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@Eurecom

Open5G Lab
(Campus SophiaTech)

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

OpenAirInterface CN Lab

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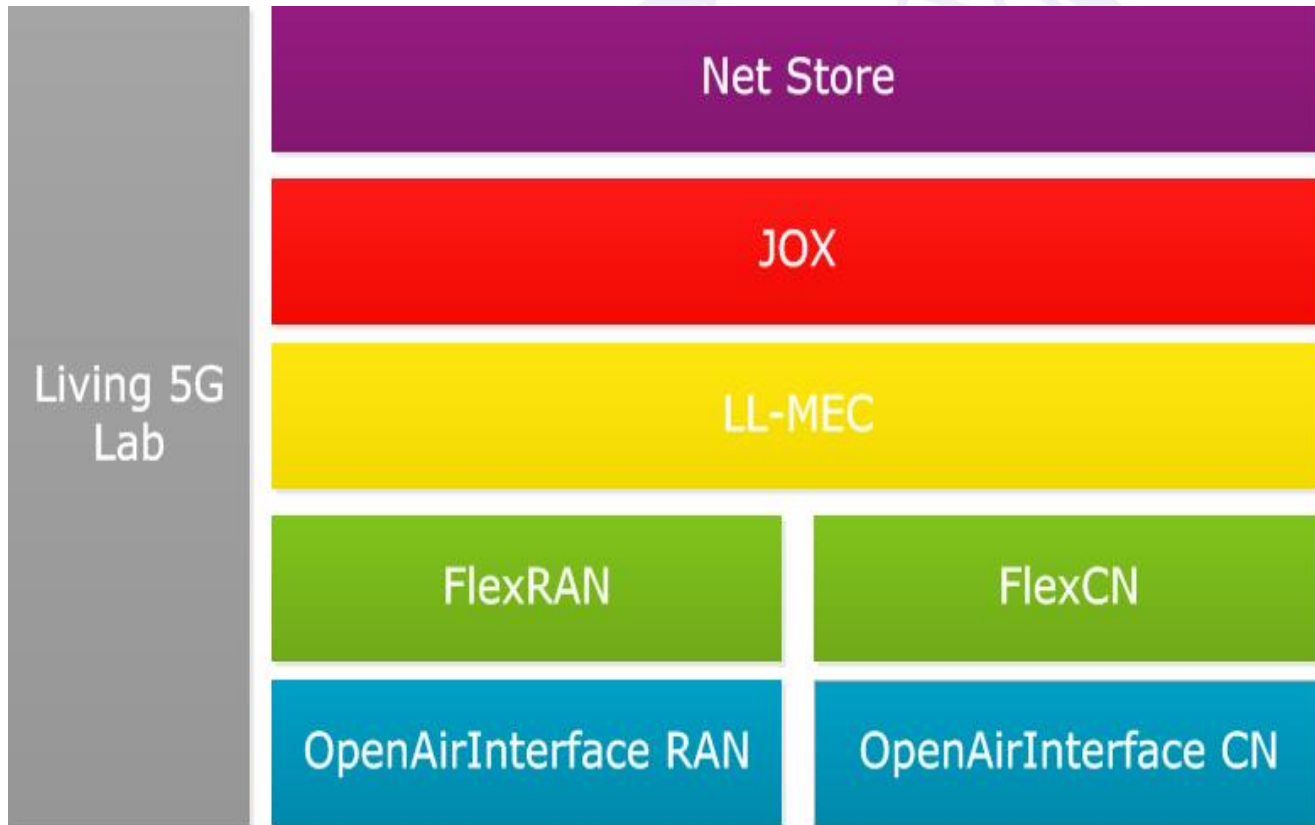
Testbed Lab
- Small-Scale
- Controlled
- Indoor
- E2E

