

Amazon Announces Vulcan – The First Robot With 'Tactile Sense'

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Amazon has unveiled Vulcan, a new robotic system that it describes as its first robot with tactile sensing. Unveiled at its "Delivering the Future" event in Dortmund, Germany, Amazon believes Vulcan marks a new step forward in robotics in its distribution centers.

Standard industrial robots today often lack the ability to sense contact, leading to the risk of causing damage or being forced to stop when encountering unexpected obstacles. Vulcan overcomes this limitation with advanced engineering and 'physical AI,' which allows it to understand when and how to interact with objects. Aaron Parness, Amazon's director of applied science, called Vulcan a 'fundamental leap forward,' noting that '*Vulcan can not only see the world, but also feel it, opening up possibilities that were previously impossible for Amazon robots.*'

Amazon plans to deploy the Vulcan system in distribution centers across Europe and the United States over the next few years.



In addition to physical robots, Amazon is also actively developing other areas of AI. Its Prime Video service is reportedly experimenting with the idea of AI dubbing to make multilingual content more accessible, starting

with English and Latin Spanish versions of some titles. Additionally, the company recently introduced its Nova Sonic audio model — an AI designed for real-time natural voice interactions — and updated its Nova Reel video creation model to version 1.1, allowing for videos up to 2 minutes long.

Handling goods in tight spaces

One important application for Vulcan is handling items in crowded warehouses – where different items are stacked close together. Robots without tactile sensations would have difficulty moving them without damaging the contents. Vulcan uses force feedback sensors and specialized end-of-arm tooling, including a gripper that can hold items and a tool to gently move existing objects. It adjusts the gripper and impact force to avoid damage when picking or stacking.

Vulcan combines cameras and suction cups to pick the right item, ensuring no mistakes are made. Amazon says Vulcan can pick and stack about 75% of the diverse items in its distribution centers at the same speed as a human worker. Here's a GIF of Vulcan in action shared by the company: