ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

DIGITAL SECURITY

Protecting digital data and preserving user privacy are two of most critical challenges of the 21st century.

The University of Bologna is member of the European cyber security organisation (**ECSO**).

The research of the University of Bologna on digital security spans from low-level communication and physical channel protection to mid-level protocols, code and infrastructure security to high-level applications in biometrics, video surveillance and data analysis. IT & Law group studies the many interdisciplinary aspects of law and innovative technologies, with special regards to the impact of privacy, data protection and users' awareness.

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

- Secure Wireless Communications and Radio spectrum surveillance
- Ultra-wide Bandwidth systems and Wireless sensor networks
- Active and passive radio localization and positioning
- Physical-layer security
- Computer and network security architectures and penetration testing techniques
- Mobile systems and applications security
- Blockchain applications to identity management
- Access control models
- Data protection and Identity management
- Security and privacy in the public and private Cloud
- Location Privacy, Antiprofiling techniques
- Smart Cities and Urban security
- Biometric identification based on Fingerprints and Face
- Computer Vision, Video Surveillance, Event detection
- Search and Analysis of Big Data, Anomalies detection

HIGHLIGHTS

The **Biometric System Laboratory** is active at 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 several EU research projects with a total grant of about 1.5M€ such as FP7 - **FIDELITY** - Fast and trustworthy Identity Delivery and check with ePassports leveraging Traveller privacy.

The **Computer Science Department** fosters active participation to many networks to create synergies along different dimensions, both at the national and the international level including CINI National Laboratory of Cybersecurity and European Computer Security Organization.

The Interdepartmental Centre for Research in the History, Philosophy and Sociology of Law in Computer Science and Law (CIRSFID) is among the leading excellence centres in Italy and over the years has gained international recognition for its work in computer science and law, as well as in the history, philosophy, and sociology of law. Policy and Regulation of technologies related to privacy, profiling, data protection and identity management is a key topic at CIRSFID.