Its IP routing capability via GPRS is equivalent to the office/home router.

Functionality includes GPS and GPRS, as well as interoperability via RS232, Ethernet and USB. As well as handling specialist bearers Tetra SDS, Tetra Packet IP, MOBITEX and 3G, INCA 2 is capable of transferring data via WIFI (to depot hub for example) or via USB mass storage.

CANbus technology can also be interfaced, so INCA 2 can report on emissions monitoring (for compliance), driver performance, and vehicle faults.

The hardware also allows for integrators to add bespoke functionality via their own applets.

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Civil contingency and ICUs

Communication technology in ICUs (Incident Command Units) is undoubtedly gaining recognition as an integral part of all fire brigades' response capabilities and this is now being recognised by municipal authorities. Special report by Jose Maria Sanchez de Muniain.

Strathclyde Fire & Rescue has just undergone a major ICU investment.

An example of this is Scotland, where this summer Fife Fire and Rescue received a new major incident ICU as part of an investment of over £5m in new state-of-the-art rescue equipment and facilities. This was a result of the Scottish Executive's new funding programme specifically for communication technologies. The resulting ICU, built by coachbuilder CEBOTEC, includes a satellite dish and two main areas, a communications suite and a meeting room for operational briefings with a 42" plasma screen.

South Gloucestershire-based WH Bence has developed a reputation for building innovative, flexible mobile spaces for the Emergency Services. The company has become a specialist in the area of Command and Control Units and in the last 18-20 months has produced a range of these vehicles, each built to the requirements of a fire department and ranging in size from a Mercedes Sprinter up to an Articulated trailer.

Sales Director Oliver Brown summarised for BAPCO Journal readers some of the critical factors for designing and manufacturing command units. "Firstly, the command vehicles should be completely self-sufficient so firefighters can work as an island on scene. This entails the vehicles being built with sufficient on board power generation with generator sizes from 11KVA up to 27KVA, on board air conditioning for both heating and cooling, and possibly the provision of facilities such as hot and cold drinks machines and refrigerators."

Oliver goes on to say that these vehicles must be built to allow multi purpose use, providing both on board communications via satellite broadband GSM phone network and the latest Airwave radio technology. "We have also tried to design and manufacture these emergency services vehicles to provide suitable workspace for personnel to gather for purposes of negotiation, making decisions more effectively or liaising with other support networks."

There is a growing trend among many fire departments for multi-vehicle command set ups, points out Oliver, and he outlines that at least two recent contracts (with Royal Berkshire and South Yorkshire) have opted for a rapid response Sprinter conversion type vehicle to assess situations before handing over to a larger Command Support Unit when it arrives on scene. "This allows for faster gathering of information prior to any decisions being made."

The environment that fire services operate in also has a limiting effect on the kind of ICU deployed, adds Oliver. "For example, London and Birmingham are both tight knit urban areas and this requires them to have a vehicle which is able to access any part of this area with little difficulty."

So where does a fire department start when it comes to

outlining what they want? Oliver says that the most advantageous way of designing a new mobile Command Unit is firstly to discuss the equipment and IT support which is required on board the vehicle so that weight and power calculations can be completed. This enables the fire department to purchase a base chassis with the right weight capacity. "One of the biggest problems we have faced with designing Command Units is the purchase of vehicles prior to a design/plan being put in place. Once the vehicle has been purchased you are then restricted to its limitations. Bence now offers an in-house weight planning guide and, in addition to this, provides support to the client for calculating power usage."

Finally, says Oliver, one of the biggest decisions is how to utilise the outside space of the vehicle. "The addition of externally mounted interactive screens has become quite a regular occurrence for the majority of the vehicles we have built, as well as the addition of electric wind out awnings to provide cover for any briefings being held below."

Small is beautiful

Excelerate Technology, the UK leading supplier of satellite and wireless-based data, voice and video solutions to the emergency services, launched last month a new generation of rapid response vehicles that have quickly invited much attention. These Land Rover Discovery vehicles pack quite a technology punch, with transportable satellite, private GSM (a cellular network), VoIP (voice over Internet protocol), wireless network, CCTV, and video streaming. They also have four drop-down touch screens, COFDM (Coded Orthogonal Frequency Division Multiplexing) body worn camera kits, and a mobile BGAN (Broadband Global Area Network) solution that delivers high speed broadband access on the move.

David Savage, CEO of Excelerate, has been pleasantly surprised by the market reaction to this latest generation of smaller incident command vehicles, and has received enquiries from all over the globe, including from the US military. "These vehicles contain the same technology that exists in larger incident command units, and the reaction has been surprising. People have been saying that they didn't realise they could get it on a smaller vehicle. Interestingly, however, we've had this capability for over two years now."

Flexibility is a chief attraction to emergency services. The new vehicles offer the forward command tools to assess and monitor serious incidents, but they can also double up as tactical CBRN units to analyse information and pass it higher up the command chain.

As a company operating and managing its own satellite and private GSM network, Excelerate is accustomed to dealing with the perception that using satellite for broadband usage is expensive. "This perception could not be more wrong. The monthly running costs of having 1.5 megabyte satellite connection can be is a fraction of the running costs of a number of mobile phones alone. And because we have our own satellite link we can carve it up to suit our customers needs." Savage goes on to explain that some customers share the bandwidth with neighbouring departments, because generally incidents don't take place at the same time. "However as we control our un-contended satellite bandwidth we can create levels

Over the last two years many emergency responder organisations have been reviewing their arrangements for supporting large-scale response to major accidents, says Rod Stafford of VectorCommand.

of capability, service and cost to suit any service level requirement and budget. Even with applications like video we are very conscious that there is a limit beyond which it would be cost prohibitive for fire services."

Fire brigades themselves are highly conscious too of the financial and geographical limitations of different types of communication technologies.

Royal Berkshire Fire & Rescue Service in the UK invested last year in two mobile incident command vehicles with a VectorCommand Command Support System, all part of a plan to create a 21st century platform for incident command.

Within Royal Berkshire's ICUs, different types of communication equipment are being used depending on the circumstances, keeping costs to a minimum without compromising on operational effectiveness:

- On station the communications from the units (data) uses a wireless bridge to existing LAN /WAN;
- When mobile to an incident or just mobile they will use 3G/GPRS;
- When parked at an incident they will use 3G/GPRS or satellite;
- If satellite and 3G/GPRS are not available (due to location) they will use wireless links to the second vehicle that can access satellite/3G/GPRS;
- If possible, for technical or physical reasons, (with permission) a wireless bridge to existing broadband (this may be domestic or commercial).

