Internet of Things

- **Course Outline and Logistics**

- **What is IoT**

- **CIoT vs IIoT (difference and similarities)**

- **Organisations and Standards**

    - Industrie 4.0
    - IIC
    - ETSI
    - OneM2M
    - ...

- **Architectural Style Evolution**

    - Cloud Computing
    - Fog Computing
    - Mist Computing

- **Micro Service Architectures**

- **Reference Architectures**

    - I4.0
    - IIRA

- **Architectural Challenges**

    - Scale
    - Security
    - Privacy
    - Heterogeneity
    - Asymmetry

- **Review of IoT Reference Architectures**

- **Connectivity and Information Sharing in IoT**

- **Connectivity Technologies and Standards**

    - MQTT

- AMQP
  - REST/HTTP
  - WebSockets
  - CoAP

- **Connectivity Technologies and Standards**

  - DDS

- **Connectivity Standards**

  - OPC/UA

- **Upcoming Standards**

  - DDS-XRCE

- **Integration with Analytics Platforms**

  - Flink
  - Spark

- **Conclusions & Moving Next**

  - Review of IoT Systems connectivity needs
  - Review and classification of Connectivity standards / protocols

- **Open Problems**