

# R&D of the Mechanism and Control Technologies of Autonomous Mobile/Working Robots

<Program for Fostering Regional Innovation (Global Type) >

## Project Team

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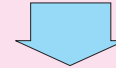
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**Enterprises** Mitsubishi Co., Ltd./RoboPlus Hibikino Co., Ltd.

## Purpose of the Research

- Enhance mobility in a non-barrier-free indoor and outdoor environment including irregular ground, stairs, and in a public space at large.
- Flexible work in a public space.



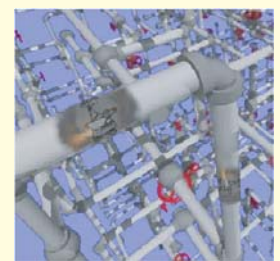
- Develop a mobile mechanism which is passively adaptable to the operating environment.
- Develop and control a robot hand which is the same size as a human hand and has five fingers.
- Develop and systematize control system and navigation technology in the form of a LSI system.

## Summary of the Research

As we entered an aging society with a falling birthrate, people are expecting robots to play an important role in various environments. However, there are many problems to overcome before realizing a high mobility in everyday environment in its mobile function alone. In this research, we are going to (a) develop a reliable passive mobile mechanism which can be controlled easily, and (b) develop a human friendly robot hand by integrating flexible structure and sensors. We will enhance the rough terrain mobile mechanism, the in-pipe traveling mechanism, the brain-like information processing technology, and the manipulator technology, which are the technologies accumulated by the participating institutions, to establish a self-driven mobile robot which is able to move and work freely in a public space, and systematize the navigation technology in the form of a system LSI, and then we will introduce the robots into the market of services in a public space.

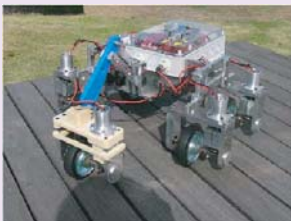


Service Robot

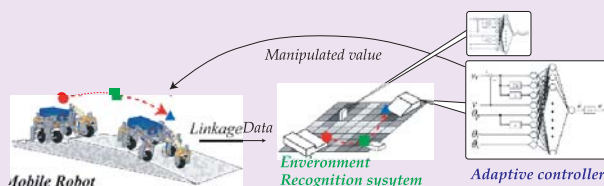


Pipe inspection

## Results of the Research



Robotic Hand



## Prospective Fields of Application

- Service robot
- Entertainment robot
- Security robot
- Medical robot
- Welfare robot
- Guidance robot
- Pipe inspection robot
- Small-sized actuator



Information

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