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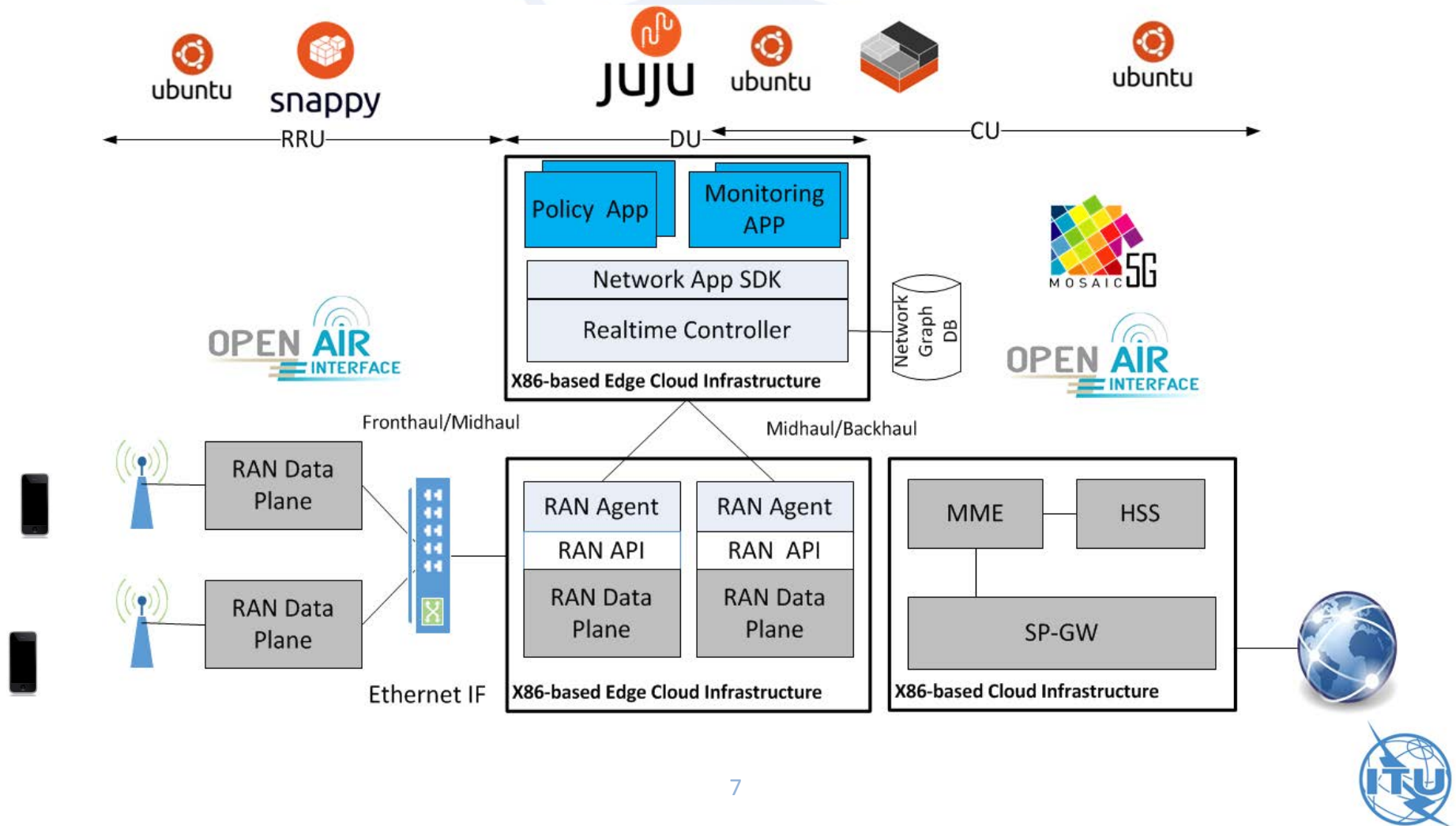- Realistic
- E2E

