



seeingmachines

GUARDIAN

**PROTECT YOUR
DRIVERS FROM THE
DANGERS OF FATIGUE
AND DISTRACTION**

GUARDIAN / GENERATION 3

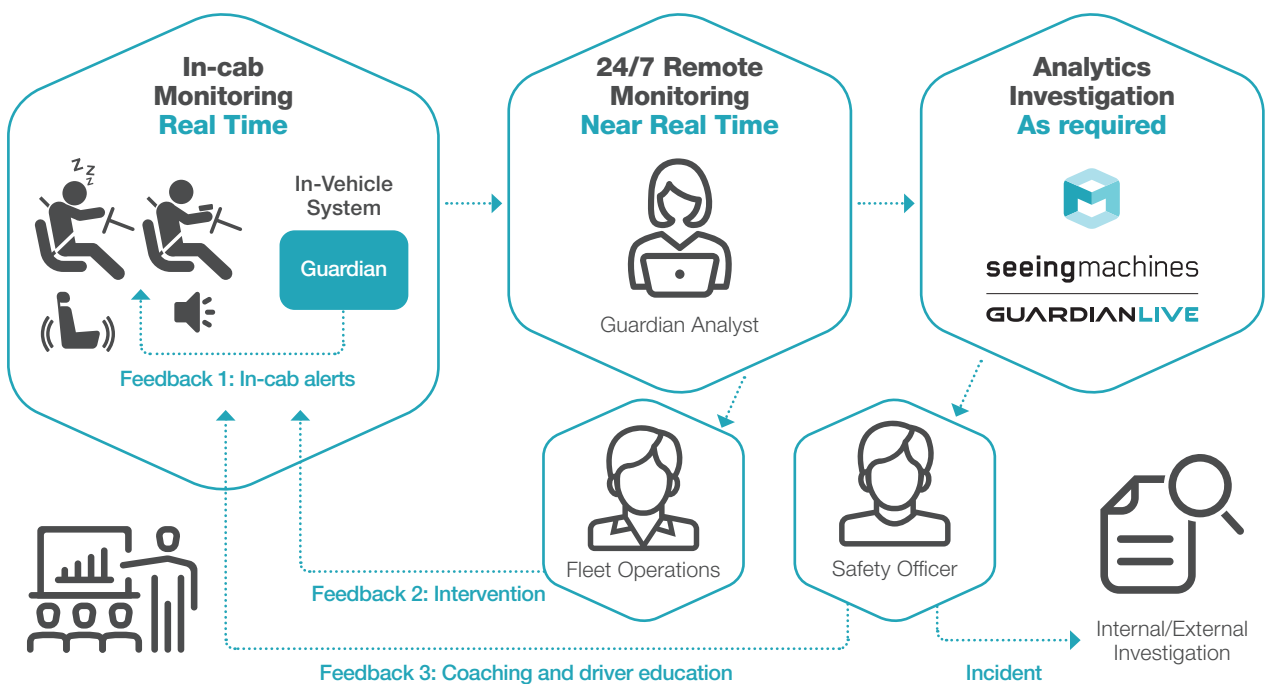
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PREVENT. PROTECT.

Business efficiency and profit are some of the essential requirements for success, but operating a profitable commercial transport or logistics business requires more. Your drivers are fundamental to this success and safety must be a key consideration. Even the most experienced drivers are not immune to fatigue.

Drowsiness, as well as distraction can have dire consequences, posing large risks to their personal safety and your business.

Guardian is a preventative driver safety solution that uses computer vision and machine learning to mitigate the risks associated with drowsy and distracted driving. Using in-cab sensors to monitor the driver's levels of drowsiness and distraction in real time combined with 24/7 monitoring and analytics services, Guardian is a complete safety solution for commercial vehicles.



INDUSTRY-LEADING SOLUTION FOR COMMERCIAL FLEETS

GUARDIAN GENERATION 3: IN-CAB ALERTS

The automotive-grade in-vehicle system monitors drivers for signs of drowsiness or distraction, intervening in real time through a set of audio, visual, and haptic alerts. Instant feedback encourages drivers to avoid risky behaviours and allows them to recognise and develop strategies to mitigate these risks.



