NEWS

Seeing Machines chief executive officer Paul McGlone, left, and the company's head of innovation John Noble inside one of the driving labs. **Picture by Keegan Carroll**

How your next car might control you

PETER **BREWER**

FORGET about friends making judgement calls about your poor dress sense; your next car could make a call on whether you are fit to drive.

And if a Canberra tech company's approach is adopted by regulators, then the simple act of detecting whether you've had a glass of wine at dinner then would trigger a raft of vital safety decisions by your car's on-board computer.

These could range from the extreme - a complete lockout to driving - to ramping up all the next-generation safety systems to potentially compensate for what it "sees" - quite literally - as your level of driving impairment.

In the technology race to prevent drivers impaired by drugs and alcohol killing themselves or others on the road, Seeing Machines has vaulted ahead of the rest.

And the irony is that now Australia no longer has a domestic car-making industry, it has to depend on the regulatory courage of safety authorities in Japan, China, the US and Europe - as well as the commercial impetus and will of the car makers - to bring the life-saving technology to our shores.

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>
> **John Noble**

Fyshwick-based Seeing Machines, whose world-leading distraction and drowsiness-detection machine-learning technology is already installed in 1.8 million passenger cars and monitors the drivers of 60,000 heavy trucks around the globe, is growing its capability to accurately detect impaired drivers and develop counter-mechanisms to prevent the trauma which results.

After detection

Yet in discussion about the impairment issue with regulators like the huge and influential US National Highway Traffic Safety Administration, the company's head of innovation John Noble said the next steps after detection were those which he found "fascinating".

"We talk with them [NHTSA] frequently and they came to us and asked: Can you

detect it [driver impairment], how well do you detect it?," he said.

"And we gave them all those answers.

"But then we asked them: 'By the way, what is going to happen after you detect it'?

"It seems no-one had really thought about that."

Researchers commonly agree that around 30 per cent of injury and death on Australian roads is as a result of impaired driving, mostly alcohol-induced.

Over one in four drivers and riders killed on Australian roads have a blood alcohol content exceeding the legal limit.

And the boffins at Seeing Machines agreed this is the next big road safety "nut" to crack.

When they do - and it will require more than just their tech, but the commitment of many other key stakeholders, including the carmakers themselves - hundreds of Australian lives, and most likely thousands worldwide, will be saved.

Mr Noble said a general technical solution to impairment detection - not just blood-alcohol content, but all manner of prescription and non-prescription drugs - was the answer and was confident the SM driver monitoring system would be an integral part of it.

"We have a detection capability already; we have quite a lot of data on alcohol [impairment] and a lot of other drugs as well," Mr Noble said.

Writing the rules

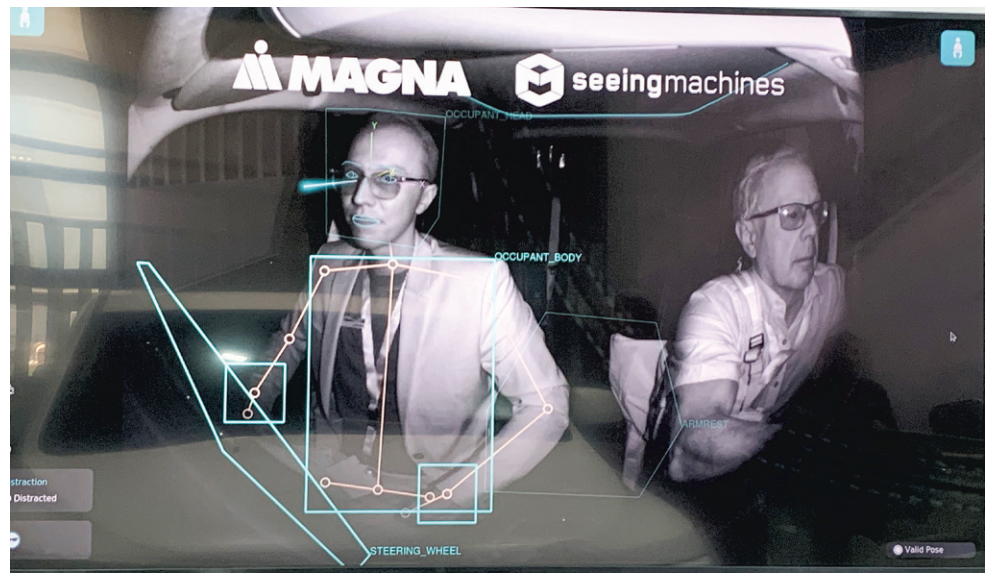
"We do some studies ourselves, we partner with universities here and around the world, and in some cases we partner with regulatory bodies because regulators around the world are very interested in how to write the rules to generate the safety benefit."

As a result of a deal which provides its intellectual property to world-leading vehicle component maker Magna last year, Seeing Machines' tech is now a wholly integrated piece of optics and software imbedded in the rear vision mirror of hundreds of thousands of vehicles built by Mercedes, VW, Ford, General Motors and other major global manufacturers.

Around the world, researchers are tackling the impairment issue from several perspectives.

In the US where around 10,000 drivers a year are killed in alcohol-related road crashes, a sophisticated program called the Driver Alcohol Sensing System (DADSS) has been trialled in the field since 2018.