Major incidents — it's what you do with the technology that counts

Having the most sophisticated technology possible does not change the fact that what matters is how you use it.

Rod Stafford, director of command development for command technology company VectorCommand, outlines that over the last two years many emergency responder organisations have been reviewing their arrangements for supporting large-scale response to major incidents. "In most cases this has involved initiating projects to procure state-of-the-art command vehicles which come complete with incident ground and rear-haul data communications bearers as well as the traditional voice communications systems. Inevitably such vehicles incorporate a number of computers and associated hardware, but rarely is the investment in the management information systems proportionate to the spend on hardware and communications."

Excelerate's new generation of rapid response vehicles have attracted attention from as far afield as the US military.

In other words, it's all very well fire departments investing in hardware, but not if the same focus is not given to the applications that will run over it. "This presents a number of challenges, primarily that a large hardware investment does not generate the commensurate transformation of capability. Only when an appropriate software system is installed – such as the Command Support System, which integrates multiple information sources to deliver a common operational picture, dynamically updated – can the right level of return on investment be delivered."

Stafford points out that increasingly the emphasis is on enabling all responders to deliver enhanced incident management capability and a common operational picture within and between agencies. As a result: "Project teams are increasingly looking for suppliers willing to focus on interoperable management information systems and the underlying hardware and communications bearers, but deployable with existing vehicles, or indeed into some more flexible command environment. In South Yorkshire, the Fire and Rescue Service ICU is being integrated, using Command Support System installations, with both police and local resilience forum command rooms, to build interoperability."

Excelerate was the lead contractor with the Royal Berkshire FRS incident command vehicle project, and what the original brief by the deputy Fire Chief Olaf Baars aimed for could provide food for thought to other brigades, believes Savage. "This was a big challenge for us, because Berkshire didn't just want two incident command vehicles for operations, they also wanted a solution for their civil contingency capability with regards business continuity. So if for whatever reason they lost their own command and control centre, they could run operations from there ICUs. And the answer is yes they can. And things like that do happen – it could be as simple as a person with a JCB digger inadvertently cutting through a copper wire. It happens, and as a result most of our customers who upgrade their vehicles also buy a satellite dish for their headquarters. The second RBFRS Vehicle fulfils a dual purpose role, firstly as a community fire education & awareness unit and secondly as a Rapid Response Incident Command Unit for some of their smaller incidents.

An eye in the sky – unmanned and aerial

The MD4-200 microdrone by MW Power provides a low-cost "view from the air".

Urban departments are increasingly taking up unmanned aerial vehicles (UAVs) to deliver quality aerial photography, live streaming, and thermal images from the fire ground straight into ICUs and beyond.

These are not regarded by their users as toys for the boys, but an investment that has a clear benefit of providing aerial views (including thermal imaging) that would not have been available otherwise.

Additionally, brigades are using UAVs to reveal potential fire hazards, as well as allowing a commanding officer to assess a situation on arrival, without having to attend a scene for assessment purposes.

Alistair Fox, Sales Director at MW Power, supplies microdrones to the military and emergency services. "The Emergency Services has long-desired a low cost 'view from the air'. Our drone is the result of an eight-year R&D process, initially based upon military operations but more recently focussed on the feedback from our growing number of emergency services users."

The result is that West Midlands Fire Service is the first fire service in the UK to take one of MW Power's UAVs after a long trial period. Hampshire Fire and Rescue also currently use a remote controlled helicopter supplied by Carvec, with GPS and thermal imaging capabilities.

West Midlands will this month be taking up an upgraded drone (the MD4-1000) which provides an hour's flight time and a speed of 50mph, and which can fly with maximum wind speeds of 28mph whilst providing live video footage to the ICU. "We've had interest from law enforcement agencies as well as the Health and Safety Laboratory (a UK centre of excellence for health and safety research and incident investigations). The latter are working on air sampling, so that the drone can analyse chemicals and gas in the air. This will help minimise the risks to responders, who will not have to don a hazmat suit to get samples for analysis. We are currently working on phase two of this project, which is configuring the data stream of the chemical analysis as the drone is flying through an area. This is a forthcoming attraction."

Available now is the thermal imaging capability, which Fox points out gives provides absolute temperatures from the drone.

Fox admits that microdrones are not suited to all fire departments, mainly because of their limitations if winds are too strong, but he adds that MW Power have recently launched a fixed-wing product to their range, LV960, which provides 3-4km video range, ideally suited to the more rural operations, including forest fire investigation.

When integration is key

Integrating technologies, and getting them to work together seamlessly, is a part of the continuing convergence of technology across all areas of life. In the emergency services this has been going for some time and by synching together all manner of technologies, from call handling systems to dispatch software, command and control systems can be made more efficient and provide better quality of service for the general public, writes Dan Worth.

Intergraph provide a number of key customers with technology that can do just this. One of its users, Surrey Police Superintendent Sue Lampard, Control Room Manager, explains the benefits this has brought: "In the last few years we've undertaken a major effort to streamline our call handling processes. Doing so has involved making wider use of the Intergraph I/CAD system to log calls. Staff have been cross-trained to be able to work on what were previously separated areas of call handling – general calls (999 and non- emergency) or crimes. Doing this has allowed us to vastly improve the efficiency of our call handling and to improve the level of service we are providing to the public, a key consideration."

Superintendent Lampard also explains that since adopting the National Call Handling Grading Standards, the force has been better able to deal with incidents that don't require a priority response, but to which an officer will need to attend at some point in the future: "Grade 3, which involves agreeing a suitable time with the customer for an officer to visit, enables us to be more efficient and flexible in our response. We currently cross reference an Outlook calendar to the I/CAD system to ensure officers get to their appointments at the scheduled time. This means when they start a shift they are instantly able to see where they need to go and why, and so can make sure the public receive a response to an incident they report, and that information collected on the Intergraph system is distributed to the right people in the right positions, as necessary. The next upgrade of the Intergraph system should allow this to be done integrally through a 'drag and drop' function that can be passed to officers automatically."

Another emergency service using the I/CAD product to help improve efficiencies and streamline and standardise call handling is South Central Ambulance Service NHS Trust (SCAS), as Rob Ellery, Head of Planning (Operations) of SCAS explains: "The CAD system from Intergraph allows us to move calls through the system far more quickly than before. Call information now comes onto the screen before the operator has even picked up the call – such as call location, telephone number of the caller – this allows operators to save valuable seconds when dispatching and processing calls. Therefore we can save time and this can make a big difference to each call we receive using this technology." Ellery also points out that by using the same CAD system across the South Central Region there is a far greater ability for emergency operations centres to co-ordinate together and ensure the closest vehicle to an incident is sent to the scene of a call using I/CAD. "This again helps us offer an improved service to patients as with each call handler working from the same operating system we can be far more efficient in our call handling and dispatching processes." Hampshire Division went live on I/CAD in November 2008 and the Berkshire Division in September

"Linking and presenting the multitude of information and communications feeds (telephony, AVLS/APLS, radio, maps, operational procedures, etc.) in a seamless, logical environment presents opportunities to streamline processes."

