



Radisys

5G Open RAN Solution

July 07, 2021

Radisys Open RAN

- Corporate Introduction

- Our Open RAN Focus: Standards, Ecosystem and Interoperability

- Enabling the Open RAN Vendor Ecosystem: 3 Decades Of Success With OEMs

- Our Approach to 5G Open RAN

- Deep System Integration Capabilities for Open RAN

- Open RAN Solution Evolution

- Our Focus – Innovation out of US for 5G and 6G



Enabling Service Providers to Become Digital Experience Providers

US-based with global sales and operations

Leading contributor to **open standards** organizations and initiatives

Digital End Points

Smart feature phone, CPEs, Smart home, IoT Sensors and Gateways, Embedded Platforms for DPI, Security, and Medical Imaging



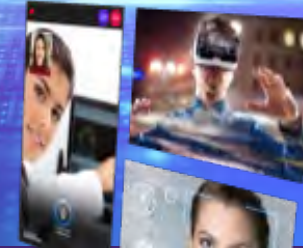
Open & Disaggregated Networks

Converged 4G / 5G and Fixed Broadband Access



Rich Applications

Real time Communication and Digital Engagement, Fixed and Wireless Core



Network Services

End to End Lifecycle – Consulting, Planning & Designing, Deployment, Integration, Optimization



Enable

Integrate

Manage

Headquarters: Hillsboro, OR United States

Founded: 1987

Wholly owned subsidiary of Jio Platforms Limited (JPL)

DNA of Open Telecom Solutions

Telecom Infra Project

- LTE eNB RAN system integrator in TIP
- Projects at Menlo Park, SKT, TIM (Italy)
- 5G Open RAN community lab contribution



Small Cell Forum

- Leader of 5G nFAPI standardization
- Awarded for Open RAN contributions – 2020, 2021



Winner
Outstanding Contribution to Open RAN
and Core Platforms and Ecosystems

O-RAN Alliance

- Co-chair of O-RAN WG8 since 2019
- Key contributions to WG3: E2SM and E2AP
- TIFG test specification contributions
- Project lead of Open source 5G DU



Open Networking Foundation

- Open-source EPC contribution to M-CORD
- Multiple CORD based projects with Tier-1 operators
- Founder member of SD-RAN: Integration with ONF near RT RIC



Additional Key Organizations



The Engine Behind Many LTE and 5G RAN Products In Deployment

Small Cells

- Powering >50% LTE small cells deployed across the globe
- Designed into 5G mmWave and Sub-6 GHz small cells products globally rolling out in 2021-22

Open RAN

- 4G OEM focusing on rural deployments
- 4G and 5G OEM deploying globally
- 4G and 5G VRAN OEM deploying globally

