



GUARDIAN

PREVENT. PROTECT.

Bulk Tanker Day Aug 31st
Presented by Dev Naren

Fatigue & Distracted Driving Distinction



Fatigue

Includes restlessness, yawning, tunnel vision, drooping eyelids and micro sleeps



Distraction

Includes driver's head not facing in a forward direction due to distractions on the dashboard, cell phones, other vehicles, books and points of interest outside the vehicle

Alarming Statistics



212 people died from 194 fatal crashes involving heavy trucks or buses in 12 months to end June 17 in Australia.*



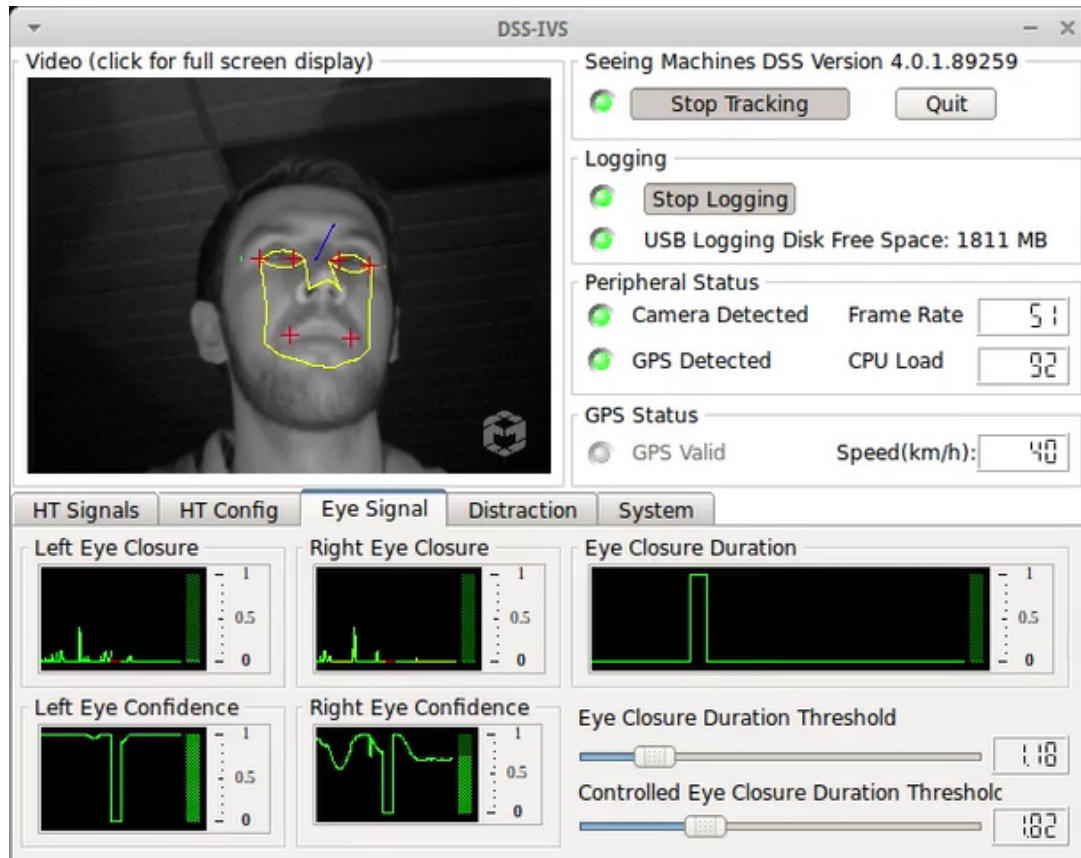
16% of road crash fatalities involve heavy trucks – this is disproportionate as they account for 7% of roads travelled in Australia.*



80% of fatal crashes involving heavy trucks are multi-vehicle crashes.*

*Source: Department of Infrastructure and Regional Development (bitre.gov.au)

The Technology



What We Do



We develop smart cameras that can track a driver's face, eyes and eyelids to monitor attention / inattention and driver fatigue



We support drivers by measuring their alertness levels in real time, and providing feedback when needed



456,693+
Fatigue Events Detected



309,825,785+
KMs Travelled While Protected



41 Average Hours Per
Confirmed Fatigue Event



80% Average Reduction of
Fatigue Events During Trials

The Research

High-level summary of: Lenné, M. G. & Fitzharris, M. (2016).

