R&D phase | Research **Expected Commercialization** | FY30-

Mehr Licht!
More Photonics for Intelligence

#E04

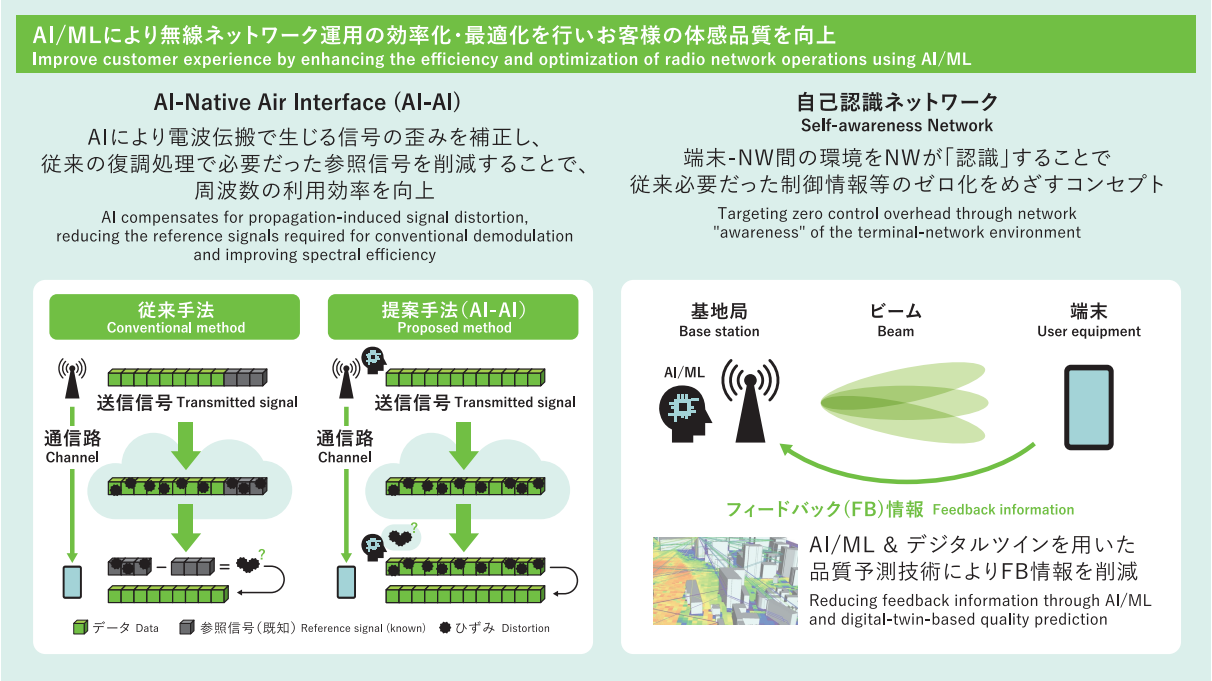
#Customer Experience#Digital & AI Transformation

AI for High-Quality and Efficient Radio

AI improves communication stability and radio-resource efficiency

Technical Challenges & Goals

As data traffic continues to grow, higher performance is needed despite limited radio resources. By introducing an AI-based method for predicting radio quality and advanced transmit/receive signal processing between base stations and devices, we aim to improve efficiency and stability, enhancing customer experience.



Key Technologies

Core Technologies

- AI-AI: AI/ML enables pilot-less communication, reducing overhead and improving spectral efficiency
- Self-awareness Network: reduce feedback information with AI/ML and digital-twin-based prediction

Key Differentiators

- AI-AI: 18% higher throughput in urban areas and support for mobility beyond 100 km/h
- Self-awareness Network: up to 16% UL throughput gain over conventional quality-reporting methods

Use Cases

Communication Services

By applying AI-based processing and control to wireless communications between base stations and user equipments, more radio resources can be used for data transmission, improving network efficiency and customers' quality of experience.

Exhibitors

R&D Innovation Division, NTT DOCOMO, Inc. , NTT Access Network Service Systems Laboratories, NTT, Inc.(AI-AI))

External Partners

NOKIA SOLUTIONS AND NETWORKS OY(AI-AI)
SK Telecom Co., Ltd.(AI-AI)
VIAVI Solutions Inc.(Self-awareness Network)

Related Links

https://www.docomo.ne.jp/info/news_release/2025/11/17_00.html
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