INTRODUCTION TO OAI

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OAI in a nutshell

- https://www.openairinterface.org

- Founded in 2014 as a “Fonds de Dotation” = Endowment Fund

- **Objective**: maintain and extend the OAI software packages initially developed by EURECOM

- Strategic partners from 3GPP ecosystem (users/contributors)
  - Reference software implementation for the 3GPP ecosystem

- Many associate members from industry and academia
  - Often collaborative project partners in various framework programs

- Donations are used to maintain an engineering support team
  - CI/CD
  - Community management/building
  - Project management
  - Industry relations
Open-Source-Code Cloud-native Telco software
Project Groups

- **OAI Public License Components**
  - 4G / 5G RAN: eNB/gNB/UE L1/L2 Network functions, RF modeling
  - 5G Core: 3GPP Service-Based Architecture Network functions
  - OAM: RAN Controller functions (FlexRIC) and Service Models, SMO

- **3-Clause BSD Components**
  - Rel16 MME (4G/5G NSA) as part of Magma Foundation
CI/CD is a major challenge for radio networking/computing, lots of new methods to explore
OAI 2023

- **Key interface Interoperability**
  - 3rd party interop testing of 3GPP RAN functional splits (E1,F1)
  - O-RAN is here with 7.2, E2, O1 and 3rd party interop testing of O-RAN controller functions
  - FR2, Sidelink, NTN, Redcap, IAB
  - FAPI/NFAPI evolution
  - Hardware accelerators

- **support is on the rise**
  - New strategic partners, with a good balance between EU and USA-based companies

- **Software quality and performance is greatly improved**

- **Strategic Alignment with O-RAN/O-SC Fronthaul, O-Cloud and ngRG activities**

- **Strategic Alignment with large-scale experimental platform initiatives**

- **Start-up companies are contributing heavily to the community and benefiting from it**

- **2023 is a critical year for OAI on the road to 6G**
  - 6G architecture studies will begin now alongside the work of policy-making and standardization bodies as well as research programs (SNS in EU)
Hack-a-thon Announcement

▪ To engage the community more directly, OAI in collaboration with its partners and the SLICES research infrastructure, is organizing a Hack-a-thon for Q1 2024
  – Enhance O-RAN service model compatibility within OAI
  – Library of xApps for OAI, including AI/ML enablers for RAN control

▪ Targeted primarily to increase user-awareness of O-RAN controller architecture and engage academic labs in OpenRAN

▪ Monetary Prizes for non-profit

▪ Stay tuned on www.openairinterface.org