Title: Laboratory for Advanced Communication Solutions (LACS)

FEEIT LACS features advanced virtualization and Open-RAN infrastructure, including three Dell T640 servers, 10/40 Ge LAN, and software-defined remote radio units. It also consists of advanced sensor and RF measurement equipment. This equipment supports hands-on prototyping and innovation in areas such as Cellular Networks and Network Virtualization, Wireless Communications and Signal processing, E2E IoT solutions, and product development. The LACS provides an accessible environment for startups, researchers, and industry to turn ideas into functional prototypes.

Infrastructure / Equipment Overview Table

	Details
Partner	Faculty of Electrical Engineering and Information Technologies
Equipment type	Wireless networks laboratory
Target Group	Startups, industry companies and researchers
Key Technology	Wireless and Cellular Networking, Virtualization, AI in Networking and IoT
Status	Available to use
Requirements for Participation	Relevant project or need, basic technical knowledge

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Description of Available Infrastructure and Equipment

At FEEIT LACS, a state-of-the-art environment for innovation and hands-on learning through dedicated 4G/5G virtualized platforms, IoT cloud deployment and high-end RF measurement devices. The facility supports startups, researchers, and industry collaborators in transforming concepts into working prototypes.

The LACS houses a range of advanced equipment tailored to meet diverse technological and creative needs. Specifically, the equipment of the Laboratory is as follows: hardware (three Dell T640 servers, one Dell T620 server, Full 10/40 GbE LAN, USRP N310, X310 and USRP 210 SDR devices, for diverse applications related to cognitive radio and Virtual-RAN, two QualiPoc-based SAMSUNG S9 mobile phones, several SDN-based WLAN and WLAN sub-systems, RFID TagSense, Libelium Waspmotes combined with different Ambiental sensors suitable for outdoor monitoring, NFC tags and readers, TI eZ430-RF2500 sesnor nodes, Microsoft Kinect camera for visual processing), software platform (AMARIsoft, QualNET, etc.), as well as a

measurement equipment (High precision spectrum analyzer Rodhe&Schwarz FSW8, two handheld spectrum analyzers Rodhe&Schwarz FSH8, Signal Analyzer Anritsu MS2690A with inbuild vector analyzer, small handheld spectrum analyzer, several discone and biconical antennas .

The Laboratory is equipped with high-end equipment specifically designed for evaluating and prototyping of wireless demo platforms, modeling and QoS evaluation of services in wireless networks, AI-driven network automation, spectrum measuring as well as sensor monitoring.

By integrating these capabilities into one cohesive environment, FEEIT LACS offers a complete ecosystem for innovation—from initial idea to tested prototype. Whether used for academic research, industrial collaboration, or innovation challenges, the infrastructure is designed to accelerate creativity and technical excellence.