

# Future tech

**Continental offering unfettered access to its giant Contidrom test complex was too good an opportunity to miss. Steve Banner reports from Hanover**

A steady stream of data from onboard sensors and cameras, the 'cloud,' other vehicles and the surrounding infrastructure will increasingly influence vehicle behaviour. Many functions - especially those safety-related - will become autonomous, with drivers constantly monitored and systems intervening automatically should certain parameters fall outside predefined envelopes.

Those were among central messages at Continental TechShow 2015, held at the automotive component giant's sprawling Contidrom test complex 20 miles outside Hanover, Germany. For example, commercial vehicles are increasingly being fitted with LDW (lane departure warning) systems. But Continental has gone one stage further with its RDP (road departure protection).

Not only does it wake up drivers, but it automatically steers them back into the lane they should be in.

Such active intervention is a close cousin to automated braking systems that bring vehicles to a halt if drivers are fast approaching stationary or moving

*Above: data from onboard sensors and cameras, the 'cloud,' other vehicles and the infrastructure will govern vehicle movements*

*Below: Continental's mirror replacement*



obstructions and showing no inclination to stop. Meanwhile, intervention in the form of swift applications of the brakes during low-speed manoeuvres could be included with Continental's Surround View. It harnesses onboard fish-eye cameras so the driver can see everything around his or her vehicle on an in-cab display. With a range of 15m, the cameras alter their perspective automatically depending on obstacles they spot. They recognise road markings but wide aperture angles also permit views into angled parking spaces.

Less dramatic, but still effective intervention is delivered by Connected Enhanced Cruise Control. Linked to a dynamic version of eHorizon, which provides information on road conditions ahead, this ensures that a safe speed is maintained, taking into account curves, descents and speed limits. "All the driver

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*Dr Bernd Mahr*

needs to do is steer,” says Dr Stefan Luke, head of advanced driver assistance systems. “What we are doing is implementing another element in the movement towards highly and indeed fully automated driving.”

Perhaps that will give drivers more time to see what is behind them. Continental has come up with rear-view cameras designed to replace mirrors once legislation permits. They transmit impressively sharp images to screens on the dashboard. “The effects of unwanted optical phenomena, such as glare, can be compensated,” comments Alfred Eckert, director, advanced engineering, chassis and safety division. “Eliminate the mirrors and air-resistance

is reduced, which in turn reduces fuel consumption,” he adds. “And wind noise at higher speeds is diminished.”

**HYBRIDS AND ELECTRICS**

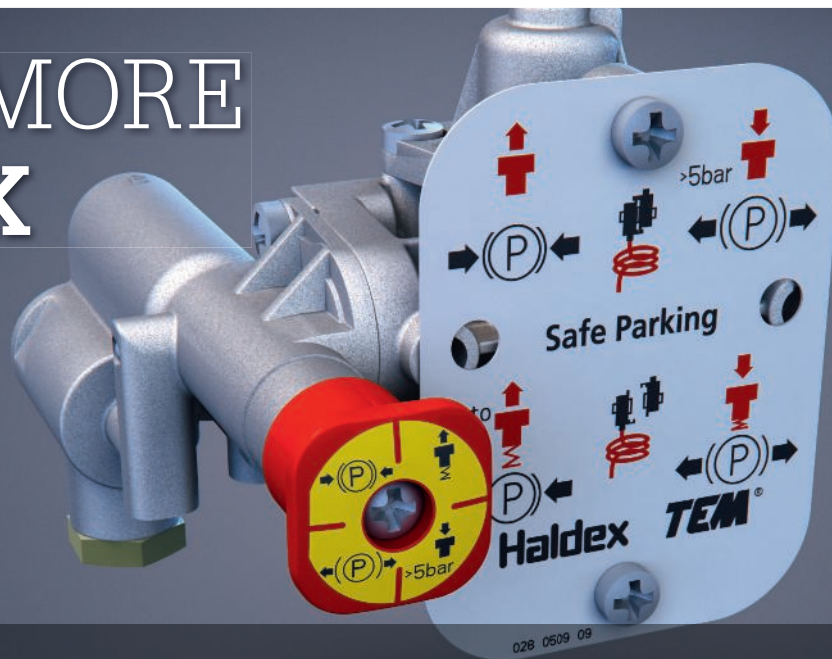
Convinced that plug-in hybrids, mild hybrids and pure electric drives represent the future, Continental is also developing support technology. I saw an electrically-driven back axle that combines a 60–120kW motor, the differential and the inverter in a single housing. Among benefits are a 15% weight saving and fewer connections. This has been developed for the Chinese market but there is no reason why it could not be offered in Europe.

“If we rely purely on combustion

engines, it will become increasingly difficult to comply with the ever-stricter rules governing fuel consumption and CO<sub>2</sub> emissions around the world,” warns Dr Bernd Mahr, head of the powertrain division’s hybrid electric vehicle business unit. “By 2020 they will demand reductions ranging from 20% to 35%.”

Continental is also working on 48V electrics for light vehicles, including an Eco Drive mild hybrid. It kills the engine when it is safe to coast, while re-starting immediately when required. It also delivers a boost for acceleration. Anybody spending time in city centres might see a reduction in fuel consumption of around 21%, says Continental. Worth having. [TE](#)

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