

SWARCO

OMNIA

THE SWARCO INTEGRATED ITS RESPONSE TO YOUR TRAFFIC NEED



ONE SOLUTION ALL SYSTEMS

SWARCO Smart Mobility solutions respond to the needs of society in the digital age and make the travel experience quicker, safer, more convenient and environmentally sound. With integrated and value added services derived from analytical methods based on high quality and trusted data sources.

SWARCO urban solutions make traffic safer, more fluid, and environmentally friendly. With integrated systems that quickly provide accurate, easy to understand and real-time information to travellers and operators.

Our quality of life often depends on safe journeys and smooth traffic flows. The arteries of the primary road network link towns and cities, allow for quick transportation of people and goods, and are an expression of a nation's interlinking capabilities and prosperity.

SWARCO's adaptive traffic control helps keeping traffic in motion through a controlled traffic distribution over the road network and optimal network balance, optimizing the use of the infrastructure, avoiding congestion, reducing emissions and fast recovering from incidents effects. At the same time delivers increased road safety by harmonizing traffic flows, prioritizing public transport means and focusing on vulnerable road users.

OMNIA is the solution that allows you to build and expand a modern mobility management system – step by step.

OMNIA offers a high-level framework providing user-friendly access to all the ITS applications deployed in a city or region.

- Open platform with modular architecture for multiple ITS applications;
- Shared maps and databases;
- A common GUI for the supervision and management of different ITS applications;
- Easy-to-use web browser based graphical interface;
- Adaptable to the specific needs: ITS applications can simply be "plugged in";
- Future proofed: solutions for today's requirements and future developments (V2X ready);
- Integration of systems from all market sectors (highway, urban, parking, public transport);
- Support services such as hosting of Road Works Warning (RWW) and Traffic Data Acquisition (TDA), Traffic Management as a Service (TMaaS).

All of the ITS applications offered by SWARCO can be integrated in the OMNIA platform.

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OMNIA TRAFFIC MANGEMENT PLATFORM cover following applications for cities, which can be integrated – step by step.

- Traffic data acquisition
- Devices monitoring
- Time-based plan selection
- Traffic actuated plan selection
- Full Adaptive Network Control
- Video surveillance
- Network-wide rerouting
- Parking and Collective guidance
- Public Transport and VIP Priority
- Road weather information systems - RWIS
- Cooperative systems
- Connected vehicles



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The Better Way. Every Day.

OMNIA Integration Platform – SWARCO solution for the integration of heterogeneous ITS applications. OMNIA is the operators' frontend for the monitoring and control of all integrated ITS devices (traffic light controllers, VMS, detectors, sensors, ...). It includes the management of integrated subsystem, like CCTV, Automated Incident Detection, Enforcement, etc.

OMNIA Traffic Control – SWARCO platform for the Traffic control in city contexts. Traffic control functionalities include manual, time based and traffic actuated plan selection and full adaptive control and the support for developing user information services. Traffic control functionalities support absolute, selective and weighted priority for Public Transport vehicles as well as automatic and manual priority for Special vehicles.

Strategy Manager – SWARCO module for the decision support tool and automated response plans that help operators to undertake the most suitable actions for any recognised traffic situation, to achieve the service goals and policies related to traffic and environment. It focuses on the management of all connected systems and devices that can influence traffic and mobility, to insure road network efficiency, reactivity and safety.

VMS Management – SWARCO operation environment dedicated to the central operator for the management of the automatic, semi-automatic and manual interactions with the Dynamic Message Signs of any type.

CCTV Management – SWARCO module for the interface with CCTV based systems of any kind.

AID System Interface – SWARCO module for the interface with Automated Incident Detection systems interface.

City Dashboard – SWARCO module for the actionable insights through business intelligence.

Traffic Light Assistant – SWARCO module for broadcasting the Greenlight Optimal Speed Advisory and the Time To Green information to the drivers.

The architecture of the platform can be divided in the following layers:

- Integration and Data collection: this layer includes the input and pre-processing and preparation data modules; outputs are used as input by processing modules;
- Processing: elaborated data are made available for the management modules;
- Management: it includes the modules for the management of different mobility situations, based on data acquired and elaborated by the lower layers;

