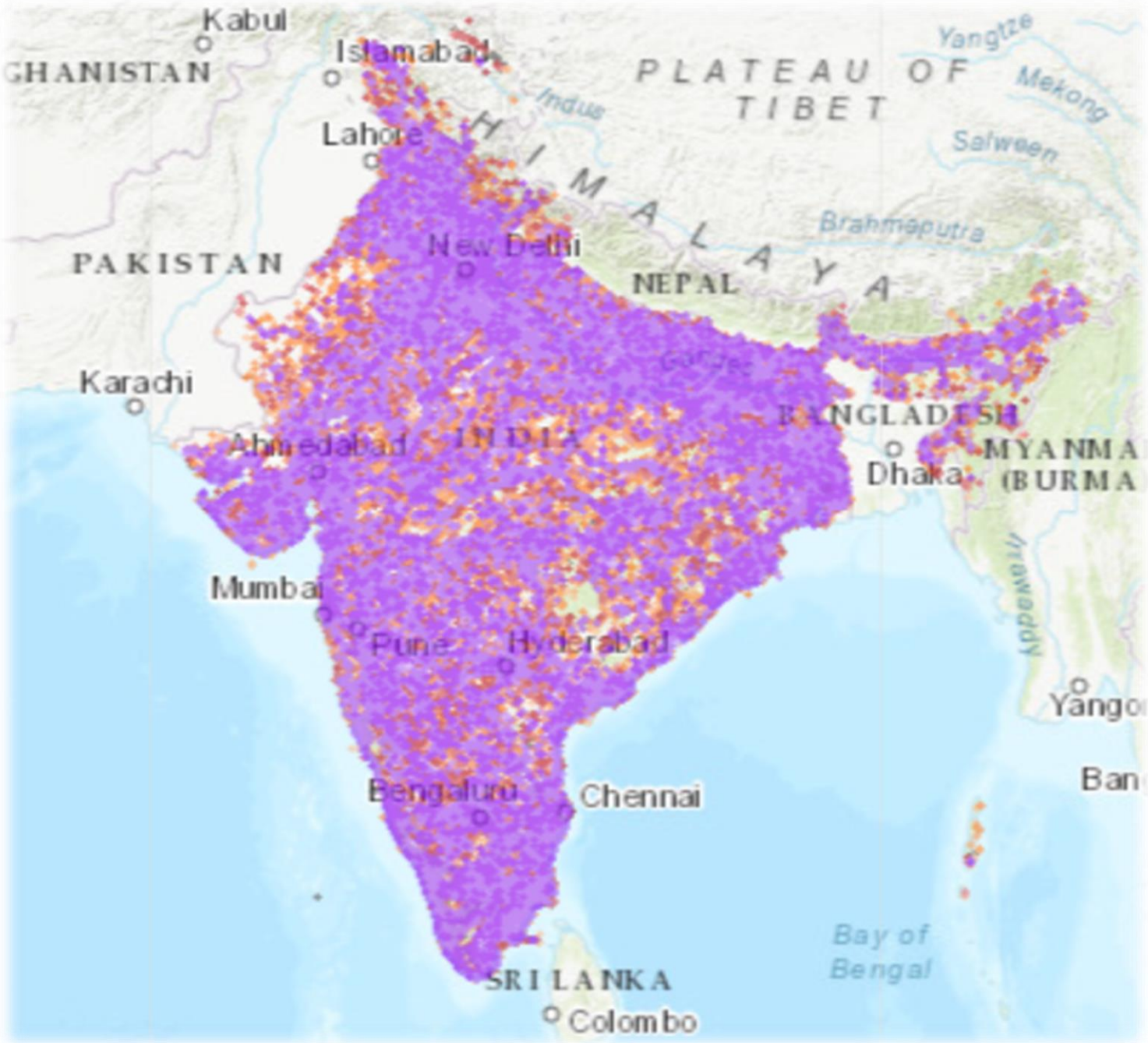
Government initiatives to encourage Research, Development, Adoption, and Proliferation of Open RAN in India

DoT India
@DoT_India

#5G high level forum constituted for identifying 5G deployment roadmap for India submitted it's report titled 'Making India 5G Ready' to @Secretary_dot at #SancharBhawan today.