Ralph Diment, Intergraph.

"Staff have been cross-trained to be able to work on what were previously separated areas of call handling – general calls (999 and non-emergency) or crimes."

Superintendent Sue Lampard, Control Room Manager, Surrey Police.

2009 and the Oxfordshire and Buckinghamshire Division of SCAS are planned to go live during 2010.

Information integration is at the heart of good communications and Intergraph is one of the key partners in a pan-EU project designed to harness the use of shared information on control systems, to provide the emergency responders with better spatial information across the EU. Known as The Emergency Support System (ESS) Consortium, and approved by the European Commission to begin research and development of a portable emergency command and control system that incorporates real-time data collection technologies, the system will provide actionable intelligence to managers during crisis events and will be used as a framework for future crisis management systems. Ralph Diment from Intergraph explains more: "The ESS consortium will provide an open infrastructure through which data can be accessed by those who need it at key times. Incidents such as 7/7 or Buncefield highlighted the problems of getting relevant information to the necessary emergency service personnel quickly enough to be of use during key phases of major incidents."

Diment also notes that the recent uptake of Command and Control within the Ambulance sector, as underlined by South Central's use of the Intergraph I/CAD system, is an economic benefit within the current climate. "Linking and presenting the multitude of information and communications feeds (telephony, AVLS/APLS, radio, maps, operational procedures, etc.) in a seamless, logical environment presents opportunities to streamline processes. As well as shaving seconds off the response time to an individual incident, integrated command and control can also help make more effective and coordinated use of resources over time and over geographic areas. Both help improve service and increase efficiency."

The issue of continued spending and funding for integrated and collaborative systems is evidenced by a second project which Intergraph are involved in with the EU called INSPIRE, which aims to improve the cross-border sharing of spatial information between states for use in a wide range of scenarios, including emergency management and security. Diment says: "Initiatives in America such as data fusion centres and the National Information Exchange Model mean information sharing is more established there than in the EU, but the INSPIRE programme can change that by making key spatial data themes, like gazetteers and transportation networks, available via a consistent and open mechanism. Data sets can be accessed by all types of organisations, such as the emergency services, to help them build a richer operational picture and better understand the context of an incident – this is particularly important for major events that cover multiple jurisdictions where individual responders will not hold data covering the entire area affected.

As Intergraph's work with the EU, and its emergency service customer base in the UK shows, the benefits of intergrated communications systems are able to manifest themselves in many ways, helping the emergency services provide the public with improved levels of service and efficiency, by improving core business processes.

The HX1 Endeavor uses Stealth Mode technology with CrystalTalk.

Be heard in noisy situations with Endeavor

A new development from Motorola could provide a key benefit to emergency service personnel working in noisy, outdoor scenarios, by allowing them to be heard clearly by staff on the other end of the line. The new technology, an ear piece called HX1 Endeavor, uses Stealth Mode technology alongside Motorola's CrystalTalk technology, and works by converting vocal vibrations from the speaker into voice data to the person on the other end of the line. As it works by reading a speaker's facial bone structure movements there is no background noise as no audio is picked up at all. The technology has its origins in the military but is now cost-effective enough to be introduced to both the consumer and public services.

Craig Nicholas from Motorola explains more: "For emergency services personnel the technology provides a clear benefit. In some situations, with sirens sounding and perhaps outside in adverse weather conditions, the need to be heard clearly is vital. As such this technology provides the ability to pass on information clearly to those at the other end of the line in a seamless manner. As the device is worn in-ear it means the voice data coming back is also improved as it is closer to the ear, rather than having to push a handset against the ear."

The headset works as a normal hands free kit and is connected to mobile phones or smart phones through a Bluetooth connection. Although Nicholas notes that Bluetooth is not a security-approved device in some areas of the ES, he says that Motorola are working at making the technology as secure as possible, and that in situations where such security issues are not a concern, there would be benefits.

The device's battery life is an interesting point too. Fully charged it can last for up to seven hours and has a standby time of 10 days. However, if it is required to work urgently from a flat battery it has a "quick charge" function that will generate an hour's use from just 15 minutes of charging time.

Nicholas concludes by saying: "We haven't started providing this to any ES yet but we believe the scope for the technology will mean that in months to come it's benefits will soon be seen by those in the emergency services and become a popular device to help provide improved communication quality during difficult incident situations."

To hear an example of the bone conduction technology visit the BAPCO Journal website where an audio file demonstrating the technology is available.

Not boring – empowering

Mark Bryce, Senior Consultant, Continuity Services, Siemens Enterprise Communications, reveals some of the hidden depths of business continuity.

As the government focuses on cutting costs and streamlining organisations, protecting local authority services through a proper BC plan is imperative. Why? Protection from national threats such as power failure, flooding, transport strikes or swine flu is a key consideration but BC does not, contrary to popular belief, apply solely to disasters.

In fact, as the economic crisis has forced organisations to make changes putting a plan in place to protect local authority (LA) knowledge, provide adequate staff resources across all departments and ensure the authority continues to operate, is imperative. As many BC consultants have stated, it's the "boring" factors that are more likely to bring down an organisation than the one-off disaster.

Our experiences suggest that, both in the public and private sectors, many still aren't entirely sure what BC actually means and moreover, how to formulate and implement a concise BC plan.

So what other benefits can the dark horse that is effective BC planning really offer to an LA?

- A true understanding of the organisation – and the information to truly grasp the business, including faults, weakness, threats and opportunities
- Additional staff capacity and increased response capability to disruptions – from power failure to disaster
- Help support the case for public sector organisations to remodel or guarantee resilience of services that are starting to be cut back or stretched in the coming spending squeeze
- Help understand where organisation's critical data resides and how it can be better managed and protected

Businesses and public bodies need a well rehearsed plan that is part of their day-to-day job rather than just a spare wheel. This means a plan that is understood and communicated effectively across the entire organisation.

It is particularly important that UK LAs grasp and implement the BC concept, due to their statutory duty to deliver plans for all the functions they provide; including those supplied via third parties. However, arguably many barriers exist in LAs which can interrupt or slow down its progress. Public sector managers are constantly under pressure to hit performance targets, therefore the tangible benefits of a BCM programme must be evident in order to get them on board.

Over the last decade, the Government has provided a continuing vision and framework for public sector transformational government. As a result, government departments, LAs, health trusts and housing associations, as well as their different partners, have sought to drive through a careful balance of service improvements and operational efficiencies. The latest in this long line was the recent Budget's Operational Efficiency programme. This called for ambitious improvements that would deliver annual savings of £9 billion by 2013-14. However, despite this assumed continued (if modest) public spending increase the general opinion is that government spending will be cut whoever is in power after next year's election.

This focus on efficiency and extracting "more for less" from each department is arguably at variance with the new responsibilities added to LAs in the Civil Contingencies Act, which was established in 2004. The Civil Contingencies Act delivers a framework for civil protection in the UK, and a means to tackle the challenges of the 21st century. The act was brought in due to the increasing number of third party threats and the potential damage to LA operation and the operation of local business. The act is in two parts, the first is focused on arrangements for civil protection and the second for the emergency services, with enhancements scheduled by the Cabinet Office for mid-2010.

Part one focuses on reducing interruptions to consumer services within the LA and also offering continuous and uninterruptible support to local businesses. The support for local businesses is key, as major incidents such as fire and flooding can interrupt the running of UK PLC and during these incidents it is important that certain organisations are in a position to continue to operate.

LAs have in effect been forced to take on the added responsibility of developing and implementing BC plans that encompass both their own organisation but also local businesses. It is imperative that they take a strategic view to the importance of BC and not neglect the process – after all, knowledge forms the basis of a successful BC plan and if executed with careful planning, communication, understanding and most importantly, practice, can actually empower the organisation both in time of crisis, but also in terms of understanding/enhancing their core processes.

In the uncertain economic climate and with awareness of the potential negative business impact of threats such as Swine Flu and postal strikes, a BC plan needs to be at the centre of an organisation and more than another compliance box to tick. LAs have in effect been forced to understand and embrace BC planning, but it is imperative that they avoid viewing it as reactive approach and a means for survival.

The British standard for BCM is BS 25999 plan (top), which breaks down the process into six main elements – the need for BCM programme management; understanding the organisation; determining the BCM strategy; developing and implementing the BCM response and exercising, maintaining and reviewing the process and embedding a culture of BCM within the organisation.

Firing up the continuity

Increasing business operational threats such as the recent Swine Flu epidemic has highlighted that all types of operation are more complicated and connected than they first appear – enhancing the need for business continuity management, writes Chris Smith, sales and marketing director, on365.

"Businesses need to consider purchasing true uninterruptible power supplies (UPS) which can work in conjunction with a generator as part of the system to cover the gap between power interruption and the generator providing full power."

The technology analyst firm Gartner recently noted that despite the increasing pressure to cut costs and focus on efficiency many enterprises are responding to the economic crisis by allocating more resources to BCM, and this is not simply focused on high profile disaster scenario plans. Organisations are starting to appreciate the wider value of BCM. They are starting to take a view beyond complex IT being managed solely for 24/7 service delivery and are starting to move the focus outside the IT department to embrace staff or logistics resourcing issues: if a local authority consolidates its data centres to one location, does it have adequate power supplies? If a council provides existing services through online payment systems, is there adequate customer service as well as IT support to avert large-scale difficulties and damage to its reputation?

After the tragic experiences of July 2005, the Buncefield disaster and flooding incidents in 2007, government sector planning for emergencies and disasters has had to become more sophisticated and adaptable. The rise of risk assessments and the wide acceptance of British Standard BS 25999 is delivering a BCM framework and embedding its culture of planning in the organization. However one particular category of incident – industrial accidents, and in particular, loss of power leading ICT system outage and potential data loss, is increasingly becoming a concern to Britain's government departments and enterprises. This situation is exacerbated by the massive expansion of ICT infrastructures, particularly data centres.

Gartner predicted that half of data centres would start to run out of power by 2008. Areas such as London are starting to see restrictions on power supplies to data centres given the density of existing ICT hubs and the "ring fencing" of power supplies to the 2012 Olympics.

As increasing numbers of government and health sector organisations start to open up services to partners, customers and residents, these bodies have started to uprate the business continuity planning to secure their 24/7 operation of services and technology infrastructures in all possible scenarios to avoid interruption to the low-level but still critical systems such as email, servers and uninterrupted power supplies (UPS). Given the apparent strain on infrastructures the main question is how should ICT managers plan for interruption to power supplies?

The best way for organisations to ensure power continuity in the event of a business interruption is for key members of the management – not just IT – to plan ahead, install capacity and have regular operational reviews.

The first step is part of broader risk assessment: gaining an understanding of how much power is needed, for what purposes and for how long.

For example, having only a back-up generator unit for an office is not enough. Although they are suitable for providing longer-term power in case of interruption to the grid, all generators can take time to start. Businesses need to consider purchasing true uninterruptible power supplies (UPS) which can work in conjunction with a generator as part of the system to cover the gap between power interruption and the generator providing full power.

It is vital that when specifying UPS to consider the power demands of not only mission-critical infrastructure such as servers themselves but ancillary infrastructure such as cooling systems which are vital for their operation.

The vast majority of government and businesses are now taking broader BC precautions. Commonly, we find, organisations discover that the steps they have taken are not as effective as they had hoped when disaster strikes.

Ironically, this can occur as systems are gradually upgraded and actual power protection fails to keep pace with the new installation. This is particularly true in the data centre environment where increasingly power hungry replacements are swapped in to increase capacity. This risk is exacerbated by so-called "green" power supplies that are being used for ICT department's servers and storage. These have very different power loading characteristics to traditional power supplies and are consequently not fully compatible with many installed power protection systems.

They could cause damage to vital back-up systems if not fully tested during new equipment's installation.

Departments which put in place detailed risk planning and power capacity provision frameworks will achieve:

- detailed understanding of power needs and the relative criticality of different systems
- the latest performance data and experience of available UPS and power distribution systems

As a result, these organisations are in a position to specify and install effective power protection for critical systems. In many cases, the ICT function does not always have this expertise onboard, nor the time to train and develop such knowledge for what is typically a "once in five years" purchase. Bringing in expert planning and infrastructure consultants enables dangerous assumptions to be avoided and ensure current industry best practice is adhered to. We are still seeing instances of serious data centre and communications failure because staff capacity to make regular low level system checks was not provided. Such issues may be localised but unchecked, could still have serious consequences for the wider organisation.

Of course, different regulations apply across sectors. High risk industries such as transport, the process industries, healthcare and the financial sector already have specific legal or regulatory requirements to adhere to. Many other industries may find that they have certain obligations under general legislation. The final stage is for government organisations and their partners to carry out regular reviews and testing of ICT infrastructure power supplies, with expert advice.

The drive towards more sustainable daily operations could inadvertently heighten the need for power continuity planning. Despite pressures on organisations to reduce their carbon footprint, the demand for power continues to grow, as seemingly, does the reliance on complex electronic/ICT equipment. Given predictions that UK power generation capacity shortages could be experienced in the coming years, gaining access to and delivery of reliable power will become a core competence for facilities management.

For resilience planners and senior management, power costs will also feature increasingly on their agenda. They will need to ensure that critical business systems and associated infrastructure, including power delivery systems are both efficient and cost effective. The drive to using greener power supplies will certainly continue, but must be assessed from an overall risk perspective.

Government organisations running critical services must plan to ensure power continuity in the event of even temporary interruption to safeguard critical data and the operation of ICT infrastructures. They must therefore plan ahead, install appropriate power and back-up capacity and conduct regular operational reviews.

on365.co.uk is a specialist in the planning, installing, management and optimisation of physical IT infrastructure and utility services, from the desktop to server rooms to data centres.

The role of mobile data in modern policing

BAPCO Journal reports on a very interesting and thought-provoking roundtable held at the Houses of Parliament and chaired by conservative MP David Davies, a member of the Home Affairs Select Committee.

The panel consisted of Jim Hitch, an Inspector from Bedfordshire Constabulary, Keith Gough, Police Mobile Information Manager from Thames Valley Police, Graham Baker from Research in Motion (RIM) and Gary Cairns, Mobile Programme Information Manager from the National Policing Improvement Agency (NPIA).

The discussion began with David Davies, who serves as a Special Constable with the British Transport Police, outlining his experiences of using mobile data. He said he found mobile technology very useful and easy to use, and stated that it helps officers with stop and searches, as well as enabling them to input the relevant information there and then, rather than having to return to the station.

Davies then turned to Jim Hitch from Bedfordshire Constabulary, to ask about its BlackBerry smartphone deployment, and if mobile devices were genuinely necessary for police forces. Inspector Hitch replied the BlackBerry devices represented the next step in the evolution of street policing. He explained that where before their deployment officers were spending 46% of their time on shift in the station, today with the introduction of BlackBerry smarpthones this had reduced to 36% and was still coming down.

Gary Cairns, from the NPIA, underlined that the use of mobile data devices has become part of the best practice approach for police forces. Keith Gough, the Police Mobile Information Manager from Thames Valley Police said that since the introduction of BlackBerry smartphones to its officers around five years ago, Thames Valley had seen an equivalent of 100 extra officers on the street.

The issue of officer safety in using these devices was discussed, with David Davies asking whether an officer busy tapping a keypad and staring at a screen, could be at risk of being injured or attacked? Inspector Gough replied that it was important that officers were aware at all times, and used their radios to call in PNC checks when the situation wasn't safe enough to use the device keypad. He emphasised that officers were reminded to use their judgment in these situations.

The issue of training – and the acceptance of the devices by officers as a tool to use – was another area touched on, with Inspector Hitch saying that while training was a cost consideration that had to be factored in, it was an important one, and would save time in the long run. With regards to the 10-15% of officers that Bedfordshire have monitored not using their devices, Inspector Hitch said it was part of the cultural challenge to change attitudes, particularly among those who had been in the force a long time. He said it was important to explain the benefits the mobile device brings, and Inspector Gough agreed, saying that Thames Valley often flagged up success stories regarding the use of BlackBerry smartphones to underline the importance they play in modern policing.

The issue of the security of the devices – both the information sent over the networks, and the devices' inherent security too – was then discussed, with Graham Baker from RIM explaining that currently BlackBerry smartphones were the only mobile data devices that have CESG approval and that if a device is lost or stolen, it can either be automatically "killed" from the central IT point, or if someone attempts to guess the PIN of the device more than 10 times, it will automatically lock itself.

The issues of management of the devices, and the restrictions placed upon them by central IT management was also discussed. Inspector Hitch explained that when his officers are given the device it is then their responsibility to look after them and keep them charged. He also outlined that the devices' internet restrictions are issued under the same decrees as those concerning the networked computer terminals, therefore allowing a reasonable level of access to non-police applications. As was pointed out, news of live football scores could be valuable to the police in an area where a match was taking place, and a late goal could cause an incident.

Before the event ended, Inspector Hitch, keen to take advantage of the opportunity to question a possible future member of the party in government, asked David Davies what a Conservative approach to further investment in mobile data to be. His reply was as follows: "There will almost certainly be cuts on public spending and so if forces can make a business case that a particular device can save money in the long term then it would have a very good chance of being taken up. From my own experience I have seen the benefits of mobile data and it is something I would want to support if there is to be a change of government."

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Keeping the power up

Body-worn cameras have quickly become an essential resource for first responders on the front line – but if the battery is not up to the job the technology will fail, writes Dan Worth.

As the demand starts to grow for body-worn cameras, manufacturers will be keen to get battery weights and sizes down as much as possible.

There's a video doing the rounds on the Internet at the moment of a skier, moments after setting off into a section of fresh snow, being suddenly engulfed by a mini-avalanche, and being trapped several feet below the surface. Some five minutes later he is rescued by his friends after they spot one of his gloves in the snow, which alerts them to his position. The entire ordeal is captured on his body-worn camera – from the moment he sets off to the relief as he's rescued and the sky is suddenly visible once again. If his battery had cut out it would have deprived the world of the video of his remarkable escape, but it wouldn't have been the worst thing in the world.

However, in the emergency services, for those wearing a body-worn camera, filming an incident unfolding in front of them, or sending back live transmission feed of a rescue incident to a command post, if the battery were suddenly to give out, it would be a different matter entirely.

Mark Calkin from 802 Global underlines this when he say it is the worst case scenario for those wearing body-worn cameras: "For first responders on the front line it is vital their technology works when they need it. If the batteries don't last long enough to cover a shift, they're not much good." As such 802 Global's range of cameras come with both Li-Ion batteries and Nickel Metal Hydride (NMH) batteries that have an average life of five to six hours. Furthermore, given that a user can stop and start the device to only film when necessary, this means the length of use of the batteries could be as much as 20

hours. However, in most instances batteries are charged off shift, irrespective of their remaining power levels.

"Power management is a major issue for the emergency services and one that we give a lot of thought to," continues Mark. "Cameras are becoming smaller and smaller, which helps to decrease the overall size of a unit a wearer will carry, but batteries remain an issue in terms of size and space."

