Latest AFP technology launched at CHOGM

By Beryl Janz, National Media Manager

The Commonwealth Heads of Government Meeting 2002 held on Queensland's Sunshine Coast during March this year gave the Australian Federal Police the opportunity to showcase some of its latest equipment and technology and to perhaps surprise some of its partner agencies with what it is now able to do in the field.

In the areas of forensic science and communications technology the AFP is taking the front foot and leading the way with, not only with leading edge technology, but also with its mobility.

Mobile forensic laboratory

The CHOGM task

As part of the AFP's commitment to assist the Queensland Police with its role of ensuring a safe and secure CHOGM event, a five-member AFP Forensic Team was on standby at the Sunshine Coast. The team's charter being to assist if a terrorist incident occurred, especially one involving the use of explosives. This was perceived to be one of the potential scenarios that may have occurred at CHOGM, given the only other terrorist incident that had occurred in Australia's history was the bombing of the Hilton Hotel in Sydney at the last CHOGM hosted in Australia in 1978.

All the Forensic Team members were trained in disaster victim identification and had extensive experience or training in post blast analysis. Not only was the Forensic Team on hand, but so too was their mobile forensic laboratory.

The benefits of a mobile forensics facility

According to David Royds, Acting Coordinator Laboratory Services, the mobile laboratory facility is a first for any police service and provides the latest technology in forensic science.

The AFP's Forensic Team at CHOGM with Commissioner Mick Keelty. The team comprised (l to r) Federal Agent Cliff Frost, Katrina Gates, David Royds, and Federal Agent Ian Prior. (Not pictured is the fifth member of the team Federal Agent Tom Stoewer)

The Mobile Operational Support Vehicle will provide AFP with superior technical support in the field.

"The mobile lab allows 'hot spot sampling', reduces the volume of samples that need to be sent to an established laboratory for testing and increases the quality of the forensic work," David Royds said.

"Because some tests can be conducted at the scene it saves time, speeding up the crime scene work and reducing the need to package up every thing for testing and this results in faster turn around times and makes forensics integral to the investigation."

One of the big advantages of the mobile laboratory for forensic staff is that it provides a functional undercover work area at the crime scene for forensic examination. It not only aids the investigations of a crime scene, but also looks after forensic staff providing the basics of a more comfortable work environment, such as bench lights and work areas.

A microscope and portable infrared (travel IR) spectrometer used for analysis of samples and definitive identification, is one of the core items of equipment in the mobile lab. Presumptive testing equipment such as the barringer ion scan is also available.

David Royds points out that the AFP's mobile forensic facility is not intended to replace the need for laboratory analysis, but in fact complements the established laboratory testing and analytical procedures.

"One of the clear benefits of the mobile forensic facility is the better quality control it allows by bringing the scientist to the crime scene," David Royds said. "It allows the field and laboratory scientist to get a better understanding of the sampling process in the field to ensure the best targeting and selection of samples for laboratory analysis."

In the event of an explosion the greatest challenge facing the forensic scientist is knowing what to collect and, in general, this has resulted in a 'take-all approach'. With the application of field testing a more targeted approach is possible.

Other equipment in the AFP's mobile lab includes the EGIS – a sensitive machine that provides presumptive test result from chemical analysis of matter. It is able to detect certain explosive chemical or minute traces known as pico gram levels (ie 10 to the minus12th of a gram).

A Z-nose, a miniature gas chromatograph, used to detect and analyse in 10 seconds volatile substances such as petrol vapour, diesel or turpentine – a process that normally takes 40 minutes is also available in the mobile lab.

Although it is a great advantage to have a mobile laboratory it is important to reduce any chance of contamination that could occur if the lab was located at the incident scene. Consequently for CHOGM the mobile forensics facility was located at the police coordination centre close to, but not directly at one of the event venues.

"One of the most important requirements of all forensic examination is the need for the surroundings to be clean and to maintain the integrity of samples," David Royds explained.

The test and the result

Although there was no incident at CHOGM that required the AFP Forensic Team to put its new mobile technology through its paces, the AFP was able to demonstrate to other police services and agencies its initiative in getting new technology into the field.

"CHOGM was the first real test of the mobile forensics lab," David Royds said.

"It was an opportunity to test the equipment, set up the facility, calibrate instruments and validate methods given the move from Canberra's cool, dry, high altitude to the hot humid sea level conditions on the Sunshine Coast.

"I am full of confidence and absolutely delighted with the results. It is exactly what's required – a measured response to an incident.

"It's a great achievement for the AFP to get this far. Only about one year ago it was an idea and now it is a reality."

When not being used at special events, the mobile laboratory may be used as a research platform, establishing the AFP as the forerunner in evaluating the concept of moving out of the larger scientific laboratory environment and into the field to see what advantages it can bring to the organisations in terms of cost savings and efficiencies and to the investigative process.

The development and use of the mobile forensics laboratory is just the starting point for developing further methods that can be used in the field with the aim of being able to give investigators much greater information in real time. Current research and development within AFP Forensics Services is strongly focused on identifying suitable technologies and developing these for field use.

