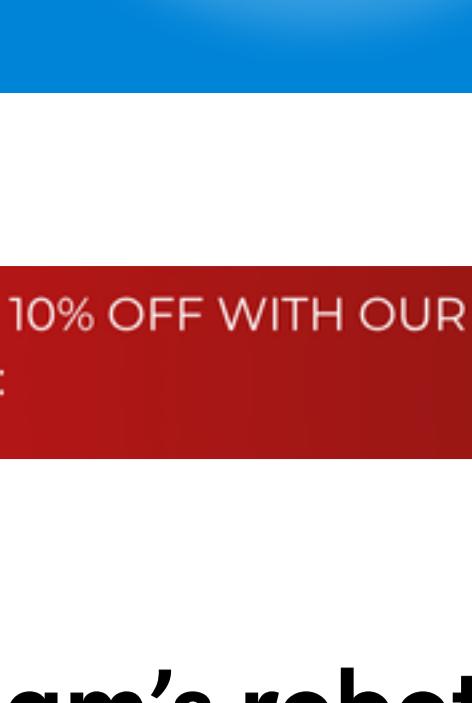


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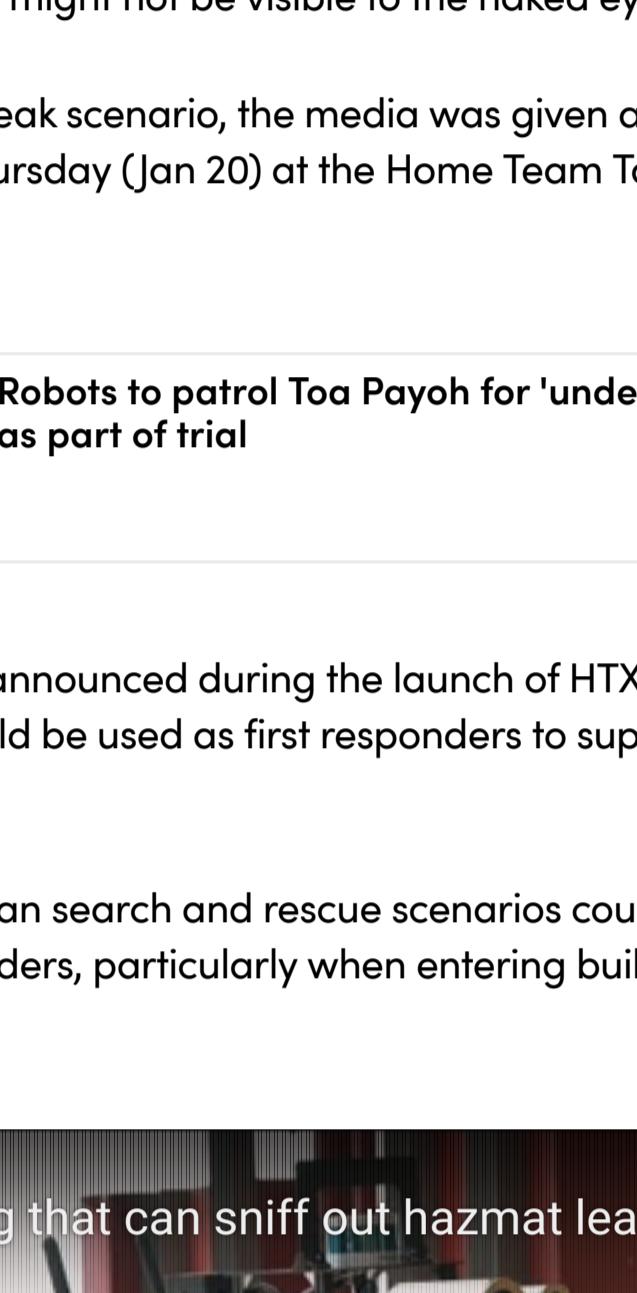
Home Team's robotic dog could respond to chemical incidents, support police patrols when it joins frontline operations



A dog walks through a chemical plant, but it is not a stray one. It is a robot, capable of detecting poisonous gas in the air after a leak. Leong Jia Yu reports.

