



Jim Landers:

With friends like these, who needs actual people?

Japanese firms study robots as companions for aging population

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TOKYO – Sony Corp.'s Katsumi Muto thinks a lot of elderly Japanese might be looking for mechanical friends.

The old and alone develop an emotional attachment that deepens over time to Aibo, Sony's robot dog, he says. That relationship will get even more complex with Qrio, a humanoid robot under development.

"He starts asleep, but he has emotional potential," Mr. Muto said of Aibo, which retails for about \$2,000. "For someone with a strong emotional attachment, he will show happiness."

Honda and Toyota don't stress the emotions. But as Japan ages, they are also pouring money into developing a humanoid robot that can walk, talk, play music, answer questions or use the Internet.

In two years, Japan's population will begin a long decline even as life expectancy grows into the 80s. Willing or not, there are fewer young people prepared to care for an aging parent or grandparent. And Japan isn't keen on immigrant caregivers.

So manufacturers are testing a dream scoffed at by American designers who argue that function should take precedence over form.

"Anybody who thinks they are going to get emotional love from a mechanical thing more than they would from a real dog – that's the stuff of Hollywood movies, not real life," said David Anderson, a Dallas robot maker who works as a systems analyst at Southern Methodist University's Department of Geological Sciences.

Mr. Anderson's robots can sense obstacles, balance themselves and navigate over irregular surfaces. They're wheeled machines that look like NASA planet crawlers.

Wheels won't do, argued Honda's Yuji Hatano.

"We want machines within the house that can do something for us," he said. "If a robot has four legs and four arms ... it's uncomfortable for people. Nobody will buy it."

Honda has worked for 20 years on a robot named Asimo (a name that honors science-fiction writer Isaac Asimov). The latest iterations walk and run, dance, climb steps and navigate with the help of cameras and sensors.

Asimo wowed crowds who came to SMU in November, including Mr. Anderson.

"A humanoid robot doesn't really win technically," he said. "But the one place they do win is coolness. They hands-down win the coolness race."

'Different perspective'

Dale Wheat, another robot maker, is president of the Dallas Personal Robotics Group, where form vs. function is a frequent conversation point.

"We Americans would design something based on what it needs to do, but the Japanese have a different perspective," he said. "It's cheaper for them to buy security-guard robots than to hire security guards because of the population pressures."

A wheeled robot in a box might work as well as or better than a two-legged mechanical guard, and it would certainly cost less. But it wouldn't have the familiarity sought by the Japanese researchers.

"After we get old, the children get married and live somewhere else, and your wife or husband dies, we are very lonely," said Honda's Mr. Hatano. "If you have somebody to communicate with, it's very good. You can walk together. Work together. Communicate."

Reason for fear?

Mr. Wheat thinks the Japanese labs are in part motivated by a national phobia of technology brought to the screen by the likes of Godzilla. Mr. Hatano sees the phobia coming from the other side of the Pacific in films like *AI* and *The Terminator*.

There's no need for a fail-safe chip in Asimo, he argued, because the robot is incapable of running amok.

Sony's Qrio (pronounced "curio") is a little guy, 30 inches tall. He can talk in Japanese, walk and get back up if he's knocked over and throw out the first pitch at a baseball game. But he's not for sale, and it's not clear when he'll reach the market. Sony chairman Howard Stringer cut research and development in the entertainment robot division this month, but the company insists, "We do not currently have plans to exit the business."

"Every machine these days works under computers," he said. "Nobody talks about putting a fail-safe on a refrigerator."

Whether Asimo will ever become a caregiver to the elderly is up in the air. But the pursuit of such a complex technology could offer other rewards.

The Honda lab working on Asimo is also working on new automobile technologies. Honda's latest Legend models sold in Japan can be equipped with night-vision technologies to alert drivers to unseen obstacles or painted lane dividers, and collision-mitigation systems that use laser detection to trigger the brakes.

"The base technology is the same, but the Asimo output is not used in auto technology – yet," Mr. Hatano said.

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