

## **IEEE AESS Student Activities Project**

### ***Internet of Things: Enabling Technologies and Smart Devices to improve Quality of Life***

**University of Rome 'Tor Vergata', Italy**

The M. Sc. Course in “Advanced Communication and Navigation Satellite Systems” organized by University of Rome ‘Tor Vergata’ foresees a project work, called the “*Internet of Things: Enabling Technologies and Smart Devices to improve the Quality of Life*”, in the frame of the AESS GOLD activities.

The Internet of Things refers to uniquely identifiable objects (e.g. sensors and actuators) and their virtual representations in an Internet-like structure. The Internet of things concept is based on the interaction of different independent systems through the Internet and can be considered as a “System of Systems Interconnected Through Internet”.

The project work concerns the realization of a smart integrated system including a smartphone and new secure low-power wireless standards (as DASH7, 6LoPAN, Bluetooth Low Energy) to support innovative and advanced applications in the fields of healthcare, fitness and homeland security.

The project work will be fulfilled in about 10-12 months by nearly 20 students divided in 2 teams.

Each team will be involved in one of the following two activities:

1. to develop a smart integrated system for healthcare applications (including e.g. a pulse oximeter, glucose and blood pressure monitoring, etc.).
2. to develop a smart integrated system for homeland security applications.

As above described, it is clear that this project involves many fields of interest of IEEE AESS.

On the other hand, we are confident that this experience will teach students the most significant concepts and techniques useful to better understand the crucial role of the systems integration during their future work in industries and public institutions.

We have supposed that the average cost of the H/W and S/W licences needed for each activity is about 2500\$.

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