GUARDIAN CENTRE: INTERVENTION

At the same time, managers are notified about the event and can take immediate action to manage the situation and keep their drivers safe, straight away.

Guardian Centre analysts review fatigue and distraction event data and video and when required, initiate Fatigue Intervention Plans developed in consultation with customers. 24/7 monitoring equips fleet managers with the ability to intervene during unsafe driving behaviour.

GUARDIAN LIVE: EDUCATION AND COACHING

The Guardian Live web portal stores data and video of fatigue and distraction events for fleet managers to view via secure login. Insights can be used to understand situations as they evolve, inform safety programs and make operational improvements that help keep drivers and other road users safe.



Guardian has been scientifically proven to reduce fatigue-related driving events by more than 90%.

AUTOMOTIVE-GRADE. AFTERMARKET READY.

Guardian has been developed as the world's most advanced aftermarket driver monitoring system, offering a sleek, all-in-one solution to protect drivers from the dangers of drowsiness and distraction.



Guardian stands apart with precision optics matched with Seeing Machines' world-class automotive-grade algorithms to deliver premium performance in the most demanding real-world driving conditions.

The in-vehicle system's robust algorithms are underpinned by real-world driving data collected over billions of kilometres of travel. The next generation optical path tracks even the slightest of eye and facial movements for highly accurate event detection and precise video capture, in all lighting and driving situations, including with sunglasses and face masks.

This level of accuracy not only ensures the system is not missing risky behaviours, but results in less false positives, increasing driver acceptance of the system.

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Guardian Generation 3 is powered by Seeing Machines' proven driver monitoring software – FOVIO® – trusted by leading automotive brands for over a decade.

SMART

- Evaluates driver drowsiness levels and intervenes earlier, alerting drivers to act before the situation escalates.
- Tracks a driver's eyes to detect continuous and repeated off-road glances for highly accurate distraction analysis.

INTUITIVE

- Simple icons on the OLED display allow drivers to quickly and easily identify the reason for an in-cabin alert and self-coach to recognise and proactively manage these risks.
- High quality audio enables driver warnings through uniquely recognisable sounds, based on the severity and urgency of an event.
- The optional vibration motor delivers powerful haptic alerts, providing an additional driver intervention measure when risky behaviour occurs.

SMALL

- The compact all-in-one device is quicker and simpler to install, offering a tidy, small in-cabin footprint.
- Aesthetically designed to be unobtrusive and integrate neatly within the cabin, with various mounting options to allow for flexible in-cabin placement to meet differing fleet requirements and ensure optimal field of view is achieved.

CONNECTED

- Multiple options are available for integration with complementary safety systems and existing vehicle telematics if required.
- Customers can select the data option most appropriate for their fleet, choosing to BYO external SIM or requesting data be supplied.

POWERFUL

- The powerful AI processor leverages Seeing Machines' automotive-grade driver monitoring engine, offering superior performance in real-world conditions and allowing for future capability upgrades.

EARLY DROWSINESS DETECTION

Fatigue is the biggest killer on roads, globally. When a driver is drowsy, or worse, has a microsleep, the risk of a fatal event increases significantly as they are simply unable to concentrate on the road ahead.

Guardian is setting a new standard in fatigue management with early drowsiness detection. The system, underpinned by Human Factors science, continuously monitors and evaluates a driver's level of drowsiness against the Karolinska Sleepiness Scale (KSS), and intervenes in real time if they are at risk.

By intervening pre-emptively, drivers are made aware of their increased risk and can take action before they tire further and potentially have a microsleep. Additionally, fleet operations have real-time information regarding drivers at an elevated drowsiness level.

If the driver's drowsy state continues to worsen and a microsleep occurs, Guardian will immediately intervene and warn the driver with audio, visual and haptic alerts to wake them up.

Simultaneously, a video capture of the event will be sent to the Guardian Centre for review and verification by an experienced analyst. Within minutes of a fatigue event being verified, the Guardian Centre will contact the fleet's nominated manager so that they can initiate their intervention plan.

Guardian's preventative technology has been independently tested and meets the European Commission's General Safety Regulation for Drowsiness Detection, and is expected to meet any upcoming regulatory requirements across the world.

