



# Best in show

Euro Bus Expo takes place at the beginning of November and promises plenty of engineering developments to help operators and their engineering departments. John Challen picks out some of the technology highlights

All eyes will be on Birmingham's NEC from 2-4 November as the bus and coach community gathers at Euro Bus Expo 2010, which will feature more than 250 exhibitors, including 50 new companies for 2010. In a year that has seen unprecedented investment in hybrid technologies on a number of fleets – not to mention new legislation introduced or proposed – there will be plenty of questions from operators for the exhibitors.

One company with a major announcement at the show will be Voith Turbo, which will release details of fuel consumption comparison trials that are expected to be of great interest to midi bus fleet operators. During the first three months of trials, buses equipped with Voith's new DIWA 823.3E transmission have shown a marked reduction in fuel consumption.

Launched earlier this year, the Voith 823.3E automatic transmission was the company's first foray into the midi bus market. This automated three-speed gearbox has a differential torque converter to provide smooth gear-shifting comfort, combined with an integrated retarder.

The new analysis figures to be released by Voith at the show are expected to show a substantial improvement in performance. Voith says this will be good news for an industry where fuel

costs represent upwards of 40% of a fleet's running overheads.

More fuel saving technologies will be available to view at Actia's Euro Bus Expo stand. The electronics specialist will be showing its range of integrated solutions that are designed to reduce indirect costs and enable greener fleet operation. There is more pressure than ever on vehicle manufacturers and fleet operators to make use of low-emissions solutions. Fortunately, Actia's range of driver feedback, telematics and real-time passenger counting systems provides the means not only to monitor the performance of vehicles and drivers, but also to reduce emissions through improved driver behaviour.

The Eco-Fleet telematics program provides a suite of easy-to-use reports, using data from the vehicle's multiplexed electrical system. Also on show will be Actia's driverAID and the Optare eco drive – systems designed to help drivers improve their efficiency behind the wheel. When driver feedback and Eco-Fleet telematics reports are combined, the operator has the tools to lower costs, run greener and more efficiently, says Actia.



Left: Cutaway of the CRT from Eminox

Right, top: Voith's 823.3e transmission



## Tracking technology at the NEC

The ability of telematic and advanced tracking to save fuel and improve overall fleet efficiency has not been lost on the truck or bus markets, with increasing numbers of operators taking advantage of such new technologies. MiX Telematics will use Euro Bus Expo 2010 to present its latest telematics-based products – MiX Insight Reports and MiX Insight Analyser – for the first time.

MiX Insight Reports is an intuitive new reporting tool for use in conjunction with its range of fleet management solutions. Designed to deliver meaningful results that can help cut the cost of operation and improve efficiency in operation, the system provides transport operators with in-depth analysis of their vehicle and driver data, in a choice of easy-to-understand formats.

MiX Insight Reports forms part of FM-Web, the



internet-based fleet management reporting service from MiX Telematics. As its name implies, the primary objective of the reports is to provide insight into vehicle and driver performance. The information gathered from onboard vehicles is stored in a data warehouse and presented via a useful reporting structure, which provides both real-time and historical fleet performance intelligence.

The other product being launched at the show, MiX Insight Analyser, is targeted at larger fleets and fleet management consultants. It permits fleet data to be scrutinised in depth and enables users to either drill down or cut across captured data in a variety of ways, in order to extract the levels of detail required for decision making.

“By providing better access to information, which clearly signposts the way to operational improvements, MiX Insight Reports and MiX Insight Analyser set new benchmarks in fleet management reporting and analysis,” claims Steve Coffin, marketing and operations director for MiX Telematics UK.

**Wheel nut solutions**

Moving on, many visitors to Euro Bus Expo will have their first chance to see the new Nord-Lock wheel nut. This is said to combat problems of conventional wheel nuts loosening on heavy vehicles. As Nord-Lock points out, this scenario can cause problems with productivity, delivery efficiency and operating costs, not forgetting the possibility of a fatal accident on the road. The company’s solution? Wedge-locking technology that claims to eliminate unintentional loosening of wheel nuts.

The Nord-Lock wheel nut is designed for both



**Right: driver AID from Actia aids driver efficiency  
Bottom: MiX Telematics will debut systems at Euro Bus Expo**



on- and off-road vehicles. It suits standard flat-faced steel rims, M22x1.5 studs and is easy to install.

Meanwhile, heat exchange specialist Grayson Thermal Systems is bringing a strong green focus to the NEC, with a stand that highlights some of the company’s new projects that help optimise the environmental performance of vehicles.

Environmental performance is the main thrust of Grayson’s current research and development programme, and pride of place on the stand will be a new electric fan cooling module installed alongside a Grayson Cassette 2 Plus cooling system.

The module has been designed both as a retro-fit option and for new OEM applications, enabling operators to save money and achieve environmental benefits. It improves temperature control and fuel economy, optimises powertrain durability, cuts service time and reduces both noise and vibration. The fans and pumps operate only when required, reducing energy losses and improving engine



efficiency through more accurate control of engine temperatures.

