

SMARTS

Team	Secure and Mixed Architecture for Reliable Technologies and Systems
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Vision	<p>The SMARTS (Secure and Mixed Architecture for Reliable Technologies and Systems) team's vocation is to conduct research in the field of embedded systems in its material aspects. It also focuses on all stages of the design and realization of embedded systems and communicating and mobile objects using different technologies.</p> <p>The SMARTS team is interested in the design of circuits and integrated communication systems analogical and digital, particularly, translinear circuits, frequencies synthesizers and time/ analog-to-digital converters (TDC/ADC).</p> <p>It also covers modeling, design and implementation of RF and microwave communication systems as well as integrated smart antennas while ensuring performance improvements of these systems. The problems of propagation in the new standards of mobile networks are also being investigated.</p> <p>The SMARTS team also aims to ensure the integrity of the components and the confidential data they contain against fraudulent manipulations. That's why the different attacks are modeled in order to design effective protections integrated into the design flows (Secure by Design). The Test of integrated circuits, testability oriented design (DFT) and the instrumentation aspects are also part of the team's themes. The joint software / hardware design is also one of the research axis of the team.</p> <p>The SMARTS team also carries out research work in modeling and simulation of Smart Grids and the issues of integrating renewable energy into conventional electrical networks.</p> <p>It also deals with issues related to Geolocation in different environments.</p>
Research Topics	<ul style="list-style-type: none"> • Real-time embedded systems and connected objects • Smart Grid: Modeling and simulation • Integrated circuits for communication systems • Integrated analogical translinear circuits for telecommunications. • Design and testing of secured systems • Joint design (co-design) and hardware / software partitioning • RF and microwave communication systems • Intelligent antennas integrated into a radio-mobile environment • Modeling and numerical methods of microwave systems • Embedded systems for geo-tracking.