Toshiba unveils four-legged robot for nuke disaster

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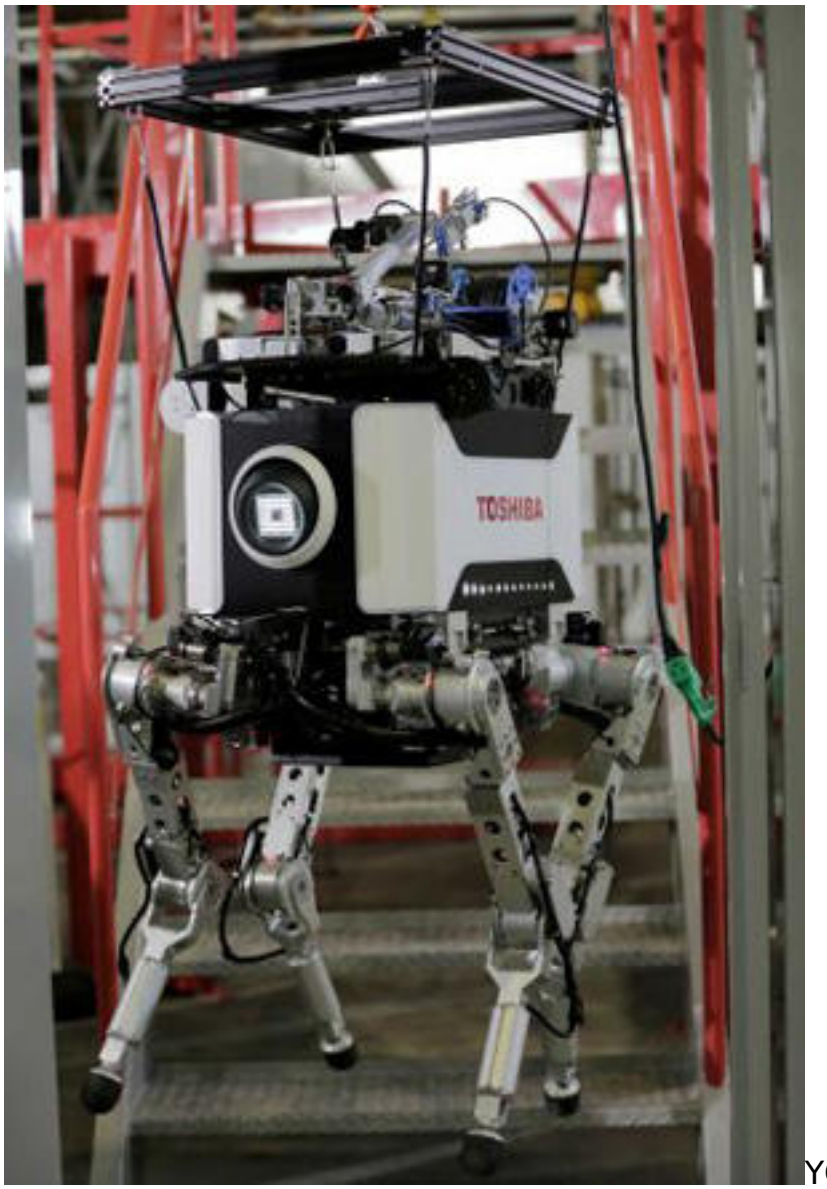

YOKOHAMA, Japan (AP) -- Toshiba Corp. unveiled a robot Wednesday that the company says can withstand high radiation and help in nuclear disasters. But it remains unclear what exactly the new machine will be capable of doing if and when it gets the go-ahead to enter Japan's crippled Fukushima Dai-ichi nuclear plant.

The four-legged robot can climb over debris and venture into radiated areas off-limits to human workers. One significant innovation, Toshiba said, is that its wireless network can be controlled in high radiation, automatically seeking better transmission when reception becomes weak.

But the machine, which looks like an ice cooler on wobbly metal legs, also appears prone to glitches. The robot took a jerky misstep during a demonstration to

reporters, freezing with one leg up in the air. It had to be lifted by several people and rebooted.

The robot was also notably slow in climbing a flight of eight steps, cautiously lifting its legs one by one, and taking about a minute to go up each step.

With obstacles that aren't as even and predictable as steps, such as the debris at the plant, it may need as much as 10 minutes to figure out how to clear the object, Toshiba acknowledged.

And if it ever falls, it will not be able to get up on its own.

Still, Tokyo Electric Power Co. said it might use the robot to inspect the suppression chamber of the Fukushima plant, where a devastating meltdown took place after a mammoth tsunami slammed into northeastern Japan on March 11, 2011.

Toshiba began developing the robot after the disaster with hopes it would prove useful in helping to decommission the plant. No human has been able to enter the highly radiated chamber since the tsunami disaster.

"We need this to go in and first check what is there," said Toshiba Senior Manager Goro Yanase.

It was unclear when a decision on the robot's use would be made, according to TEPCO, which operates the nuclear plant.

Although what Toshiba showed was top-notch robotics, what the machine might be able to do appeared limited in the face of the disaster's magnitude and complexity.

Japan boasts among the world's most sophisticated robotics technology, exemplified in the walking, talking human-shaped Asimo robot from Honda Motor Co. The inability of such gadgetry to help out with the Fukushima disaster was widely criticized.

Part of the reason is that robots, although suited for tasks such as greeting visitors at dealerships, are too delicate. Their wireless remote-controlled networks are not designed to endure high radiation. Honda has acknowledged Asimo would not have been able to withstand the environment at Fukushima, as some had suggested.

Toshiba's Yanase said the new robot, which has a dosimeter to measure radiation and six cameras, can stay in a 100 millisievert environment for about a year and can tolerate even higher radiated areas for shorter periods. At 100 millisieverts, the rise in cancer cases caused by radiation becomes statistically detectable, although even lower dose radiation is not advisable for people.

The suppression chamber was 360 millisieverts the last time it was measured, TEPCO said.

Decommissioning Fukushima Dai-ichi is expected to take decades.

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