Real-time feedback reduces the incidence of fatigue events in heavy vehicle fleets.

Proceedings of the 23rd ITS World Congress, Melbourne, Australia, 10–14 October.



The paper evaluates the impact of real-time alerts in reducing fatigue events in long haul vehicles, using Seeing Machine's fatigue and distraction detection technology.



Three long haul trucking companies in South Africa are examined. Forty-nine trucks were examined in total over a five month period.



In the observation period no alerts were activated however data was recorded when the driver experienced a fatigue event.



In the intervention period, when the technology detected a fatigue event, real-time alerts were provided to the driver and employer.

Key Results



The paper found that using real-time alerts with Seeing Machines' fatigue and distraction technology, long haul fleets can reduce fatigue events by **upwards of 90%**.



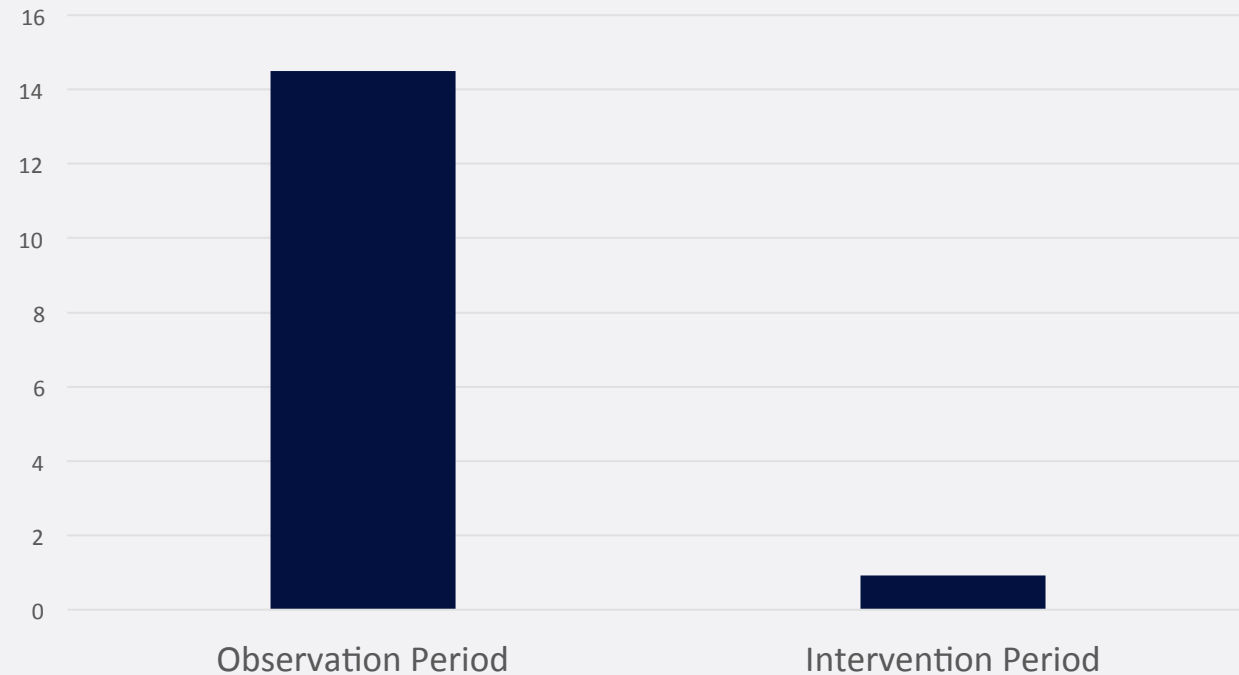
Fatigue events occurred **11 times higher** in the observation period on a per distance travelled rate.



