

## Scientists say robot was 'long shot' in NZealand mine rescue

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Scientists have questioned the failed use of a robot in the search for 29 trapped miners in New Zealand, saying the devices are a "long shot" at best and unlikely to save lives.

There has been no contact with the miners since the [explosion](#) four days ago and anxious relatives had pinned their hopes on a camera-equipped [robot](#), normally used for bomb-disposal, which was sent into the mine Tuesday.

But expectations were shattered when the New Zealand defence force device broke down after it was short-circuited by water just 550 metres (yards) into the shaft, less than a quarter of the distance it needed to travel.

"It is always a long shot to use any robot for a situation or environment that it's not designed for," rescue robot specialist Professor Robin Murphy of Texas A&M University told New Zealand Science Media on its website.

"The environment is tough -- dark, wet, cold. So even on a level floor that would be easy for a person to walk on, a 'regular' robot can quickly short out."

Police superintendent Gary Knowles, who is overseeing the stalled rescue operation, said the [New Zealand](#) said more advanced robots were now being sought from the United States and Australia.

Murphy, who was involved in the use of robots in the aftermath of the September 11 attacks on the World Trade Center and the 2005 Hurricane Katrina disaster, said there had been no "live saves" with robots and they had limited use.

Sean Dessureault, from the department of mining and geological engineering at the University of Arizona also said robots had serious shortcomings and also carried the risk of igniting volatile mine gases.

"Mobility is a major issue, largely due to their need to be tethered -- connected by wire, since standard wireless technology does not work underground after an accident.

"A key limitation is that since the ventilation systems are shut down or no longer functional after accidents, the potentially explosive gasses that build up in some underground coal mines... can create additional explosions."

"Robots are electric and hence through heat or even tiny sparks or static electric build-up, can cause secondary explosions."

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