

# Service Robot “enon”

May, 2008

## Abstract

In recent years, robot development has expanded from the industrial field to include new robots for personal use. A variety of robots including entertainment robots are being developed and commercialized. These robots are expected to work with human beings by sharing various service tasks or work for the general public by providing needed services. Responding to such needs, Fujitsu Laboratories Ltd. has developed a service robot which name is “enon (an Exciting Nova On Network)” for such supportive services as providing guidance, transporting objects, and patrolling facilities, etc. in offices, commercial facilities and other public areas.

## Technology

- **Autonomous navigation**

Enon can autonomously move to a designated location by avoiding obstacles with the aid of a built-in 3D high-speed visual processing system.

- **Feature-rich communication functions**

Speech recognition and speech synthesis in Japanese are included as standard features. Enon's touch panel LCD monitor on its chest enables the robot to communicate in a diverse range of situations.

- **Linkable to networks**

By linking enon to a network through a wireless LAN, it can offer a variety of functions such as retrieving necessary information from a server and providing the information either by voice or image, or transmitting images self-accumulated by the robot to the server.

- **Safety**

Fujitsu has placed utmost priority on making enon safe, incorporating a variety of safety features including significantly reducing the weight and width of the robot compared to its prototype, and enhancing arm functions. Enon got safety appraisal by an external third party, the NPO Safety Engineering Laboratory.

## Application Examples

Enon provides a common platform that can be utilized to support a variety of services in offices, commercial facilities, government and municipal offices, and public institutions such as museums. Enon performs four basic services as follows:

- Greeting and escorting guests
- Search for and provide requested information
- Transport objects
- Watch and patrol designated areas

Basic Specifications of Service Robot “enon”

Size (shoulder length and weight)	0.56m / 50 kg
Travel (speed and level difference)	3 km/h, 10 mm
Degrees of freedom of arms	5 degrees of freedom + gripper
Power source (batteries)	Built-in nickel-metal hydride batteries
Control sections (CPU/DSP)	Celeron M/TMS320C6713



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