

## Primetech's Cobra Rapid Response Strike Vehicle creates huge interest throughout fire service

Primetech's revolutionary new firefighting and communications platform has been generating huge interest among fire and rescue services throughout the UK.

The Cobra Rapid Response Strike Vehicle has been praised by fire service chiefs for providing fire and rescue services with a range of new, cost effective options for improving fire firefighting efficiency and fire fighter safety.

The Cobra vehicle is fast, flexible and economical, while at the same time being hugely capable, carrying (on a Mitsubishi Trojan vehicle platform) a suite of powerful and innovative new firefighting technologies. In particular, the Cobra cold cutting system which can cut through building walls and force high-pressure water spray into fire spaces to suppress fires quickly enabling the fire to be attacked, safely, from outside the building.

Another exciting newly announced feature is the Coldcut Multi Purpose Nozzle (MPN), which adds extra fire fighting power to the Cobra fire fighting system. MPN operates through the use of a two-handed pistol grip, creating variable spray patterns as required by fire conditions. continues on page 6 ►



## Surrey FRS's new state-of-the-art ICU delivers outstanding performance during Thames Valley flooding

Primetech provides High Definition incident ground video and Ka-band mobile broadband satcoms.

Primetech's advanced communications technologies (including High Definition incident ground video imagery, a fire sector first), and Aireshelta's shelter system, have been combined to create a spacious new ICU for Surrey FRS, which proved itself highly capable in the recent floods. When Surrey Fire and Rescue Service's new ICU vehicle was deployed to provide communications support for the service's wide-area, multi-agency flood rescue operations along its sector of continues on page 4 ►



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## Primetech sponsors new Toyota SES passenger extraction training vehicle

An innovative new passenger extraction training vehicle, which helps emergency crews learn how to deal with safety systems such as airbags and side impact safety systems, is being sponsored by Primetech and Operation Florian.

Vehicle safety plays an important role during a Road Traffic Collision (RTC). During an RTC, the vehicle safety features protect the occupants of the vehicle upon impact, but they can also put the emergency services at risk once they are attending the accident. The police, fire and rescue services, doctors and paramedics are at risk of injury while at a scene attending casualties in the vehicles involved. Vehicles' safety systems are still live even after an incident has occurred. Therefore only certain airbags are set off by the vehicle's control unit, i.e. those which are appropriate for the initial impact.

Thankfully there is now a vehicle which is available to use as a training aid for emergency services personnel and to educate communities around the country. It is known as the SES Vehicle.

There have been certain scenarios where a vehicle has been in a collision

and fire service personnel and paramedics have leant over to the driver through either side of the vehicle and a curtain airbag has been deployed. The vehicle is, in effect, still live.

The SES vehicle has been produced to educate and train emergency personnel in order for them to be safe around a vehicle after an accident. Most emergency personnel may not have seen airbags go off, and this vehicle demonstrates airbag deployment and other key safety features around the vehicle.

Currently the Derbyshire Fire & Rescue Service is using the vehicle produced by Safety Engineering Simulators Ltd to provide the emergency services with a training aid. The SES vehicle uses a compressed air system to deploy the airbags, which can be repacked and used again. The compressed air system uses the current Breathing Apparatus cylinders located at most stations across the country. One BA cylinder can be used for 7 airbag deployments before the cylinder needs to be recharged.

Henry Walker of Primetech said: 'We are delighted to be able to support this very worthwhile project. Not only



### Life saving vehicle features

- Airbags - Drivers, Knee, Passenger and Curtain airbags
- SIPS - Side Impact Protection System
- Active Head Rests
- Seat Belt Pre tensioner
- Front & Rear Impact Beams
- Electronics - Sensors, Control Units and Wiring

do we think this is a very positive and innovative development for improving public safety, but we also believe it works in perfect harmony with some of the roles that can be performed by the Cobra Rapid Response Strike Vehicle, with the Coldcut Systems Multi Purpose Nozzle. The Cobra vehicle is perfect for travelling to Road Traffic Collisions very quickly, carrying powerful RTC firefighting capabilities, with the Multi Purpose Nozzle being able to dispense water and foam at a very fast rate.'

## Scottish University installs Ka-band satellite on Learning Bus



The University of the West of Scotland has installed a Ka-band satellite from Primetech on its new Learning Bus to support online access while the bus is in remote locations across its extremely wide catchment area. The bus has been purchased to promote adult and further learning in UWS Campus communities and further afield.

The unit is an Optare Tempo bus fitted with 14 computers linked to the satellite

system for high bandwidth wireless Internet access. It will travel within the UWS footprint and target areas where there are likely to be people who can step on board with a view to finding out about studying at UWS.

The bus will visit schools, colleges, community centres, NHS trusts, company HQ's and sports centres, showcasing UWS courses and facilities.

## Primetech supports Outside Broadcast communications in Northern Ireland

Primetech has supplied and is supporting a Ka-band satellite system for Blackthorn Productions in Northern Ireland. This new installation, which has been used very successfully to support outside broadcasting (OB) in the province, builds on Primetech's existing work for Sky News, where it is supplying a number of satellite systems for use by UK newsgathering teams based in Land Rover vehicles.

According to Henry Walker of Primetech, 'This new and rapidly evolving and expanding form of low-cost outside broadcasting, using the vast new capacity and ease of use of Ka-band systems supplied by C-Com, combined with the power of internet television, is helping to drive completely new types of outside broadcasting. This is allowing organisations to broadcast which would have previously been prevented from doing so by high barriers to entry, especially equipment cost.'

David Walker of Blackthorn Productions adds: 'Blackthorn Productions is a production company

based in Northern Ireland and it has been operating for more than 15 years. Our main clients are BBC Radio Ulster, BBC Radio 3, Radio 4 and RTE 2FM.

'In the spring of 2013, we purchased an iNetVu KA 75V system for our new OB unit. We went with the KA 75V and TooWay to suit our connection needs for transmitting audio. The unit itself is very compact and lightweight, which is suitable for mounting to the roof of a van. It only took two of us and a stepladder to place it there. Its control interface only takes up one U in a conventional rack, leaving us plenty of space for the remainder of our broadcast chain.

'It has proven to be ultra reliable, with the vast majority of the time the unit quickly acquiring the satellite link with the push of a single button, and we can be on the air within minutes if needs be. In over one year we have never not got a broadcast out, some of which have been in less than ideal circumstances e.g. parking on slopes, at the bottom of hills with no option but to have



parked the van westerly or in high wind scenarios etc.

'At the beginning, as with any new piece of equipment, there can be quite a learning curve when configuring and commissioning the equipment, I have to say we have found Henry Walker and his team very accommodating, knowledgeable and always willing to answer the phone, even at odd hours when we had stupid questions. We have even had a three-way conference call with us in Northern Ireland, Henry in England and a Canadian team updating our system software via a remote access.

'Overall we would recommend the KA 75 V platform especially with support from Primetech.'

## Met Office selects Primetech as supplier for Volcanic Ash Monitoring project



The Met Office has selected Primetech to supply, install and support a Ka-band mobile satellite system in its new ash monitoring vehicle, which is being built to deliver more accurate real time information on the threat to UK and European aviation from volcanic ash. In recent years volcanoes in Iceland have created major disruption to aviation.

Iceland has thirty volcanoes and a long history of eruptions. In 2010 the Eyjafjallajökull volcano (left) sent a plume of ash high into the atmosphere, which was carried by winds far from Iceland, disrupting air travel for nearly two weeks in North America and across Europe. On August 16, 2014, another volcano, Bardarbunga, erupted, causing concern that aviation could be adversely affected again.

The Met Office ash monitoring vehicle will carry a wide range of sensors for detecting and analyzing volcanic ash. Data from the vehicle will be sent by high bandwidth Ka-band satellite to the Met Office headquarters in Exeter for further analysis. The vehicle will be used throughout the UK and Europe.

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## Surrey FRS's state-of-the-art ICU

the flooded river Thames in early 2014, the benefits of the service's communications planning were apparent for all to see. Under difficult conditions, the service was able to deliver very high levels of satellite broadband command communications, both for itself and for all local emergency services.

This was as a result of in-depth strategic incident command planning by Surrey FRS, combined with the support of mobile satellite broadband supplier Primetech. Using Primetech's Ka-band systems, the service was able to provide high levels of mobile satellite broadband capacity for emergency command teams from all local emergency services and agencies.

