

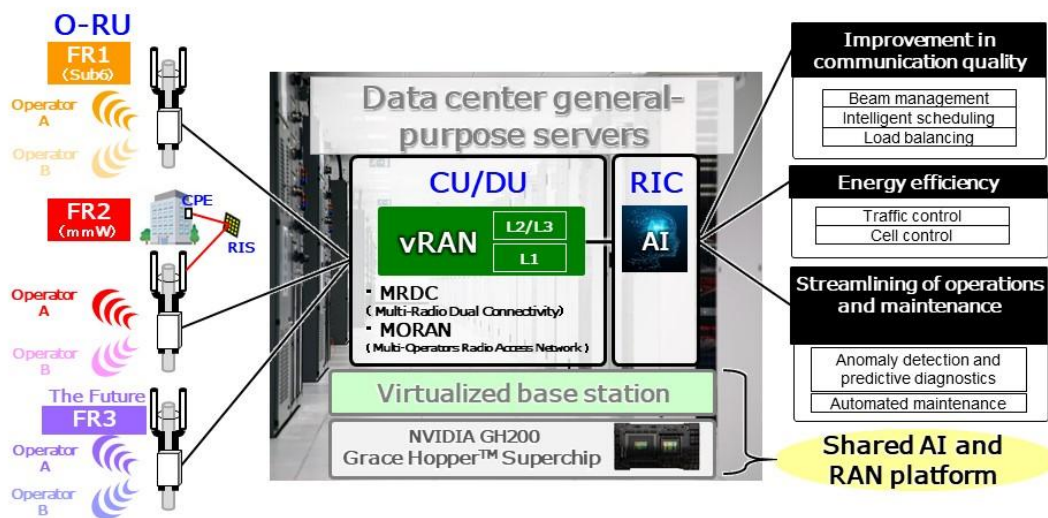
## Press Information

### Kyocera develops AI-powered 5G virtualized base station for the telecommunication infrastructure market

Innovative solution for next-generation networks revolutionizes connectivity, increases fronthaul coverage.

**Kyoto/London, 18<sup>th</sup> February 2025.** Kyocera Corporation officially begun the full-scale development of an AI-powered 5G virtualized base station, with plans to commercialize the technology.

As digital transformation (DX) accelerates globally, 5G mobile networks have become a critical societal infrastructure. Kyocera is leveraging its proprietary, globally developed telecommunications and virtualization technologies to bring base station functionality to general-purpose servers using the NVIDIA GH200 Grace Hopper™ Superchip. Using AI, Kyocera's 5G virtualized base stations will enhance performance, reduce power consumption, and streamline both operations and maintenance. By offering these 5G virtualized base stations as an optimized solution to customers worldwide, Kyocera will support the advancement of 5G systems and help create a prosperous and connected society.



**System concept**

## Features of Kyocera's 5G virtualized base station

### 1. AI-powered base station functionality

Using AI, the system dynamically manages traffic congestion and optimizes frequency allocation, enabling higher upload/download speeds and improved quality. AI also monitors traffic to optimize base station power consumption, enhancing energy efficiency. Additionally, AI automates and optimizes various settings needed for operation and maintenance, allowing more efficient network management.

### 2. Dual connectivity functionality

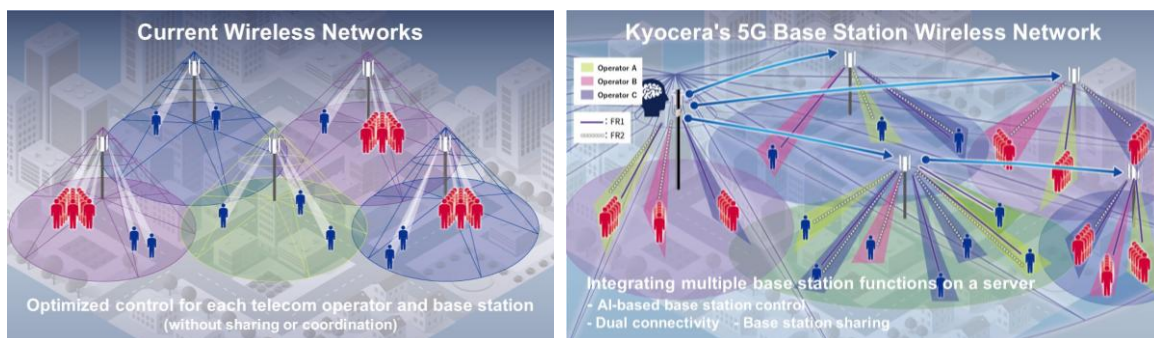
Leveraging its advanced antenna technology, Kyocera has developed O-RAN-compliant CU/DU/RU (O-CU/O-DU/O-RU) capable of handling two distinct frequency bands: Sub-6-GHz and millimeter-wave. The system can accommodate rapid traffic increases by controlling traffic data from both frequency bands on a general-purpose accelerated computing server. Future next-generation frequency bands are supported through software upgrades.

