

Seeing Machines Limited
("Seeing Machines" or the "Company")

Euro NCAP to Mandate Driver Monitoring Systems For Safety Ratings
NTSB Recommends DMS For Semi-Autonomous Vehicles

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Driver Monitoring Systems (DMS) technology is becoming a core element in the next generation of intelligent vehicles to augment drivers, enabling better and safer driving, as well as underpinning the safe migration to Highly Autonomous Vehicles (HAV).

Automotive and transport regulatory, rating and investigative bodies around the world have begun to issue new recommendations for DMS as an integral part of new vehicle designs including those with Advanced Driver Assistance Systems (ADAS). These bodies are recommending deployment of advancing DMS technology to deal with the deadly threat of driver distraction and fatigue, as well as mitigation of the risks associated with the migration toward HAV. Effective DMS is being identified as essential to a safe "co-pilot" functionality in HAVs to ensure that drivers remain sufficiently engaged and/or ready to re-assume control as and when required.

In September, Euro NCAP (European body responsible for vehicle safety ratings and testing) unveiled its "In Pursuit of Vision Zero" Roadmap 2025, with the goal of zero automotive accidents. It identified Driver Monitoring as a primary safety feature, targeted by 2020 for new on-road vehicles. Euro NCAP "envisages an incentive for driver monitoring systems that effectively detect impaired and distracted driving and give appropriate warning and take effective action". The roadmap goes further in stating that existing ADAS safety systems can be enhanced by adapting intervention criteria specifically to the driver's dynamic state and further stated that even though it has yet to publish its full guidelines for HAV ratings, DMS will be required there also.

Recently the US National Transportation Safety Board (NTSB) published its investigation report on a fatal accident involving a leading semi-autonomous vehicle with "Autopilot" mode engaged, which concluded that overreliance on the feature and prolonged driver disengagement from the driving task contributed to the accident. Several specific safety recommendations were issued in NTSB's report¹, for design of semi-autonomous vehicles, including the adoption of more effective monitoring of driver attention, commensurate with the capability level of the automated driving system. This included a specific safety recommendation to manufacturers of Level 2 capable vehicles to: "Develop applications to more effectively sense the driver's level of engagement and alert the driver when engagement is lacking while automated vehicle control systems are in use."²

Seeing Machines' FOVIO DMS technology uses advanced machine vision technology to precisely measure head pose, eyelid movements, and driver gaze under a full range of daytime and night-time driving conditions, including through sunglasses. This information is processed in real-time to determine driver attention state, drowsiness and impairment level to make better ADAS system decisions. The Euro NCAP timeline for installation of DMS is approaching quickly, and Seeing Machines is engaged with a growing number of automotive OEM and Tier 1 partners as interest and demand increases for the FOVIO DMS platform and processor accordingly.

Following the 2017 Frankfurt Motor Show, Colin Barnden, Lead Analyst at Semicast Research commented, "*The message from the NTSB and from Euro NCAP is unambiguous: Quit dreaming [about driverless cars], the time for*

action on DMS is now.”³

Nick DiFiore, General Manager of Automotive at Seeing Machines, commented: *“The Euro NCAP 2025 Roadmap and NTSB report are both very material to our business as they are indicative of a rapidly growing demand for Driver Monitoring Systems. The two announcements together reinforce the view that DMS technology is crucial to a safe transition to hands-free driving, as our technology already demonstrates in the recently launched Cadillac CT6 Super Cruise system⁴. Furthermore, the Euro NCAP roadmap cements the probability that DMS will be adopted in a relatively short timeframe by manufacturers who seek top safety ratings for their vehicles as well as enhancing ADAS systems to help make human drivers better drivers.”*

¹ NATIONAL TRANSPORTATION SAFETY BOARD Collision Between a Car Operating with Automated Vehicle Control Systems and a Tractor-Semitrailer Truck Near Williston, Florida, May 7, 2016

² NATIONAL TRANSPORTATION SAFETY BOARD Public Meeting of September 12, 2017

³ Semicast Broadcast, September 2017, “Autonomous Driving Set To Remain On the Horizon – For Now

⁴ Seeing Machines, 10 October 2017, “Seeing Machines technology bolsters safety in GM 2018 Cadillac CT6 Super Cruise system”

Enquiries:

Seeing Machines Limited

www.seeingmachines.com / +61 2 6103 4700

Mike McAuliffe, CEO

Mike.McAuliffe@seeingmachines.com

Media enquiries

Sophie.Nicoll@seeingmachines.com

finnCap Ltd

Ed Frisby / Emily Watts, Corporate Finance

+44 20 7220 0500

Tim Redfern / Richard Chambers, Corporate Broking

Canaccord Genuity Limited

Simon Bridges

+44 20 7423 8000

Richard Andrews

Alexander Napier

About Seeing Machines

Seeing Machines, (LSE: SEE) is an industry leader in computer vision technologies which enable machines to see, understand and assist people. The Company deploys its FOVIO machine learning vision platform to deliver real-time understanding of drivers through AI analysis of heads, faces and eyes for Driver Monitoring Systems (DMS), which monitor driver attention state including drowsiness and distraction. DMS is increasingly considered a core automotive safety technology as well as an enabling technology for ADAS/Autonomous Driving. The Company's pioneering commercial fleet solution (Guardian) delivers an after-market, in-cabin safety intervention system with 24/7 monitoring and cloud analytics services delivered on a telematics SaaS basis. The Company also serves Aviation, Rail and Off-Road markets and emerging applications for eye tracking and human sensing solutions. Based in Canberra, Australia with a growing footprint in the USA and Europe, the Company delivers multi-platform solutions from embedded software and processors to aftermarket system and service solutions to industry leaders globally. www.seeingmachines.com.