

Robotic dogs enter the construction workforce

Somewhere between starring in a Super Bowl ad, a Katy Perry video and several dancing robot videos, including one on 60 Minutes, Spot, the robotic dog, has become an uncommonly cool piece of construction technology.

A quadruped robot developed by Boston Dynamics, Spot has evolved into a worksite tool for several industries, including construction.

“We made Spot payload agnostic because we want our customers to integrate Spot with the tools and devices they need to be successful,” said Rich Lyons, Sales Manager at Boston Dynamics.

Construction technology developer Trimble partnered with Boston

Trimble partnered with Spot's creator, Boston Dynamics, to outfit Spot with 3D laser scanning technology so the robot could autonomously complete construction site scans. Photo courtesy of BuildingPoint Northeast.



Dynamics to integrate the Trimble X7 laser scanner with Spot. The combination of those two technologies gives construction companies the opportunity to automate their worksite scanning.

“You can plan Spot’s operations with the Trimble T100 Tablet. You can identify all the locations on site where you want Spot to stop and complete a 360-degree scan,” said Steve Montgomery, CEO and Co-founder of BuildingPoint Northeast. “At the specified times, Spot will walk the site and stop at each scan station. The scanner will run a pre-calibration check to

make sure it’s level, scan the area and then Spot will move onto the next station.”

Outfitted with 15 cameras and programmed for walking, climbing and crawling, Spot is able to navigate extremely difficult and uneven terrain. Spot will also walk back to its recharging station – the ‘doggie bed’ – when needed.

In an industry known for its reluctance to adopt new technology, Spot is receiving uncommon interest among construction companies.

“There is a cool factor about Spot right out of the gate... and some customers are thinking of Spot as a way to show they are innovative and forward thinking,” Lyons said.

Since BuildingPoint Northeast acquired a Spot two months ago, Montgomery said numerous, unrelated meetings with customers have unexpectedly veered onto discussions about the robot and expressions

of interest to buy one. That has nudged Montgomery into a new role, namely “tempering construction companies’ urge to buy.”

“We want to make sure that Spot complements a customer’s workflow,” Montgomery said. “If it’s just a cool toy they want to own and the equipment ends up sitting and not getting used or generating value, that will stick in the customer’s mind. We want to make sure they get value from any technology purchase.”

And Spot can generate significant return on investment. Spot, for example, can scan about 300,000 square feet in under eight hours.

“A human doing the scanning and moving the tripod and scanner around can complete about 55,000 to 60,000 square feet in the same time if they are moving at a pretty good clip,” Montgomery said. “So Spot can do in a day what we would need nearly six days to do.”

Priced at about \$160,000 (for a Spot, a docking station and the Trimble laser scanning equipment), the technology could deliver good return on investment for a large general contractor, engineering firm or major subcontractor, Montgomery said. X