



Press Release

FORLAB CONSORTIUM LED BY INDRA DEVELOPS ADVANCED FORENSIC LAB FOR POST-BLAST INVESTIGATION

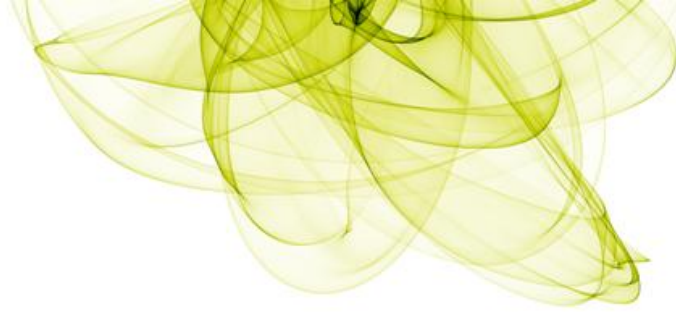
- **This laboratory includes several portable sensors for detecting and analyzing traces of explosives, plastic debris and electronic components from the device**
- **This system generates a 3D image of the scenario, assigns a position to each piece of evidence, records and sends the information to a control center**
- **ForLab is a pioneering system that uses the most advanced technologies to optimize and increase efficiency in evidence processing**

The European consortium led by Indra has finished developing ForLab, an advanced forensic laboratory designed to be transported to a post-blast scenario and process evidence effectively. This system enables the initial analysis and quick identification of explosives and shot traces, and helps to detect small plastic debris and electronic components from the device.

ForLab comprises 3D modeling equipment, which generates an accurate image of the attack scene in just a few minutes, and a set of sensors for detecting and analyzing evidence. Thanks to a positioning system, each piece of evidence is assigned a location in the 3D scenario. This information is recorded and sent to a control center by means of a secure communication system. From the center, experts and officials can direct and support the evidence collection operation.

In terms of sensors, the consortium led by Indra has developed Forlab to include the following: LIBS and Raman system to detect explosives, traces of shots and of other substances; a Laser Induced Fluorescence (LIF) system for detecting polymers and plastics; and a Non-Linear Junction Detection (NJLD) system for detecting small electronic debris. The system's architecture has been planned so as to allow any other type of police sensor to be easily integrated.

This system aims to optimize on-site evidence collection. In the case of attacks involving explosives, this labor-intensive task requires quick identification of numerous items of potential evidence, scattered across wide areas and using few resources. This evidence is then sent to a reference lab for analysis, which could take hours or even days.



ForLab's portable sensors make it possible to choose evidence more selectively before sending it to the reference lab, thus saving energy and effort. Additionally, agents will carry out an initial in-situ analysis to collect vital information to identify potential suspects. The system also makes it possible to analyze walls or big-sized surfaces where sample collection is difficult.

In addition to recording the precise location of each piece of evidence, this system records the officer and time of collection by means of an individual digital signature. Consequently, the evidence custody chain is improved, and data loss is avoided once the area is no longer secured by the police.

In last week of January, the system will be tested with the Spanish Police. Several police units will take part in the tests, which will simulate the investigation of several post-blast scenarios.

ForenLIBS explosive detector

As well as coordinating and leading the ForLab consortium, Indra has developed the LIBS sensor. This sensor is able to detect traces of explosives, shots and other substances on surfaces or on a suspect's hands.

ForenLIB is a handbag-sized piece of equipment, which can be carried as a backpack or used in a lab. The police officer must aim the laser head at the surface to be analyzed; a microscopic amount of matter is ablated and generates a plasma.

The excited atoms and ions emit light radiation typical of each element. This radiation is detected by spectrometric equipment, which generates a characteristic spectrum and allows the compound to be identified.

LIBS is a very sensitive, simple and easy-to-use technique, which can detect nanograms (one billionth of a gram), requires no sample preparation and does not affect the evidence (subsequent analysis in a lab is possible). Indra is one of the leaders in researching explosive detection technologies.

ForLab

Indra coordinated the ForLab project, which involved 12 other partners from seven European countries including several police forces acting as end users. Lasting three years, this program was funded by the European Commission through the Seventh Framework Program. Together with Indra (SP), the consortium includes the Italian National Agency for New Technologies, Energy and Sustainable Economic Development - ENEA (IT), Airbus Defense (FR), University of Thessaly (GR), Space Applications Services NV (BE), Astri Polska SP Zoo (PL), National Bureau of Investigation - NBI (FI), Fourth Italian Armed Force Arma dei Carabinieri (IT), Industrial Research Institute for Automation and Measurement - PIAP (PL), Nucléides (FR), Spanish Home Office - Central Unit of Scientific Police (SP) and Central Laboratory of Parisian Police Headquarters (LCPP) (FR).



Indra

Indra, Chaired by Javier Monzón, is the leading multinational technology and consulting company in Spain and one of the leading companies in Europe and Latin America. Innovation represents the cornerstone of its business and sustainability. In the last three years it has spent more than €570 million on R&D&i, making it one of the biggest European investors in the industry. With a revenue of approximately €3 billion, 61% of its income is generated by the international market. It employs more than 43,000 staff and has clients in over 138 countries.