Public Safety, Satellite

- Leading software provider for OEMs in US, Canada and UK

Innovative solutions with NA Tier-1 Telco

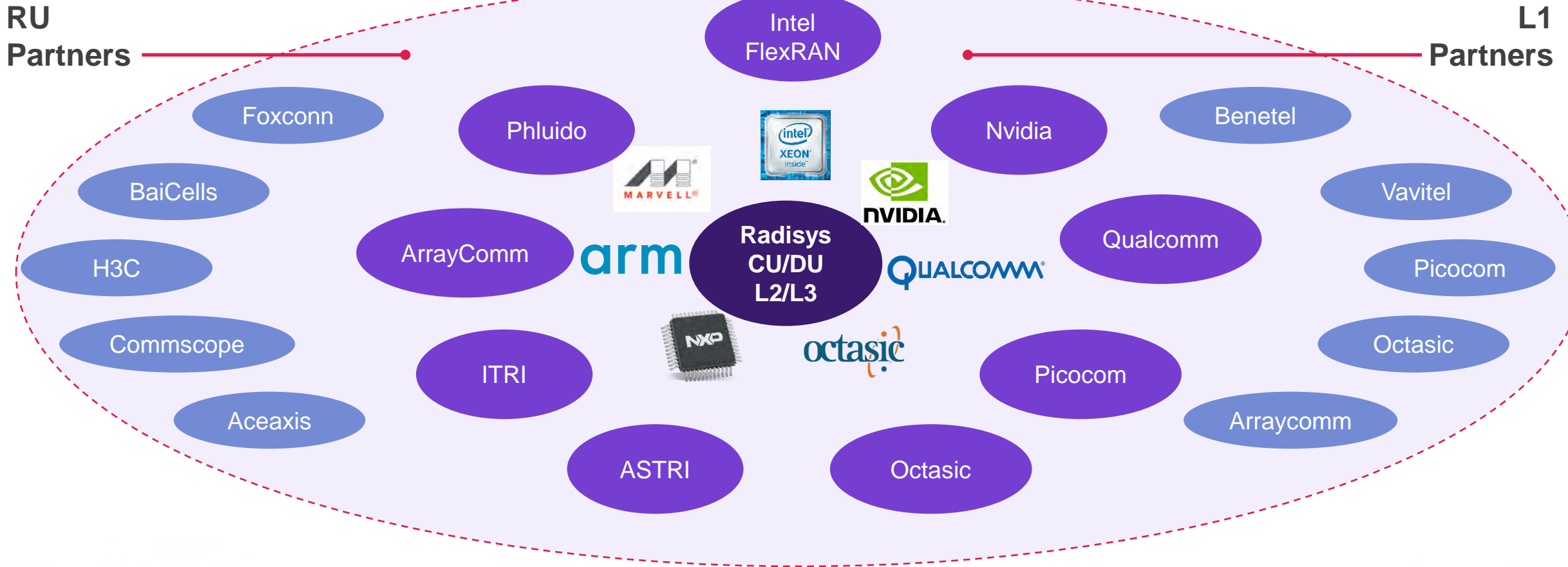
- LTE/Cat-M device certification
- 5G network simulation

Test & Measurements

- Enabling US based test vendors for LTE and 5G UE and NW simulation test products

Widest Ecosystem of RAN Partners

Global ODM partnerships



Proven Interoperability Across the Board

Focus on Radio Integration

PHY	RU Partner
Intel	AceAxis
	H3C
	Foxconn (O-RAN 7.2x)
	CommScope
	Viavi RU Emulator
	RadisyS OFG
Qualcomm	FSM100055
ASTRI	ASTRI RRH (ORAN)
	SC-70x
Arraycomm	Vavitel
Nvidia	Keysight RU Emulator
Phluido	USRP B210
Octasic	Octasic OctNode0

UE Interoperability

- Interop tested for 5G NSA and SA with commercial mobiles
- Tested with all UE modem chipsets (Qualcomm, MediaTek, HiSilicon)
- Tested with Viavi, Keysight, Amarisoft UE emulators

