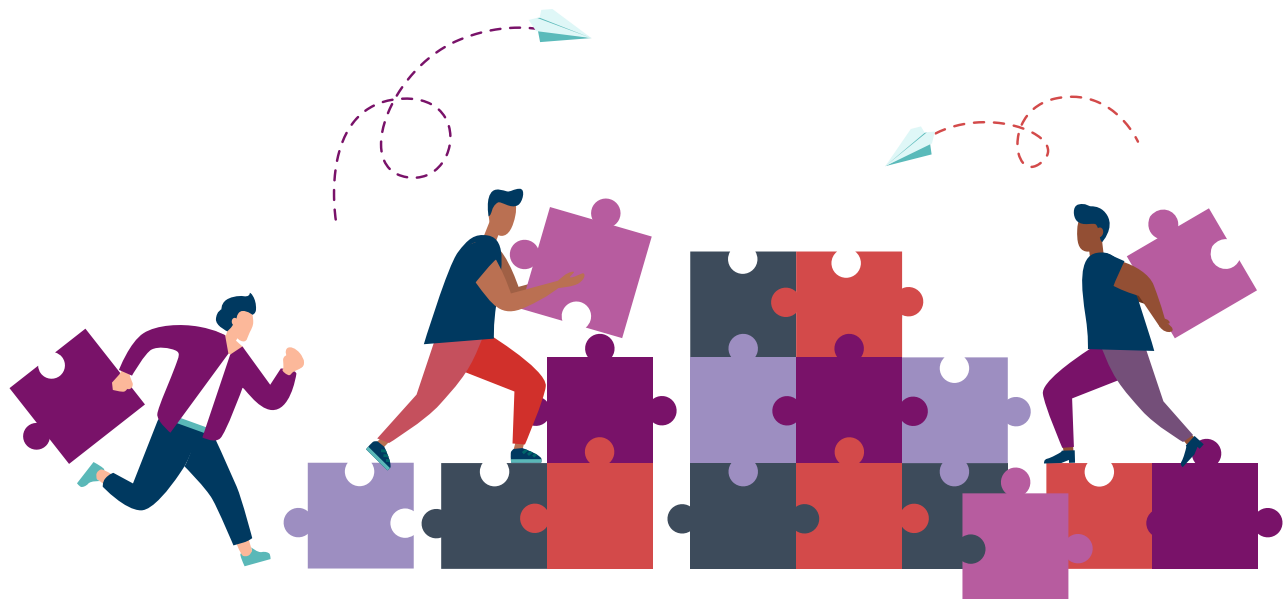


# Building a Smarter 5G Future Through Open RAN Development

[David Debrecht](#)



Technological advancements are paving the way for flexible, cost-efficient and scalable solutions that will transform our digital lives. For the mobile industry, this means helping revolutionize the telecommunications landscape by harnessing the [capabilities of 5G](#) to redefine connectivity. This fifth generation of cellular wireless network technology is delivering faster speeds and will soon deliver lower latency — enabling powerful, cutting-edge applications and Internet of Things devices.

But to fully realize 5G's potential, the network infrastructure behind it requires modernization. Operators often are limited by the hardware and software used in cellular networks. Traditional radio access networks (RANs) lock an operator into a single equipment supplier's technology, leading to higher costs and less innovation in the industry.

Open RAN, by contrast, opens up possibilities for the infrastructure. It enables equipment interoperability to drive innovation, reduce costs and create more resilient, reliable and secure networks — big advantages for both the industry and end users.

CableLabs recently wrapped up a day packed with insightful discussions about Open RAN — what it is, where it's going and how we'll realize its potential. The presentations and conversations took place at [SCTE Cable-Tec Expo 2023](#). Speakers and panelists during Expo's [Open RAN Technical Summit](#) included industry analysts and experts from some of the world's leading mobile operators and equipment vendors. We also heard from CableLabs' own experts as well as representatives from government Open RAN programs in the United States and the United Kingdom.

## Why Open RAN?

Before I dive into some of the highlights from the Technical Summit sessions, you might be wondering: Why is CableLabs — a company founded to advance cable technology collaboration and innovation — focusing on a wireless architecture like Open RAN?

The answer is simple: It mirrors the priorities of our members. More than half of [CableLabs member](#) companies also offer mobile services, and finding solutions for future 5G networks is high on their list. For these mobile network operators (MNOs) to successfully navigate the path toward the

wireless networks of the future, they'll require a robust and open ecosystem.

The development of the open architecture is in its early stages, and — as several speakers during the Technical Summit noted — we'll start to see the fruits of our collective labor pay off in the next few years. Below are other key takeaways from the speakers and panelists in the operator, vendor and government sessions during the Open RAN Technical Summit event.

