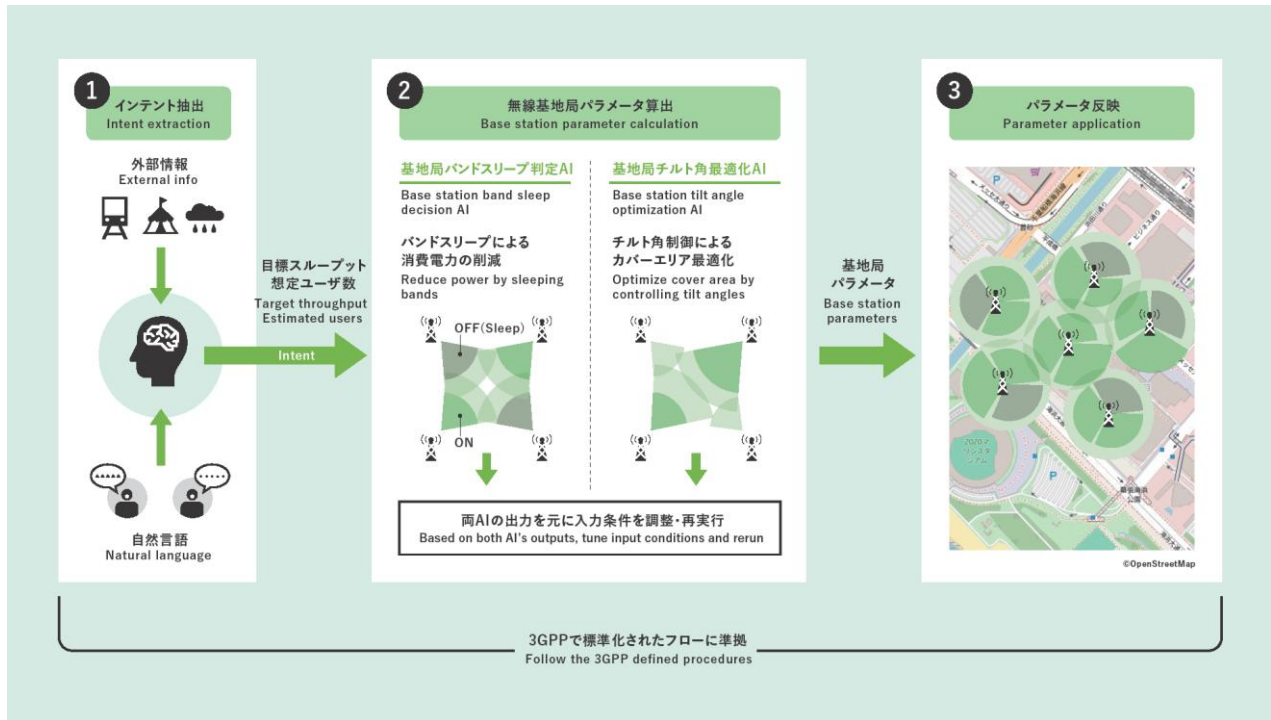


Power-efficient base station with band sleep based on number of users

Power-efficient base station control AI

Background and Technical Challenges

With base stations consuming the majority of mobile network power, effective sleep control is essential. Current control relies on operator expertise and fail to adjust to sudden external changes, leading to quality degradation.



R&D Goals and Outcomes

Enhanced base station sleep control reduces power use without degrading quality and contributes to carbon neutrality.

Key Technologies

01 Core Technologies

- Using the 3GPP-standardized flow, goals from generative AI dialog and external info are achieved via joint DRL band-sleep and PSO tilt-angle control.

02 Key Differentiators

- Optimization using external data cuts base station power by several percent without degrading quality.
- This demo is the world's first demo compliant with the latest 3GPP standard.

Use Cases Energy

R&D phase Research

Technology Schedule FY25-26

Commercialization Schedule FY27-29

【Exhibitors】

NTT Network Service Systems Laboratories

【Contact】

Communication Traffic, Quality and Operation Research Project

【Co-exhibitors】

NTT Access Network Service Systems Laboratories,
NTT DOCOMO, Inc. 6G-Tech Department

【Related Links】

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