

# Partners in safety

Two former school friends are collaborating to improve the safety of commercial vehicles, one wheel at a time.

Steve Banner reports

Wheel loss remains a potential hazard for all truck, bus and coach operators. So does the risk that a tyre will lose pressure, shred itself and result in the vehicle having to be brought to a juddering halt at the roadside. So, too, does the possibility that a brake lining or wheel hub will overheat and touch off a blaze.

What the industry needs is a device that will address all three risks and alert the driver and fleet manager before they become irreversible. Happily one is being made available; it is called Wheely-Safe, and Gary Thomas (pictured), an IRTE fellow, has played a pivotal role in its development.

It began as a 50/50 venture between Thomas and an old school friend called Gary Broadfield. "We both went to school in Chasetown in Staffordshire," Thomas recalls. "When we left I went down the transport route, and Gary went down the electrical route."

Having completed an apprenticeship with the old bus operator West Midlands Passenger Transport Executive, Thomas's subsequent career included spells with First Group and Arriva as he progressed up the ranks of management. He then switched to the manufacturing side of the passenger transport

industry, working for Irisbus (the branding formerly used by IVECO's bus and coach activities) and MAN's Neoman operation.

After obtaining an MBA, Thomas was completing a chartership in health and safety when he bumped into an old colleague who was using his industry expertise to assist specialist transport solicitors representing operators in court for offences including wheel loss.

That got Thomas thinking. Wheels only come off a vehicle when the wheel nuts are allowed to work loose. What could be done to prevent that from happening? Thomas contacted Broadfield to see if he had any bright ideas. His response was to ask if anybody had come up with a way of detecting if wheel nuts were loosening.

"Nobody had, so he went away and invented something," says

Thomas. The two men then worked together to get the product to a position where it could be adopted with confidence by fleets. Bus fleets and a leading bus manufacturer helped with the device's evolution, and development has been

steady and thorough, says Thomas. "I've run big fleets and I've seen new products that have come on to the market too early," he remarks.

The final Wheely-Safe device (pictured above), which won Thomas a commendation in the SOE's 2017 Sir Moir Lockhead Safety Award, launched in November, marketed by Michelin. It straddles two nuts on a wheel and is held in place by a corrosion-resistant, zinc-nickel-coated mild steel bracket. If a nut loosens, it loses contact with the bracket, which causes a radio signal to be sent to a warning display in the driver's cab.

The batteries used to power the signal should last from three to five years, Thomas estimates. An accelerometer in each sensor causes the battery to go into low-power mode when the vehicle is stationary.

Thomas and Broadfield decided to extend the system's scope to include tyre pressure monitoring and a hub and brake lining heat detection system. The latter reacts if, for example, a lining reaches a temperature higher than might simply be the result of harsh braking in an emergency, and risks causing a fire. The system has been designed in such a way that false alarms should not be triggered.

Wheely-Safe also encompasses Michelin Tyre Pressure Management System Light Fleet (pictured, left), a retrofit package aimed at those vehicles which may not have TPMS fitted. [ITE](#)

