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POWER IN PRACTICE

Powering the Next Generation of RHA's Electric Training Simulator

As the UK road transport industry continues to face a well-documented skills shortage, driver training and industry engagement are more important than ever. To help address this challenge, the Road Haulage Association has invested in a next-generation mobile training simulator designed to bring immersive driver education directly to operators, training centres, and industry events across the UK.

Building on the success of the original simulator vehicle delivered two years ago, the latest iteration represents a significant step forward with a fully electric platform. The new vehicle supports the RHA's commitment to innovation, sustainability, and accessible training for the next generation of drivers.

A Bespoke Vehicle Designed for Mobile Training

The vehicle was designed and built by Owlvue, specialists in vehicle safety and integrated vehicle technology solutions. Acting as the project lead, Owlvue developed the simulator van from the ground up, carefully designing the interior layout to create a functional and durable training environment.

All interior furniture and cabinetry were custom designed to maximise space while ensuring durability for continuous nationwide deployment. The fixtures were manufactured by a local fabrication partner, supporting regional industry while delivering high-quality craftsmanship and precision engineering. This bespoke design ensures the simulator provides a professional and reliable training environment while remaining practical for mobile operation.



Paul Allera, Technical Director at RHA:

"This new fully electric simulator allows us to deliver high-quality driver training anywhere in the country, helping to tackle the industry's skills shortage while reducing our environmental impact. It also removes the need to stand a vehicle down for driver assessment and training, improving fleet availability for operators."

Intelligent Energy for a Fully Electric Platform

To support the demanding power requirements of the onboard simulator systems, Fischer Panda UK | Power Solutions designed and supplied a comprehensive auxiliary power system built around Mastervolt energy technology.

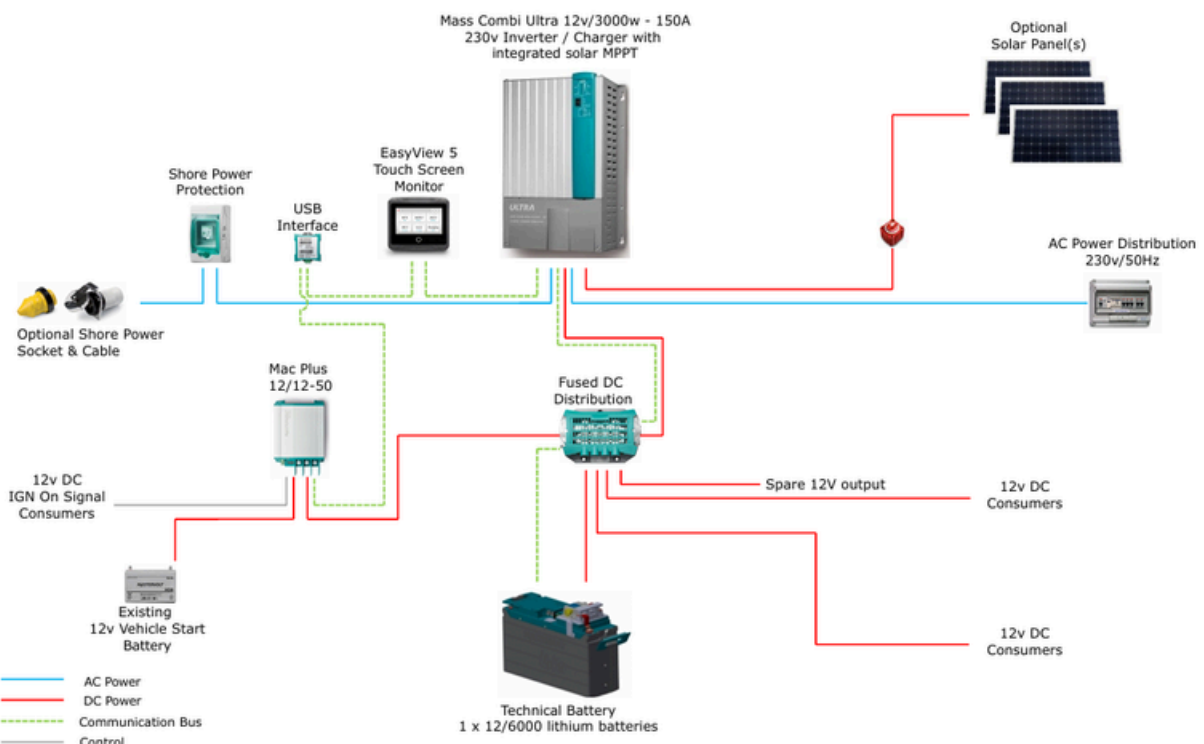
The system has been engineered to maximise efficiency by harvesting energy from multiple sources while ensuring reliable power for simulator equipment throughout the vehicle's operation. Solar panels mounted on the roof prioritise renewable energy generation, directing power to the auxiliary battery bank.

Intelligent energy management continuously monitors battery status and optimises charging behaviour. When connected to shoreline power, the system automatically manages energy distribution.

Once the auxiliary battery reaches approximately 80 percent capacity, surplus power is redirected to maintain the vehicle's main battery, ensuring both systems remain optimally charged. This automated energy management allows the simulator to operate seamlessly without manual intervention, ensuring the vehicle remains ready for deployment wherever training is required.

Stuart Jones, Specialist Vehicle Applications at Fischer Panda UK | Power Solutions:

"By integrating Mastervolt's intelligent energy systems, we've ensured the simulator has reliable, efficient, and self-sufficient power, enabling seamless operation across every deployment."



This is not an installation drawing, please read the relevant manuals before installing and check all cable sizing and fuses.

System Components

The auxiliary power system integrates several Mastervolt technologies designed for mobile and off-grid power applications:

Mastervolt Mass Combi Ultra 12/3000-150

A versatile inverter-charger with an integrated Solar Charge Controller providing seamless AC power supply and battery charging.

Fused DC Distribution

A robust DC distribution system ensuring safe and efficient power delivery to all onboard systems.

Technical Battery 12/6000 Lithium Batteries

High-capacity lithium-ion batteries delivering reliable and efficient onboard energy storage.

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Reliable Power for Nationwide Deployment

The integrated power system delivers a number of key operational advantages that make the simulator vehicle suitable for continuous nationwide use:

- Maximum utilisation of renewable solar energy
- Fully electric, environmentally responsible operation
- Intelligent battery management and system protection
- Automatic vehicle battery maintenance when connected to shoreline power
- Reliable, self-sufficient operation for mobile training environments

These capabilities allow the simulator to operate independently for extended periods while maintaining a stable and efficient power supply for sensitive electronic equipment.



Collaboration Driving Innovation

This project highlights the strength of collaboration between specialist partners. Owlvue led the vehicle design and build, delivering a tailored simulator environment optimised for training operations. Fischer Panda UK | Power Solutions contributed its expertise in onboard power integration, designing a reliable auxiliary energy system to support the vehicle's demanding operational requirements.

At the heart of the solution, Mastervolt technologies provide the intelligent energy management and high-performance components that allow the system to operate efficiently and reliably.

Together, the partners have delivered a future-ready mobile training platform that supports the RHA's mission to strengthen skills development within the UK road transport industry.



WE BRING THE POWER



+44 (0) 1202 820840
info@fischerpanda.co.uk
www.fischerpanda.co.uk



17 Blackmoor Road, Ebblake Industrial Estate, Verwood, BH31 6AX

