

NASA to add legs to giant robonaut aboard the ISS

November 11 2013, by Bob Yirka

(Phys.org) —NASA has [announced](#) its intention to add legs to the [Robonaut 2](#) (R2) robot currently aboard the International Space Station (ISS), sometime next year. The move is part of a 50 year project (currently in year 17) by NASA to investigate the possibilities of using robots on space missions. Adding legs to R2 will increase its standing height to eight feet and its weight to 500 pounds.

R2 was first delivered to the ISS in 2011 as just a head, torso and arms by the Space Shuttle Discovery and is the first dexterous [robot](#) in space (Japan's talking Kirobo robot has arms and legs but they offer virtually no functionality.) Designed at NASA's Johnson Space center in Houston Texas, R2's purpose is to perform many of the activities that are now carried out by human astronauts.

R2 is actually one of four robonauts that NASA has built, each with a different mission in mind. Future parts for R2 include interchangeable wheels for rolling around on the surface of a planet or moon (one configuration involves having R2 roll around on four wheels instead of just two for added stability). NASA also plans to create a line of hands that allow the robot to perform a variety of tasks, one of which would almost certainly be taking part in missions that involve conducting space walks to perform duties or to make repairs to the ISS.

In adding [legs](#) to R2, NASA plans to eventually have the robot move autonomously around the ISS—they being long will help with moving quickly in and out of hatches. But that's part of a long learning process.

R2 will have to start out by taking baby steps as the cramped quarters of the ISS leaves little room for clumsiness—one bump could send a human astronaut careening helplessly through a compartment likely crashing into a wall, or sensitive equipment. The ultimate goal is have R2 move as gracefully as an antelope both inside the ISS and out while performing tasks that are either mundane or dangerous. Having the robot perform spacewalks, for example, would also save on costs as it wouldn't require life-support and other back-up systems necessary to keep humans safe when venturing out.

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More information: via [ABC](#)

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