



Intelligent

Want to reduce maintenance times and prolong tyre life? John Challen advises on how to keep your vehicle tyre fleet in check

director of Michelin's truck and bus division. Hence, last June, Michelin announced a trial in London involving a new generation of so-called 'intelligent tyres', incorporating RFID (radio frequency identification) chips, with tyre pressure monitoring system (TPMS) technology.

"The RFID chip is embedded into the sidewall of the tyre and on the rim there will be a TPMS sensor," explains Schafer. The tyres thus equipped are Michelin's X InCitys, running on Stagecoach buses based at its West Ham depot in London.

"The plan is to have 1,200 tyres fitted on 200 buses by the end of the year: 100 buses at Stagecoach, West Ham, and the same at a First Group site," states Schafer. "The system will follow on truck tyres when it has been validated and we've assessed this trial in London."

The process starts when a tyre reader records a tyre's pressure, temperature and the serial number, and transmits this data to a handheld device. In a separate operation, the reader can then measure tread depth, again transferring findings to the PDA (personal digital assistant). Technicians at the West Ham depot reckon the whole process can be completed in half the time of the more conventional way – down from 12 to six minutes.

Cyber solutions

Meanwhile, Pirelli has also been working on intelligent tyres and is preparing to release the results later this year, this time for trucks, not buses. "Pirelli's Cyber Fleet is an intelligent tyre designed for road haulage," explains Neil Booker, truck tyre marketing manager at Pirelli UK. "Through an electronic sensor and computer system, a driver and fleet manager can be provided with real-time data relating to the tyre's condition and the vehicle's geographical position."

At the heart of this intelligent tyre is another electronic sensor, developed by Pirelli R&D, in partnership with Schrader Electronics. In this case, the sensor ascertains tyre condition while the vehicle is on the move. Like the Michelin offering, the

Monitoring tyre pressures, tread depths and wear rates is no easy task for busy fleet managers, but, fortunately, tyre manufacturers and service providers have a growing number of solutions that, they claim, can ease the pain, reduce downtime and improve efficiency. And that matters. Statistics suggest that, when a tyre is under-inflated by 10%, the impact on tyre mileage is 15%; make that 30% and tyre life is halved. And note that 75% of breakdowns related to tyres are caused by nothing more sinister than slow air leaks.

Many of these failures, argue manufacturers such as Michelin, could be eliminated by better – and easier – tyre monitoring. The French manufacturer openly supports the new EU tyre labelling legislation that comes into force in November – where every tyre fitted to a vehicle has to display its rating on fuel economy, braking performance and noise – but it's not stopping there.

"Fleet managers don't think about tyres every day, but we do," states Bill Schafer, commercial

tyre support

sensor, dubbed TMS (tyre mounted sensor), is located on the inside of the tyre, and collects data relating to tyre pressure, temperature and identification. The system transmits this data to the truck driver and fleet manager.

Pirelli says that the Cyber Fleet system improves fleet diagnostic and repair procedures, and hence also safety for each truck. Responsibility for interpreting the data is shared between the truck driver and fleet manager, says Booker, allowing the latter to manage safety of an entire fleet remotely.

"Cyber Fleet enables the manager to check that the tyres are at the correct pressure, which is essential for optimising fuel consumption and extending tyre lifespan," explains Booker. "It also generates greater awareness about the mileage of each tyre, and can schedule tread wear inspections, with tangible benefits as far as safety is concerned."


Tyre training

Away from tyre technology improvements, however, Continental has recently improved its Conti360° fleet service by "enhancing the efficiency of the roadside breakdown service" it provides to commercial vehicle operators and hauliers. A series of roadside training courses has been established for its network partners to help raise safety standards

amongst tyre technicians and promote best practice, explains Tracey Hyem, commercial marketing manager at Continental Tyres.

"With over 25% of HGV breakdowns on England's motorways recorded as tyre related, improving the safety of tyre fitters working by the roadside is of paramount importance," she declares.

Three roadside courses are on offer, tailored to different levels of experience, and will be held at the manufacturer's Rugby training venue, although on-site training is possible. The first, a roadside breakdown refresher course, is aimed at tyre technicians with an existing NTDA-recognised qualification, while the roadside breakdown condensed and full courses are suitable for technicians with one month's experience of attending breakdowns.

The refresher and condensed courses are both one-day affairs, while the full course runs across three days. On successfully completing the courses, tyre fitters are able to apply for the NTDA REACT Roadside Breakdown Licence, while the more in-depth options also offer the opportunity to gain a City and Guilds qualification. 



Continental is offering training courses for tyre technicians



RFID technology is being used in tyres to help reduce downtime by speeding up the inspection times

Fuel-saving tyre upgrades

After launching its internet-based fuel-saving calculator in February this year, Goodyear Dunlop has released a number of upgrades to the system. Amongst the improvements are EU tyre label grades, updated data, more truck configurations and additional languages.

The calculator was introduced to help fleets assess the effect on fuel consumption and CO₂ emissions that tyre choice, aerodynamic aids, driver training etc could make. This enables transport managers to configure vehicles on their computers, and calculate the effect that changes will have on their fuel bills and carbon emissions.

The new EU tyre label grades for fuel efficiency, which are to be introduced in November, can now be factored in, allowing more accurate tyre comparisons. In addition to the five vehicle configurations previously shown, the new version further includes 6x2 rigids and six-axle 44 tonne artic.

The calculator, which is available in English and Dutch, will also be available in French, Spanish and Portuguese very shortly. Users can try out the calculator at www.fleet-calculator.eu.