



## Virtual reality crime scenes

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*Queensland first...  
The Queensland  
Police Service is one  
of the first law  
enforcement agencies  
to use interactive  
technology in crime  
scene work.*



In 1997, the Queensland Police Service (QPS) identified a need to improve its capacity to present complex physical and other evidence located at major crime scenes, examination of which can be time consuming and costly, particularly in court proceedings.

The subsequent development and use of the Interactive Crime Scene Recording System (ICSRS) by the QPS has provided an additional tool for police investigators and police specialist squads in responding to major crime and incidents, and an improved service in courts of law.

The ICSRS uses photographs of crime scenes combined with virtual reality software to create 360-degree images on computer. The images are electronically 'stitched' together allowing viewers to move around the scene at their own pace.

### Investigation of major crime

At the earliest stage of an investigation, the ICSRS is being used as an improved briefing tool. Its capacity to incorporate a range of multi-media, including photographs, fingerprints, and audio and video recordings, makes it a valuable tool to familiarise investigators with the layout of a major crime or incident scene.

By using the ICSRS, officers:

- no longer need to refer to and establish the relationship between

various pieces of physical and other evidence, which may have been located by a number of officers; and

- can move throughout the recorded scene at their own pace and in all directions under controlled and stable conditions.

This integrated presentation of information assists officers to gain a better understanding of the incident under investigation, which has the potential to result in more focused and efficient use of police resources. The ICSRS's usefulness in this respect is enhanced by its capacity to be partially completed at the crime scene and therefore immediately available to investigating officers.

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The capacity for officers to review the scene via a computer monitor, rather than walking through the crime scene, also provides for better preservation of the crime scene itself.

Since the implementation of ICSRS, over 96 major crime and incident scenes have been recorded. The ICSRS provides

an additional tool for intelligence-led policing, with recorded crime scenes available for review by officers. These scenes can be retrieved for further investigation inquiries, particularly unsolved crimes.

The system also is being used to assist in the preparation of accurate suspect/witness statements, by allowing the person to view the recorded scene at the time the statement is being taken. A suspect or witness can view the ICSRS, refreshing their memory of the physical environment and clarifying aspects of their statement, rather than having to travel to the crime scene.

### Prosecution

The current method for presenting visual evidence for major crime scenes in court invariably involves a large number of photographs and visual aids being individually explained by police forensic witnesses. Once tendered as evidence, they are individually inspected by members of the jury, legal council and the presiding judge. This fragmented method can:

- take a significant amount of time; and
- cause confusion as to where

photographs were taken or where certain events occurred.

As for its application in investigations, the integrated presentation of evidence via the ICSRS in court proceedings provides an improved tool to familiarise those present to the general layout of the scene, where evidence has been collected or recorded by forensic experts and where witnesses were located.

The ICSRS is presented via a computer connected to a digital data projector or television monitor in the courtroom. In addition to the time saved to present evidence in court, the use of the ICSRS has the potential to:

- reduce the time and costs involved in transporting a jury to the crime scene; and
- refresh the witness's memory of the physical environment, particularly if the incident occurred a number of years prior to the trial.

Refreshing a witness's memory was highlighted in the committal proceedings for the murder of an American sailor in a Brisbane nightclub. The offender was tried and convicted of the crime.

In this instance, the value of the ICSRS to re-familiarise the witness with the crime scene was enhanced by its capacity to be video conferenced, with witnesses providing testimony from a

United States (US) naval ship in Japan. QPS police officers received awards highlighting the use of technology from the US military justice system for the use of the ICSRS in supporting this case.

The application of the ICSRS in court proceedings commenced in 1998, and has been used in eight trials to date, including

- R v Fitzherbert (murder of Marshall, Wilston);
- R v Washington (murder of Odenski and Leidon, Main Beach); and
- R v Fraser (murder of Steinhardt, Rockhampton).

#### Specialist police responses

ICSRS technology also is being used to enhance the services of other specialist units or teams within the QPS. Public safety at special events and during civil disturbances is a key responsibility of the QPS and in such instances, risks to QPS members and public safety are often very high. The provision of effective policing responses minimises these risks.

Areas including the Special Emergency Response Team, Criminal Justice Commission Police Group and State Crime Operations Command use the ICSRS to plan specialist operations and familiarise their personnel with the physical environment of locations which may come under threat from criminal or

terrorist activities. Scenes being reviewed for this purpose include sporting venues, conference centres and court buildings.

#### Future development of the ICSRS

At the time of implementing the ICSRS, the QPS was the first jurisdiction in Australia to use this technology in the investigation of crime, and the first at an international level to use the technology in the courtroom.

During consultations undertaken in the research and development of the ICSRS, interest in the Service's use of the system has been expressed and/or adopted by a number of interstate and overseas law enforcement agencies.

The QPS will continue to investigate opportunities to enhance the delivery of this technology to better support policing operations. At present, the QPS is examining:

- enhanced access to the system through the QPS network;
- integration of a person's description of their movements and actions within the recorded crime scene;
- adoption of new capture devices and high end computers to reduce turn around time; and
- expanded use of ICSRS to present evidence in court proceedings.



*Specialised photographic techniques... Officers combine virtual reality software with crime scene photos to create a 360-degree image of the scenes on the computer. Images are then used for investigations and court proceedings.*