

Robot industry moves to aid seniors

By HIROKO TABUCHI
The Associated Press

If you grow old in Japan, expect to be served by a feeding robot, ride a voice-recognition wheelchair and hire a nurse in a robotic suit — all examples of cutting-edge technology to care for the country's rapidly graying population.

With nearly 22 percent of Japan's population already aged 65 or older, businesses here have been rolling out everything from easy-entry cars to remote-controlled beds, fueling a care technology market worth some ¥126 billion in 2006, according to industry figures.

At a home-care and rehabilitation convention in Tokyo this week, buyers crowded round a demonstration of Secom Co.'s My Spoon feeding robot, which helps elderly or disabled people eat with a spoon- and fork-fitted swiveling arm.

Operating a joystick with his chin, developer Shigehisa Kobayashi maneuvered the arm toward a block of silken tofu, deftly getting the fork to break off a bite-size piece. The arm then returned to a preprogrammed position in front of the mouth, allowing Kobayashi to bite and swallow.

"It's all about empowering people to help themselves," Kobayashi said. The Tokyo-based firm has already sold 300 of the robots, which come with a price tag of ¥408,100.

"We want to give the elderly control over their own lives," he said.

The rapidly aging population here has spurred a spate of concerns: a labor shortage, tax shortfalls, financial difficulties in paying the health bills and pensions of large numbers of elderly.

A breakdown of family ties in recent years also means a growing number of older Japanese are spending their golden years away from the care traditionally provided by children and grandchildren.

That's where cutting-edge technology steps in.

A rubber and nylon "muscle suit" developed by Tokyo University of Science helps keep the elderly active by providing support for the upper body, arms and shoulders.

Powered by air pressure actuators, the prototype suit — which looks like an oversize life jacket — provides subtle backing to help older people lift heavy objects.

The intelligent wheelchair TAO Aicle from Fujitsu Ltd. and Aisin Seiki Co. uses a positioning system to automatically travel to a preset destination, and uses sensors to detect and stop at red lights, and to avoid obstacles.

Another wheelchair designed by the National Institute of Advanced Industrial Science and Technology responds to oral commands like "forward" and "back," "right" and "left."

Then there are cars designed for easy entry for the wheelchair-bound or those with difficulty walking, like Toyota Motor Corp.'s Welcab series. Its slogan: "A car that's more patient than your daughter."

Tired? Retire to a Lowland futon bed by Kaneshiro Tsuhso Inc. that can be adjusted into a reclining seat.

And there's help for caregivers, too. A full-body robotic suit developed by Kanagawa Institute of Technology is a massive contraption powered by 22 air pumps to help nurses hoist patients on and off their beds.

Sensors attached to the user's skin detects when muscles are trying to lift something heavy — and signals to the air pumps to kick in to provide support.

Though the suit makes its wearer look a little like Robocop, a student who was easily lifted off a table in a demonstration said he felt comfortable during the test.

"It doesn't feel at all like I'm being lifted by a robot," he said. "This feels so comfortable and very human."

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