IOWN INTEGRAL

NTT R&D FORUM 2024

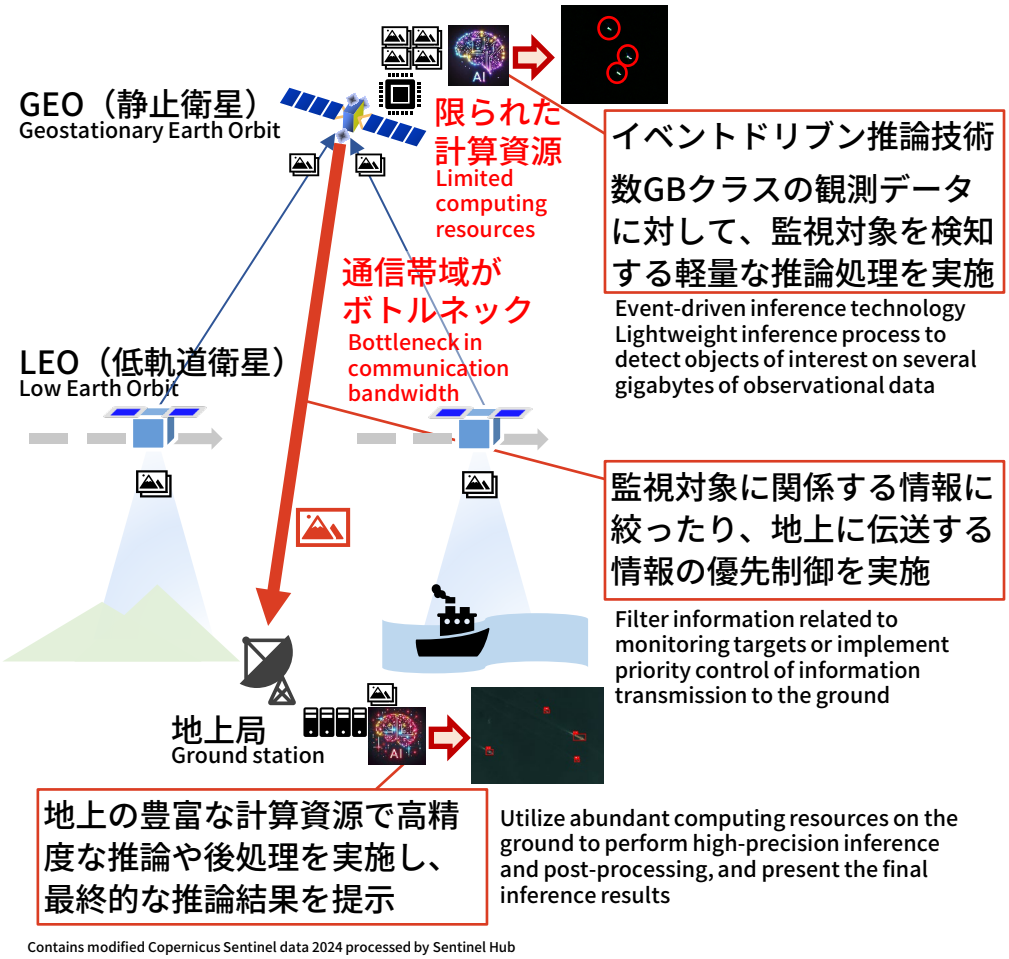
DEVELOPMENT

δ 05-07

AI inferencing technology for Space Data Centers

Semi real time Earth observation enables the creation of new satellite data services

#Business Resilience #Productivity Improvement #Customer Experience Value Creation



Contains modified Copernicus Sentinel data 2024 processed by Sentinel Hub

///Technical Issue

Difficulty in balancing accuracy and efficiency of computation when analyzing Earth observation data with on-orbit computers.

///Research Goal

Aiming to provide information in real time by efficient AI inference with limited on-orbit computing resources.

---Technology

- AI model optimization technology for space computers.
- Domain adaptation technology for satellite data.
- Retriable job scheduling algorithm.

---Novelty

The system is capable of handling use cases that require real time performance by having storage and analysis functions on GEO and reducing communication volume through primary analysis such as event detection and filtering.

---Applicable Business

Maritime safety, disaster detection, precision farming, etc. In Maritime Domain Awareness, lightweight AI inference is performed on GEO from observation data to detect surveillance targets such as ships at an early stage. Assumed deployment in the satellite edge computing business by Space Compass (around FY2027).

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