



भारत सरकार  
संचार मंत्रालय, दूरसंचार विभाग  
राष्ट्रीय दूरसंचार नीति शोध नवप्रवर्तन एवं प्रशिक्षण संस्थान  
अल्ट परिसर, राजनगर, गाजियाबाद (उ.प्र.) - 201002  
Government of India  
Ministry of Communications, Department of Telecommunications  
National Telecommunications Institute for Policy Research,  
Innovation & Training ALTTC Campus, Ghaziabad (UP)-201002

No. 1-5/2020-NTI.WA


Dated: 17.09.2021

**Subject: One Day Webinar on OPEN RAN: Opportunity for India" being conducted by NTIPRIT scheduled on 22<sup>nd</sup> September 2021 at 1100 hrs**

Cellular networks have been evolving to various technological innovations and around every 10 years it has evolved from 1G to 2G to 3G to 4G and now 5G. With these technological evolutions, networks are evolving towards open network having open interfaces and interoperable. The concept of O-RAN (Open RAN) is used for more open radio access network architecture. O-RAN (Open RAN) is a term used for industry-wide standards for RAN (Radio Access Network) interfaces that support interoperation between vendors' equipment and offer network flexibility.

In this regard, to discuss on various aspects and perspectives of OPEN RAN, National Telecommunications Institute of Policy Research, Innovation and Training (NTIPRIT) is conducting a webinar on OPEN RAN: Opportunity for India scheduled on 22<sup>nd</sup> September 2021 from 1100 hrs onwards. Member (Services), Digital Communications Commission would be inaugurating this webinar on 22<sup>nd</sup> September, 2021 at 1100 hrs through video conferencing. The programme schedule of the webinar is placed as Annexure to this letter. An e-brochure of the webinar is also enclosed with this letter

We request your goodself to kindly spare your valuable time and participate in the webinar. You are requested to kindly register for the webinar and join the webinar. It is further requested to also sensitize all officers of your respective units/wings/LSAs about the webinar. The link for registration for the webinar is: - <https://tinyurl.com/3tdusz4>

  
17/09/2021

(Suneet Kumar Tomar)

Assistant Director General (WA)

([suneetkumar.tomar@gov.in](mailto:suneetkumar.tomar@gov.in))

**Encl: As above**

To,

1. All Heads of LSAs/ Sr. DDG (TEC)/ Sr. DDG (NCCS)/ All DDGs, DOT HQ, Department of Telecommunications with a request to kindly register & join the webinar and ask all officers of their respective LSAs/Units/Wings to register & join the webinar.

**Copy for kind information to:**

1. Sr. PPS to Member (Services)/Member (Technology), Digital Communications Commission.
2. PPS to Director General (Telecom).
3. PPS to Sr.DDG NTIPRIT, Ghaziabad.
4. Director (Training) DOT HQ with a request to kindly upload the letter and brochure of the webinar on the DOT website.
5. All Officers of NTIPRIT, Ghaziabad.

**Annexure**

**Programme Schedule – One Day Webinar on OPEN RAN: Opportunity for India**

**Date: 22<sup>nd</sup> September 2021**

**Timings: 1100 hrs onwards**

**Link for registration - <https://tinyurl.com/3tduszb4>**

**Schedule –**

<b>S.No</b>	<b>Session and Slot</b>	<b>Name of the Topic</b>	<b>Speaker</b>
1.	Inaugural Session 1100 hrs – 1115 hrs	i. Welcome Address ii. Special Address iii. Keynote Address	i. Sh. B. Sunil Kumar, DDG (WA), NTIPRIT ii. Sh. U.K. Srivastava, Sr. DDG and Head NTIPRIT iii. Sh. Deepak Chaturvedi, Member (S), DCC
2.	Technical Session 1 1115 hrs – 1155 hrs	Why Open RAN and the Ecosystem Readiness	Mr. Zahid Ghadialy, Parallel Wireless
3.	Technical Session 2 1155 hrs – 1235 hrs	The OPEN RAN Experience	Mr. Hiren Joshi, Rakuten
4.	Technical Session 3 1235 hrs – 1315 hrs	The Indian Perspective	Mr. Ramu T Srinivasiah, Lekha Wireless
5.	Q&A and closing session 1315 hrs – 1330 hrs	i. Question and Answers ii. Vote of Thanks	i. Vote of Thanks by Sh. Atul Sinha, DDG (Admin) NTIPRIT.

*Suneet Kumar*  
17/09/2021



# OPEN RAN: OPPORTUNITIES FOR INDIA

Date : 22.09.2021 | Time: 1100 hrs onwards

For Registration click: <https://tinyurl.com/3tduszb4> or SCAN



## PROGRAMME SCHEDULE FOR THE WEBINAR

S.No	Session & Slot	Name of the Topic	Speaker
1	Inaugural Session 1100 hrs – 1115 hrs	i. Welcome Address ii. Special Address iii. Keynote Address	i. Sh. B. Sunil Kumar, DDG (WA), NTIPRIT ii. Sh. U.K. Srivastava, Sr. DDG and Head NTIPRIT iii. Sh. Deepak Chaturvedi, Member (S), DCC
2	Technical Session 1 1115 hrs – 1155 hrs	Why Open RAN and the Ecosystem Readiness	Mr. Zahid Ghadialy, Parallel Wireless
3	Technical Session 2 1155 hrs - 1235 hrs	The OPEN RAN Experience	Mr. Hiren Joshi, Rakuten
4	Technical Session 3 1235 hrs - 1315 hrs	The Indian Perspective	Mr. Ramu T Srinivasiah, Lekha Wireless
5	Q&A and closing session 1315 hrs - 1330 hrs	i. Question Answers ii. Vote of Thanks	Vote of Thanks by Sh. Atul Sinha, DDG (Admin) NTIPRIT

## OPEN RAN BRIEF

Cellular networks have been evolving with various technological innovations. It has evolved from 1G to 2G and later to 3G & 4G and now to 5G, once every 10 years. With these technological evolutions, networks are evolving towards open network having open interfaces and interoperability. The concept of O-RAN (Open RAN) is used for more open radio access network architecture than provided today by OEMs. O-RAN (Open RAN) is a term used for industry-wide standards for RAN (Radio Access Network) interfaces that support interoperation between vendors' equipment and offer network flexibility at a lower cost. The main purpose of open RAN is to have an interoperability standard for RAN elements including non-proprietary white box hardware and software from different vendors. Network operators that opt for RAN elements with standard interfaces can avoid being stuck with one vendor's proprietary hardware and software. The advantages of O-RAN (Open RAN) are manifold. An open environment means an expanded ecosystem, with more vendors providing the building blocks. In O-RAN, there is more innovation and more options for the operators. In an Open interface, third-party products can communicate with the main RAN vendor's infrastructure. Network operators can also opt for the less-expensive third-party product that operates on generic hardware.

As the equipment-makers enhanced the capabilities, the

industry consolidated around those with the strongest offer and often proprietary functionalities. But operators today want a more diverse ecosystem of vendors and are re-defining their requirements for the network architecture, especially in the RAN. In an Open RAN environment, the RAN is disaggregated into three main building blocks:

- The Radio Unit (RU)
- The Distributed Unit (DU)
- The Centralised Unit (CU)

The RU is where the radio frequency signals are transmitted, received, amplified and digitized. The RU is located near, or integrated into, the antenna. The DU and CU are the computation parts of the base station, sending the digitalized radio signal into the network. The DU is physically located at or near the RU whereas the CU can be located nearer the Core.

The key concept of Open RAN is "opening" the protocols and interfaces between these various building blocks (radios, hardware and software) in the RAN. The O-RAN ALLIANCE has defined 11 different interfaces within the RAN including those for:

- Fronthaul between the Radio Unit and the Distributed Unit
- Midhaul between the Distributed Unit and the Centralised Unit
- Backhaul connecting the RAN to the Core

## SPEAKERS PROFILE



### MR. ZAHID GHADIALY, PARALLEL WIRELESS –

**Designation** – Principal Analyst & Consultant at 3G4G, Senior Director at Parallel Wireless

**Brief Profile** – Mr. Zahid is a technologist with a deep understanding of architecting world-class mobile products and solutions. He has over 20 years of experience in telecom industry as an engineer, programmer, analyst, researcher, architect, trainer, product manager and technical marketer. He was a part of the team responsible for the first 3G network rollout in Japan and Europe. At present, he is Principal Analyst & Consultant at 3G4G, Senior Director at Parallel Wireless.



