

Driver response time doubles with autopilot

PHILIP KING
MOTORING EDITOR

The time a driver takes to regain control in an emergency is the Achilles heel of autonomous vehicles, according to a Canberra-based company which makes in-car monitoring systems.

Trials of the Seeing Machines system, which uses a camera to assess behaviour behind the wheel, shows drivers respond at least twice as slowly when their vehicle is self-driving compared with when they are in control.

Researcher Mike Lenne said its tests had generated data that confirmed widespread concerns that driver distraction was a key weakness of autonomous technology, which is frequently cited as the road safety holy grail.

Mr Lenne, who will present his findings at the International Driverless Vehicle Summit in Adelaide this week, said car-makers were increasingly aware of the problem and “want to know more about what the driver is doing before they allow a driver to take his or her hands off the steering wheel”.

He said partial autonomy had as many risks as benefits and regulatory bodies were also worried about what drivers did when a car did some steering itself.

“There is concern about how driver behaviour and vehicle function — over the next one to two years in particular — could impact safety,” Mr Lenne said.

“If you don’t have a way of

monitoring how attentive the driver is, and you allow them to use this system on public roads, in mixed traffic, at high speeds where you have no control over how long the driver is looking off-road or whether they have their hands off the wheel for long periods, then that is almost a perfect storm.”

He said replicating real-world conditions was a challenge, so there was a paucity of hard data.

Seeing Machines used a Canberra test track and Tesla vehicles equipped with autopilot to research responses to an unexpected need to swerve to the other side of the road.

When drivers had complete control, typical reaction times were one to 1.5 seconds but these increased to three or 3.5 seconds with autopilot engaged.

“There’s no escaping (that) if your hands aren’t on the wheel and eyes aren’t on the road, your response time to a takeover request is at least double,” Mr Lenne said.

Seeing Machines is one of only a few suppliers globally to offer driver monitoring systems and its customers include Cadillac and several German luxury brands.

Mr Lenne said the European Commission aimed to make in-car monitoring systems mandatory by 2020 and Australia was likely to follow its lead. At the same time, crash test bodies were looking at awarding extra points for monitoring systems in the same way that cars now score more for driver assistance features such as lane keeping.

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