

Four reasons why the Terminator is already here

July 1 2015, by Michelle Wheeler



A portrait of one of the Terminator models at Comic Con 2009. Credit: Nathan Rupert

As *Terminator: Genisys* hits cinemas around the world, ScienceNetwork WA looks at some of the feats performed by robots in the Terminator

films, and investigates how long until reality catches up with science fiction.

Driving

It only takes a glance at the Korean team's [winning entry](#) in this year's DARPA Robotics Challenge to confirm that robots are already able to drive.

Head of Curtin University's Intelligent Robotics Group Raymond Sheh says the competition shows robots can drive cars, open doors and use tools.

"But the capabilities are still very much in development," he says.

Make decisions

Dr Sheh and his team are working on robots that can not only make decisions but also justify those decisions to humans.

"The aim is to allow us to carry on a dialogue with the robot," he says.

"So for instance, if the robot [driving a car] turns left, you could ask it 'why did you turn left?' and the robot says 'I turned left because I saw the area in front of me was this high, I'm tilted to the left by this amount, you want me to go forward and slightly to the left anyway'."

Kill people

This capability appears to already be reality, with a [2012 report](#) from Human Rights Watch and Harvard Law School listing a frightening number of automatic defence systems and other precursors to fully

autonomous weapons, including unmanned drones used by the US in Afghanistan.

There is also a South Korean sentry robot that can detect people in the Demilitarized Zone and, if a human grants the command, fire its weapons.

"One of the things that all researchers need to come to terms with in their own way [is] that if a capability is useful, it doesn't matter where it's developed or how it's developed, someone, somewhere will make use of it for making war," Dr Sheh says.

Repair themselves

The machine's ability to spot problems and fix themselves is also already here, although it looks less like Arnold Schwarzenegger removing an unstable hydrogen fuel cell and more like the 1996 Toyota Corolla Dr Sheh had as a PhD student.

"The idea of a [robot](#) system that can identify problems with itself and take corrective action, that's been around for a while now," he says.

"We are still a fair way away from the liquid metal man in Terminator...that one is a nanotechnology and material science challenge."

For now anyway...

Provided by Science Network WA

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