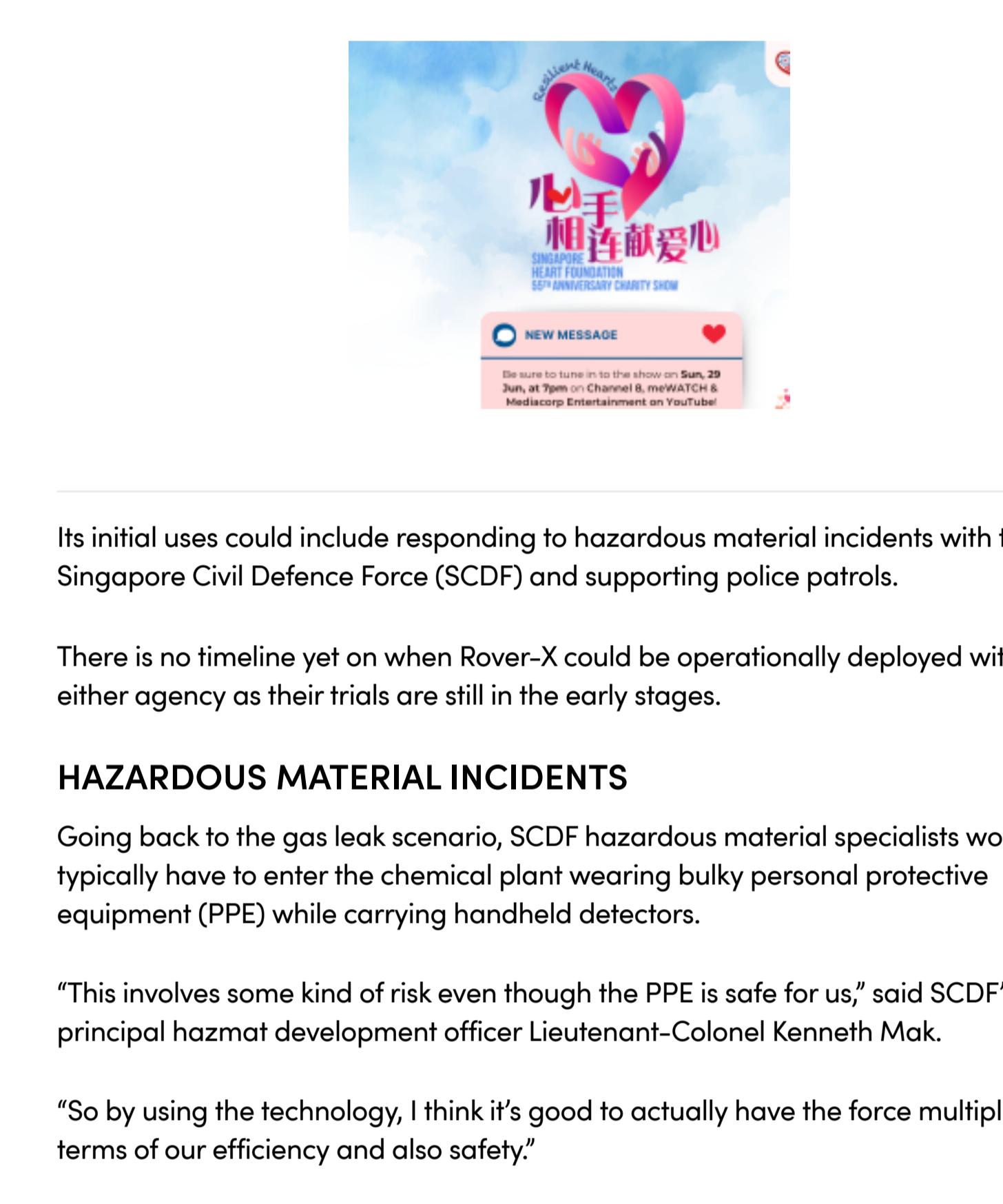
SINGAPORE: A dog walks through a chemical plant, but it is not a stray one. It is a robot, capable of detecting poisonous gas in the air after a leak.

The four-legged Rover-X, jointly developed by the Home Team Science and Technology Agency (HTX), moves autonomously through the plant with a soft whir, its "paws" made of sturdy rubber.