But mobile satellite broadband, using the new Ka-band frequency (which delivers higher data capacity than the older Ku-band system) is not the only distinguishing feature of the Surrey ICU. The unit is also able to collect and transmit High Definition video imagery from around an incident ground, from body-worn and aerial cameras, a major breakthrough in joining up incident command communications.

Surrey FRS's new ICU supported multi-agency operations along its sector of the flooded river Thames.

Surrey FRS's new ICU was deployed to its Chertsey station, which was the incident joint forward tactical operating base, for around two weeks in mid-February, during the height of the flooding crisis. Based in the station's car park, and connected into the main building, it was able to provide previously unobtainable levels of satellite broadband communications capacity in support of command and field teams from the fire service itself, along with police, ambulance and other agencies, the local authority and volunteers, as they battled to help local communities.

### Surrey FRS's new ICU represents the state-of-the-art in ICU design and communications.

Working with multi-agencies was a key part of the planning for the ICU. There was a definitive user requirement stating what was required in terms of inter-agency liaison: being able to have access to the media, for conferencing, briefing crews, holding silver command meetings, and collecting information. All this went into the service's specification, as it is now doing more 'blue light' preparation than at any other time, working closely with the police, the ambulance

service and the local authority on interoperability. The project team worked with other agencies in defining the specification, and they are continuing to work with other agencies now.

The service is anticipating that the use of High Definition video at incidents will have a major beneficial impact. Aerial appliance-mounted HD cameras allow commanders to access overhead video imagery in the command vehicle, for monitoring wild fires, other major fires and flooding incidents.

The vision is that senior strategists and commanders will be able to sit in Gold command and monitor images in high definition back from the incident area, to allow them to support decision-making.

Surrey has one helmet-mounted camera for beaming imagery back to the ICU. That was partly so managers could see what could be achieved. It is currently looking towards the possibility of more widespread use of helmet-mounted cameras in the future, and the possibility of imagery being viewed more widely throughout the County Council, using web-based technology. Regarding incident ground WiFi, the vehicle already establishes a WiFi network, covering an area of up to 500 metres, depending on ground conditions and other buildings.

It is very good around the vehicle and within the Areshelta area. Incident ground WiFi is another area that Surrey wants to enhance, and Primetech has now developed a Peli-case mounted portable WiFi unit using COFDM communications technology.

One of the reasons Surrey chose Primetech for its ICU communications

'Initially the ICU was set up at the front of the station for bronze command. It was later decided to move the command the facilities that the vehicle could provide, using the satellite to give them a better network.'



Surrey FRS's new ICU, with Ka-band satellite communications supplied by Primetech, can receive and transmit High Definition video, an industry breakthrough. Shelter is by Areshelta.

was the research and development capability and expertise the company provides. Surrey wants to enhance the spread of its wireless network, and is already looking at a project to use tablet-style computers for sector commanders and other officers around the incident ground.

The ICU has CCTV on board, so it can record all the actions and messaging for post-incident reviews, learning and health and safety. The ICU continues to evolve, however; development is not fixed, it is a work in progress.

### The service is anticipating that the use of High Definition video at incidents will have a major beneficial impact.

Rory Coulter is head of logistics at Surrey FRS, in charge of all of the service's vehicles, IT and buildings. 'Three bronze commands were running for the February flooding, at Sunbury, Walton and Chertsey. It was decided that Chertsey would be the incident joint forward tactical operating base, acting as the joint tactical focus and forward logistical interface and be the lead of the three stations for the flooding, and that the ICU would be based there.'

So a far better link into the command structure was established using the vehicle rather than by using the station alone. It was deployed for around two weeks, for the worst of the flooding around the weekend of Valentine's Day, the week before and the week after.

'Ka-band gave us a much better broadband capacity than we could achieve within the station. But it wasn't only us using the station, it was all the other agencies - the police, the HART teams, the local authority, plus volunteers. The station became the hub of everything for our area of the river Thames. New Dimensions national resilience coordination also had its own control set up at Service HQ at Reigate, liaising with Chertsey.'

'Staffing was with teams 24 hours a day. We wouldn't have been able to provide the level of information transfer which they achieved without the Ka-band communications systems of the ICU vehicle. Following the wind-down we will now be undertaking a post-incident review.'

