For various **time critical** and/or **bandwidth demanding** applications, **RAN-level information** are vital. This information can be used for run-time application behavior adaptation. For **cloud robotics** in particular, where **low latency** is often a requirement, robotic control can be executed from application instances running at the edge cloud. It is then necessary to create the **infrastructure support** for the provision of such RAN-level information to **MEC** application instances and to demonstrate ways to **effectively utilize them**.

**High-level view**

- RNIS provided as a MEC platform service
- A robotic control application accesses the RNIS over its RESTful HTTP northbound interface
- Based on the received RAN-level information, it executes the appropriate remote control actions.

**Demo platform**

- **LTE mobile network**
  - OpenAirInterface eNodeB and virtualized EPC
  - USRP B210 RF board (eNodeB radio head)

- **RNIS**
  - HTTP/REST NBI exposed as a MEC service
  - Southbound communication (FlexRAN protocol) with agent built into eNodeB
  - Channel Quality Indications (CQI) are reported

- **Robot control**
  - Lego Mindstorms robot equipped with LTE interface
  - Control agent embedded into robot
  - Control app hosted at the edge

**Application scenarios**

**Example demo app**

- Robot moves towards a direction while CQI is remotely monitored
- When control app detects a CQI drop below a threshold, it instructs the robot to return
- CQI info is visualized in real time

**Potential application areas**

- Automated channel quality surveys/mapping
- Remote surveillance in disaster recovery situations