SUPERIOR DISTRACTION DETECTION

Distracted driving is a serious problem with, among other things, drivers often attempting to multitask using cell phones and communicating with others.

Using Seeing Machines' proven automotive technology, Guardian meticulously tracks a driver's eyes – not just their head – to provide a significantly more accurate indication of the driver's focus.

Tracking repeated, short off-road glances – known as visual attention time sharing – enables the detection of driver inattention such as cell phone use or notifiable distraction (e.g. eating and drinking).

Seeing Machines' superior research and understanding into human behaviour allows these algorithms to balance the capture of visual attention time sharing with the brief off-road glances that are a natural part of driving. In-cab alerts allow for instant intervention to correct these risky driving behaviours.

When a driver's attention is not focused on the road ahead for a continuous period, the system again intervenes to get their attention back to the task of driving.

CLEVER COMPLIANCE DETECTION

Guardian's wide vertical field of view captures more of the driver's body to enhance cell phone detection and support additional capabilities, such as smoking and seat belt detection.

These features can help fleets ensure their drivers are complying with applicable laws and company policies.

Industry-leading distraction algorithms detect both continuous and repeated off-road glances to reliably identify risky distractions, allowing for real-time intervention.

HUMAN FACTORS MEETS HUMAN INTERVENTION

What makes the Guardian solution unique is combining automotive-grade safety technology, driven by decades of Human Factors research, with monitoring and intervention by real humans.

To protect drivers and prevent accidents, real-time intervention is key. That's why Seeing Machines combines industry-leading in-cabin driver safety technology with 24/7 human monitoring in our **Guardian Centre**.

Our team of highly trained analysts work around the clock to review and classify every single risky driving incident captured by Guardian, saving you time to focus on other activities. Committed to getting everyone home safely, the Guardian Centre analysts then notify you within minutes of a confirmed fatigue event, so you can intervene and protect your drivers, your way.

In fact, the human intervention aspect of Guardian is scientifically proven to increase the reduction of fatigue-related driving events from around 60% to more than 90%.

That's the difference that truly saves lives.



[LEARN MORE](#)

DATA-DRIVEN SAFETY

Real-time fleet data via a secure web portal offers valuable information and rich insights; supporting fleet managers to understand the performance of drivers over time and identify areas for improvement through coaching and other driver development programs.

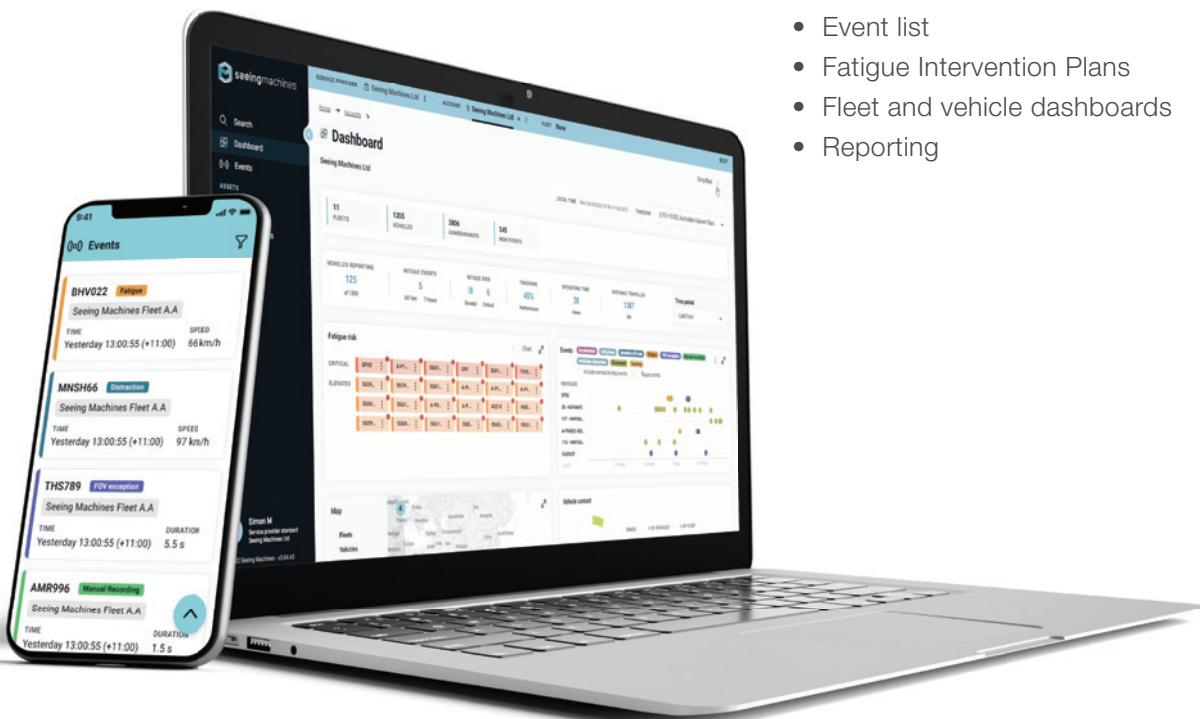
The Guardian Live web platform stores data and video of fatigue and distraction events, providing fleet managers secure access to view this information, 24/7.

