

# Playback trains drivers



**Road sense:** New technology for safer driving

## A new training tool combines video footage with computer visualisation to provide a comprehensive device for training mine drivers

Unique advanced visual software is offering the mining industry new ways to improve the training of on-site drivers. This could prove economically beneficial as costs associated with driving – mainly accidents and maintenance – are a major part of many mining companies' expense sheets.

VigilVanguard™, developed by Brisbane-based company Vigil Systems, is a competency-based training system which does for drivers what a flight simulator does for pilots but in real-time and on-the-road, not in a simulated environment.

VigilVanguard™ was originally designed for use as a bus driver training tool and has had considerable success in Australia and North America. Its application for mining companies is now being realised.

Vigil Systems has teamed up with Gold Coast technical training company Competency Based Learning (CBL) to pioneer the first joint venture focussed on mobile equipment operator training for the mining industry.

The VigilVanguard™ system allows drivers to see exactly how they performed during a training drive, as well as the effects their actions had.

At least four constantly running in-vehicle cameras impartially record every aspect of a mine driving training session, including all movements of the vehicle and all driver behaviour. One monitor faces forward to give the driver's-eye view; two more face towards the rear of the vehicle down each side; and a fourth is fixed on the driver.

Nothing is missed. If a wheel clips the edge of a rocky wall while cornering, it is recorded. If a driver does not check the mirrors, it is recorded.

The software also creates a virtual dashboard computer visualisation to provide a moment-by-moment playback of the drive. It records a multitude of on-board measurements including speed, the hardness of braking, and the way a driver treats the vehicle's gears.

Every piece of information is recorded in real-time and at the exact location where the event happened. As a further back-up, there is VigilPassenger™, a tool which allows a trainer or assessor to produce automated in-service reports during a live driving session (in the case of mines, this means in a vehicle carrying an ore load). The trainer inputs comments and observations via a handheld PC.

All information automatically converges to produce a detailed, clear and accurate history of a training session. This is in the form of four simultaneously running on-screen presentations and computer visualisation maps which show the driver's route and exactly where events took place and comments where made.

This session 'biography' is played back to mine vehicle drivers so they can see clearly where their actions constituted an unsafe driving event. They can also see where excess damage to the vehicle was done – tyre-wear for example, or undue pressure on the brakes or gearbox.

It is hoped trials will begin in 2007.



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