

Case Study



Empowered by



Rugged telematics for the Mining Industry

Integrating the owa5X to gain access to machines and Vehicles

Project	<i>Empowering advanced telematics in the mining industry through robust data processing and connectivity.</i>	
Product Used	owa5X	
System Benefits	<i>Optimized fleet performance through use of machine telematics and advanced data analytics.</i>	

About Wenco

For over 30 years, **Wenco International Mining Systems** has been at the forefront of extracting unrealized value for mining companies worldwide. As a wholly owned subsidiary of **Hitachi Construction Machinery**, Wenco has developed an integrated suite of solutions designed to support the digital transformation of the **mining industry**.

Headquartered in Vancouver, **Canada**, Wenco's mission is to raise mine productivity and efficiency, lower routine costs, and establish safe, smooth mining operations through **innovative technologies**.

Wenco's Telematic Solution and its partnership with Owasys

In pursuit of its mission to drive digital transformation in mining, Wenco has partnered with **Owasys**, a leader in rugged IoT devices and gateways.

This collaboration has led to the integration of the **owa5X**, an advanced **Open Linux Gateway**, into Wenco's telematic solutions. The owa5X serves as the **onboard edge device** in Wenco's next generation telematic systems, playing a crucial role in data collection, processing, and communication within Wenco's product offering.

The importance of owa5X in Wenco's Telematic System

Owasys' owa5X is a cornerstone of Wenco's approach to mining telematics, offering several key advantages:

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



- **Robust Data Processing:** Equipped with an i.MX8 M Plus Quad A53 64-bit processor and ample memory (2GB LPDDR4, 1GB NAND Flash SLC, 8GB EMMC Flash), the owa5X can handle complex data processing tasks at the edge.
- **Comprehensive Connectivity:** With Global LTE Cat 4 capabilities, up to 4 CAN FD Bus interfaces, WiFi, and Bluetooth 5.0, the owa5X seamlessly integrates with various onboard systems and sensors, facilitating comprehensive data collection across mining equipment.
- **Rugged Design:** The IP67 / IP6K9K rated enclosure ensures the device can withstand the harsh conditions typical in mining environments, providing reliable performance in challenging situations.
- **Open Platform Flexibility:** Running on an open Linux platform, the owa5X allows for customization and integration with Wenco's next generation telematics solution and future technology integrations.
- **Edge Processing Capabilities:** By processing data at the edge, the owa5X reduces latency in critical operations and minimizes the amount of data that needs to be transmitted, optimizing network usage and improving overall system efficiency.

Implementation and Results

Wenco has integrated the owa5X into its product offering, allowing for secure streamlined data collection.

The following are major implementations and results:

- Connection to numerous mining asset types such as haul trucks and excavators. The owa5X's compact design permitted installation in limited spaces and confined locations on the assets
- The versatility of the owa5X design allowed for implementation of cyber security software to protect at an edge level and was granted industry recognized cyber security certification.
- The enhanced computing performance of the device enabled high frequency data collection over CAN bus. Allowing processing and packaging of machine data at the edge.
- Its numerous connectivity options allowed flexibility in its connection to cloud services, namely SIM enabled connection to private LTE, ethernet-based communication to WiFi networks and Satellite.
- Over the duration of Wenco product field trials and commercial installs, it has proven its reliability and its ability to function as expected consistently.



Conclusion

The integration of Owasys' owa5X into Wenco's telematic solutions exemplifies how advanced technology can significantly impact mining fleet performance. By providing a powerful, flexible, and rugged platform for data processing and communication, the owa5X enables Wenco to offer mining companies unprecedented levels of data visibility and insight for their operations.

This case study demonstrates the transformative potential of cutting-edge telematics in the mining industry, positioning Wenco and Owasys at the forefront of mining technology innovation.