

ZERO EMISSIONS FROM E-VITO TAXI

The prototype electric E-Vito taxi was just one of the vehicles on show at a recent Ride & Drive event held at the Zytec manufacturing facility in Fradley, near Lichfield. A Smart fourtwo ed (series II, 451 electric drive), the Modec 5.5 tonne suburban delivery vehicle were also available to drive. These vehicles were joined by a static display of other Zytec powered vehicles, including F1 race cars and a Jaguar.



next job will take them. Whilst the battery technology is advancing so range could be improved, the E-Vito is still a niche market project that may not be suited to all drivers. A driveway or somewhere suitable for a charging point would also be needed by drivers for the E-Vito's approximately six hour charge period.

MODEC VAN

The Modec van began as the e-Mercury, designed and developed by LTI before being sold to Jamie Borwick in 2004.

E VITO TAXI

Taking a test drive in the E-Vito was quiet! The zero emissions taxi is still at the prototype stage, a technology demonstrator designed and built by a consortium of British companies. Part-funded by the UK Government's Advantage Niche Vehicle Research & Development Programme, managed by CENEX, the taxi is powered by a 70kW version of Zytec's proven electric drivetrain. It carries up to six people more than 120 kilometres on a single six hour charge. Designed and built in just six months, it is now ready for more trials. Because the prototype has been built using a base Vito taxi donated by Mercedes-Benz UK, it meets the requirements of the CoF, although as a prototype it is not yet ready to be plated. The E-Vito taxi uses a new 70kW version of Zytec's proven electric drivetrain and a custom-designed Vocis gearbox built by Graziano. To maximise interior space, the vehicle has been converted to front wheel drive to allow the 35kWh Valence Li-Ion battery pack to be installed beneath the vehicle floor. By lowering the centre of gravity, the low mounting point also improves vehicle stability and ride quality. The steerable rear axle provides the 25ft turning circle required for licensed black cabs operating in London.

The electric drive uses the existing engine mounting points with minor revisions and requires just three additional connections (water, high voltage electrics and low voltage electrics). It interfaces with all existing vehicle systems including ABS (Antilock Braking System), ESP (Electronic Stability Programme) and OBD (onboard diagnostics). Zytec Automotive sales

and marketing director Steve Tremble says that all the technologies are market-ready and thoroughly proven in vehicles already in production. "We could easily have electric taxis in service in-time for the 2012 London Olympics," he says.

DRIVING AND PASSENGER EXPERIENCE

The E-Vito experience as a passenger is very similar to that of the Vito taxi, although the noise levels are less. Perhaps a slight disadvantage to the quietness is the fact that other small noises within the cabin are heard more readily, but not intrusively so. The space inside the cabin remains the same. On the prototype the doors are not powered. The front compartment differs in its layout as it has the equipment to tell drivers the state of the batteries, including how far it will go before needing to be re-charged. For London's trade and the taxi trade in general, the range of the vehicle between charges is the main area of concern as taxi drivers never know how far their

Many will remember Jamie from his days as former chairman and chief executive of LTI's parent company, Manganese Bronze. Some of the original design team from LTI, including Jevon Thorpe, who was the designer of the TX1, work alongside Jamie Borwick on the Modec Team. As the Modec was designed from the very beginning as an electric vehicle and was not a conversion of a diesel powered van, it looks and feels quite different. The vehicle is now being used in London and the cost comparison between the electric vehicle and a diesel van are quite similar. Although the electric vehicle costs more to buy and also the batteries are rented as they are a major expense, savings on fuel and of course Congestion Charging can make the vehicles have similar running costs. For a company involved in daily deliveries in a city such as London, the electric driveline with its zero emissions means the Modec is exempt from the operator licensing, tachographs and annual testing which add to operators' costs.

