

# Collaborative AI robots for adaptation of diverse environments and innovation of infrastructure construction

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**R&D institutions**

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**Summary of the project**

We will conduct research and development of "collaborative AI robots" that can respond flexibly to different situations and perform tasks in difficult environments such as disaster sites. This technology will also be useful in the construction and maintenance of infrastructure on the ground.

**Milestone by year 2030**

Aiming to mitigate natural disasters (river channel blockage), we will develop a multi-unit cooperative AI robot system that can respond flexibly to different situations than expected.

**Milestone by year 2025**

We will develop a prototype of a system of multiple cooperative AI robots that can respond flexibly to different situations than expected for the purpose of mitigating natural disasters (river channel blockage).

**R&D theme structure of the project**

The major goal of this R&D project is "realization of infrastructure construction adapted to various environments by cooperative AI robot systems. To realize this major goal, we have set up three research and development items: "1. an AI robot system to innovate earthwork" (hardware), "2. a dynamic cooperative system for multiple robots" (AI to control multiple robots), and "3. a sensor pod system for a bird's eye view of the work site" (AI to evaluate sensing technology and the environment), and have conducted research and development in parallel (Figure 1). After 2024, we will focus on robot systems that can respond to natural disasters (especially river channel blockage disasters), promote technological innovation, and aim for system integration of these technologies (Figure 2).

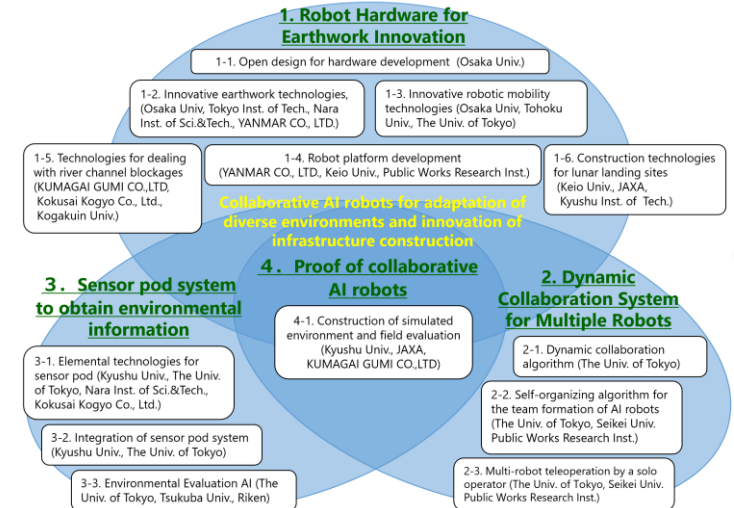


Figure1: Theme structure and members (2020-2023)

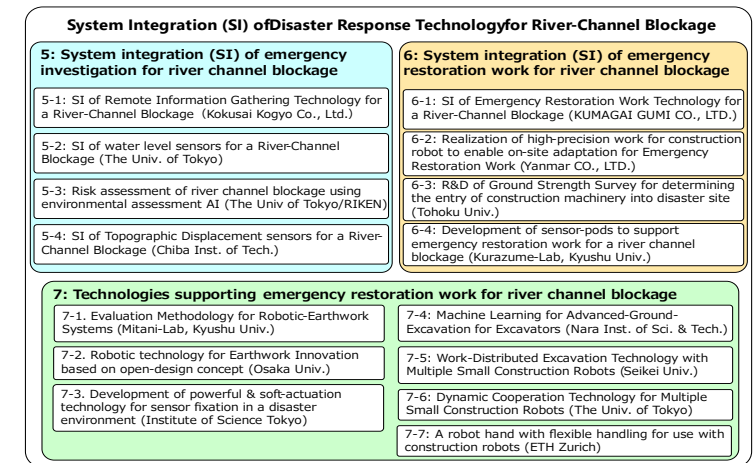


Figure2: Theme structure and members (2024-)