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ISART™ 2026

BOULDER, CO | AUGUST 11-13, 2026



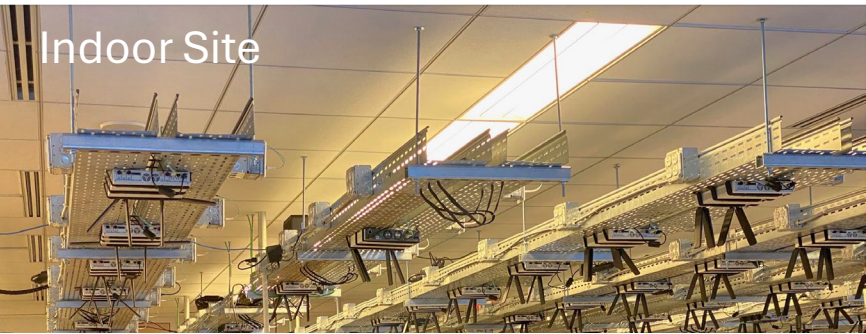
CCI xG Testbed

O-RAN OTIC Washington DC

Dr Aloizio Da Silva

Commonwealth Cyber Initiative Virginia Tech

August 13th, 2026



Indoor Site

In-Lab

Washington DC Metro Area/ Arlington

- FCC Experimental License
- End-to-End O-RAN : Non and Near-RT RICs; AIMLFW
- Open Source Cloud Environment OpenStack-based
- SDR-based Radio-Grid



- Satellite Lab



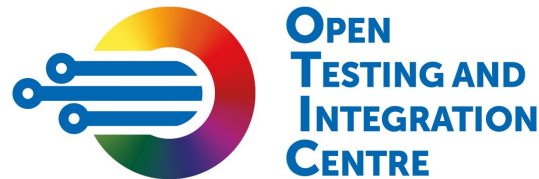
- WorkForce Development



In-The-Field

Blacksburg, Virginia

- CBRS Priority Access License 3.5-3.7GHz
- FCC Experimental License
- Authorized SAS : Federated Wireless
- Open Source SAS : OpenSAS



