Eco-driving

gmv ®
INNOVATING SOLUTIONS

ITS

Efficient driving, driver assistance and maintenance support system

GMV's *Eco-driving* system optimises operating and maintenance costs, reduces the risk of accidents, and enhances the passenger experience. Additionally, by minimising harmful gas emissions, it contributes to a healthier environment. Implementing this system enables transportation operators to continuously improve by identifying driver training needs, establishing performance-based bonus policies, and planning future services based on historical data.

This product delivers a direct and measurable ROI, with fuel savings of up to 10%, which can be increased with additional training. It reduces the carbon footprint (by approximately 7% in CO and over 30% in HC/NOx), reduces noise, and improves passenger comfort and safety by 30%.

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HOW DOES IT WORK?

GMV *Eco-driving*, available as part of the *ITS Suite* or as a stand-alone On-Board Unit (OBU), collects real-time vehicle data via the FMS-CANBUS interface. This includes fuel consumption, RPM, acceleration, braking, and technical maintenance data. The system converts this data into Key Performance Indicators (KPIs), calculated as the weighted sum of five Primary Dimensional Indices (PDI). These KPIs are displayed in real time to the driver, with visual and audible alerts to correct inefficient driving behaviors such as excessive idling or hard braking. The system also measures fuel consumption and distance traveled.

Automatic alerts can be configured to facilitate proactive maintenance, reducing costs and preventing minor issues from causing service interruptions. Additionally, its reporting module provides valuable information for drivers, maintenance personnel and management, enabling them to monitor performance and optimise fuel consumption by comparing across drivers, routes, and vehicle types.

- Web-based reporting tool with data presented in both tabular and graphical formats.

- Comparative reports analyzing performance across similar elements (e.g., by route, bus type).

- Regularity graphs displaying average performance trends and variability.

USER-FRIENDLY INFORMATION TO DRIVERS

The driver interface displays real-time information on a stand-alone screen, within the driver interface, or as a widget integrated with other applications such as CAD/AVL or ticketing within the *ITS Suite*.

- Current and average performance metrics.

- *Eco-driving* KPI score chart.

- ECO alarms (visual and acoustic): harsh acceleration or braking, harsh bump crossing, harsh turning, allowing for an immediate correction of inadequate driving.

- Connectivity status of peripherals.

FLEXIBLE ON-BOARD ARCHITECTURE

GMV *Eco-driving* can be implemented as a complement to the CAD/AVL within the *ITS Suite* or as a stand-alone system. It can be executed in GMV'S FMS OBU, internally communicating with embedded CAD/AVL , which connects to vehicle CANBUS. Alternatively, it can run on a stand-alone tablet with TFT touch screen and integrated CPU, connected to the ticketing and CAD/AVL systems via Ethernet to obtain real-time service data (line, journey, service, driver identification).

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