LEAT LABORATOIRE D'ELECTRONIQUE ANTENNES ET TELECOMMUNICATIONS	2017-2018	

Internship

Subject: « Intelligent IoT Networks »

Keywords: Internet-of-things (IoT), wireless networks, reconfigurable antennas, LPWAN, LoRa.

Advisors: Leonardo Lizzi, Fabien Ferrero

Place: LEAT, Sophia-Antipolis, France

Subject:

The smart vision of the world has been espoused for many years. People living in such a smart world will be automatically and collaboratively served by smart devices (e.g., mobile phones, watches, bracelets), smart transportation (e.g., cars, buses, trains), smart places (e.g., homes, offices, university campuses), etc. From the technological point of view, the sustainable development of such smart environments is enabled by the Internet-of-Things (IoT) paradigm. Going beyond classical computers or mobile phones, IoT represents the idea of a ubiquitous and pervasive network of objects connected to the internet. The development and deployment of a reliable IoT wireless infrastructure is therefore a key step to enable communications within the heterogeneous IoT environment.

The internship focuses on the deployment of a test IoT LPWAN (Low Power Wide Area Network) wireless network based on the LoRa communication standard. The network will consist of several LoRa gateways and multiple miniature IoT devices. Such devices will be based on the LoRa boards developed at LEAT (http://users.polytech.unice.fr/~ferrero/recherche_UCAboards.html) and they will be equipped with reconfigurable antennas. The candidate will oversee all the deployment activities, from the programming of the devices, to the antenna realization and measurement, to the installation of a web server to collect the data transmitted to the gateways.

The candidate is expected to hold or the be a student in a MSc degree in Telecommunication or Electronic Engineering. A specialization in electromagnetics and or antennas is an asset. Good command of both written and spoken English is required. French is optional.

Depending on the internship results and the candidate records, the work could continue in the framework of a PhD position.

Salary: Approximately 500€ / month.

Contacts: leonardo.lizzi@unice.fr, fabien.ferrero@unice.fr