

Dyson vacuum's vision system knows where it's yet to clean

7 September 2014, by Nancy Owano



Dyson after numerous years of work has released its first robot vacuum cleaner. The Dyson 360 Eye took 16 years but Dyson's engineers think the time has come, entering a market where, as Dyson sees it, the entry will outshine others. The company pointed out the problem with existing robots is that they have poor suction and don't navigate properly. They would not be alone in seeing the need for robot cleaners to come closer to the performance of conventional models. Dan Costa, editor in chief of PCMag, said "We've been testing robot vacuum cleaners at PCMag for [years](#)," and, overall, have found them to be pretty good but he also commented that they just aren't quite as good as traditional vacuums. Dyson is attempting to change that impression of vacuum robots with its product's features.

First off, there is the high speed digital motor. They developed their own digital motor, and it enables them to generate greater suction than any conventional machine. Another key feature is the 360-degree camera mounted on the top, which will

constantly scan the room for obstacles. The vision system lets the Dyson robot see where it is, where it has been and where it has yet to clean. Gizmag said, "The cleaner's camera images at up to 30 frames per second to provide an accurate [visualization](#) of its surrounding environment. Dyson says the device is accurate to within millimeters."

Margaret Rhodes in Wired detailed how the camera functions. The Eye hinges on a 360-degree camera that views the room at a 45-degree angle and takes pictures; those photos become a live map of the room. "The Eye undocks itself from a charging station affixed to the wall, near the floor. The robot triangulates its [position](#) in the room, finds the center, and starts spiraling outward. Once it has vacuumed 10 square feet, it relocates to clean a new patch. Infrared sensors keep the Eye aware of pets or thin table legs, but the bulk of the vacuum's spatial smarts come from the real-time map of the room."

This is a big change from robots that just change direction when bumping into something, said PCMag's Costa.

Next on the feature list, Dyson engineers designed Radial Root Cyclone technology which generates high centrifugal forces to capture particles as small as pollen and mould. The clear bin is made from tough polycarbonate.

A smartphone Link app lets the owner start, pause and schedule cleanings. The company said it enables the owner to view maps of cleaning progress when not at home, activates a two-year guarantee, automatically downloads software updates and provides access to troubleshooting guides.

The price is not yet set; the Dyson 360 Eye, will be available in Japan next year before going worldwide.

More information: www.dyson360eye.com/

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