It basically "sniffs" the air inside the cabin to detect alcohol exhaled by the driver through sensors located throughout the cabin such as above the steering wheel, glovebox, and the driver-side door and the passenger-side door.



The complex body, head and eye movements detected by the Seeing Machines software. **Picture by Peter Brewer**

Linked to this is a tactile system which is buried in the start button and in the gear-shift knob which shines a beam of infrared light - known as near infra-red spectroscopy - under the skin to detect alcohol levels in the blood.

But this system only works with alcohol. And while getting this technology into cars would make a huge difference to road safety, detecting all types of driver impairment is the "stretch" goal for researchers.

Multiple technologies

Ideally, that would be in combining several pieces of technology - such as the alcohol air and blood detection with advanced driver monitoring - in a "total" and comprehensive detection package which would deliver the biggest gains of all.

However, in the overall morally righteous desire to save lives, there are always those awkward, thorny commercial considerations. While Canberra's Seeing Machines has a successful and complex technology so too, do other competitors. And all want to make money from them.

So the race to save lives is equally a race between technologies; which company can make it work not just in the lab but out in the field, again and again with the utmost reliability, and also license that intellectual property to be produced at an affordable price.

Seeing Machines' Paul McGlone in one of the company test vehicles. **Picture by Keegan Carroll**

Because as pioneer astronaut John Glenn famously said: "As I hurtled through space, one thought kept crossing my mind - every part of this rocket was supplied by the lowest bidder".

Under the EU's General Safety Regulations from July 7 this year all new passenger vehicles produced in the EU must have a driver fatigue and attention warning system.

The advantage for Seeing Machines is that its tech - the occupant monitor, clever camera and the super-smart software - is already fixed to the windscreens of almost 2 million cars, with thousands more rolling off production lines each day.

It already patches into advanced driver assistance systems like the lane-keeping system that steers a wayward car from danger. Despite being years in its research and development, the SM solution is potentially simpler and cheaper to roll out in a packaging sense than its rivals. This will appeal to the cost-sensitive car makers.

'With our impairment [detection] approach, it is not just about alcohol," John Noble said.

"There may be many reasons that you are not fit to drive and we want to detect that dynamic in order to support the driver."

There's also a growing awareness that the car makers don't want to take a club-hammer approach to safety - even with the most well-meaning of intentions - because car buyers are fickle and capricious creatures.

Paying $150,000 for a Mercedes that decides it won't start because the driver had one glass of wine over dinner is not a palatable sales pitch.

Lockout issues

"This is one of the real challenges that the regulators are facing," Mr Noble said.

"If you tell the market that I'm going to put a breathalyser in your car and if it triggers - even if it's a false positive - then you're not going to be able to drive the car, then that presents issues.

"There are cases where there are potentially very difficult consequences to those types of lockout systems.

"So the way we are trying to approach this is: how do we maintain that user acceptance, how do we make it supportive but we also generate that safety outcome?

"Because there are two sides to this coin: how do you detect it, then what do you do about it?"

Much easier to implement as a regulation and sell in the showroom is the system which can detect impairment will affect a fitness to drive and potentially increase the levels of assistance accordingly to the point where speeding, over-correcting the steering or wandering into oncoming traffic are impossible.

Refuelling issue causes flight delay chaos in Perth

A REFUELLING issue that grounded nearly 60 planes at Perth Airport spelled significant delays for travellers on Saturday.

Travellers heading to or departing the main West Australian airport were left in limbo due to a fuel load pressure issue in the supply system which meant planes could not be refuelled.

Perth Airport announced on Saturday afternoon the issue had been resolved with the help of external experts.

"We will continue to monitor the situation closely in the event of any further issues," a spokesperson said in a statement on Saturday.

The spokesperson said 59 domestic and international flights had been cancelled due to the operational issue.

Some of the cancelled flights included departures to Sydney, Darwin, Brisbane, Kuala Lumpur and Bali.

Some flights were diverted to other airports, including a flight from London which was forced to land in Karratha in WA's north.

Ticketek breach prompts data warning

AUSTRALIANS are being urged to be careful in how they use the internet after Ticketek flagged a "cyber incident" may have exposed customer details.

The ticketing company said in a statement data from Ticketek Australia account holders stored on a cloud-based platform by a global third party supplier had been affected.

"Since our third party supplier brought this to our attention, over the past few days we have worked diligently to put every resource into completing an investigation, so that we can communicate with you as quickly as possible," Ticketek said in an email sent to some of its customers.

"The available evidence at this time indicates that, from a privacy perspective, customer names, dates of birth and email addresses may have been impacted," the company said.

Minister for Cyber Security Clare O'Neil said on social media platform X the National Office of Cyber Security had been informed by Ticketek Australia "data belonging to their customers has been stolen".

"I'd ask Australians to be especially vigilant and on the lookout for scams during a time like this," Ms O'Neil wrote.

"In a breach like this, Australians need to be aware of scams including phishing emails. Data breaches are becoming more common - in Australia and around the world. That means that we all have to be more careful in how we use the Internet."

The National Cyber Security Coordinator said the Australian Signals Directorate and the Australian Federal Police were also aware of the incident.

Coalition frontbencher Dan Tehan said the government needed to keep evolving data protection laws to keep Australians safe.

"We need the government working with these companies to help and support them, but also these companies, owe it to the Australian people that they're doing everything they can to keep their data safe," he said.