



Laser digitisation thus enables the scene of a crime or accident to be captured digitally in next to no time.

## Cutting-edge technology for forensic research

*THE IRCGN – a division of the French Police – use the FARO Laser Scanner to create high-resolution, accurate 3D images of crime scenes. By doing so the scene can be preserved in its original state so that investigators can go through various scenarios, explore different hypotheses or use it as hard evidence in court.*

In 2008, IRCGN (Forensic Research Institute of the Gendarmerie Nationale - France) rounded off its already formidable range of scientific equipment by acquiring a FARO Laser Scanner. Portable, accurate and creating high-resolution images, the laser scanner has been used in several

cases that have hit the headlines in recent years, including the tragic death of Jonathan Coulom.

Hard to believe that five years have already gone by! In the night of 6 to 7 April 2004, while staying at Saint-Brévins-les-Pins (Loire-Atlantique, France) on a school field trip to the seaside, 11-year-old Jonathan disappeared from the hostel. His body was found six weeks later in a pond on private property in Guérande.

The Gendarmerie Nationale has committed considerable resources to clearing up this case. A large team of detectives has been assigned. The joint activities of the IRCGN and of the forensic specialists of the STRJD (Technical Service for Judicial Investigations and Documentation) recently succeeded in producing new results for the investigation. Certain traces

and clues have already proven fruitful, others are undergoing examination with the expectation of definitive results. Some will be the subject of re-analysis, benefiting from the continual advance of forensic science.

For years, 'scientific evidence' has become indispensable in criminal investigations, often requiring the involvement of specialists. Forensic scientists are responsible for organising investigations at crime scenes and for identifying and collecting material evidence. The principal role of other units like the IRCGN is to analyse samples of this type with the aid of specialist equipment such as the FARO Laser Scanner, which it acquired in 2008. For example, the IRCGN used this digital equipment to conduct a computerised survey of the entire site of the Saint-Brévins->>

YOUR PARTNER AT FARO



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4 GOOD REASONS

A portable non-contact measurement system using laser technology to accurately capture measurements. The system rotates 360° and automatically measures everything within the line of sight from the scanner's position.

1 Optical Measurement: The intelligent laser system carries out optical non-tactile measurements.

2 Resolution: The scanner creates an image with an extremely high resolution of up to 711 mio. pixel per scan.

3 Measuring Volume: The laser scanner captures measurements within a spherical radius range of up to 76 metres.

4 Portability: With a weight of 14.5kg the laser scanner is easy to transport.

More Information: WWW.FARO.COM/PHOTON

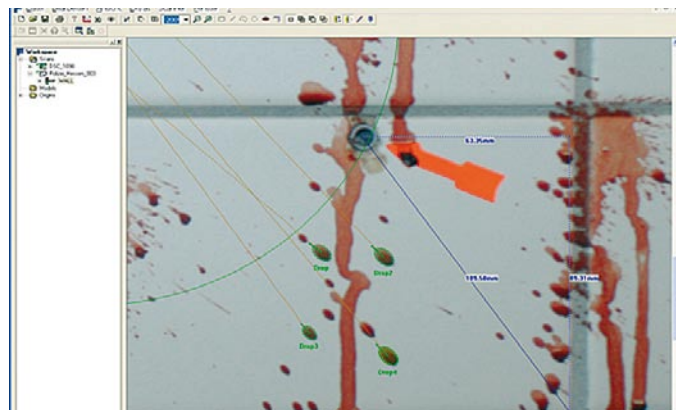
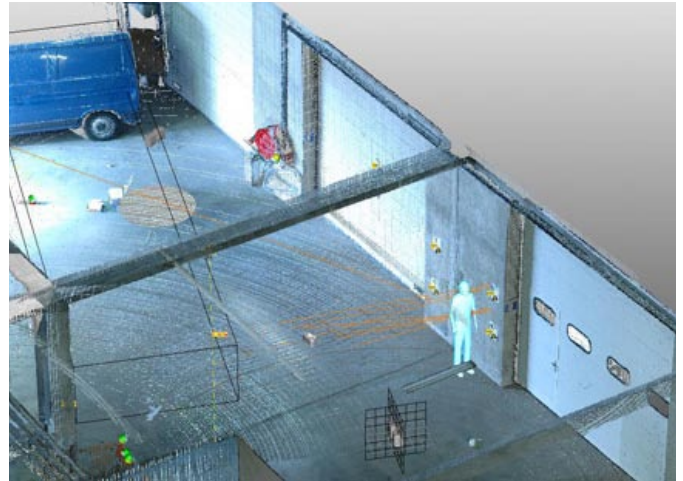


>>les-Pins holiday centre where Jonathan was staying and used the digitised data thus obtained to create a 3-dimensional model of the site.

This way, the IRCGN can work with 3-dimensional models of pieces of evidence, crime scenes and accident scenes. This type of application means that the scene of a crime can be preserved in its original state by modelling it, so that investigators can go through various scenarios in order to understand the sequence of events, or to explore different hypotheses, analysing the scene of a crime and forensic evidence from different perspectives.

The aim of modelling based on data captured by laser scan is to recreate the setting of the events as realistically as possible. The concept involves creating a model of the crime scene by a scatter plot collected by laser scan. This scatter plot is integrated with photographic images to make the model even more realistic. The advantage of this technique is the perfect precision with which the various components of the crime scene can be presented as well as the opportunity to go beyond mere replication and into an interpretative stage. It is even possible, for example, to analyse bloodstain patterns in the same way as for ballistic patterns.

Laser digitisation thus enables the scene of a crime or accident to be captured digitally in next to no time, and to generate both highly realistic and detailed scans before the scene becomes contaminated or otherwise changed. The information can be processed,



The 3D data can be analysed, the user can return at to the initial scans to recalculate the components or to try out new hypotheses.

the 3D data can be analysed and the user can return at any stage to the initial scans to recalculate the components or to try out new hypotheses. The information collected by the FARO Laser Scanner can thus serve as hard evidence in court.

Finally, for major events such as air crashes or large-scale traffic accidents, geographical information can be integrated with the models of the object under investigation. This type of presentation means that missing elements can be restored or reconstructed in an

exact representation of reality. The IRCGN has used the FARO Laser Scanner in several recent cases that have been in the headlines: the crash of an Italian military helicopter close to l'Isle en Barrois (Meuse) in October 2008, the collision of a train with a coach on the A6 in August 2008, the terrorist attack in Corsica in February 2009 etc.

ABOUT FARO

FARO develops and markets computer-aided coordinate measurement devices and software. The devices are used for production planning, and inventory documentation, as well as for investigation and reconstruction of accident sites or crime scenes. They are also employed to generate digital scans of historic sites. Worldwide, approximately 8,600 customers are operating more than 18,000 installations of FARO measurement systems.

ABOUT THE IRCGN

If witness testimony and confessions used to be enough to persuade judges and juries of guilt or innocence, 'scientific proof' has become indispensable to criminal investigations for many years. Keeping abreast of these developments, the Gendarmerie Nationale has created a structure which, based on forensic technicians responsi-

ble for collecting evidence on site, was extended in 1987 to include a unit whose main role is the analysis of such forensic samples. This unit is the Institut de recherche criminelle de la gendarmerie nationale (IRCGN/Forensic Research Institute of the Gendarmerie Nationale), based at Rosny-sous-Bois, an eastern suburb of Paris.

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