Commenting on Surrey FRS's use of Primetech's Ka-band mobile satellite broadband systems and high definition video imagery, Henry Walker of Primetech said: 'We are delighted we have been able

to support Surrey FRS during this highly stressful and difficult period.

'The new ICU supplied to Surrey FRS incorporates video recording equipment, enabling the unit to send full High Definition video from the command vehicle back into the command headquarters over the Ka satellite system.'

### Working with multi-agencies was a key part of the planning for the ICU.

'Other technology on the Surrey FRS vehicle includes COFDM cameras. Body-worn cameras send imagery via COFDM to both the main vehicle and a support vehicle. These also both have WiFi technology delivering capability onto the incident ground for tablet PCs and ruggedised laptops.'

'The benefits of WiFi- which can be limited because it is a very congested network - can be spread across incident grounds using Primetech's own incident ground solution - a COFDM drop-down unit housed in a small, battery-powered Peli case unit. This is a COFDM/MESH node that can be taken away from the command vehicle and positioned so that it can create a link from the box back to the command unit.'

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## Huge interest in Cobra Rapid Response Strike Vehicle

The spray is easily adjusted and in a few seconds the jet can be switched from a very narrow 'beam' to a wide cone.

With this powerful combination of features it is not surprising that it fits perfectly with Sir Ken Knight's observations and recommendations, in *Facing the Future*, on how fire services should improve flexibility and efficiency:

'My review found a significant move by a number of fire and rescue authorities in providing a variable level of response to differing types of incident and thus matching response to risk.

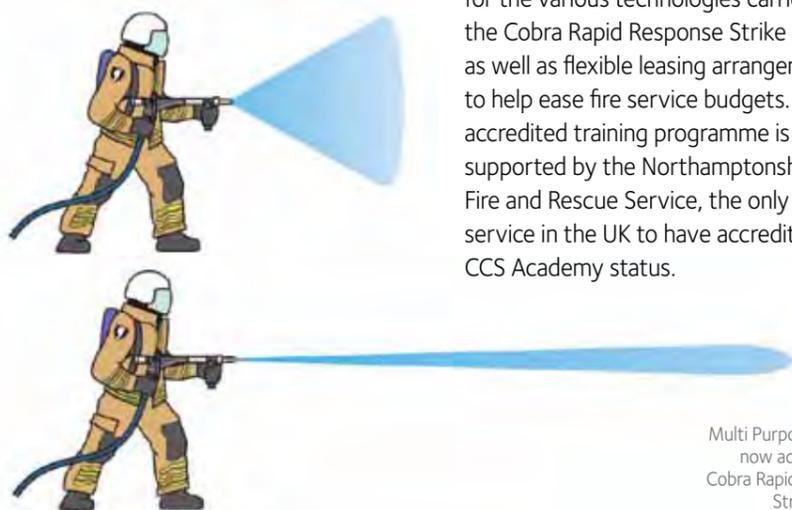
'One of the constraints on efficiency is the rigidity of dispatching a 'standard' fire engine to all types of incident.

'I was heartened to see that many rescue authorities have begun to invest in different types of response vehicles that can be crewed by varying numbers of firefighters, enabling a more flexible response.'

The Cobra vehicle received a very positive response from senior fire officers and local government representatives at the LGA fire conference held earlier this

year. It is also being demonstrated to fire and rescue services throughout the UK, who are very interested in how this completely new class of vehicle is giving them powerful and effective new options for improving fire fighting efficiency.

Rural fire and rescue services, in particular, have shown great interest. At retained fire stations, the Cobra Rapid Response Strike Vehicle enables fire and rescue services to respond immediately



Multi Purpose Nozzle, now added to the Cobra Rapid Response Strike Vehicle

to calls, without waiting for the full crew required for a traditional fire engine.

To capitalise on this interest and to make it much easier for services to introduce the Cobra vehicle into their fleets, Primetech has created the Cobra Evaluation and Training Programme,

**The Cobra Evaluation and Training Programme provides vehicle-specific training as well as flexible leasing arrangements to help ease fire service budgets.**

which provides vehicle-specific training for the various technologies carried by the Cobra Rapid Response Strike Vehicle, as well as flexible leasing arrangements to help ease fire service budgets. An accredited training programme is supported by the Northamptonshire Fire and Rescue Service, the only fire service in the UK to have accredited CCS Academy status.