Core Network Interoperability

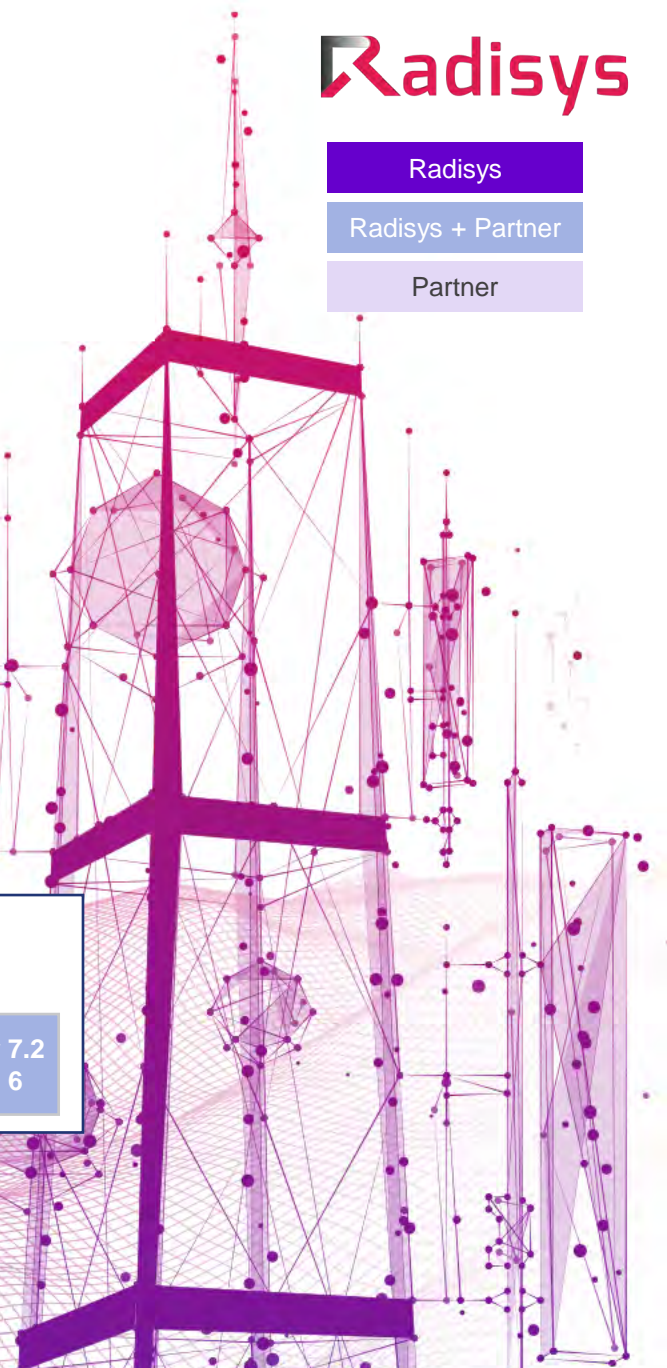
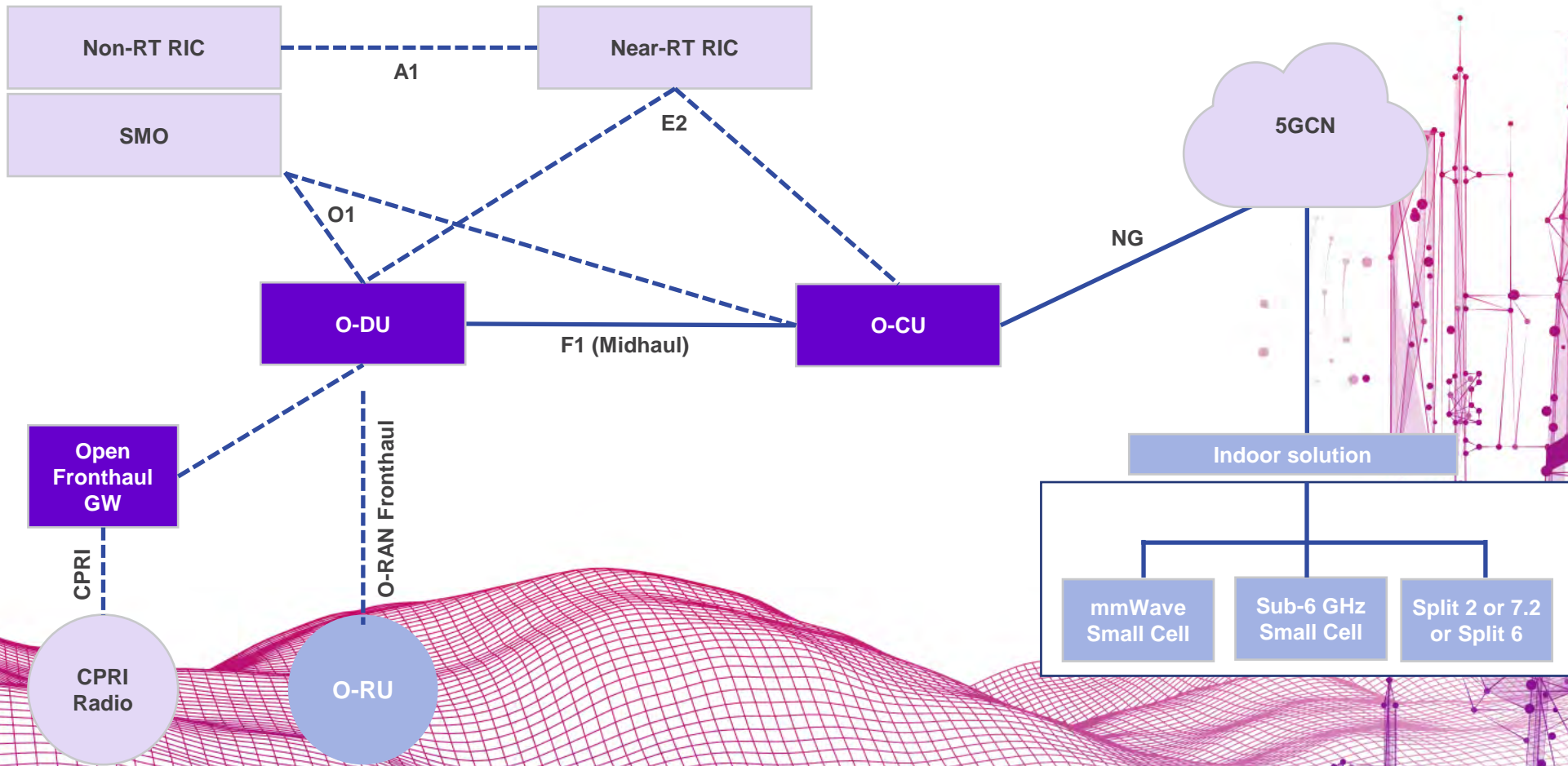
- Interop tested for 5G NSA and SA : Data, mobility and VoNR
- Interop with core network: Operators (multiple OEMs), test vendors and open source

