

OPTICAL TECHNOLOGIES FOR THE IDENTIFICATION OF EXPLOSIVES (OPTIX)

Resumen: Develop a transportable system for the standoff detection and identification of explosives in real scenarios at distances of around 20m, using alternative or simultaneous analysis of three different complementary optical technologies (LIBS, RAMAN, IR).

Objetivos: Develop a transportable system for the standoff detection and identification of explosives in real scenarios at distances of around 20m, using alternative or simultaneous analysis of three different complementary optical technologies (LIBS, RAMAN, IR).

Objetivos contribución: Development of LIBS technology. UMA leads the integration of the three sensors and the enabling technologies for the final platform. Javier Laserna is the technical coordinator of the project.

Entregables: The main and final project result will be the demonstration of a prototype or platform for the standoff detection and identification of explosives. No product or solution is currently available for the detection and identification of explosives from a distance (10 meters and above). Achieving all the objectives of the project will provide a position of leadership in the emerging market of products for standoff detection and identification of explosives.

Impacto: The combination of the three optical technologies, LIBS, RAMAN and IR, will provide improved features to a standoff detection capability: Reliability: by means of the possibility to use up to three different detection techniques, fusing complementary data. Fast answer: each technique has limited acquisition time, from the quasi real time of LIBS to a few seconds (less than a minute) of Raman, depending on the scenario and object. Cost Effective: the integration proposed can produce certain economies because of the common design of hardware (lasers, sensors, optics). Identification: the different spectroscopies provide different levels of information, qualitatively and quantitatively, but their combination (data fusion) generates an added value to the integrated system achieving.

9 Participantes

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- INDRA SISTEMAS S.A.
- FOI (Swedish Defence Research Agency)
- EKSPLO UAB
- AVANTES BV
- TECHNICAL UNIVERSITY OF CLAUSTRAL
- VIENNA UNIVERSITY OF TECHNOLOGY
- UNIVERSITY OF DORTMUND
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Presupuesto: 3,289,855.00

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Enlace: www.fp7-optix.eu

Estado: published

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