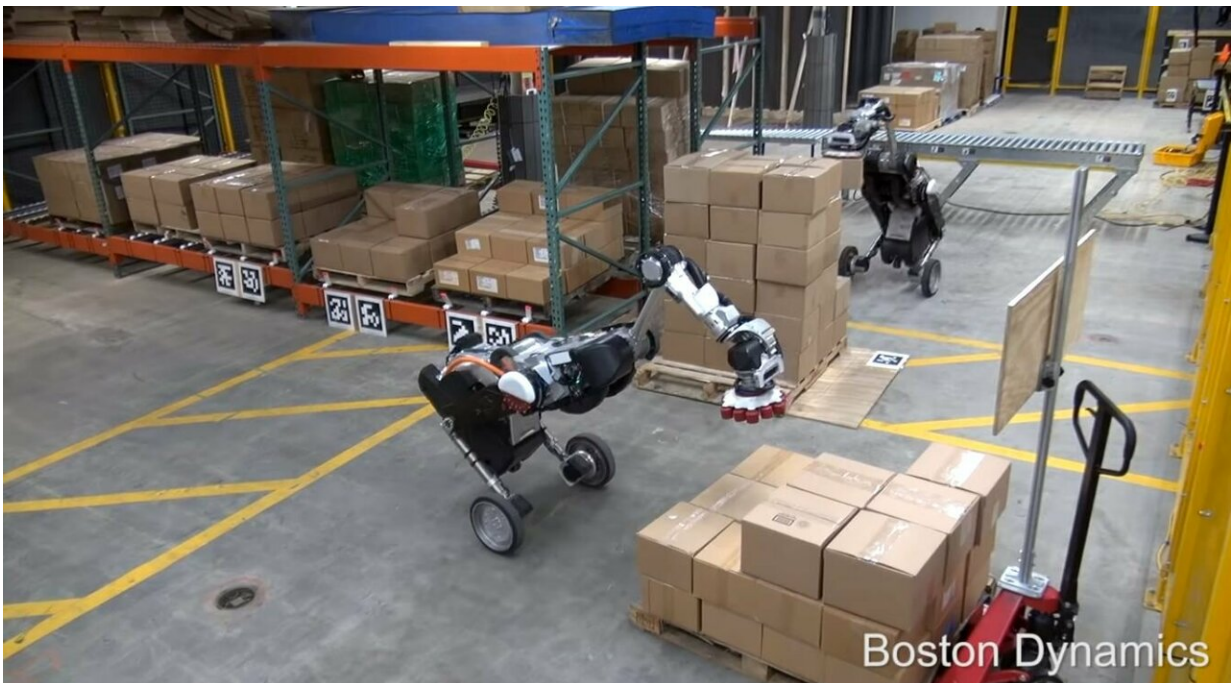


Stacking boxes is spectator treat if Boston Dynamics is in the warehouse

March 30 2019, by Nancy Cohen



Each time news breaks of a fresh video from Boston Dynamics one expects yet another fright night of bipeds making the earth tremble and doing a somersault or four for encores.

This time around, Boston Dynamics' Handle [robot](#) proves the robot kings are still full of surprises.

This time, Handle the robot is not scary, unless you are easily frightened by a machine that is quite efficient on the warehouse fulfillment floor.

Handle has been updated and the latest [video](#) makes box-stacking in a warehouse a spectator sport.

Handle offers genuine entertainment, assuming you would like to see what it can accomplish in its warehouse setting, as this loading wonder goes to work with pallets of products.

Two powerhouse Handles are shown in a video doing their thing, untethered, on wheels, back and forth.

Santa's elves, eat your hearts out.

Ars Technica (you will appreciate this description if you watch the video) described Handle as a pallet-loading "mechanical ostrich." Chaim Gartenberg, *The Verge*, Thursday, said "Handle could probably [crush](#) you at Giant Jenga."

Reports noted that this is a "reimagined" version of the Handle robot from 2017.

[Ron](#) Amadeo in *Ars Technica* pointed out what's new: Handle is no longer humanoid.

"While it still has wheel-legs with backward-bending knees, it's now more bird-like than human."

The newer Handle has a single "arm" but it is mounted at the top of the bot, which makes it look like a bird with a long neck.

One day it will not be so unusual, perhaps, to see "fleets of robots rolling

around and grabbing boxes to build into a perfect, giant stack," as Gartenberg put it.

The video notes said that the boxes used in the video weigh about 5 Kg (11 lbs), but the robot is designed to handle boxes up to (15 Kg) (33 lbs). This version of Handle works with pallets that are 1.2 m deep and 1.7 m tall (48 inches deep and 68 inches tall).

This is a Boston Dynamics description, which will be all the more relevant to the robotics experts who want to know about robots designed for warehouse duties.

The robot makers say that Handle "performs mixed SKU pallet building and depalletizing after initialization and localizing against the pallets."

Among its technical highlights are an on-board vision system. It tracks the marked pallets for navigation and finds the correct individual boxes for grasping and placing.

Another strength is evident in watching the video; the robot does not just plunk boxes down leaving it to chance on whether they teeter or not. Handle uses "force control" to nudge and nestle boxes up against their neighbors.

Readers' comments in the video included the usual remarks that the robots will replace human workers who would actually do the same tasks much faster. On the other hand, the robots do not face the same limitations of endurance and can work longer hours at a steady pace.

Boston Dynamics said the robot uses many of the same [principles](#) for dynamics, balance, and mobile manipulation found in the quadruped and biped robots you have seen in their portfolio, but with only 10 actuated joints, it is "significantly less complex."

Less complex does not mean a sacrifice of efficiency; in fact, said the company, all of Handle's joints are coordinated for "high-performance" manipulation.

What's next? Handle does suggest a different look at the Boston Dynamics we have been accustomed to, with its robots suited for military combat scenarios and search and rescue.

"What's interesting about this latest release is that it actually shows a machine purpose-built for industrial work, while previous projects have seemed to be [aimed](#) at the military and commercial sectors," said Isaac Maw in *Engineering.com*.

"Handle is certainly the most useful looking job-oriented robot the company has ever produced," said Amadeo.

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