

Rodem robotic chair takes wheelchair concept to higher level

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A Japanese company has done a rethink of the wheelchair and the result is the Rodem robotic mover—we are saying "mover" instead of wheelchair because it goes beyond sitting support into direct help to accomplish daily tasks.

Tyler Lee in *Ubergizmo* wrote Sunday: the way users sit in a wheelchair has never really [changed](#), at least until now.

"The seat's adjustable height was designed to make talking to people who are standing up more comfortable, while it can rotate easily in tight spaces."

Working at a desk, communicating, reaching, and independent meal-making are possible. The overall benefit for the user is being more self-sufficient in many tasks despite physical limitations.

Watching the Rodem video, two things are obvious. Getting in and out of this new wheelchair is so very easy for someone with mobility limitations. The other clear differentiator is that the traditional seat has been removed. It looks more as if the person is riding a horse than sitting in a chair.

The price of the [robot](#) is ¥980,000 (about \$8,700), available in Japan.

Masaru Yoshida in *Nikkei Technology Online* had some design details. These details show the makers genuinely focused on how easy it might be able the user to get into the chair straight from the bed or sofa.

"At the time of getting on/off the robot, its seat protrudes backward and diagonally downward, and the user straddles the seat from behind. There is no backrest, but the user can lean forward to put his/her [weight](#) on the front part of the seat."

It is a four-wheel-drive vehicle, and its rear wheels are omni-wheels. "By separately controlling the four wheels and using omni-wheels, the robot has a small turning radius and can even [turn](#) on the spot," said *Biotechnika*.

Buttons and a joystick on the front side are used to move the robot and move up/down the seat. When the robot is moving, the seat surface is comfortably high, but the height can be lowered so that the person can get on and off the robot easily too. It can go up to speeds of 3.7MPH.

"While conventional wheelchairs give a hug, the Rodem gives a piggyback," Tmsuk President Yoichi Takamoto said, according to *Nikkei*.

Desk work is made easier, since the user can move right up to the desk and sit upright in the chair to do work. The front part of the robot can move into the space under the table.

The robot can be remotely controlled with a smartphone. So, it is possible to make the robot come close to the user's bed to get on and to move to a storage space after use.

It uses a lead acid battery. It has a 9.3-mile range before needing to be recharged, said *Ubergizmo*. There is an 8 hour charge time

Tmsuk said the company focus is on practical

robotic solutions. The company wants to break down the barriers facing elderly and disabled people with robotic helpers. The Rodem [wheelchair](#) robot is a step in that direction.

Japan, after all, is an ageing society that can benefit from such devices. "Decades of improving [life](#) expectancy and falling birth rates have produced a rapidly aging and shrinking population." wrote Isabel Reynolds in Bloomberg earlier this year.

Deena Zaidi wrote in November in *VentureBeat*: "Individuals over the age of 65 make up more than a quarter of Japan's total population, which is 127 million. By 2065, 40 percent of the population is estimated to belong to this demographic. This could justify Japan's quick adoption of robots and smart sensors in elderly home [care](#)."

More information:

tmsuk-uk.co.uk/rodem-mobility-aid-robotics/

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