Wireless Networks of Embedded Systems (RWE)

- Teacher(s) name:
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- Semester:
  - Second
- Exam:
  - Presentation on a selected topic plus Oral Exam OR
  - Project work plus Oral Exam;
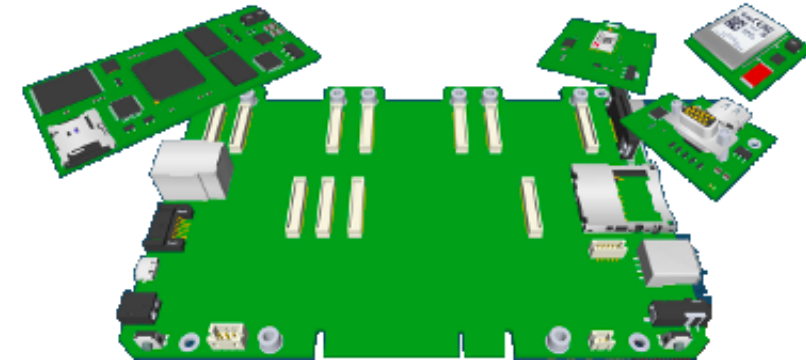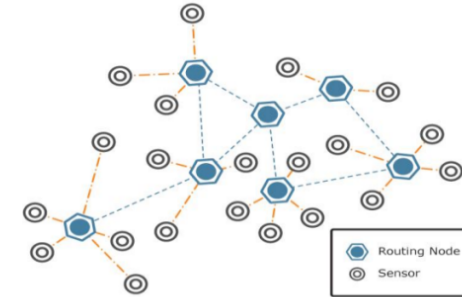- Area:
  - Group A

Syllabus

- Wireless Networks:
  - Radio transmission fundamentals;
  - Wireless communication techniques at PHY and MAC layer;
  - Evolution of wireless networks;

- Wireless Sensor Networks:
  - Device architectures and components for WSNs;
  - Wireless Communication Techniques at PHY and MAC layer;
  - WSN technologies in the Internet-of-Things era;
  - Wireless Multimedia Sensor Networks;

- Laboratory sessions on real devices
  - Contiki OS programming on real devices;
  - Interfaces with cloud-based Information Platforms.

Theses available

- Sensor networks:
  - Embedded computer vision applications in constrained devices;
  - Distributed sensing using NB-IoT/6LoWPAN/LoRA;
  - Vehicular communications using cellular and ad-hoc nets.

- Advanced applications in Smart Cities and Smart Factories:
  - Data aggregation and knowledge extraction;
  - Network abstraction and virtualization for remote sensing;
  - Network management on the cloud.

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