IOWN INTEGRAL

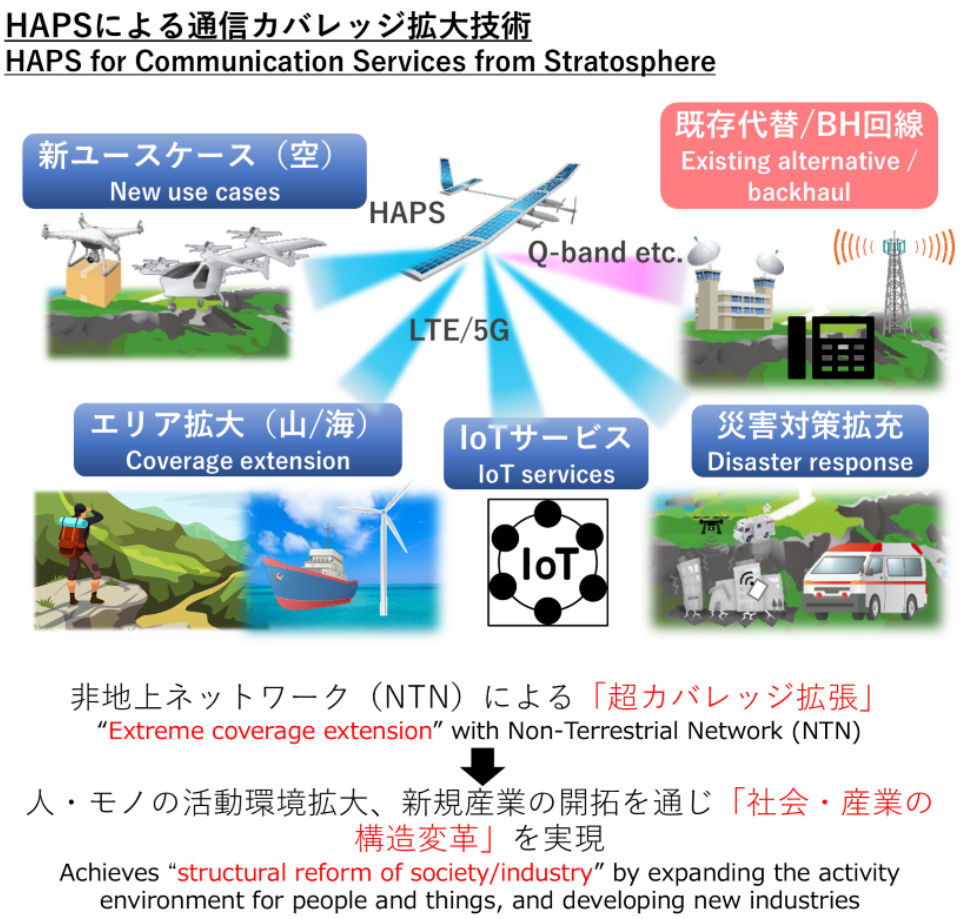
NTT R&D FORUM 2024

DEVELOPMENT
δ 05-02

HAPS for communication services from stratosphere

Extend mobile network coverage to anywhere

#Customer Experience Value Creation #Business Resilience #Productivity Improvement



///Technical Issue

Conventional terrestrial networks struggle to provide coverage in mountainous and maritime regions due to geographic constraints on base station construction.

///Research Goal

HAPS enables communication and observation anywhere, enhancing human and material activities while reducing NTN costs through optimal use of HAPS and satellites.

---Technology

- HAPS in the stratosphere enables coverage of mountainous and maritime areas not reached by conventional terrestrial networks.
- HAPS is less affected by disasters due to its sky location and can help restore communication during crises.

---Novelty

HAPS has 3 advantages over satellites, "high speed/low latency," "fixed-point flight enabling flexible network deployment" and "direct communication with smartphones".

---Applicable Business

In the field of Information and communication industry, disaster countermeasures, shipping and fishing industry, agriculture, future industries (drone delivery, flying cars, etc.), it will enable "Significant extension of network area", "Rapid restoration of communication area in the event of a disaster", "Temporary communication capacity for industrial applications", "Remote sensing from the stratosphere".
(Market size: 10 billion yen)

Related Exhibition＝δ05-01/ δ05-03 Exhibitors＝ NTT DOCOMO, INC., Space Compass Corporation
Related URL＝ NTT DOCOMO Press release "NTT DOCOMO and Space Compass partners with Airbus on HAPS, committing to a USD$100 million investment in AALTO" (June 2024)
Contact URL Outside Partner＝ NICT commissioned research (national project)