



21147 Use of AI in reducing occupational road risk 'Viewmatics'

FM Conway **2** **6**



DESCRIPTION

A key issue in many road traffic incidents are the bad habits that are formed during driving and the in-cab distractions that can affect people's concentration in anticipating the hazard zones and consequently reaction times.

They reviewed intelligent, optical cameras using rule-based algorithms that are incorporated into systems to spot illegal or suspicious activities. This technology can be applied to identify undesirable activities when driving such as tailgating, or a failure to signal when carrying out a left turn in a vehicle. When identified a message can be sent or action taken to prevent an incident occurring.

FM Conway also wanted to have near misses reported to them automatically so that they could be fed directly into their corporate dashboards. This would enable them to set some meaningful leading indicators for occupational road risk, one of their Big Ten in 10. An example of the leading indicators that could be applied using this approach are:

- All drivers are indicating when making a left turn
- No drivers are tailgating
- All drivers are fully focussed on the road.

A system was identified that was capable of delivering this with some modifications to the algorithm and the addition of an automated reporting system, called Fast View 360.

Fast View 360 used a combination of a driver facing camera in the cab and a forward facing camera showing the road. The system has the capability to capture data and process information almost instantaneously. They also integrated their current vehicle hardware telematics with the camera system. 3G/4G connectivity was achieved through a package called Auto CMS, this solution enabled everything to be accessed from one location, a central platform

Trials were run with Fastview in a variety of different vehicles. The rules they developed were focussed on improving driver safety and the protection of other vulnerable road users. Examples of these are.

- The generation of alerts when someone used a portable device such as a mobile phone in the cab
- Linking the use of the left-hand indicator with actual operation of the vehicle.

FM Conway was able to play back to drivers recorded footage of their undesirable behaviour to assist with their understanding of how they were driving. The purpose was to attempt to modify the human factors that influenced their decision making whilst driving. The initial results captured by the system were both astounding and disturbing. The communication with drivers about the introduction of the system needed to be handled carefully,

as it was perceived by some as intrusive. When consulting with drivers on the new systems.

- 60% of drivers felt that it would be useful to exonerate them should an accident occur.
- But 20% had an issue seen as an invasion of their privacy.

FM Conway recognise that working with drivers to alleviate their fears, gaining trust and demonstrating its ability to prevent accidents will continue to win hearts and minds. The quality of the system during the trial was excellent with minimal false alarms, reliable recording of data and good connectivity. They envisage that it will allow them to take some bigger steps in reducing their occupational road risk in the future.

BENEFITS

- Estimated risk reduction of circa 45% of a fatal or life changing harm occurring
- 80% improvement in driver behaviour
- 27% decrease in personal injury claims
- 25% improvement in fuel efficiency and consequently carbon reduction
- Video footage of both driving incidents and unloading etc
- Video recordings of near misses
- FM Conway able to understand risk profile in the business
- Drivers have evidence to prove when others were at fault
- The system is easy to use
- Assists in driver training
- FM Conway will meet the higher DVS standard required by TfL in 2024
- Enhances fleet management and live tracking.

TRANSFERABILITY AND DEVELOPMENT

- FM Conway is specifying the system as a standard requirement in all its vehicles as part of its drive to reduce occupational road risk
- FM Conway intends to integrate the telematic data with the side scan system to further enhance their ability to analyse drivers actions and behaviour
- Data from the system will be used to assist with progressing drivers from Bronze to Gold awards
- It is intended to introduce this system to mobile plant where further significant benefits will be achieved
- This system can be fitted to any vehicle and could be widely adopted throughout the industry.

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