Comprehensive, real-time driver and vehicle data can be used to understand situations as they evolve, and support compliance and reporting requirements.

The insights available through Guardian Live can also enable your business to improve training, education and reward programs and identify operational improvements that help keep your drivers and other road users safe.

FEATURES

- Event list
- Fatigue Intervention Plans
- Fleet and vehicle dashboards
- Reporting



FREQUENTLY ASKED QUESTIONS

1. HOW DOES THE SYSTEM KNOW IF THE DRIVER IS FALLING ASLEEP?

Guardian tracks eye, face and head position and movement to determine if the driver is fatigued or distracted. If there are signs of fatigue or distraction detected, the system activates in-cab alerts.

2. WHEN IS THE DRIVER ALERTED?

As soon as the system detects the driver is at an increased level of risk for a fatigue or distraction event.

3. WHEN DOES MANAGEMENT GET NOTIFIED?

If the event is verified as fatigue, the fleet manager will be notified in accordance with the agreed Fatigue Intervention Plan, developed in consultation with the customer. If the event is verified as distraction, management can view this at any time through the Guardian Live web portal.

4. DOES GUARDIAN HAVE CONTINUOUS RECORDING CAPABILITY?

Please note Guardian is NOT a CCTV.

Guardian records 24 hours of data on a closed loop system (including driver-facing footage) for review if required. During driving operation, new data will overwrite the old data after 24 hours.

In order to preserve information, the data will need to be removed as soon as possible or the system disconnected until the data can be removed. Seeing Machines does not guarantee that footage will be recoverable, in particular where power to the processor is disrupted.

5. WHAT DATA IS CAPTURED FOR AN EVENT?

Guardian captures duration of the event, speed of the vehicle at the time, distance travelled during the event, which alarms were activated, GPS location and video footage of the driver.

6. ARE YOU ABLE TO REMOTELY ACCESS THE CAMERA AND MONITOR THE DRIVER?

No. Guardian is not a CCTV and cannot be accessed remotely under any circumstances.

7. DOES SEEING MACHINES SAVE FOOTAGE OF THE EVENT?

Verified events are available to view in Guardian Live for up to 12 months.

8. ARE THE INFRARED LIGHTS SAFE?

The infrared lights have been fully tested and researched and will not harm a driver's eyes or long-term vision.

ABOUT SEEING MACHINES



Seeing Machines is a global company with more than 20 years of research and development, commercial application and proven expertise in intelligent face and eye tracking technology that enable machines to see, understand and assist people. Our core Intellectual Property brings to life a range of technology applications that make vehicles smarter, with the intelligence to protect, enable and respond.

Today, Seeing Machines deploys technology in a number of cutting-edge applications such as commercial road transport, mining, automotive, and aviation.

Headquartered in Australia with offices and people in the USA, UK, Europe and Japan, and with a growing global distribution network, we are able to support our worldwide client base with the expertise of a local company.

TRUSTED BY THE BEST

Our philosophy is to partner with the best which is why we have built strategic relationships with world leaders such as Geotab and Caterpillar. Seeing Machines' proven driver monitoring software – FOVIO® – is also trusted by leading automotive brands worldwide, including Ford, General Motors and Mercedes.



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GUARDIAN

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