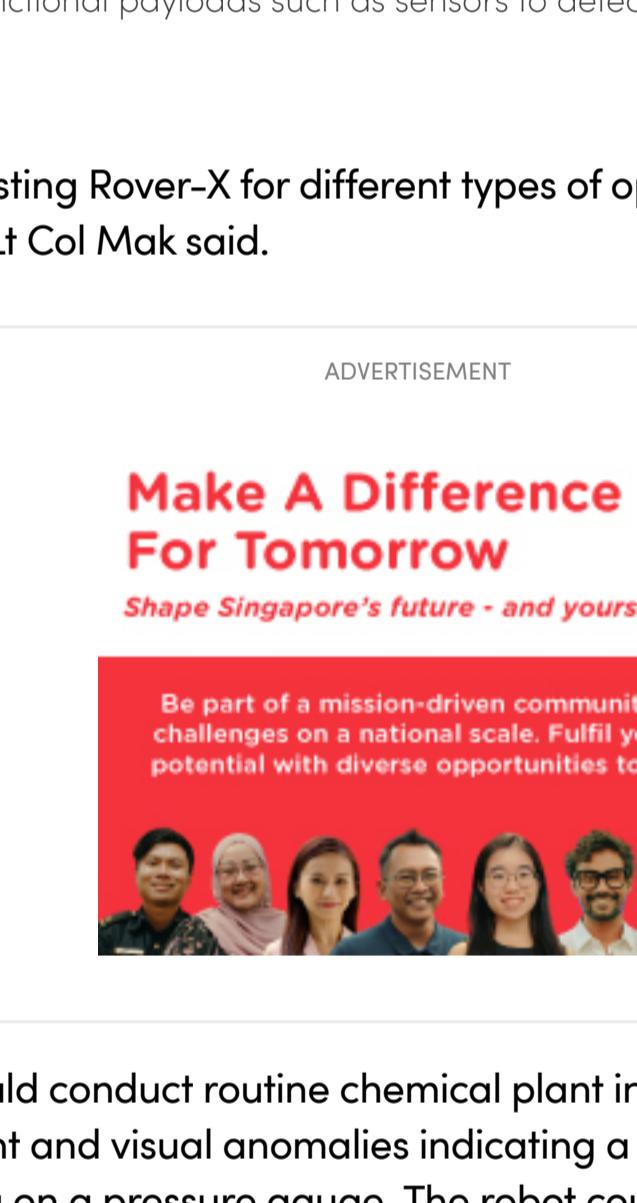
A 3D laser scanner, inside a blue cylinder near its "head", helps it map the surroundings and navigate around obstacles towards a pre-programmed location, like a series of gas pipes.

The robot's electronics and depth cameras calculate and adjust its motor commands up to thousands of times per second, enabling it to plan its footsteps and handle different terrain, including stairs and kerbs.



Rover-X can be deployed on unstructured, hazardous terrain and places deemed unsafe for humans.

A little black case on its body is responsible for "smelling" different concentrations of gases in the air. The amount of gas detected is piped back to the operator's computer screen at a remote command and control station.



A removable front camera, capable of zooming up to 32 times, sends back a high-definition live feed. The robot also carries a thermal imager to see in the dark and detect flames that might not be visible to the naked eye.

