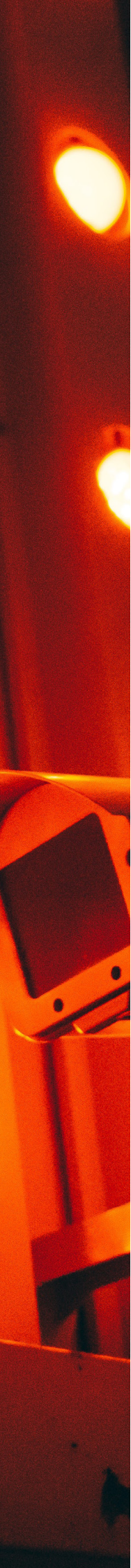




ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

FIGHT AGAINST CRIME AND TERRORISM

New technologies should support the fight against crime, terrorism, and illegal trafficking, along with understanding and tackling terrorist ideas and beliefs.



The research of the University of Bologna on fight against crime and terrorism tackles the problem from very different perspectives. Research directions span from new technologies for surveillance, detection of malicious people and hazardous substances, to forensic analysis, scene of crime analysis, European regulations and cooperation.

The research of the University of Bologna covers a wide range of issues:

- Reconstruction of the scene of crime
- Identification of species in crime evidence
- Resilience to terrorist actions involving hazardous substances
- Detection of explosives and hazardous substances
- Video surveillance, computer vision, and thermal imaging
- Activity recognition and behavior analysis
- Sensor networks for intruder localization, detection, and tracking
- Radio spectrum activity surveillance
- Big data analysis and cryptographic methods for crime prevention
- Analysis of gaps in EU regulations and issues in their application
- EU-wide cooperation for anti-radicalization
- 2D and 3D satellite aerial monitoring and surveillance

HIGHLIGHTS

The University of Bologna can count on modern laboratories to support the multidisciplinary expertise and research lines on fight against crime and terrorism, such as:

- **Laboratories equipped with** 3D Scanning systems, Thermal/NIR cameras and Digital Photogrammetry workstations, wireless sensors for accurate indoor localization and tracking of moving objects and persons.
- **One of the largest drone indoor fly rooms in Europe**, equipped with a network of 22 infrared cameras to allow detection of a target, along with its translational and rotation motion, with millimeter-level precision. It is located in the city of Cesena, in the facilities of the **Department of Electrical, Electronic, and Information Engineering (DEI)**.
- **Spectroscopic chemiluminescent and fluorescent IE-fast methods** with the use of nano-biotechnology for the detection of substances components of explosives, as part of Forensic Sciences.