However, as Warrick Kernes from Action Cameras points out, body-worn cameras are still a relatively new technology in this market and as such demands for improvements to batteries – in terms of lifespan, size and weight – are relatively new too. "The body-worn camera market has only been a mainstream technology since around 2007, and so there hasn't been much call from the industry to create better, smaller batteries until now. As the demand starts to grow, though, manufacturers will be keen to get weights and sizes down as much as possible."

This is something that Paul Jarvis from Video Vest – a manufacturer of cameras that are in turn supplied to police by Sycron, the security and surveillance services company – believes will be the case too, but only because of the popularity of the mobile phone market. "With four billion handsets on the market there is far more innovation in the battery world with regards mobile phones. However, these developments will ultimately filter into the body-worn camera world, so over the next few years we do anticipate there will be improvements in this areas."

Sergeant Julian Bonsall from Derbyshire Police, who use a body-worn camera system, explains that battery life is not the major issue for them but instead it is the management of batteries that causes the most problems: "We currently have around 25 camera units, with around five or six being used at any one time. Currently, due to faulty batteries needing replacing, or ones being damaged, we have only four or five working batteries. The supplier in the United States doesn't have the necessary components to manufacture new ones so we are somewhat helpless when it comes to getting hold of new ones for the time being. It seems very strange that this should be the case but the trouble is there are so many different makes and models around that we are unable to source the batteries we need from anywhere else. Given the growing use of the technology – and its usefulness – it would perhaps be a good move if the technology became standardised, perhaps via the Home Office, so that police forces could ensure they were able to get what they need at all times."

Within the fire and rescue services the use of body worn-cameras is growing too, as Calkin from 802 Global points out. "For firefighters in rescue situations, particularly those involved in confined space scenarios, the use of streaming cameras can provide excellent footage for those managing the incident, and for those firefighters who will be entering too, or replacing the firefighter currently inside. Sending the video back live is a massive advantage and allows for a greater understanding of the situation as it is unfolding. Obviously as this requires a unit to be used continuously it will wear the batteries down faster but the incident commanders on the surface, or back at the mobile C&C, can see the battery life on their screens and make sure the firefighter is aware of this, or send in a replacement to ensure the feed isn't lost."

Cameras are becoming smaller but batteries remain an issue in terms of size and space.

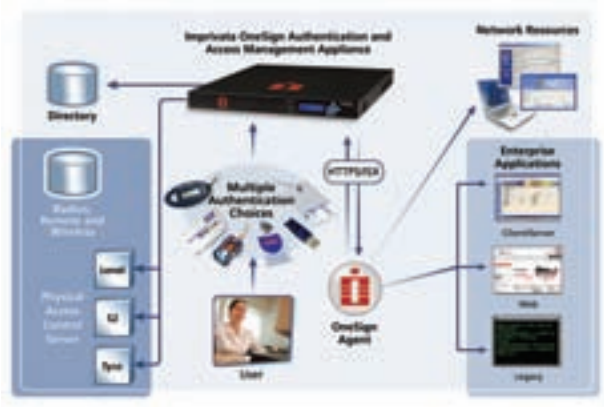
Because firefighters work in conditions where heat could be detrimental to a battery's operation, and there is the possible risk of injury to the firefighter, NiMH batteries are more commonly used than Li-Ion batteries, as they do not contain compounds that can cause the battery to rupture in high temperatures. While in the past Li-Ion have replaced NiMH in most areas, in recent years the gap of size, space and weight between the two has reduced – as the "energy density" of NiMH has improved – so that the use of NiMH is an acceptable alternative.

There is even a use for the workhorse AA batteries in body-worn cameras. Kernes from Action Cameras notes that the company's VIO POV 1.5 camera can last a whole day's use on a set of rechargeable Ni-MH AA batteries, and the use of features to power the device down, or control use remotely, can help provide good power management too. He also notes: "AA batteries are good as they can be easily replaced and recharged and carrying a spare set, or even buying sets on the street, is more easily done than with bigger Li-Ion batteries."

There is little doubt the use of body-worn cameras will continue to grow, with big orders coming in from the likes of the Metropolitan Police Service. Jarvis from Video Vest notes the success of body-worn cameras is currently not generally recognised. "They are so good at getting offenders to enter a guilty plea, due to the evidence they capture, that they are not often seen in courts or in the media. As they continue to become more popular the power management side of batteries will also improve."

"If the batteries don't last long enough to cover a shift, they're not much good."

Mark Calkin, 802 Global.



One sign to rule them all

Accessing multiple systems needs to be done securely, quickly and efficiently – but how to do this without when each system has its own password? Dan Worth finds out about OneSign.

"It can provide audit trails of which systems people are accessing and when and so forth. It also means IT staff can easily remove a user's right to access a certain system, or the entire network, easily and seamlessly."

David Ting, CTO, Imprivata.

Imprivata is a company that provides such a solution through its Single-Sign On (SSO) programme called OneSign which helps workers collate all their passwords into one simple log on. This can then be paired with a strong authentication device such as a smart card, biometric reader or proximity reader, to maintain security and also streamline workflow. The solution is already in use across the emergency services, including fire services and NHS Trusts. David Ting the CTO of Imprivata highlights that the risk of forgetting passwords, or writing them on scraps of papers that are then left next to computers is quite high. "We've even heard of staff writing passwords on walls next to computers, which clearly is far from ideal!"

The OneSign system initially works by inputting all data and passwords for each application and these details are then remembered by OneSign. The user is then only required to input one password, which grants access to all relevant applications. This can be used in conjunction with a device such as a smart card for more secure access. "If a doctor is dealing with a patient and can draw up the relevant information or application on his computer quickly he not only saves time throughout the day – which can be enough time to see another patient sometimes – but also provides a better level of service as they spend less time looking for the right password, and more time talking and helping the patient."

Herb Parker, Head of Strategic Infrastructure at Oxford Radcliffe NHS Trust, which has been using the system since March 2009, agrees. "Human nature means that relying on staff to simply remember their passwords is not a good enough way to combat the risks to security in our working environment and so the SSO OneSign system from Imprivata has helped combat this.

"Furthermore, as part of our remit to improve efficiencies and productivity, the ability for staff to log in to applications quickly and securely, helping them save time and provide a better level of service, means efficiencies and productivity are improved too. Most staff now carry a Smart Card that they use to access computer information, either by inserting it into a keyboard and entering their password or, for keyboards that conform to infection control guidelines and so can't have slots, staff can use a proximity reader that senses the card's presence, and then enter the information after that in the same way."

