

IOWN INTEGRAL

NTT R&D FORUM 2024

BUSINESS

β01-06

Super-high-definition video AI Inference chip

It enables low-power detection of objects, such as people or vehicles, using 4K camera

#Productivity Improvement



///Technical Issue

While it is becoming important to improve operational efficiency using video AI, conventional technologies have challenges in terms of resolution, power, and processing speed.

///Research Goal

ASIC designed specifically for AI inference enables high resolution and low-power processing using 4K video. When installed on a drone, the system enables infrastructure inspection while the drone navigates safely and beyond visual line of sight, helping to reduce labor and costs.

---Technology

- Resolution extension technology in AI inference to 4K video.
- Hardware engine that enables real-time and low-power execution of the above technology.

---Novelty

Conventionally, 4K video has to be shrunk in order to perform AI inference. Small objects are collapsed and cannot be detected. To solve these problems, we have developed new technology that can perform AI inference in real time and with low power from 4K video directly.

---Applicable Business

- Labor-saving use of drones for infrastructure inspection. (Demonstration experiments planned for FY2025 and beyond)
- Wide-area public space monitoring and people flow analysis in smart city business. Remote and automated content creation in video production. (Demonstration experiments planned for Q4 FY2024 and beyond)