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SECURITY SYSTEMS

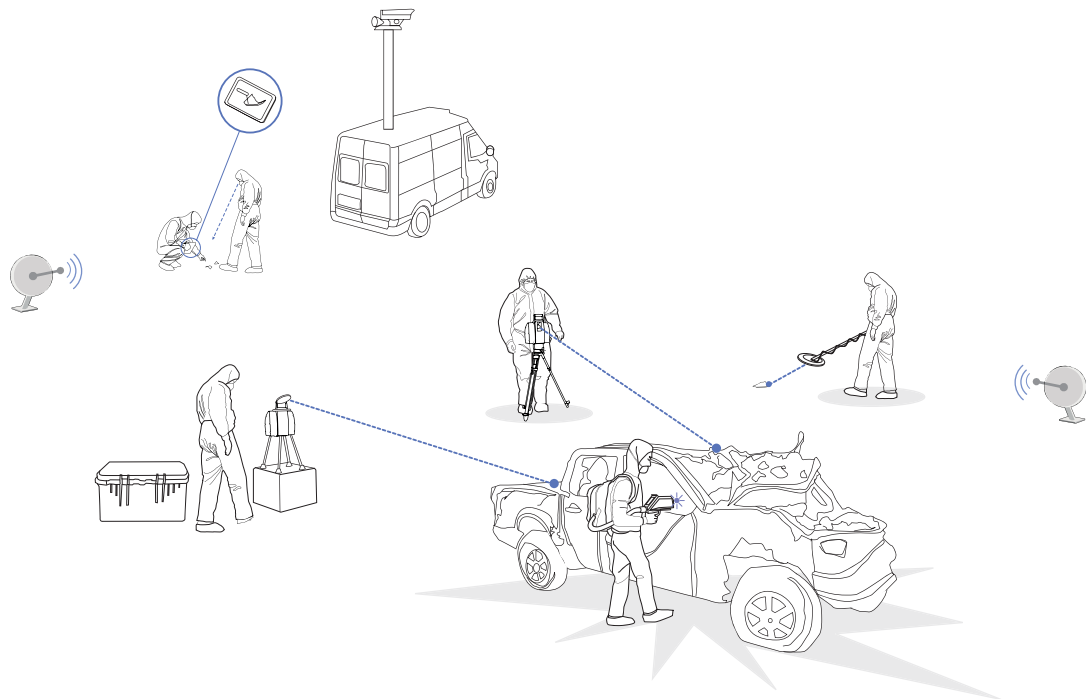
FORLAB

In security you cannot choose the second best option

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FORLAB



Deployable forensic laboratory for investigation of incidents: a new approach to the investigation of the scene improving the collection and documentation of evidence in field

Introduction

FORLAB will provide scientific police with a new tool for investigation of incidents, improving their efficiency in the evidence collection and documentation in crime scene investigations.

The main innovation consists in establishing a bidirectional feedback between the field technicians and a command and control centre where all the information about the investigation is available in real time.

FORLAB integrates a 3D modeling system to provide a 3D real time recreation of the scene; a data communication network between the command and control centre and field; screening technologies for detection and in situ preliminary chemical analysis of evidences; a positioning system for automated accurate location of the evidences in the scenario; and a terminal to record the evidence information and send it to the command and control centre, preserving the chain of custody.

All the information gathered during the investigation will be depicted in real time at the command and control centre providing an overview of situation in field, making possible to supervise the investigation and optimize the search, collection and documentation of the evidence, even from a remote location.

The FORLAB requirements have been defined in collaboration with the European Security Forces (CNP (Spain), RACIS (Italy), NBI (Finland) y LCPP (France)), providing a final system compatible with the existing forensic procedures in the EU.

Operational Mode

- Deployment of the communication and positioning module in the area to be investigated.
- Acquisition of the 3D model of the scenario with different resolution as needed.
- Collection of the evidences acquired by visual inspection or screening technologies developed for in situ analysis.
- Automated accurate positioning of the collected evidences.
- Recording all information related to the evidence in order to preserve the chain of custody.
- The expert investigator in the coordinate and control centre will receive the information in real time and command the investigation.

3D model generation



Portable 3D image acquisition system with different capabilities to produce a 3D model in real time:



The 3D system is integrated in the communications and positioning network to provide the exact location of the image acquisition system to the C&C



The aim of the 3D model system in the scene is to acquire a first low resolution view of the scenario taking no more than 5 - 10min. The data will be transferred to the command and control centre. A high resolution 3D model of specific parts of the scenario could be acquired later.

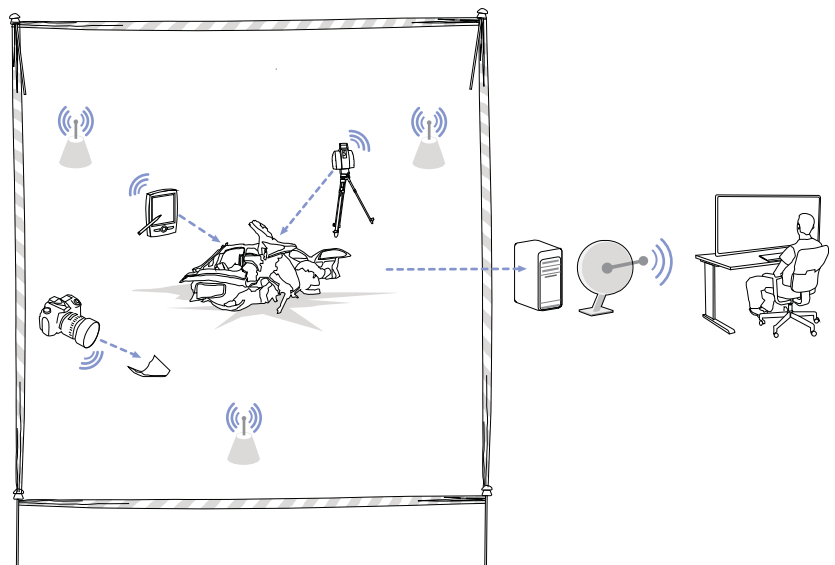
Communications and positioning network

The FORLAB communication and positioning network provides:

- Accurate position of modules within the scene
- Bidirectional communication between the field and the command and control centre
- Data communication network between communication modules on the scene and the main communication node in the scene
- Secure communication preventing any modification of the information during transmission

The communication nodes will be distributed in the scene providing data communication capabilities between the modules in the scene with the main communication node. It will connect the network in the scene with the command and control centre.

The goal in positioning evidence in field is:
Indoor accuracy: 10 cm
Outdoor accuracy: 50 cm



Command and control centre

The command and control centre is a remote location from where the expert in charge of investigation receives, in real time, all information about the scene, supervises the evidence collection and gives priority to some evidences to be further analyzed in the reference laboratory.

The C&CC consists of a main screen to present the 3D model of the scene, a communication system to establish a data link with the investigators in field and some smaller screens to present or retrieve detailed information of one specific area of the scenario.

The evidences will be represented on the 3D model as soon as they are collected.



Benefits

- Improve the efficiency of the procedures used by European Security Forces for the investigation of a crime scene, specially a post blast scene.
- Reduce the number of samples collected for further processing into the reference laboratory.
- Improve the capability to recreate the scene during the investigation in the field and for further investigations after clean-up operations.
- Present to the technician in the command and control centre the real time updated information about the investigation, so that he can guide the investigators in the field.



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Partners



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