3:29 PM · Aug 23, 2018

5G would contribute an economic benefit of $1 Trillion by 2035 in India" – 5G HLF Report



We witnessed the fastest rollout of the 5G network in India. 700+ districts, 8000+ towns covered with 4.2 Lakhs 5G BTSs. We have 150 Million 5G Customers

Why Open RAN

Telecom service providers are expected to invest over Rs 2 lakh crore

Other than the cost of spectrum, 70 to 80 % of the CAPEX and OPEX are for Radio Access Network

Embracing Open RAN technologies will significantly reduce this cost, bring deployment flexibility and efficient manageability

Reforms and Enablers

- Transparent Spectrum Auction
- Sufficient Spectrum Acquired by Operators
- Zero Spectrum Usage Charges (SUC)
- No Financial Bank Guarantee
- No mandatory upfront payment
- 2 carriers of 250 MHz each in E-band
- Streamline the process of Right of Way (RoW)

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What is Open RAN ?

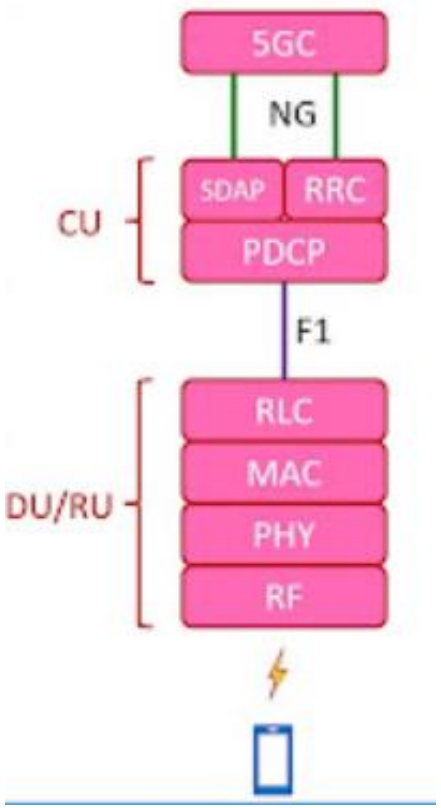
- Disaggregation of Hardware and Software of RAN Component
- Disaggregation of BBU into RU, DU and CU
- Open and Interoperable Interfaces between RU and DU, DU and CU and CU to 5G Core
- RIC and MANO

