The Spoke 7 "CCAM and Smart Infrastructure" face some challenges of the new mobility environment. Indeed, it aims to facilitate the development of an integrated environment of technologies and services, so to address the requirements of digital transformation and sustainability. Some Macro-Objectives:

- Development of C-ITS services and Digital Twins of Smart Highways
- After-market solutions for automated vehicle and safety-oriented services
- Innovative solutions for traffic management and control in multi-operator contexts
- Services for the assessment of automated driving systems on public roads

Our aim is to design of an innovative testing and validation ecosystem for the realistic modeling of Smart Highways, able to integrate the Digital Twins of transport infrastructures.

- Support the development, upgrade, adaptation and testing of physical and digital components of the traffic environment (e.g., C-ITS services)
- Identify inadequacies in established physical and digital road infrastructures, even in mixed traffic situations
- Model processes, information exchange and interrelationships between different entities in a uniform and integrated way

Eclipse MOSAIC Co-Simulation framework starting point

- Multi-Domain and Multi-Scale Simulation Framework for Connected and Automated Mobility.
- Provides a collection of simulation models for different scales, and already integrate and coupled with some well-established simulators such as SUMO or Omnet++/NS3
- Modular framework based on High-Level Architecture with Federates
- Simulators could be exchanged according to the scenario
- Suitable for the development and virtual testing of new mobility solutions and application
- Open Source
- Open to pairing with new simulators and external hardware

The message received by the OBU app is sent on the MQTT queue to a topic the Hardware app is subscribed for. Elaboration is then processed by the Cohda app