MUNICIPAL VEHICLES

Compact, vibration-proof gateways for the most versatile Municipal fleet services



About Owasys

Based in **Bilbao**, Spain, Owasys has been a specialist in the design and manufacture of advanced telematic gateways for vehice and industrial machinery data acquisition since **2002**. Our team of expert engineers provides more than just hardware; we offer a **true partnership** through end-to-end consultancy for customized software development.

We focus on empowering **System Integrators and OEMs** to bridge the gap between their vehicles and the cloud, enabling smarter, data-driven operations.

The owa Units

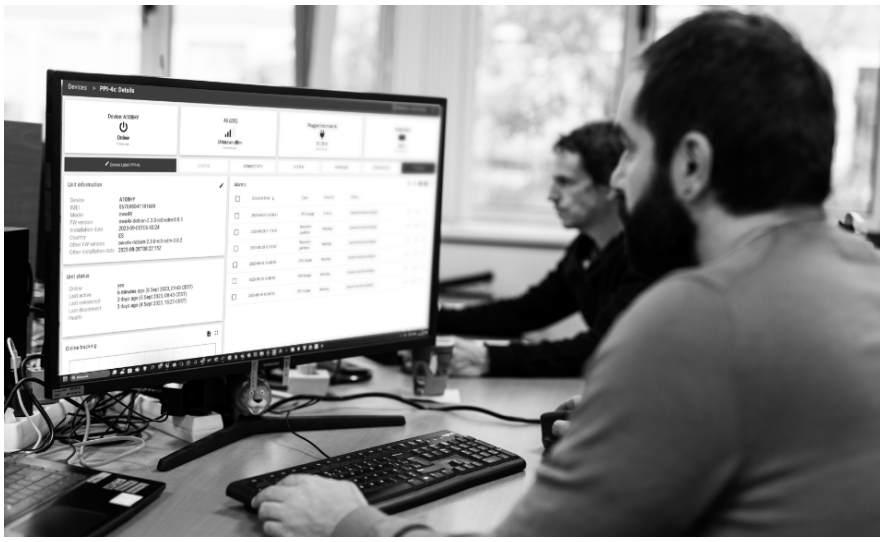
Our gateways are characterized by their Open Linux Operative System (supporting Debian and Yocto), offering the total freedom to develop and deploy customized applications using languages like Python, Java, or C++. To meet diverse project needs, we provide a versatile range of hardware with different processing and connectivity capabilities. Our units are engineered for any environment, featuring flexible I/O configurations and protection ratings ranging from IP40 to IP67. Furthermore, all gateways are RED directive compliant and certified for major global markets, ensuring a secure and reliable foundation for your data.



Not only Hardware

Besides the gateways, we provide a comprehensive ecosystem designed to simplify the development of telematic solutions. Through our Developers Portal, customers gain immediate access to essential APIs, libraries, and microservices, alongside direct technical support throughout the entire process. Our solutions are designed to help you integrate advanced features such as:

Remote Monitoring & Fleet Management
Predictive Maintenance
Edge Data Analysis & Machine Learning
Customized Software Application Deployment



The Municipal Sector

City contracts now demand "connected" vehicles as a standard requirement. To stay competitive, OEMs for municipal vehicles, such as waste management, street cleaning, and emergency fleets are integrating telematics hardware to provide the deep-level data modern municipalities require.

By embedding hardware at the factory level, OEMs deliver a turnkey solution that offers:

- **Total Transparency**: Monitoring engine health, fuel, and working hours beyond basic GPS.
- **Sensor Intelligence**: Capturing data from proximity sensors, cameras, and noise monitors for urban safety.
- **Predictive Maintenance**: Streaming real-time data to control centers to prevent mechanical ruptures and downtime.
- **Strategic Optimization**: Providing the raw statistics needed to refine routes, response times, and environmental impact.

This integration ensures that from the first mile, every vehicle is ready to communicate, analyze, and optimize.

The indicated Gateways

owa5X

Processor:
i.MX8 M Plus Quad A53, 64 bit

Memory:
2GB LPDDR4; 1GB NAND
Flash SLC; 8GB EMMC

GSM Communication:
Global LTE Cat 4

Interfaces:
Up to 4 CAN FD Bus;
Wifi&BT 5.2, etc.

Rugged Enclosure:
IP67 / IP6K9K (full protection against dust / water)





owa344

Processor:
ARM Cortex A7 32-bit 792MHz

Memory:
512MB DDR3+512MB
NAND flash memory+opt 8GB eMMC

GSM Communication:
LTE Cat 1 bis

Interfaces:
Up to 2 CAN bus; Up to 2 RS232; Up to 2 RS485; Configurable Digital IOS; Analog Inputs; etc...

Rugged Enclosure:
IP40 (industrial grade dust protection)

For outdoor installations on vehicles like waste collection trucks, IP67-rated rugged gateways are essential to withstand water, dust, and harsh environments. The owa4X and owa5X are the ideal fits for these external placements, providing the durability needed for heavy-duty field operations.

Conversely, the owa344 and owa450 feature an IP40 rating, making them better suited for indoor use or installation within the truck cabin or a closed cabinet. Beyond environmental protection, the final selection should be based on your project's specific technical demands, such as processing power, memory capacity, and the number of required interfaces.

Municipal Fleet Management

An important company based in Italy, that manages municipal fleets, leverages the **owa5X** IoT gateway as a high-performance onboard edge device to maximize fleet efficiency and uptime for street cleaning and waste management services. Housed in an IP67 / IP6K9K-rated enclosure to withstand high-pressure water and dust, the gateway utilizes its i.MX8 M Plus Quad A53 64-bit processor to perform complex edge-side data processing. By connecting to the vehicle via up to 4 CAN FD Bus interfaces, it monitors engine health, fuel consumption, and working hours, transmitting real-time "Big Data" insights to the cloud via Global LTE to optimize routing and reduce carbon emissions.



Intelligent 3D Reversing Assistance System

A system integrator that specializes on visual solutions has significantly enhanced the safety of refuse lorries by utilizing the **owa450 (or owa344)** as the "brain" of its driver assistance system to manage advanced 3D Time-of-Flight (ToF) technology. This gateway provides the necessary processing power and multiple CAN interfaces to enable 360-degree monitoring and automatic emergency stops, eliminating the need for human signallers.



Because the unit runs a standard Debian Linux distribution, our customer was able to leverage existing software tools to develop comprehensive diagnostics and move from testing to full-scale fleet installation in just four months, creating a future-proof safety solution that logs telemetry to the cloud for legal auditing.

Fire Trucks Management



This special vehicles manufacturer ensures the reliability of its rescue vehicle fleet by integrating the **owa4X** gateway to provide comprehensive remote monitoring and data access. The owa4X is specifically suited for these demanding environments due to its rugged IP67-rated design and powerful processing capabilities, which allow it to function as a central hub for critical vehicle health data. This integration enables fire departments to shift to predictive maintenance, identifying potential mechanical issues before they occur, thereby saving time and ensuring the fleet is always ready for emergency response.