Open5G Lab

Ecosystem of opensource platforms for open wireless innovation

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A bit about Eurecom

- A private non-profit research and teaching institute
  - **Location:** Sophia Antipolis Technopole, French Riviera
  - **Main areas:** Communications Systems, Digital Security, Data Science, Embedded Systems
  - **Affiliations:** Telecom ParisTech/SUDParis/Bretagne, TUM, POLITO, Aalto Helsinki, NTNU Trondheim, Chalmers, CTU Prague.
  - **Industrial members:** Orange, Monaco Telecom, BMW, SAP, STMicroelectronics, Symantec, IABG.

- 150 permanent employees, 126 scientists (25 professors, 26 engineers, 75 PhD. students)
- Combination of applied and fundamental research
Open5G Lab

- Ecosystem of **open-source platforms** and usecases for fast and open wireless innovations
  - Common R&D and prototyping framework for proof-of-concept designs
- Experimentally-driven **network systems research**
- **Bring idea into life** through experimentation and prototyping
- **Forum of discussions** from business innovation to communication network
- **Technology transfer and collaboration** with industry and academia
- **Liaison** with standardization bodies and 5G European/International initiative
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Open5G Lab (Campus SophiaTech)

- Mosaic-5G Service Lab (NFV, SDN, MEC, Cloud)
- OpenAirInterface CN Lab
- OpenAirInterface RAN Lab

Testbed Lab
- Small-Scale
- Controlled
- Indoor
- E2E

Living Lab
- Medium-Scale
- Indoor/Outdoor
- Realistic
- E2E
Open5G Lab Platforms

- Net Store
- JOX
- LL-MEC
- FlexRAN
- FlexCN
- OpenAirInterface RAN
- OpenAirInterface CN
Open5G Lab

• **OpenAirInterface**: SW/HW platforms
  – 4G/5G RAN: subset of LTE Rel 10 and 14 (NB-IOT), 5G NR Access layer (2018)
    • UE, eNB, RRU, DU, and CU
  – 4G CN: subset of rel 10
    • MME, x-GW (C and D-plane separation, OVS), HSS

• **Mosaic-5G**: Software platforms
  – FlexRAN and FlexCN: A Flexible & Programmable SD-RAN and SD-CN Platforms
  – LL-MEC: A Low Latency SDN-based MEC Platform
  – JoX: Juju-based service orchestration core
  – Net Store: Network control application distribution Repository

• **Open5G Living Lab**: Realistic testbed
  – Flexible small-to-medium scale experimentations
  – Controlled/lab (TRL4)
  – Uncontrolled/realistic (TRL-6-7)
  – End-to-end
  – Remotely accessible testbed
  – Indoor and outdoor, TDD and FDD,
Demo Today:

Experience Live Software-defined RAN slicing
Conclusion
Contact Information

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