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Network Technologies and Protocols for IoT

Credits: 3 ECTS

Unit 1: Introduction.

- Introduction to IoT.
- Architectural models: ITU-T, IoT world forum, ETSI M2M.

Unit 2: Technologies for Wireless connectivity in IoT

- Description of main approaches.
- Cellular technologies for IoT.
    - LTE for M2M comunications: LTE-M.
    - Narrowband IoT: NB-IoT.

Unit 3: Protocols for IoT aplications

- IP version 6 in Low-Power Wireless Personal Area Networks (6LoWPANs).
- HTTP/2.
- Constrained Application Protocol (CoAP).
- Message Queuing Telemetry Transport (MQTT).

Unit 4: Industry standards

- Data Distribution Service (DDS).

Bibliography

- Jan Höller, “From machine-to-machine to the Internet of things : introduction to a new age of intelligence”, Academic Press, 2014.

- William Stallings , “Foundations of Modern Networking: SDN, NFV, QoE, IoT, and Cloud”, Addison-Wesley Professional, ISBN 0-13-417539-5,