



ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

BORDER AND EXTERNAL SECURITY

One of the primary aims of the Secure Societies Challenge is to improve border security and to support the Union's external security policies including through conflict prevention and peace building.



The research of the University of Bologna on border and external security covers a large spectrum of topics ranging from 2D-3D video, lowlight, thermal and visual surveillance to biometrics for persons' identification, image-based self-localization, navigation data processing and algorithm design and history of international relations.

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

- 2D and 3D satellite aerial monitoring and surveillance
- Real-time automated 2D and 3D video-surveillance
- Image-based self-localization
- Indoor and outdoor augmented and mixed reality
- Visual recognition
- Biometric systems of identification
- Computer Vision, Video Surveillance, Event detection
- Wireless sensor networks for border protection
- International relations and security

HIGHLIGHTS

The University of Bologna can count on modern laboratories to support the multidisciplinary expertise and research lines on Border and External Security, such as:

- The [Biometric System Laboratory](#) is active at the University of Bologna since 1993, and is one of the worldwide leading center for Biometrics research (human identification based on fingerprints, face, iris, etc.). Biometric System Laboratory participated in EU Framework Programmes since FP6 with a total funding of about 2M€.
- **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).

European funded projects

FP7 [COEXIST](#) *Statistical Methods for Coexistence in Future Wireless Networks* (2011-2013)

FP7 [FIDELITY](#) - *Fast and trustworthy Identity Delivery and check with ePassports leveraging Traveller privacy* (2012-2016)

H2020 [MARISA](#) - *Maritime Integrated Surveillance Awareness* (2017-2019)

H2020 [iMARS](#) - *image Manipulation Attack Resolving Solutions* (2020-2023)