O-RAN Plugfest (Interop Showcase)

- O-RAN Plugfest 1st Edition, Beijing, Dec 2019: CU/DU interop tested for 5G SA
- TIP/O-RAN Plugfest, Berlin, Sep 2020: 5G SA CU/DU end-to-end interoperability and DU fronthaul interop

5G Open RAN Software Solution

- RadisyS
- RadisyS + Partner
- Partner



Ultra Flexible and Ultra Scalable RAN Software

Integration Ready in Different Form Factors on Multiple SoCs, Hardware and Cloud Platforms



- **Network in a box**
- **Femtocell**
- 16/32 UEs, >1 Gbps

- **Enterprise small cell**
- **Indoor DU**
- 64/128 UEs. 2Gbps



- **Outdoor Pico CU+DU (PNF)**
- 256 UEs, 2 Gbps
- **Tower bottom CU+DU (CNF)**
- 512 UEs, > 6 Gbps
- **vCU an vDU (CNF)**
- Multi cell
- Multi Gbps
- Scale in/out

Flexible Architecture

- All-in-one gNB
- Option 2 CU/DU/RU split
- Option 2 CU, DU+RU
- LLS option 6 split
- LLS option 7.2a/b split

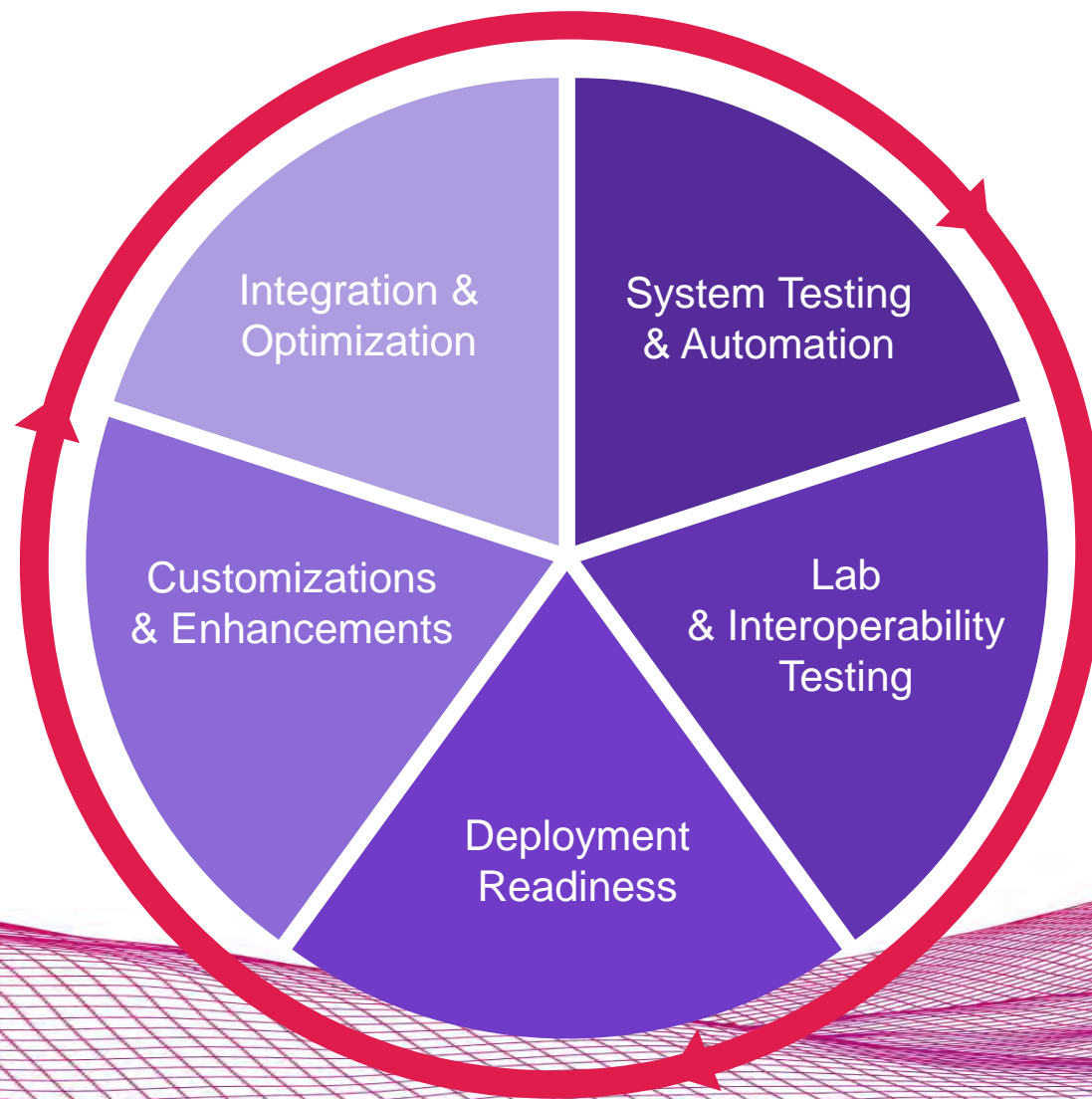
vRAN (vDU and vCU)

- Containerization (Docker, Kubernetes)
- Red Hat Openshift cloud platform
- CUPS (CU-CP and CU-UP) architecture
- PNF equivalent performance
- Optimized scale-in and scale-out as per #cells, layers and throughput

Deep System Integration Expertise

End to-End Integration Consulting and Program Management

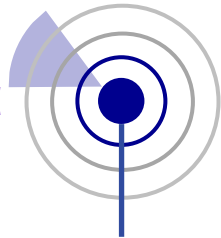
- Deep expertise in integration across multiple SoCs
- Decades of project experience in optimization on all platforms
- Specialists in stack development in RAN, CN and UE