## Behind the scenes at the Tour de France

Primetech supports Tour de France success with satellite and voice communications network along the race route.

Photograph: Peter Leahy

**The Tour de France cycle race through Yorkshire in July was a huge success. Millions of people turned out to watch, and millions more watched on television.**

Given the remoteness of many of the roads along which the race was due to travel, and the lack of comprehensive 3G and 4G mobile phone coverage in these areas, it was decided that only mobile satellite broadband systems could provide the kind of comprehensive communications coverage required.

To support local authority event management and public safety for the Tour de France, Primetech, with its long established expertise in this field, was chosen to install a temporary network along the race route, utilising the high bandwidth capabilities of the new Ka satellite system. Using a chain of Ka satellite receivers positioned at key points along the route, some mounted on mobile cranes, Primetech was able to deliver integrated high bandwidth mobile broadband and voice over internet (VoIP) communications for personnel managing the public safety aspects of the race.

Primetech's technical team, under the supervision of senior design engineer Simon Land and technical director Henry Walker, set up, on very short notice, a comprehensive mobile satellite broadband and wireless communications network along the entire race route, comprising up to 15 individual base stations.

On both days the race route was divided into sectors. Each sector was covered by one or more VHF and UHF repeaters providing 4 channels for management of the 2500 event support staff with radios, medical staff, and traffic management staff and marshals, ensuring that the race and spectators were safe.

The satellite broadband facilities provided by Primetech were used for the 15 sectors where no other means of getting broadband communications was available. Communications needed to be relayed back to the multi-agency command centre so that the inter-agency response and sector handover could be coordinated. This entire support network

was put in place in only 5 days, including planning, training of unskilled staff and network management.

Primetech's Trojan-based Cobra Rapid Response Strike Vehicle, with its high speed access to the satellite network, was used as an incident command and network management platform, so that the sector equipment could be monitored and changes in the bandwidth usage indicating faults proactively reported to the radio network managers.

The network set up by Primetech worked smoothly throughout the duration of the Tour, and no major incidents were reported.

Primetech Cobra Rapid Response Strike Vehicle with satellite receivers used to support integrated broadband and voice communications along the race route. Primetech's team set up the network within a few days of being commissioned to undertake the work.



Photograph: Peter Leahy



## Coldcut Multi Purpose Nozzle added to product range

### Multi Purpose Nozzle adds highly effective extra water spray functionality to Coldcut Cobra Extinguishing System and Cobra Rapid Response Strike Vehicle.

Primetech has announced that it has added the advanced Coldcut Systems Multi-Purpose Nozzle (MPN) to its product offering, substantially expanding the scope of the Coldcut Cobra Extinguishing System for supporting faster and more effective fire extinguishing. MPN is a nozzle which operates through the use of a two-handed pistol grip, creating variable spray patterns as required by fire conditions. The spray is easily adjusted and in a few seconds the jet can be switched from a very narrow 'beam' to a wide cone spray jet.

The system is designed to complement the Coldcut Cobra system, which allows firefighters to force a high pressure jet of water through various types of outer wall to allow water to be sprayed as

mist into fire zones while reducing to the minimum the influx of air. It has been proven to deliver faster fire extinguishing capacity and to reduce fire damage, and Primetech has been highly influential in introducing the system into the UK fire market with the Cobra Rapid Response Strike Vehicle.

The addition of the MPN broadens the uses of the Cobra cutting extinguisher system, providing an enhanced ability to manage many different fire-fighting scenarios more effectively and efficiently, such as car fires, outdoor fires, dampening down operations, decontamination and foam attack.

MPN is connected with a few simple operations on the same hose used for cold cutting-based extinguishing and delivers the same amount of water, but



at a lower pump pressure depending on the jet setting chosen by the operator, and can be fitted on several different types of Coldcut Cobra system.

Henry Walker, director of Primetech UK Ltd said: 'We are delighted that we are now able to offer and support the Multi Purpose Nozzle to complement the Cobra cold cutting fire extinguisher system and the Cobra Rapid Response Strike Vehicle. Primetech takes great pride in its ability to offer fire service clients the latest and best in proven new fire fighting technology, working in partnership with strong and innovative companies such as Coldcut Systems'.

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