### MR. HIREN JOSHI, RAKUTEN –

**Designation** – Head Of Operations : Cloud, RAN (5G,4G), Pkt Core, BSS, OSS at Rakuten Mobile, Inc.

**Brief Profile** – Mr. Hiren Joshi is a senior executive and at present Head of Platform Operations: Cloud, RAN (5G, 4G), Pkt Core, BSS, OSS at Rakuten Mobile Inc. He is responsible for Operations setup, digitization/automation & bringing maturity for globally first fully virtualized Mobile Network across entire delivery spectrum - RAN, CORE, CLOUD, IoT, IPTX, OSS & BSS. He is also responsible for organisational setup, network architecture operational inputs, automation & virtualization of network etc.



### MR. RAMU T SRINIVASIAH, LEKHA WIRELESS –

**Designation** – Founder Director, Lekha Wireless Solutions Pvt. Ltd.

**Brief Profile** – Mr. Ramu T Srinivasiah is the founder director at Lekha Wireless Solutions Pvt. Ltd. He is specialized architect in designing communications systems including physical layer design. Prior to establishing Lekha wireless, he was associated with CISCO where he had led design, development and deployment of basic and advanced features of WiMAX on Cisco's P3 BS.

## DIGNITARIES PROFILE



### Sh. Deepak Chaturvedi, Member (Services), Digital Communications Commission –

**Brief Profile** – Sh. Deepak Chaturvedi is a senior ITS Officer and at present Member (Services), Digital Communications Commission. He completed his graduation in BE (E&C) from the University of Roorkee (now IIT Roorkee) and MTech from IIT (Delhi). He has a Management diploma from Indira Gandhi National Open University (IGNOU). He is a civil servant and a Telecom expert of 1982-batch of Indian Telecom Services (ITS), trained in Telecom Transmission with experience of over 37 years in the telecom sector. He also participated as a member of Study Group (SG) of ITU, Geneva. He was part of the team in the maiden launch of various telecom services in India like mobile services, optical fibre transmission, a few defence networks, rural India network, management of international bandwidth and deployment of Internet backbone for the entire country.



### Sh. U.K. Srivastava, Sr. DDG and Head NTIPRIT –

**Brief Profile** – Shri U. K. Srivastava, is an officer of Indian Telecom Service (ITS) and presently serving as Sr. DDG & Head of NTIPRIT, DoT Government of India. He has over 36 years of rich experience in the field of Telecommunications and has led various units of DoT, Govt of India and Telecom Regulator in India, TRAI. He had also worked in ITU at Iraq and its HQ at Geneva.



### Sh. B Sunil Kumar, DDG (Wireless Access) NTIPRIT –

**Brief Profile** – Shri B Sunil Kumar is an officer of Indian Telecom Service (ITS). He is presently posted as DDG (Wireless Access) at National Telecommunication Institute for Policy Research Innovation and Training (NTIPRIT). He has vast experience of over 30 years in the field of Telecommunications in various capacities.



### Sh. Atul Sinha, DDG (Admin) NTIPRIT –

**Brief Profile** – Shri Atul Sinha is an officer of Indian Telecom Service (ITS). He is presently posted as DDG (Administration) at National Telecommunication Institute for Policy Research Innovation and Training (NTIPRIT). He has vast experience of over 30 years in the field of Telecommunications in various capacities.



Department of Telecommunications (DoT)  
Ministry of Communications  
Government of India



National Telecommunications Institute for Policy Research,  
Innovation and Training (NTIPRIT)  
NTIPRIT, Admin Building, ALT Centre  
Govt of India Enclave, Near Raj Nagar, Ghaziabad-201002  
[ntiprit.gov.in](http://ntiprit.gov.in)