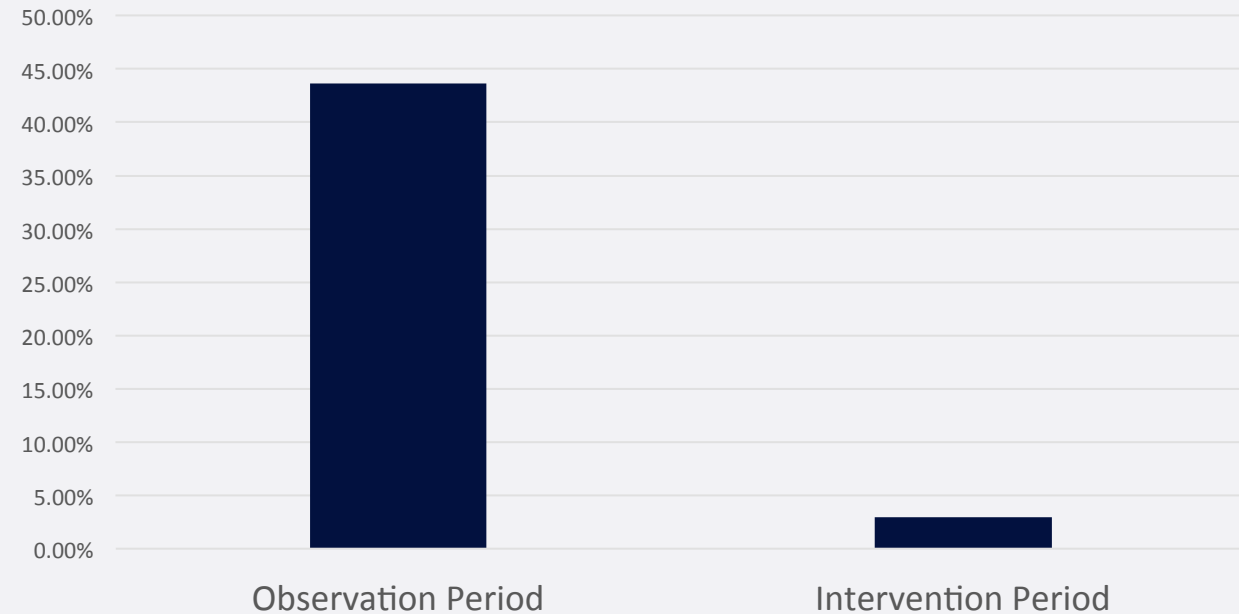
Across all three denominators in the study; being the number of operating days, time spent in vehicle, and distance traveled, there was a reduction in fatigue during the 'intervention period' of **more than 90%**

Proven Results

Average No of Fatigue Events Per Day



Percentage of Fatigue Events Per Hour Driven



93.6% Reduction in fatigue events

93.2% Reduction in fatigue events



Seeing Machines

Mining



Fleet Transport



Rail



Automotive



Aviation



“The inclusion of DSS technology into our offerings has repositioned Caterpillar Safety Services in all the markets we serve. Beyond the obvious benefits of incident prevention, we now have the exclusive opportunity to maximize heavy equipment performance by protecting the primary influencer of machine productivity, the operator behind the controls”

- Tim Crane, CAT Safety Services Manager

“There have been significant steps in recent years to enhance safety in the rail industry, and today’s announcement builds upon those advancements. Working with Seeing Machines, we are developing on-board technology designed to deliver enhanced safety to our customers and their fleets by ensuring operators remain alert while controlling the locomotive”

- Billy Ainsworth, Progress Rail President and CEO



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Thank you