### 3. Base station sharing functionality

Kyocera's innovation allows multiple telecommunications operators to share a single base station (CU/DU or O-RU) to process communication data. This functionality reduces the number of base stations required, minimizing operators' capital expenditures and electricity costs, while contributing to more efficient expansion of 5G wireless network coverage.

### 4. Extended coverage area and reduced power consumption

With Kyocera's expertise in software implementation, the system can extend fronthaul distance to more than 40 kilometres, enabling broader coverage areas. Additionally, consolidating CU/DU functions on a single server reduces power consumption.



**Wireless network comparison**



## About Kyocera's [participation in MWC 2025](#)

Kyocera will showcase its innovations, among others 5G virtualized base station and [O-RU Alliance](#), at Mobile World Congress 2025 (MWC), the world's largest communications technology convention, in Barcelona, Spain, March 3-6, 2025.

### Overview: Kyocera at MWC 2025

Show	<a href="#">Mobile World Congress 2025 (MWC)</a>
Date	March 3-6, 2025
Location	Fira Gran Via, Barcelona, Spain
Kyocera's booth	Hall 5, Booth #5E12

### Explanation of Terms

1. RAN (Radio Access Network): A wireless communications network using radio waves.
2. CU (Central Unit): A component of the wireless access network that manages data processing and control functions near the core network in a centralized manner.
3. DU (Distributed Unit): A component within the wireless access network alongside the CU to handle wireless signal processing and functions that require real-time operation.
4. RU (Radio Unit): A part of the wireless access network that sends and receives wireless signals, directly connecting to antennas and serving as the physical interface for wireless communication.
5. O-RU (Open Radio Unit): An RU that complies with O-RAN standards, enabling interoperability between equipment and software from different vendors.
6. O-RAN Alliance: An international organization that promotes the open and intelligent evolution of Radio Access Networks (RAN) through the participation of telecom operators, equipment manufacturers, and software developers. It aims to improve interoperability, flexibility, and the efficient deployment of 5G and next-generation networks.
7. O-RAN Specifications: Common specifications developed by the O-RAN Alliance to promote the openness and interoperability of Radio Access Networks (RAN). By adhering to these specifications, companies enable flexible and efficient collaboration between devices from different manufacturers.



For more information on Kyocera: [uk.kyocera.com](https://uk.kyocera.com)

## About Kyocera

Kyocera has been successful in Europe for over 50 years. From its European headquarters in Esslingen am Neckar, KYOCERA Europe GmbH operates 28 sites including manufacturing facilities, with products ranging from fine ceramics, electronics, automotive, semiconductor and optical components to industrial tools, LCDs, touch solutions, industrial printing components, solar systems and consumer goods such as kitchen and office products.

KYOCERA Europe GmbH is a company of the KYOCERA Corporation headquartered in Kyoto/Japan, a world leader in semiconductor, industrial and automotive components as well as electronic components, printing and multifunction systems, and communications technology. The technology group is one of the world's most experienced manufacturers of smart energy systems, with more than 45 years of industry expertise. The Kyocera Group comprises 292 subsidiaries (31 March 2024). In England, Kyocera has a subsidiary in Frimley, KYOCERA Fineceramics Ltd. With around 79,200 employees, Kyocera generated net annual sales of around EUR 12.29 billion in the 2023/2024 fiscal year.

Kyocera is ranked 874 on Forbes magazine's 'Global 2000' list for 2024, and ranked as 'The 100 Most Sustainably Managed Companies in the World' according to the Wall Street Journal. For the second year in a row, Kyocera qualified for the Dow Jones Sustainability Index (Asia-Pacific). As well, Kyocera receives a Bronze rating on EcoVadis Sustainability Survey and was acknowledged as a 'Top 100 Global Innovator 2023' for the second consecutive year, being one of the world's leading innovators, for the eighth time by Clarivate.

Kyocera also takes an active interest in cultural affairs. The Kyoto Prize, a prominent international award, is presented each year by the Inamori Foundation — established by Kyocera founder Dr Kazuo Inamori — to individuals worldwide who have contributed significantly to the scientific, cultural, and spiritual betterment of humankind (equivalent to approximately €596,500 per prize category).

### Contact

KYOCERA Fineceramics Ltd.

Allan Martin

General Manager

Prospect House, Archipelago,

Lyon Way, Frimley, Surrey.

GU16 7ER United Kingdom

Tel: +44 1276 693450

E-mail: [PR@kyocera.de](mailto:PR@kyocera.de)

[uk.kyocera.com](https://uk.kyocera.com)