

# HOW MUCH IS THAT DOGGIE? ROBOT

BY HEATHER GALLAGHER

Robot dogs are earning their virtual kibble, helping everyone from police officers and NASA astronauts to those who just want a pet.

## Welcome Spot!

A robot dog called Spot is the latest addition to the Western Australian police force. Police Minister, Paul Papalia, says Spot was bought to help the bomb squad, investigating suspicious items so police officers are not put at physical risk.

"Anything we can do to protect them and get them further away from a danger or explosive device is a good thing," he says.

Spot cost around \$350,000. It was designed and built by Boston Dynamics, a United States-based global leader in robotics technology.

While Spot has a head like a python, it's actually used mostly for grabbing. Its long neck acts like an arm, while its main senses, including a zoom camera, infrared sensor and microphone, are attached to its back.

Spot's four legs give it some of the agility of a real dog, and its size lets it squeeze through tighter gaps than a human can. And if it gets damaged or destroyed, it's a lot easier to replace than a human, too!



This robot dog just joined the bomb squad!

Image: WA Police Force

## Spot in space?

Meanwhile, NASA have their own Spot robot. It has the same legs and body as police-dog Spot, but the instruments and equipment on its back are designed for a different mission. NASA hopes that NeBula-Spot will eventually look for signs of extra-terrestrial life in caves on the Moon and Mars.

Researchers are testing how flexible Spot is and how easily it can move through caves on Earth, with a long-term view to using the robot in space.

"Caves are really important for NASA," says project lead, Ali Agha. "They might be the key to finding an answer for humanity's longstanding question of if there is, or was, life on other planets."

Ali says it's crucial for Spot to remain stable in difficult terrain.

"At the same time, it's really important that the robot can carry enough science instruments while it has the required endurance and speed," he adds.



NeBula-Spot might get to explore caves on the Moon

Image: NASA/JPL-Caltech

## A Spot you can pat



Qoobo is a cushion with a wagging tail

Image: Qoobo



Aibo is a fun, clever robot pet

Image: Sony



Paro comforts people who can't care for a real animal

Image: Paro

Over in Japan, AI companies are making pets for people who can't, or don't want to, care for a real animal. Robot dogs are being used to help brain function in residents of aged care homes, and to promote kindness among children in preschool centres.

Qoobo, for instance, is a round furry cushion with a tail that wags when stroked. Its slogan: "a tailed cushion that heals your heart".

Aibo is another robot pet. Its developers claim that Aibo will learn to recognise different family members and enjoy playing with toys. It can do a variety of tricks, wag its tail, and when it gets tired, will take itself to its charging point. You can even feed Aibo virtual food! Aibo costs about \$5,000, but is not available in Australia yet.

Interestingly, one of the first robotic animals in Japan was not a dog. Back in 2003, Paro was designed to look and sound like a baby seal.

Paro provides animal therapy to patients in hospitals and aged care where it isn't practical to have real animals. The designers thought their patients were too familiar with dogs and cats to accept a robotic version, so they built a seal instead!