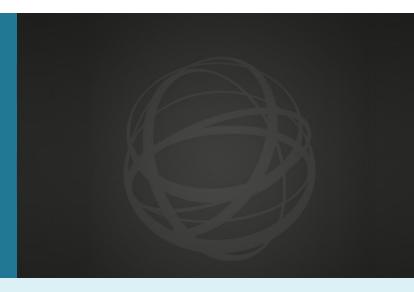# RESEARCH GROUP

Trustworthy Data Systems

The main mission of the Security & Privacy group is doing projects and research in the application and development of tools and technologies to design, enhance and manage IT systems and their data in relation to security and privacy.

Our research challenges

- Data Security and Data Privacy: Privacy preserving and enhancing techniques (like pseudonymisation or differential privacy), as well as the latest applied cryptographic techniques (like homomorphic encryption or zero-knowledge proofs) are adapted to support a privacy-by-design approach.
- Cyber Security: In relation to trustworthy and reliable systems and network infrastructures, cybersecurity activities cover the protection of critical infrastructures, as well as Internet of Things, including mobile or wireless systems.
- Information Security Management: As part of the information security activities, tools and models are developed to support security and risk management processes to enable organisations and enterprises to be compliant with standards, best practises and laws.

The main areas of application

- Smart Finance
- Smart Cities (including transportation eMobility, eGovernment and eHealth)
- ICT infrastructures of IT and telecommunication service providers.

Current topics of interest

Blockchain Technology and Services, Cloud Computing, Mobile Computing, IoT, Data Mining, Big Data Analytics, Machine Learning, Personalization, Archiving

Our competencies

- Blockchain-base patent filed: Transparency about accessing shared data
- Cybersecurity patent filed: Method for Orchestrating Reactions to Complex Attacks on Computing Systems
- TISRIM: Security Risk Management Tool
- TISRIMonitor: Security Risk Management Reports Analysis Tool
- CSRA: Cloud Security Risk Assessment
- TRANSFORM: Private Recommender and Homomorphic Encryption
- SMART-X: Sector-agnostic multi-agent based tool for monitoring and decision-making
- NPS: National pseudonymisation solution
- EHEALTH: National eHealth platform concept

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