- Pool of experts for network design consultancy



- Depth in system testing using commercial test tools and simulators
- In-house expertise of simulator development and automation tools
- Hands-on experience in testing multi-vendor solutions
- Specialized in handling various operator lab conformance and interoperability

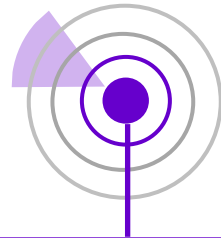
Open RAN Solution Evolution

Jan 2022



- vDU/VCU
- Public/Private Cloud
- eMBB
- O-RAN interfaces

2023



- RIC xApps
- AI/ML, Automation
- URLLC
- Slicing use cases

2024



- RIC xApps
- Massive IoT
- RedCap Devices
- Telemedicine, C-V2X

Why RadisyS



Proven Expertise in 3G, 4G and 5G Protocol Stacks

- Decades of experience in providing protocol stacks with well-defined interfaces



Software-centric O-RAN Solutions

- Fully open and multi-vendor interoperable RAN software
- Focus on virtualization and automation



Widest Interoperability with Ecosystem Partnership

- Solutions designed with multi-platform strategy
- Focus on compliance to open standards and interoperability



Deep System Integration Expertise in Open RAN

- Specialists in Deep Integration and Optimization on all major RAN platforms



A nighttime cityscape featuring several illuminated skyscrapers. The buildings are lit up with various colors, including blue, purple, and red. The sky is dark, and the city lights create a vibrant, glowing effect. The overall scene is a dense urban environment.

Radisys

Thank You