



Plug & Play Telematic System for Electric Vehicles

Magtec Integrates an owa450 platform to feed EV Portal and Grafana



Project	Strengthen electric vehicle fleet offerings through telematics system integration.	
Product Used	owa450A+ with LTE, GNSS and 9 Axis Mems (Acc, Gyro and Mag)	
System Benefits	This system transmits the data to a cloud platform for storage, processing and dissemination for technical analysis via Grafana and customer monitoring via the EV Portal.	

About Magtec

Founded in 1992, Magtec is a UK based company that designs, develops, manufactures, installs and repowers **electric drive systems** and components for a wide range of vehicle types, including **commercial heavy goods vehicles, buses, off-road multi-wheeled and tracked defence vehicles and bespoke specialist vehicles**.

Magtec is a major force in the UK's electric manufacturing supply chain for drive systems for commercial vehicles.

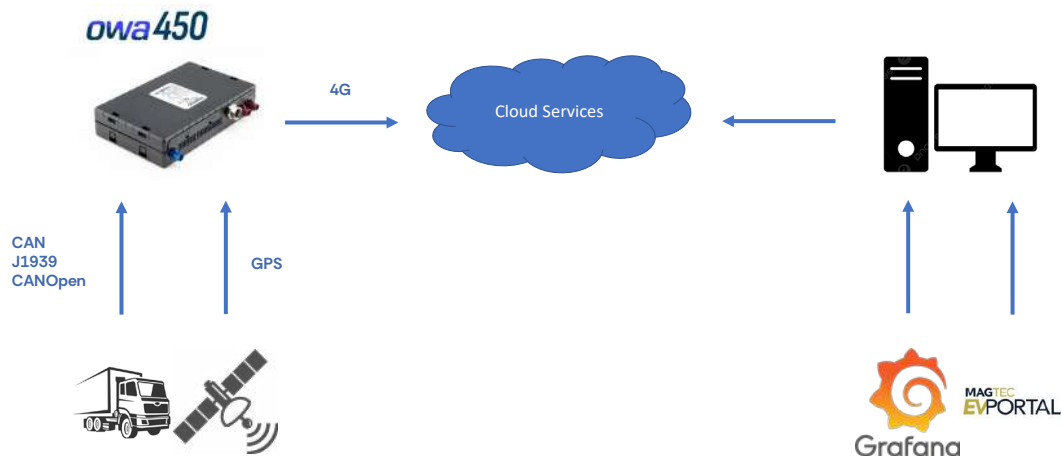
Magtec's Connection to Owasys

Owasys and Magtec have collaborated since 2020 on designing and integrating a **Telematics System** specifically for electric vehicles.

Magtec's customers benefit greatly from the system, as it grants them easy **access to vehicle data**, enabling them to comprehend vehicle functionality.

Both companies are exploring new possibilities to further enhance the solution with even more features and functionalities. This includes using AI techniques to deliver preventative maintenance, offering an enhanced aftermarket care service to boost customer experience of the vehicles.

Magtec's Telematic System Architecture



The system is designed to be **agnostic and versatile**, allowing for plug-and-play connectivity to any **CAN** (Controller Area Network) network, with data logging commencing immediately upon connection.

The central component is an **owa450**, with LTE communication and equipped with two CAN inputs to capture comprehensive data from various sources, including **GPS** and CAN devices adhering to protocols such as **J1939** and **CAN/Open**.

This system ensures that "all the data, all the time" is captured, even in scenarios where cellular service is lost, as it employs **buffering mechanisms to temporarily store data** until connectivity is restored. The data collected by the owa450 device is then transmitted to a **Cloud Service** for storage and processing.

The processed data is then made available through two different portals:

Grafana is a portal for **technical analysis**, providing visualisation and analysis tools for monitoring and understanding the collected data from a more technical perspective.

Additionally, there is an "**EV Portal**" which is designed for **customer visualisation** of the vehicle's whereabouts and monitoring. This portal likely presents the data in a more user-friendly manner, allowing customers to track the location and status of their vehicles or equipment.

EV Portal is a user-friendly application that offers a comprehensive overview of vehicle usage and energy consumption.



KPI driven user interface

Summary data of vehicle performance

Live Monitoring

Engineer Analytics



The Engineer Analytics feature with Grafana provides engineers with a powerful toolset for monitoring, analysis, and troubleshooting of various system parameters and signals.

On-demand data analytics

Deep dive on a signal-by-signal basis

Customisable visualisations to suit data type

Highest resolution of data
(No sub-sampling, no interpolation, no loss)

Available in both TRC and ASC format

Compressed for long term archiving

AI ready – Train models using machine learning technique.



"The Owasys software libraries provide a solid foundation for our platform, enabling us to focus on developing software that delivers our unique approach to data acquisition. The tried and tested owa450 hardware give us the confidence we need to ensure continued reliability of our Telematic System". – Dan Lickes, Head of Software.