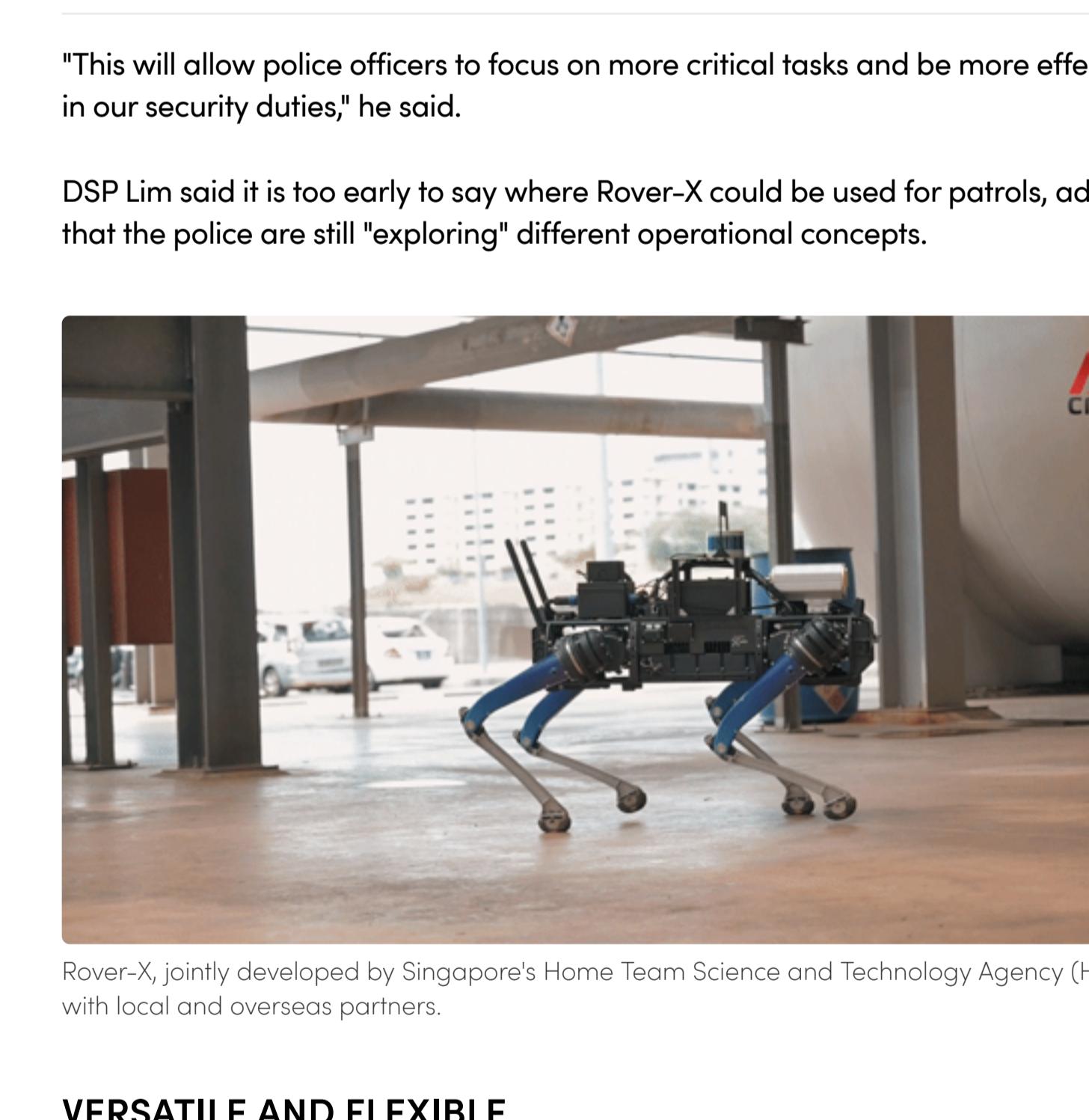
Through this gas leak scenario, the media was given a demonstration of Rover-X's capabilities on Thursday (Jan 20) at the Home Team Tactical Centre in Mandai.

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Rover-X was first announced during the launch of HTX in December 2019, when the agency said it could be used as first responders to support disaster rescue efforts and save lives.

This comes as urban search and rescue scenarios could be extremely dangerous for human responders, particularly when entering buildings they do not know much about.



Rover-X, on the other hand, could be deployed on unstructured, hazardous terrain and places deemed unsafe for humans.



Its initial uses could include responding to hazardous material incidents with the Singapore Civil Defence Force (SCDF) and supporting police patrols.