## Operator Deployments and Planning

MNOs around the world are working on solutions for more flexible and cost-effective networks. To enhance their 5G network capabilities, operators actively collaborate with solution providers and help lead conversations in the industry to foster innovation and accelerate the development and deployment of Open RAN. Here's a look at a few of the topics discussed during the Technical Summit's sessions with operators:

**A key topic and initiative.** MNOs originated the work on Open RAN many years ago to tackle the key points noted above, and their interest continues. Earlier this year, a coalition of European operators — Deutsche Telekom, Orange, Telecom Italia (TIM), Telefónica and Vodafone — published their latest report on the state of the ecosystem, ["Open RAN MoU Progress Update on Maturity, Security and Energy Efficiency."](#)

**Ramping up deployments and commitments.** Operators at the forefront of Open RAN deployment include Vodafone, which has committed to 30 percent of its sites deploying Open RAN throughout Europe by the year 2030. Also, Dish Networks has deployed Open RAN across its greenfield network in the U.S. over the last couple of years.

**Ongoing research and development.** Not all MNOs are actively deploying Open RAN, but all are researching, testing, trialing or involved in other similar

activities. Some operators just finished deploying their 5G networks using traditional RAN networks and vendors, but they are already working to understand when the time will be right to start deploying Open RAN.

## Suppliers Partnering for Innovation

As the industry moves toward more open and modular RAN architectures, vendors aren't just contributors to the development; they're also key drivers of innovation. Their solutions must meet the demands for security, efficiency and sustainability to enable the next generation of wireless networks. Solution providers around the world are involved in advancing Open RAN innovations, and, during the summit, we heard from a few of these traditional vendors and newer suppliers. Here's a glance at what was discussed in the sessions:

**Commitments from leading suppliers.** Ericsson announced in September and restated in partnership with Vodafone its support and plans for Open RAN at the [Telecom Infra Project \(TIP\) Fyuz Conference](#) in Madrid in October. They further confirmed this and additional details about their plans at Cable-Tec Expo.

**Multi-supplier networks:** Nokia has also recently made commitments to support the Open RAN ecosystem with its solutions and announced deployments with Docomo in Asia. The company also recently announced a partnership with Mavenir to "prove Open RAN system performance."

**Interoperability activities.** Mavenir and other newer vendors that have focused on Open RAN have been active in interoperability activities and events like the [5G Challenge](#) and [O-RAN Open Test and Integration Center \(OTIC\) PlugFests](#) for a number of years already.

## A Boost at the Government Level

Open RAN development hasn't been limited to industry players. With its promise to make networks more open, flexible and inclusive, it's no surprise that governments around the world are taking note. This significant investment of capital and resources at the government level will result in a more diverse and competitive marketplace, a more resilient and secure supply chain, and improved national security. The summit highlighted the work in this sphere, including:

**Government strategy.** Agencies such as the [National Telecommunications and Information Administration](#)'s (NTIA's) [Institute for Telecommunication Sciences](#) (ITS) in the U.S. and the U.K.'s [Department for Science, Innovation and Technology](#) (DSIT) are heavily invested in jumpstarting the development and eventual deployment of products for 5G networks. Other governments that are investing in the development of the ecosystem include Canada, Germany, Australia, India, South Korea and Singapore.

**Active participation and promotion.** Activities such as the recent 5G Challenge — for which CableLabs served as the host lab — and the U.K.'s similar [Future RAN Competition](#) (FRANC) are designed to foster collaboration and accelerate commercial adoption of Open RAN solutions.

## Accelerating Adoption Through Activities

These important discussions during the Open RAN Technical Summit only scratch the surface of the work that CableLabs and others are doing to develop interoperable solutions that will advance 5G networks. Involvement in [PlugFests](#) and events like the [5G Challenge](#) — as well as industry working groups, field trials and ongoing standards work with the [O-RAN Alliance](#) — place operators, vendors and government agencies chief among the experts at the forefront of developing Open RAN solutions.

CableLabs' involvement in this area isn't new, and our commitment to Open RAN is only growing stronger. My recent participation this month on a panel at the [Joint O-RAN Software Community \(OSC\)/Open Source Focus Group \(OSFG\) and OpenAirInterface \(OAI\) Workshop](#) is another recent example of how our Wireless Technologies team continually keeps these conversations going with other stakeholders.

Our work continues, along with our involvement in [3GPP](#), O-RAN Alliance and TIP. Together, we'll move the industry toward our mutual goal of a fully interoperable, virtual, multivendor 5G network. To stay up to date on CableLabs' work in Open RAN and other mobile technology areas, click the button below to subscribe to our blog.

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