Fukushima Watch: Toshiba’s New Nuclear Robot

By Juro Osawa

Japan has created some memorable robots, from Sony Corp. [6758.TO +0.37%]’s Aibo robotic dogs to Honda Motor Corp.’s Asimo humanoid robot.

But since last year, some Japanese robots have taken on a completely new role: entering highly radioactive parts of a stricken nuclear plant and finding out what’s happening inside.

Toshiba Corp., which makes everything from chips to nuclear reactors, said Wednesday that it has developed a tetrapod-shaped robot designed to navigate severely contaminated parts of the Fukushima Daiichi nuclear plant, which has been destroyed by last year’s earthquake and tsunami.

More than a year and a half after the Fukushima nuclear accident, Japan is still trying to grasp the exact conditions inside the stricken plant, with help from robots. That’s still the first step in a decades-long process of cleaning up and decommissioning the reactors. Toshiba has supplied two of the reactors at the Fukushima plant.

Compared to the caterpillar-like robots that have been used at the plant so far, Toshiba says this new four-legged robot can easily climb stairs and avoid obstacles, while capturing images with its camera and measuring radiation levels with its dosimeter in areas human workers can’t access.

“This robot can enter parts of the plant that haven’t been investigated before,” said a Toshiba spokesman.

So far, plant operator Tokyo Electric Power Co. [9501.TO +1.56%]— commonly known as Tepco — has surveyed the Fukushima site using multiple robots, including Quince, a robotic cart on caterpillar treads created by a Japanese university researcher.

Still, caterpillar-like robots with wheels sometimes have difficulty in climbing steep slopes or stairs, or avoiding objects blocking the way, according to Toshiba.

Toshiba says the new robot, which doesn’t have a name, can walk on uneven
surfaces with obstacles. Using its arm, the tetrapod robot can release a smaller companion robot, also equipped with a camera, which can examine tiny spaces that the main robot can’t enter. The main robot and the companion robot are connected with a cable, but if the smaller robot gets stuck, the main robot can cut off the cable.

A Tepco spokeswoman said the company is considering using the new Toshiba robot at the Fukushima plant, possibly to investigate the outer surfaces of the suppression chamber, a cooling facility that is part of the reactor’s container vessel. She added that Tepco hasn’t yet decided whether to use the robot.

In December, the Japanese government declared that the plant reached a state of “cold shutdown,” meaning the fuel in the reactors has cooled to an extent where no nuclear reaction is taking place.

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Fukushima Daiichi, robot, Toshiba
Donna Bella Ceribo Deapera wrote:

the danger side of the robot technology is that when computer hackers enter in the main system of the robot to control the brain to stole information...the remedy is the virus that we put inside the brain of the avatar named Jane Zeta K. Bond that can pirated all transactions and stole all accounts that thieves and identity thefts have to control the leakage...