Ford puts robotic dogs in driver's seat at manufacturing plant

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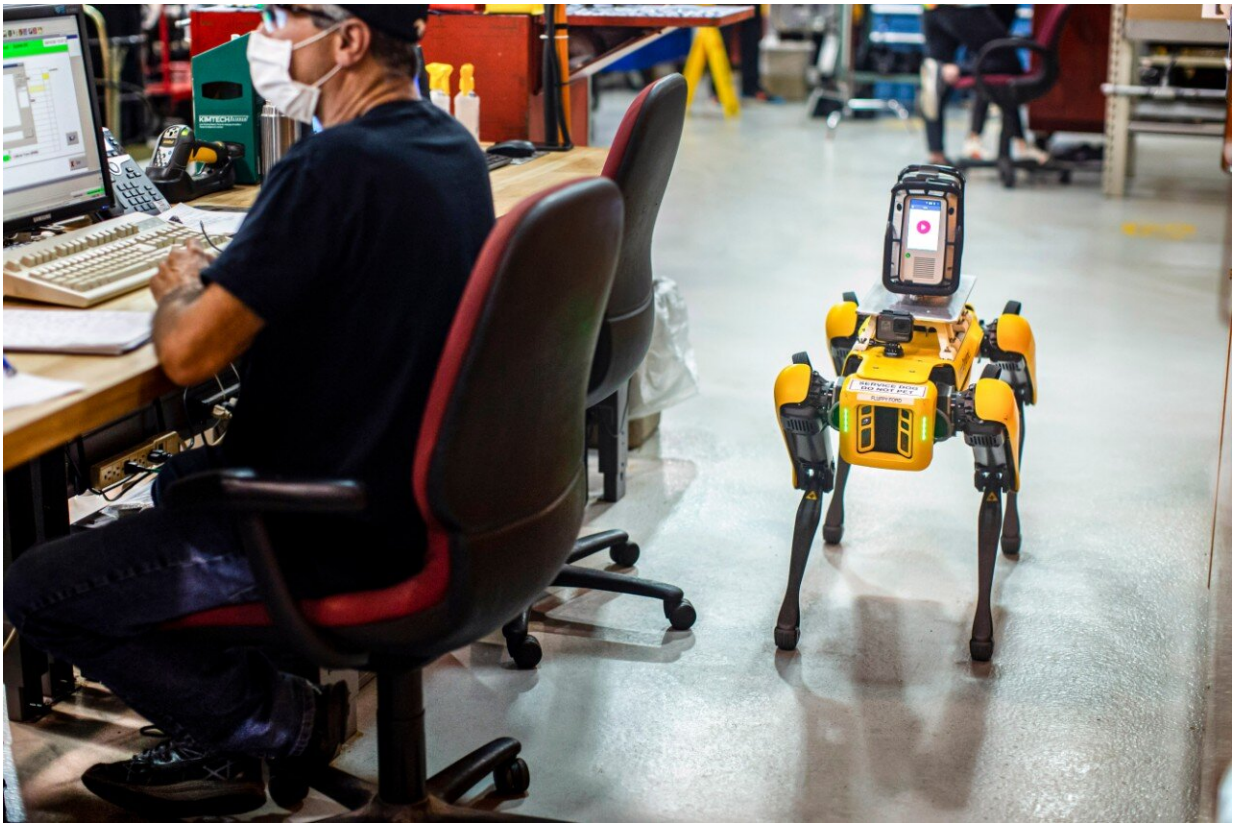

Credit: Ford

A Ford plant in Michigan has gone to the dogs.

In this case, the four-legged beasts are robotic, and they promise to usher

in a new era of computer-aided design and economic efficiencies for the auto manufacturer.

The two pooches—Fluffy and Spot—were manufactured by Boston Dynamics, which specializes in sophisticated robotic construction.

Their tasks will be to traverse the Van Dyke Transmission Plant in Sterling Heights, Michigan, and scan the layout to help engineers create more efficient layouts for periodic upgrading and retooling projects.

Each dog is equipped with five cameras capable of 360-degree scans. They can trot at speeds up to 3 mph and navigate stairs up to a 30-degree angle. Battery time is somewhat limited at just under two hours. But a more robust companion robot, Scouter, serves as a chauffeur for the digital pooches for lengthier jaunts throughout the plant. Scouter, which is larger and bulkier and cannot access many areas Fluffy and Spot can, allows the two to conserve battery power.

Based on early runs, the two new pets may well earn the greeting, "Good dogs!" Mark Goderis, digital engineering manager at Ford, explains how the dogs improved on what used to be a long and expensive scanning task:

"We used to use a tripod, and we would walk around the facility stopping at different locations, each time standing around for five minutes waiting for the laser to scan," Goderis said. "Scanning one plant could take two weeks. With Fluffy's help, we are able to do it in half the time."

Goderis said the manufacturing plant undergoes a number of changes and modifications over the years, many of which go undocumented.

"By having the robots scan our facility, we can see what it actually looks like now and build a new engineering model. That digital model is then

used when we need to retool the plant for new products."

Scanning projects generally run around $300,000. Fluffy and Spot (Spot is the official name for the line of robots) are expected to help slash that figure significantly.

The robots can be operated from distances up to 164 feet away. Eventually, remote applications will be developed that will permit control from anywhere around the globe.

The computerized canines are indeed a rare breed; they cost $75,000 apiece. Ford currently is leasing the pair.

Boston Dynamics has dispatched Spot's cousins to other spots around the world.

The Norwegian oil exploration and development company Aker BP ASA plans on utilizing Spot's stereo scanning capacity, obstacle avoidance systems and onboard sensors to track down gas leaks and transmit weather conditions from the sea. These operations can be conducted in locations unreachable by workers and for tasks too risky for humans.

On a farm in New Zealand, the robots are being used to monitor the growth of crops as well as to herd sheep.

At Brigham and Women's Hospital in Boston, a robotic dog has been retrofitted with iPads to allow doctors to remotely examine and communicate with COVID-19 patients.

"Originally, we were just talking to them without there having to be a health worker there. Now we're making vital measurements like respiration rate, body temperature," Boston Dynamics founder Marc Raibert said in a CNBC interview. "We're working on oxygenation and

heart rate, all that can be done without contact, even with a robot."

And in Singapore, robots are being used to monitor social distancing practices in public parks. This relieves human personnel from risky exposure to infected individuals and to ornery citizens who flout local regulations. The dogs can broadcast messages and warnings to individuals reminding them to take proper precautions.

Unlike their live counterparts trained in crowd control by police, the digital dogs are not programmed to tackle or bite scofflaws.

Not yet, anyway.

More information: media.ford.com/content/fordmed … r-legged-robots.html