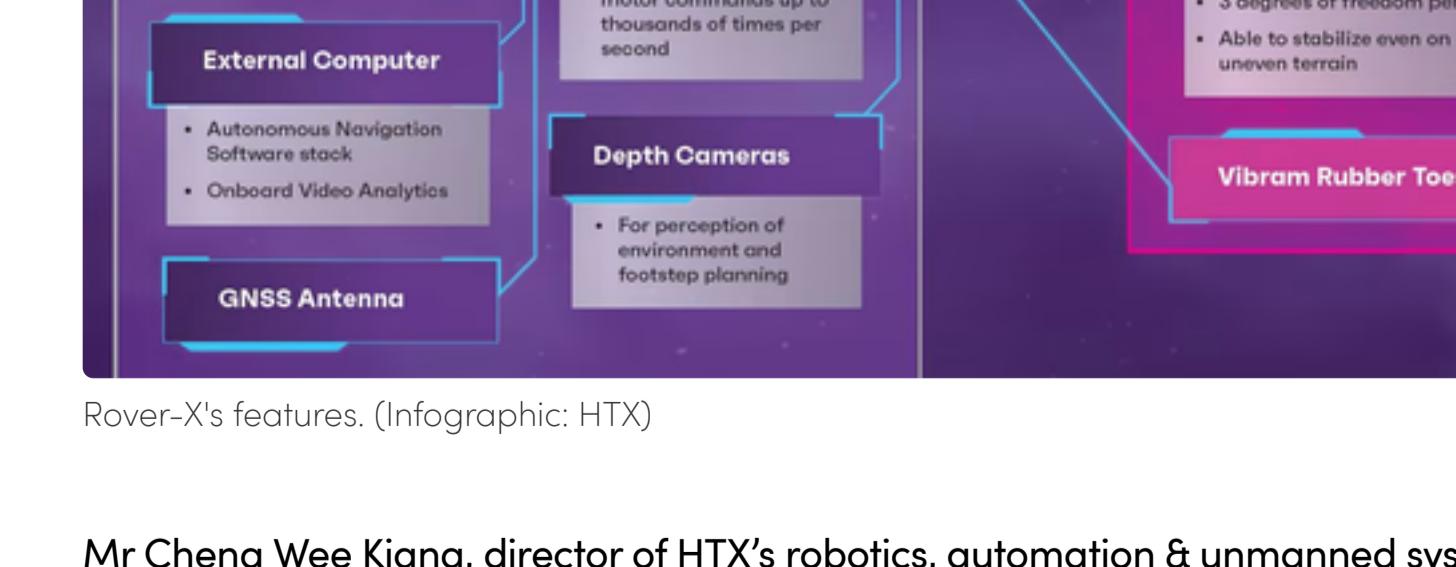
There is no timeline yet on when Rover-X could be operationally deployed with either agency as their trials are still in the early stages.

HAZARDOUS MATERIAL INCIDENTS

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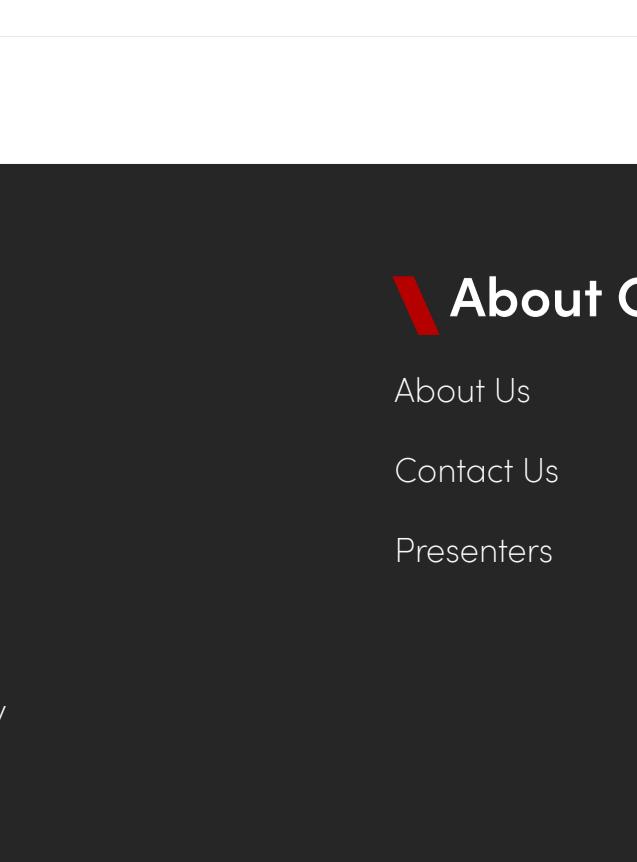
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"So by using the technology, I think it's good to actually have the force multiplier in terms of our efficiency and also safety."



(Photo: CNA/Hanidah Amin)

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