

Open Radio Access Network

February 11, 2024 • vajiramandravi.com

About Open Radio Access Network

- It is a key part of a mobile network system that uses cellular radio connections to link individual devices to other parts of a network.
- It comprises antennae, which transmits and receives signals to and from our smartphones or other compatible devices.
- The signal is then digitised in the RAN-base station and connected to the network.
- ORAN base station
 - ORAN base station solutions represent a pivotal element in the evolution of telecommunications infrastructure.
 - This innovation aims to deliver high-speed and dependable connectivity at a feasible cost, particularly targeting underserved and remote regions, as per a recent press release.
 - Its focus lies in creating efficient wireless communication technology for 5G and 5G-advanced radio networks, ensuring spectral and energy efficiency.
- Significance
 - A new niche technological solution for Open Radio Access Network (ORAN) base stations will help to facilitate high-speed and reliable connectivity at a cost that is viable for unconnected and far-flung areas.
 - It provides access to different components of the network infrastructure making it easier, efficient and more economically viable to provide internet in remote areas.
 - The breaking down of the Radio Access Network (RAN) functions help in bringing down network cost and complexity.
 - Open RAN removes vendor lock-in and can facilitate smooth interoperability between cellular network equipment provided by different vendors.
- COMET, one of the 25 Technology Innovation Hubs (TIH) set up under the National Mission for Interdisciplinary Cyber Physical Systems (NM-ICPS), of the Department of Science and Technology (DST) for enhancing the nation's capabilities in Advanced Communication Systems.
- The ORAN base station radio unit developed at IIT Hyderabad (IITH) introduced a revolutionary ORAN technology harnessing a multitude of antennas on cell towers.

Q1) What is the objective of the National Mission in Interdisciplinary Cyber-Physical Systems?

It is a comprehensive mission to address technology development, application development, human resource development & skill enhancement, entrepreneurship and start-up development in CPS and associated technologies.

Source: [New niche base station solutions by TIH to realise government vision of affordable connectivity for all](#)

Source: <https://vajiramandravi.com/current-affairs/oran/>

© Vajiram & Ravi. For personal use only.