The benefits of SSO extend beyond users though, and through to IT staff as well, as Ting explains: "It can provide audit trails of which systems people are accessing and when and so forth. It also means IT staff can easily remove a user's right to access a certain system, or the entire network, easily and seamlessly, so that certain individuals – who have left the organisation say, or move into a role where they do not have rights to certain data – do not have access to information any longer than they should."

Parker from Oxford Radcliffe explains how the password manager system from Imprivata has helped to drastically reduce the amount of calls the IT department receives regarding forgotten passwords. "For the 15 years that I have been at Oxford Radcliffe the top call every month to the IT department has been forgotten passwords. However, in the last few months this has dropped dramatically after we gave staff the ability to reset their own passwords. It works by asking staff, when they are first given access to the system, or retrospectively for those already employed, to answer six questions from a choice of 22. Then, if they forget their password and wish to reset it, they are then asked three of these six questions before being allowed to reset the password.

"This added security means staff are able to take control of their password management and therefore remove the time constraints these previously placed on IT staff."

Implementing these systems though, is not an easy task, as Parker explains: "It's taken us a while to get staff on to the system as it involves getting them to come in, signing on to the system, being registered to a smart card and so forth – during time when they need to be working. We've had the system since December 2008 and for the OneSign system, after purchasing 3,000 licences, have so far registered 146 personnel.

"However, within the next month or two we should have a further 1,000 signed up as part of a significant drive we've been scheduling. Furthermore, as we start to ensure each new member of staff is properly provisioned when they join the Trust, we can increase the numbers of those on the OneSign SSO more efficiently. We also have 13,100 licences for the Password Manager software, and now have 9,000 staff signed up, meaning we should have enough licences left over to accommodate growth in the organisation."

A year in resilient telecoms

Robert Wyett, Resilient Telecommunications Programme Team, Civil Contingencies Secretariat, reports on progress made during 2009.

2009 has been a year of steady progress in the four work strands that constitute the Resilient Telecommunications Strategy and for the Resilient Telecommunications Programme Team at the Civil Contingencies Secretariat (CCS) which is charged with taking the Strategy forward. The strands, which are more fully explained on the telecommunications pages of UK Resilience (see link), are:

Strand 1 – working with providers and responders to enhance the resilience of every-day commercially available telecommunications;

Strand 2 – improving the management, take up and resilience of privileged telecommunications schemes that are only accessible to emergency responders;

Strand 3 – delivering a high integrity telecommunications infrastructure providing connectivity and services between the main multi-agency coordination centres at the national, regional and local level; and

Strand 4 – developing a means for securely sharing information between all local, regional and national responders both in preparing for and in response to an emergency.

For further details of the Resilient Telecoms Strategy and Programme, visit: http://www.cabinetoffice.gov.uk/ukresilience/preparedness/resilient_telecommunications.aspx Details of telecoms courses at the Emergency Planning College can be found at: www.cabinetoffice.gov.uk/epcollege/training/courses/resil_telecoms.aspx

Working to enhance what we have today – this is the essence of Strand 1. In this, the Programme has continued to support the Telecommunications Sub-Groups (TSG) which began to be established in each Local Resilience Forum back in 2007, and which lie at the heart of local activity to prepare for challenges to communications in the event of an emergency. Guidance to assist the Groups in their work was published in the summer, and a further workshop bringing together practitioners from the TSGs and industry with the principal aim of stimulating useful discussion and advice on planning was held in Birmingham in September.

A key element of our responsibility to aid local stakeholders is updating and delivering the sound base of knowledge and training needed for their local planning activity. We turn to the Emergency Planning College (EPC) in York for this. The College has built a reputation for expertise which it has continued to impart this year through its two regularly-run courses covering telecommunications in the context of emergency planning and response. Further details of the EPC courses are at the end of this review.

The High Integrity Telecommunications System (or HITS) is designed to provide a resilient communications backbone between crisis management centres across the UK, with resilience provided through a hybrid of terrestrial and military-grade satellite equipment.

Strand 2 of the Strategy incorporates projects concerned with reserved responder access. One of these is the Mobile Telecommunications Privileged Access Scheme (MTPAS) which has taken its final developmental steps and been fully established during the course of 2009. A management framework document went out for consultation early in 2009 and was signed off by senior officials in June. Earlier that month, in fact on its first day, the launch of Phase 1 of the Scheme took place with a wealth of records related to the forerunner of MTPAS, the ACCOLC Scheme being released to enable a national audit to begin. The records went out to all organisations who had agreed to act as sponsoring agencies and co-ordinators of the Scheme, chief among these was the Telecommunications Sub-Groups. Exactly three months later on 1 September, MTPAS went live. During its first month, over 400 responder organisations were authorised to take part in the Scheme operating under its new management processes.

Transition from the old scheme to MTPAS has been a task as huge as it is vital, and operational perfection cannot be expected overnight. The first MTPAS annual audit – to run over the final quarter of 2010 – will offer a picture of the Scheme that can be analysed for any improvements that can be made.

The sister project of MTPAS, the Fixed Telecommunications Privileged Access Scheme (FTPAS), has not undergone any substantial development in 2009 as a result of delays in the telecoms industry's continuing work to overhaul the existing networks and bring about the transition to 'next generation networks' (NGN). That said, CCS has kept up its engagement with industry partners in order to progress such matters as the needs of the civil protection community in the fixed-line communications of the future, and the details of migration from the current Government Telephone Preference Service (GTPS) to FTPAS.

The High Integrity Telecommunications System or HITS (strand 3) is designed to provide a resilient communications backbone between crisis management centres across the UK, with resilience provided through a hybrid of terrestrial and military-grade satellite equipment. HITS began the year with its project team in final negotiations with the supplier, and in February moved to award the contract to provide the system to Paradigm Secure Communications. This was followed in June by a successful Critical Design Review. The project is on course to deliver the pilot group of sites by the end of the year, and, looking a little further ahead, the first phase

following the pilot, and involving ten sites, is due to be delivered by the end of March 2010, with installation at the next group of sites beginning in April 2010.

Making up Strand 4 is the eagerly-awaited National Resilience Extranet (NRE). The NRE began 2009 with a successful design review of the Collaborate software and in the succeeding months completed its disaster recovery facility tests. A series of briefing roadshows across the UK in July was enthusiastically received by the local and regional civil protection community. The events were a considerable success with over 600 delegates attending. Unfortunately, autumn saw the emergence of a small number of system development issues which led to the delivery date being put back by two months. Nevertheless, the NRE is progressing towards a national roll-out in early January 2010, with pre-identified 'early users' able to begin accessing the system from 11 December. There has been new work too, joining the on-going projects and work-streams detailed above. In July, CCS agreed with the National Policing Improvement Agency (NPIA) to bring into the Resilient Telecoms Programme some of the work around ensuring multi-agency communications interoperability – a must-have for any successful emergency response and which is currently being delivered by the Airwave radio system – and to step-up its contribution to the management of those organisations entitled to use Airwave – the 'Sharers', as they are known.