Open5G Lab Platforms

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
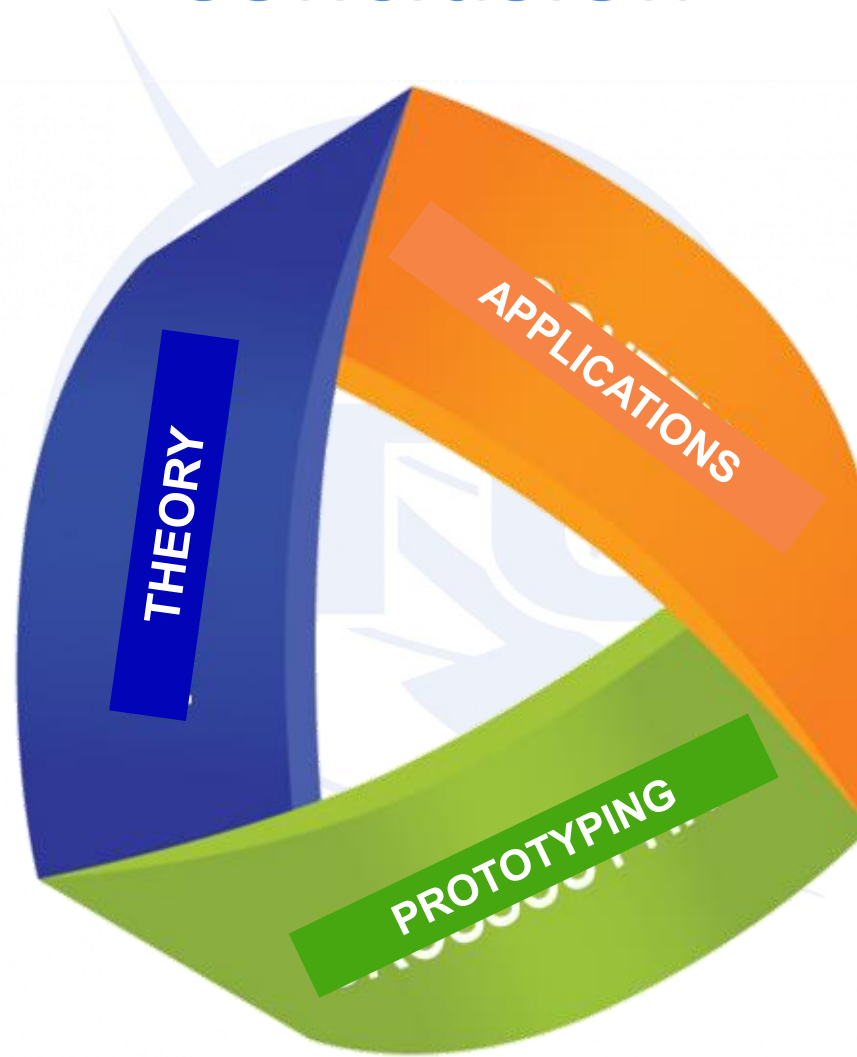 - Remotely accessible testbed
  - Indoor and outdoor, TDD and FDD,

Outdoor RRS (64 elements)

Indoor RRS (32 elements)

1GbE
2x20GbE
4x20GbE
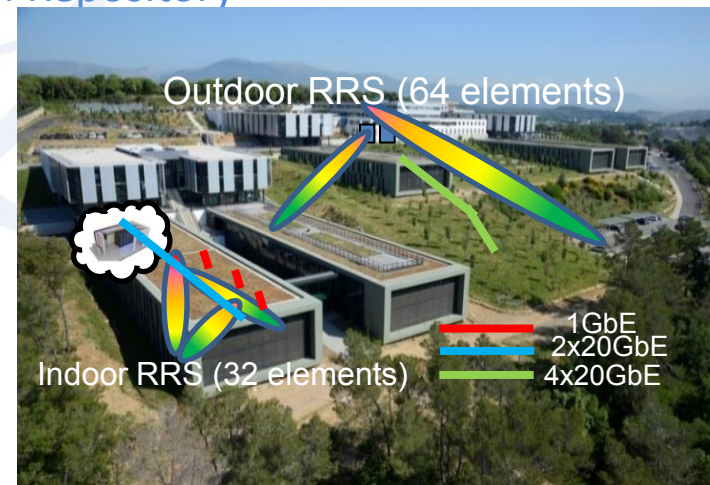
Demo Today:
Experience Live Software-defined RAN slicing

Conclusion

THEORY

APPLICATIONS

PROTOTYPING

Contact Information

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- Mosaic-5G
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