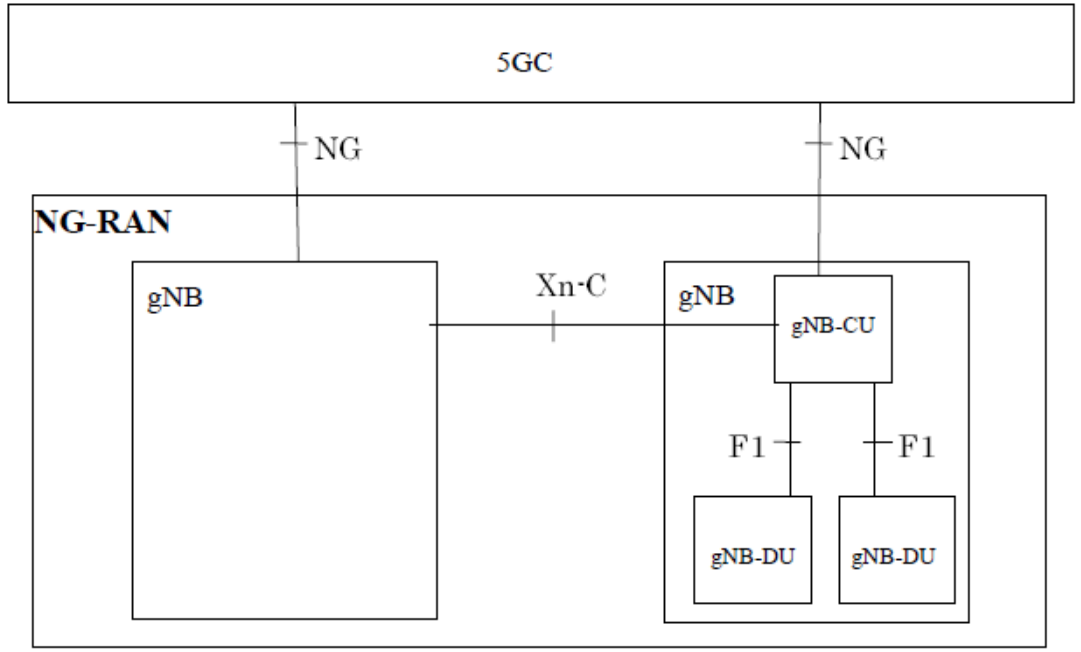
3GPP RAN Architecture

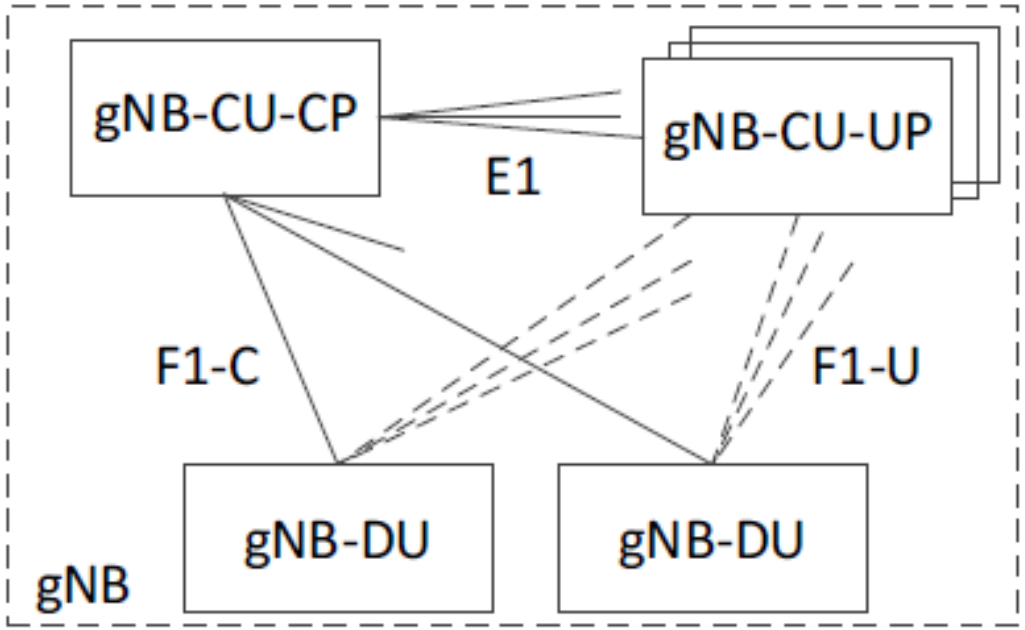
Monolithic gNB

DU and CU with F1 Interface

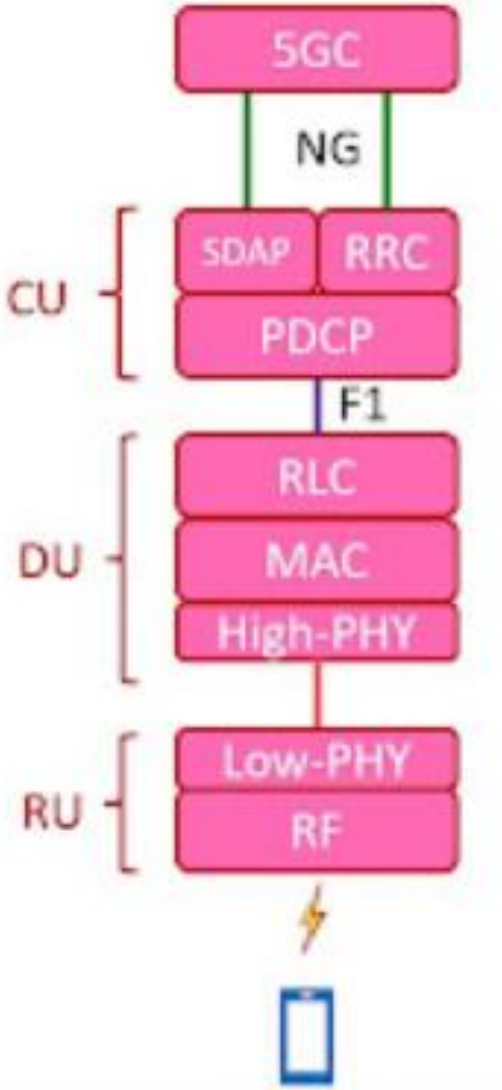
CU is further split into UP and CP

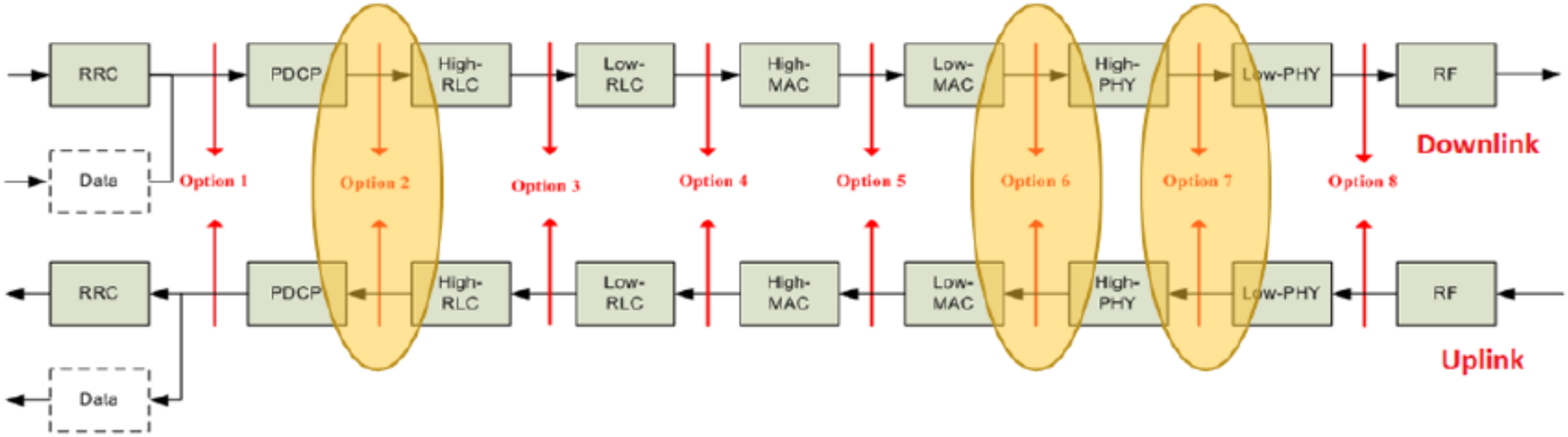






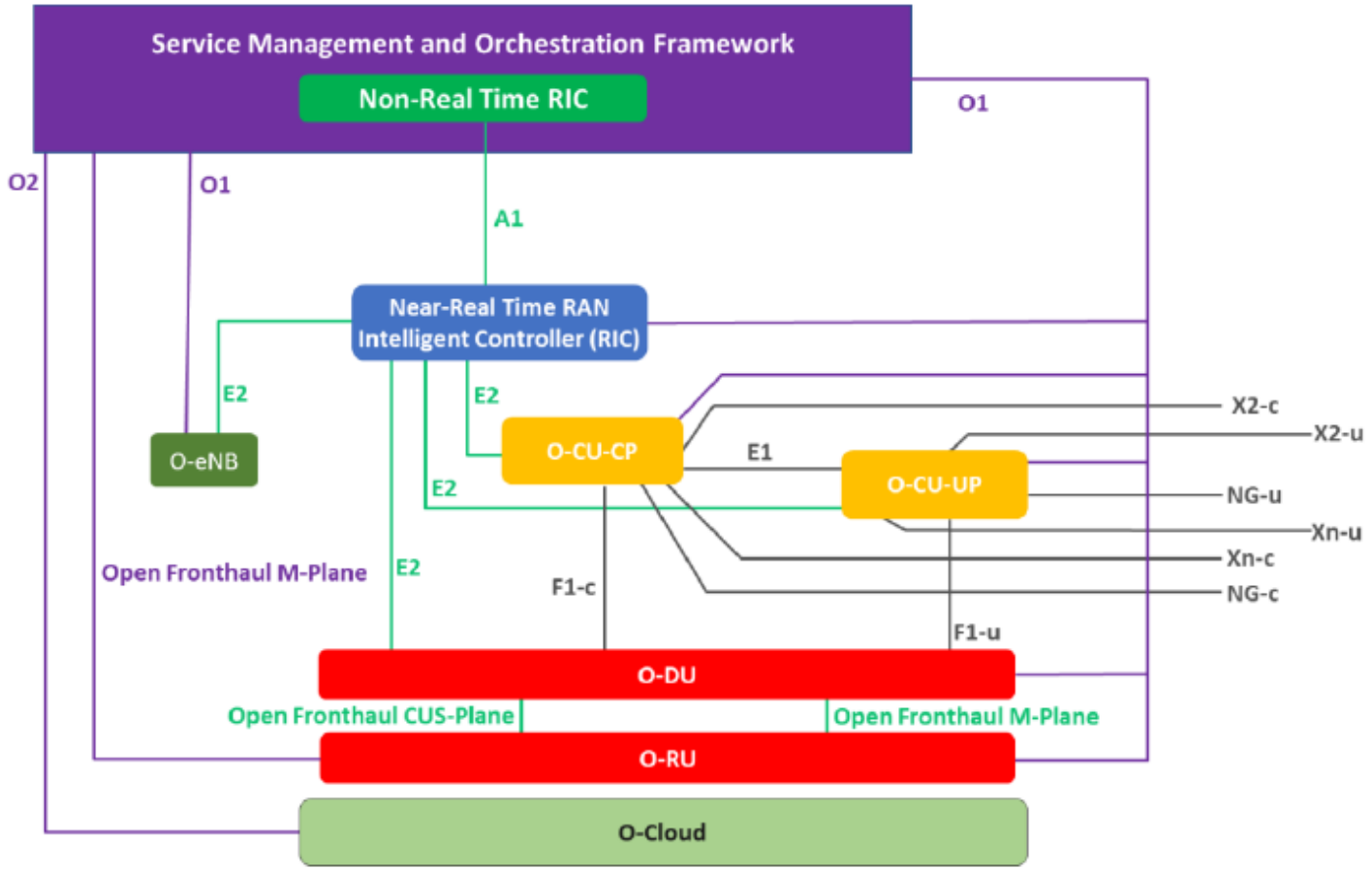
Open RAN 7.2 and Other Split





O- RAN alliance Open RAN

- 3GPP Compliant
- RU, DU and CU
- Follows Split 7.2
- Created an Open Interface for front haul
- RIC and Its interfaces



DoT Support to proliferate Open RAN Ecosystem

5G Test bed

DoT has funded an end-to-end Indigenous 5G Testbed (RAN, UE, Core, Active Antenna system (Massive MIMO))

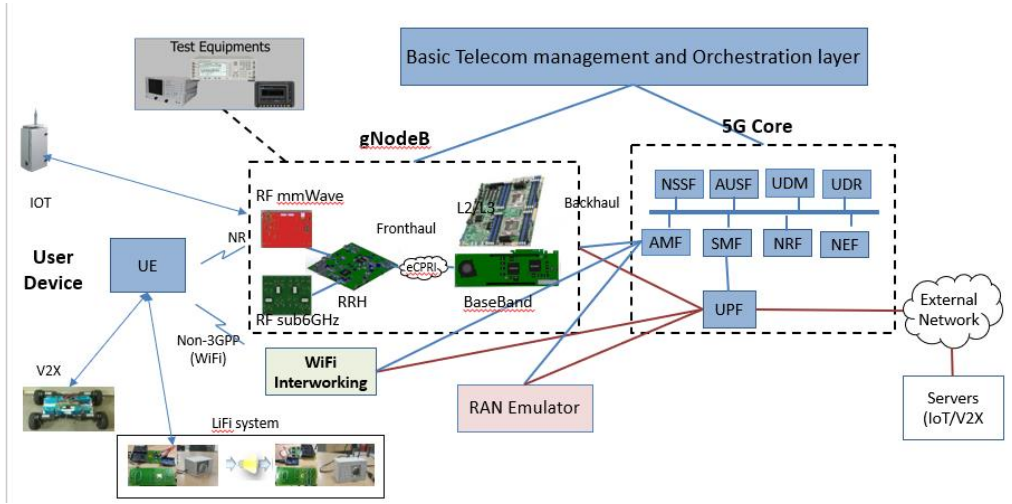
The RAN components are ORAN compliant

It has been developed by eight R&D institutes of India and hosted at IIT Madras

Testbed is opened for industry usage through online slot booking

IITB IITH IITM IITD

IISc CEWiT INDIA SAMEER IITK



5G Open RAN Consortiu

CDOT has constituted consortiums to develop Open RAN in FR1 and FR2

C-DOT is acting as a business incubator and facilitator for testing and PoC

Lekha Wireless Solutions

resonous TECHNOLOGIES

Sookhtha

TEJAS NETWORKS

Saankhya Labs

VVDN TECHNOLOGIES

SIGNALCHIP

WiSig Networks

100 5G Lab

Hon’ble PM awarded 5G Use case labs to 100 educational institutions across the country in the last IMC 2023

The RAN components in the Lab are Open RAN compliant

C-DOT O-RAN Test and Integration Lab

Indoor and outdoor Open RAN Test Labs

The telecom ecosystem including R&D, academia, industry, and startups can test their products.

C-DOT's first test facility for Open RAN Test and Integration has recently started in the C-DOT Delhi Campus.

This facility shall be further enhanced in Phases

Market Access for Indigenous 5G O RAN and other Telecom Products

DoT is collaborating with other countries to provide market Access to Indigenous ORAN and other telecom products

THANK YOU

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