Now, in the final quarter of 2009, we look towards 2010 with confidence that our essential work is pushing forward strongly and that 2010 will be another good year for the growth in resilience of the country's telecommunications.

Building a firm foundation

Ian Readhead reflects on the positive advances BAPCO has achieved over the last year.

Last year, I had the pleasure and privilege of being the President of the British Association for Public Communication Officers. It is normal to be asked to provide a President's Address and now I have been asked to reflect upon what has happened since that time. I think that there are some really positive advancements which have occurred over the last year.

With regard to BAPCO itself, we have built upon the provision of road shows for our members. I sense that these have become an excellent way to provide an opportunity for national and local companies to present their solutions to those individuals actively involved in delivering blue light services. The presentations that take place have provided a foundation upon which future strategies are being evolved across a wide range of business activities including communication networks, mobile functionality, resilience, civil contingency planning and spectrum allocation. Road shows are taking place at the moment covering the North, Central and South of the Country and will, I am sure, compliment understanding, networking and business development.

We have been particularly interested in the work taking place in Europe where BAPCO continues to make its mark as a user driven organisation. I focus upon the "user driven" because the essence of our association is that it draws together individuals from a whole range of civil contingency activities who have common minded goals in developing solutions that compliment the process of making communities safer and ensuring that we manage incidents with the highest professional expertise. My view is, that society expects and deserves public services to share information, create interoperable solutions, reduce risk but to have the capacity and determination to respond effectively to the most serious of challenges. I believe that the current work which is being done concerning areas such as spectrum allocation indicates clearly how the blue light services believe that they have an exceptional case with regard to securing communication requirements without having to participate in a bidding process against the private sector. This is not special treatment but a recognition that the critical nature of our work is a responsibility of Government which does not sit comfortably in a free market environment.

There has been much success enjoyed by our respective organisations. The mobilisation of emergency services is beginning to revolutionise the capability of frontline staff to deliver genuine enhanced actions. Police officers now have access to national and local applications which enable them to check individuals criminal records, search intelligence databases or take biometric readings and analyse them against national fingerprint records. Ambulance and medical personnel can obtain immediate advice on what treatments to offer at the scene of accidents whilst colleagues from the Fire and Rescue Service are able to quickly assess the contents of chemical spills and their resulting impact. In the Police Service alone, the National Policing Improvement Agency have successfully implemented in liaison with forces the role out of over 28,000 PDAs in the last two years. Of course, some solutions are better than others and in an environment of reduced expenditure on public services, the challenge will be insuring that we implement technical advances which deliver the maximum benefits.

Finally, BAPCO has adjusted its Senior Governance. We were delighted to make Ken Mott our Life President enabling Ray Trotter to assume the role of Chief Executive. It is right that I record the huge appreciation that we have for Ken and the work he has done in developing BAPCO. The change will give us an opportunity to build upon our resilience and to also manage what is the inevitable fact that we are an organic organisation and the contribution which colleagues make requires them to commit a significant amount of their free time. We still have much to do in some regions where BAPCO activity could be best described as "mediocre" but I know that we are up for the challenge!

Ian Readhead, Past President of BAPCO – he believes the organisation is up for the challenge.

Interview: for the record

Jose Maria Sanchez de Muniain interviews Police Sergeant Mark Woodward, Gloucestershire Constabulary, about the benefits of a resilient digital recording solution and a quality management solution, as supplied by CyberTech.

Why did you decide to move to a resilient digital recording solution?

We went out to tender in 2005 because we were finding storage was a nightmare to control. Our system only allowed us to keep a rolling 100 days' worth of recordings. And if an officer asked for a particular piece of data, it would take a trained member of staff 45 minutes to get a two minute call.

What kind of solution were you looking for?

We wanted a digital system with digital authentication and with lots of back up, as well as a search and replay interface with large storage. In our tender we said we wanted to get something off the system in less than five minutes. When we first started with CyberTech five years ago we had one terabyte of storage and two removable disks. That was giving us 12 months of immediately available online material. It involved over-writing a removable disk with five or six months' of backup. Today we have nine terabytes which gives us six years of immediately available material. As back up we have a removable 500 gigabyte disk.

Has it had an effect on day-to-day policing?

A good example of this is a malicious caller who over three months made 500 nuisance calls, including 300 malicious calls and 250 calls to the ambulance service. The existing recorder made it an impossibility to retrieve so much material, so we could never entertain a prosecution. I typed in the telephone number into the new system and within minutes I had hits on all those calls. I passed it on to the CPS, who then successfully prosecuted the individual.

It has also helped officers to be proactive. In domestic abuse cases, when a victim is brought to the station they often have second thoughts because the situation has calmed down. At the stage of giving a statement the only evidence we might have is a recording of the 999 call. We can play that quickly in the custody unit and ask the alleged offender to explain the call (background noise/allegation), and that can make all the difference.

And back-office management?

There are lots of criteria in the victims's charter to help victims get through the trauma of a court case. Our constabulary quickly realised the benefits of utilising a suite of quality assurance software called Veritel XQ to develop our operator skills. It's not just about 999 calls and each month a supervisor looks through a number of non-emergency calls and assesses them according to our scale and matrix. Our assessment forms are compliant with national standards and they both give us the basis to look at individuals call takers but also assess the assessors to ensure they are given the appropriate skills.

What has been the reaction from partner agencies?

The CPS and Public Defence Solicitors' Office in Gloucestershire have been very supportive, as long as we can provide copies of 999 calls on standard formats. We have also found trial review lawyers now asking to listen to a 999 call before deciding to arrest or release someone (and this includes ability to email a copy of the call). The project aimed to achieve maximum "buy-in" and, therefore, ensured representatives from the Criminal Justice system, CPS and HM Courts were fully consulted. Changing legislation presents us with the challenge of keeping up-to-date, eg Freedom of Information Act and litigation.

Are there any plans to develop the system further?

At the moment we have special replay software and the problem is we need bespoke bits of kit to take to court and replay. We have been invited to assist in the development of a system called Scenario Replay, which could help in major investigations. Forces find it difficult to present in a time line not just the voice recording, but all the bits of information such as docs, jpegs etc. It would be great to have it all in a single DVD that's easily playable in court.

Woodward highlights that Gloucestershire decided to go for an off-the-shelf solution that was also scalable, which has proved to be a great benefit.

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