Washington DC Metro Area



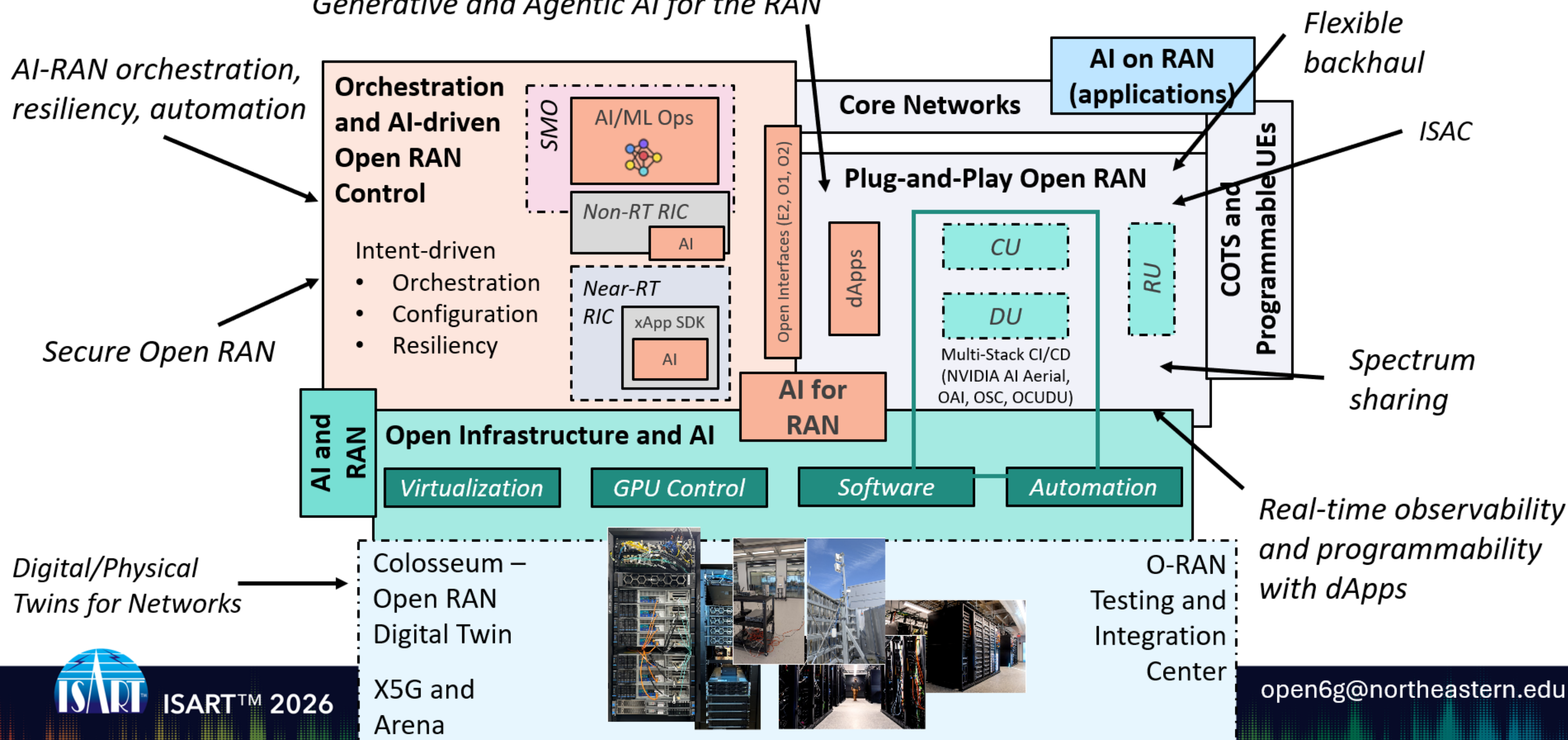
Hardware and Software Testing

- AI-RAN OCUDU Project
- Multi Site-Scheduling
- MU-MIMO

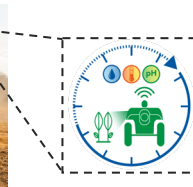
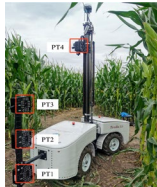
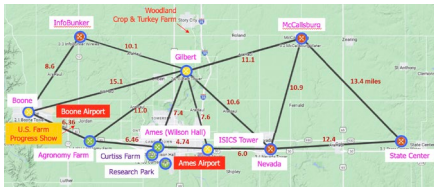


ISART™ 2026

Generative and Agentic AI for the RAN



- NSF PAWR & NRDZ platform for agriculture and rural broadband
 - 500+ square kilometers area of crop & livestock farms and rural communities
- Concerted wireless, AgTech and multi-use innovation
- From RAN to x-haul, LEO SatCom, and edge/cloud
 - *AraRAN*: high-throughput COTS & SDR systems (OCUDU, Duranta, OSC RICs etc)
 - Low-UHF mMIMO (Skylark) 460-776MHz 100Mbps+ 10km+
 - mid-band (Ericsson, NI) 3.4-3.6GHz 600Mbps+ 4km+
 - mmWave (Ericsson, InterDigital) 27.5-28.35GHz 2Gbps+ 400m+
 - *AraHaul*: multi-modal, long-distance, high-throughput terrestrial x-haul
 - Optical (AraOptical) 194THz 100Gbps+ 15km+
 - mmWave (Aviat WTM 4800) 71-86GHz 20Gbps 15km+
 - Microwave (Aviat WTM 4200) 11GHz 2.5Gbps 20km+
 - Multi-band (Aviat WTM 4811) 11, 71-86GHz 2.5-20Gbps 15km+
 - LEO satcom: OneWeb, Starlink



ARABIC

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O-RAN device &
end-to-end systems
performance,
interoperability &
conformance
testing