The system requires minimal maintenance, reducing both costs and vehicle downtime, and the fans can be run in reverse mode to help in removing blockages.

The electric fan module has already been installed in vehicles in Europe and the US, and fuel savings of at least seven per cent are being reported. Grayson is also developing systems to optimise the performance of electric and hybrid drive vehicles.

**Clean drive technologies**

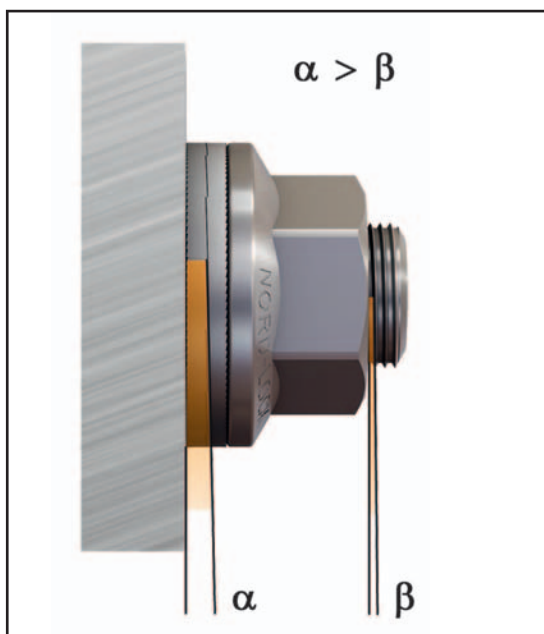
Eminox has two LEZ (low emission zone) approved systems that can upgrade vehicle emissions – the Eminox CRT (continuously regenerating trap) and FBC (fuel borne catalyst). Both will be exhibited at Euro Bus Expo 2010.

The two products were developed in anticipation of LEZ emissions standards being tightened from January 2012. Phase 3 will extend the range of vehicles affected to include trucks from 1.2-tonnes and minibuses with eight or more seats (subject to consultation). Phase 4 will set a tougher standard of Euro 4 particulate matter (PM) for vehicles over 3.5 tonnes.

Eminox CRT and FBC systems give more than 90% PM reduction and so allow vehicles as old as Euro I to meet most LEZ requirements.

The CRT system from Eminox will virtually eliminate PM, hydrocarbons and carbon monoxide, and will combine an oxidation catalyst and ceramic closed filter technology. The Eminox FBC system, meanwhile, can reduce PM emissions by more than 90% and uses a silicon carbide filter to trap particulate matter, including ultra fine particles.

On a different tack, CE Niehoff will be showing its



**New Nord-Lock wheel nut adopts wedge-locking technology**

**British buses from BAE Systems**

BAE Systems will be demonstrating its diesel-electric capabilities by way of its HybriDrive technology that currently powers more than 2,700 buses in cities across North America and the UK, transporting more than one million passengers every day. BAE Systems-powered hybrid units deliver impressive performance while generating lower levels of carbon dioxide emissions and at the same time consuming less fuel.

Through its partnership with ADL, BAE Systems technology will be powering a fleet of low-carbon-emission, fuel-efficient buses in three UK cities this year. Stagecoach Group has taken delivery of the first of the 56 vehicles for Oxford and Manchester this summer.

With the HybriDrive propulsion system, it is claimed that NOx emissions and particulate matter are reduced by up to 50% during operation, compared with conventional combustion engines. The Enviro 400H propelled by the system also delivers low noise emission levels for buses and meets the new reduced targets set by Transport for London.

Buses equipped with HybriDrive have travelled more than 200 million miles, saved 10 million gallons of diesel fuel and prevented more than 100,000 tons of carbon dioxide emissions. The system consists of a generator, an electric motor and a lithium-ion storage system, managed by computerised controls. A diesel engine that turns the generator operates independently of the electric drive motor, allowing it to run at nearly constant speed for optimum efficiency.

new 900amp 28V alternator and will also be talking to selected customers about a range of new products targeted/matched to the electrical developments in the bus and coach market.

Don't miss braking and chassis management systems supplier Knorr-Bremse, which will be providing more information about its range of brake pads and friction material, as well as explaining the importance of fitting OE kit to buses and vehicles equipped with electronic braking systems (EBS).

To demonstrate the capabilities of its NEO diagnostic tool, the company will have a fully functioning EBS5x braking system simulation rig, incorporating ESP, on the stand.

Meanwhile, the stand occupied by vehicle lift manufacturer and supplier Stertil will be dominated by a set of 32.8-tonne Wireless cable-free electro-hydraulic mobile column lifts. Also on show will be a master column from its 29-tonne mobile column lift set and a new product, the 8.2-tonne tall, foldable axle stand.

The cable-free lifts will be available for working demonstrations throughout the duration of the show.

So, all in all, there is seemingly something for everyone at Euro Bus Expo. Make sure you don't miss out on all the action. **TE**

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