MOSV – Mobile Operational Support Vehicle

The idea

Also put through its paces at CHOGM was the AFP's second new acquisition – its Mobile Operational Support Vehicle (MOSV).

The genesis of the idea for a sophisticated mobile communications facility, such as the MOSV, began in about July 2001 when, as part of ongoing operational activities the need for a self sufficient communication facility to support police operations away from the large city infrastructure was identified.

On top of this developing concept came a request in December 2001 for AFP assistance with security at CHOGM 2002 when the Australian Defence Force did not consider they had the resources readily available to support CHOGM 2002 to the extent they had planned for CHOGM 2001 because of other commitments at the time, including the situation in Afghanistan and East Timor.

It took some very hard work from the AFP's Police Technical Team to fully develop the concept and eight weeks to turn it into an operational reality. AFP Deputy Commissioner John Davies said: "It demonstrates the AFP's ability to react quickly to the needs of the environment."

"As a result it gives the AFP tremendous flexibility that was well worth the initial investment for the vehicle. So successful was the venture that the Government has made election commitments to provide a further $7.2 million over three years to boost the AFP's rapid response capability."

The CHOGM task

Given the heightened security environment for CHOGM 2002 the AFP was asked to contribute a large number of federal agents to provide close personal protection for dignitaries attending the event. Because of other commitments the AFP saw the fast tracking of the MOSV as a more effective and less resource intensive way of providing the required level of security.

In the field, a series of sensors, acoustic cable and long and short range sensors formed a continuous perimeter around the secure sector. Generally two operators from the ADF monitored the screens and when any of the sensors were activated they flashed on a grid map on a large digital plasma screen.

A security concept was developed which was based on creating a secure bubble around the accommodation for the Heads of Delegations staying at the Hyatt Regency Coolum. This secure perimeter-surveillance bubble was established by using sensors, long range video camera and thermal imaging in conjunction with back-up from on the ground response teams.

The MOSV provided the nucleus and master plan for the electronic perimeter security. The mobile vehicle came decked out with an array of security surveillance equipment for situations such

The AFP has an array of security surveillance equipment for situations such as CHOGM.

as CHOGM, where a large number of world leaders were meeting and security was a prime concern, but where intrusive security measures that could potentially interfere with dignitaries movements was not the preferred option.

It took the AFP Police Technical Team eight weeks to develop the CHOGM Heads of Delegations perimeter security bubble that operated using the AFP's Griffin system. Griffin fuses different technology together to provide a secure electronic surveillance and mapping system.

The installation and operation of the electronic security system for CHOGM was a cooperative effort between the Australian Defence Forces' (ADF) 131 Locating Battery from Enoggera in Brisbane and the AFP. Hyatt staff also assisting by arranging for contractors to lay cables and power to the camera around the site as the venue was being prepared for CHOGM.

A variety of sensors were used to maintain CHOGM security.

The AFP's Police Technical Team provided training to ADF personnel to operate the system and the large grid maps and surveillance screens were manned by ADF personnel during the event.

Long range video lenses, video cameras, digital still cameras, listening posts and observations posts are but a few of the elements of the MOSV put to use. Video cameras in the local area and at remote locations were controlled from the vehicle. Live video footage from cameras located around the heads of delegations accommodation sector were beamed back to the CHOGM coordination centre in the AFP Headquarters in Canberra as well as to the Queensland Police coordination centre at the Hyatt Regency Coolum.

In the field a series of sensors, acoustic cable and long and short range sensors formed a continuous perimeter around the secure sector. Generally two operators from the ADF monitored the screens and when any of the sensors were activated they flashed on a grid map on a large digital plasma screen.

The operators were then able to interrogate the sensor alarm to identify what type of alarm has been activated and its location. The operator could visually check that area by remotely moving the relevant video camera and information could also be passed to the Queensland Police ground crew to investigate.

The electronic perimeter security not only operated in daylight hours but also at night through use of thermal imaging that detects body heat, proving a 24-hour secure system.

Advantages for the policing environment

"The MOSV and its associated technology and systems provides great advantages to the AFP as it makes the most of available technology rather than relying on traditional policing methods and large number of police on the beat," according to Deputy Commissioner Davies.

"It is a flexible resource for us and strategic decisions can be made on how to best use it and where to put it any one time.

"Because it is mobile and can be moved quickly to different and perhaps remote locations and because the equipment housed within the vehicle is not permanently fixed it can be removed and used piecemeal on any task.

"Not only could it be used for situations such as CHOGM but also for its original purpose as a support vehicle for AFP operations."

The vehicle also has a radio communications annex and a second tent could be quickly set up to provide additional work area and sleeping accommodation for 12 AFP personnel and could sustain this number of federal agents for up to 48 hours.

The vehicle itself is a communication platform that is able to operate independently of established infrastructure and contains all the necessary technical equipment and gadgetry for police operations.

One of the major advantages of all this technology is that it is 100 per cent mobile. It is all housed within a medium rigid truck with a carrying capacity of 10 tonnes, turbo charged complete with long range fuel tanks so that distance is not a problem.

Although this Mobile Support Operation Vehicle is a first for the AFP there is still room for enhancements and these are planned for the near future.