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D-Link Iberia
https://eu.dlink.com/es/es

+34 +93 409 07 80
es-sales@dlink.com

2020 / **CASE STUDY**

High 4G connectivity for capacity control in Metrovalencia (FGV) with the Dioxinet CAPPACV platform

metrovalencia

SUMMARY

Client	Metrovalencia (FGV)
Integrating Partner	DIOXINET
Sector	Transport/Smart Cities
Location	Valencia, Spain
The Challenge	Communicate 4G data in real-time, in critical environments from metro trains to the CAPPA CV platform systems of our partner Dioxinet.
Solution	4G M2M DWM-312 - 60 pcs Industrial Router
Proposal	€

"Compliance with strict regulations and excellent performance of the solution provided by D-Link has been key to success, but the technical advice and support provided by D-Link throughout the project is also acknowledged"

Jorge Arias - DIOXINET CEO

The Project

D-Link has provided its 4G M2M DWM-312 industrial routers for installation in Metrovalencia FGV (Ferrocarrils de la Generalitat Valenciana) trains, integrated with Dioxinet's CAPPACV platform, for collecting data from different sensors, and providing analytics in real-time in relation to the level of occupancy on Metrovalencia FGV trains and platforms, reporting the concentration of passengers, recommending access to different carriages and helping maintain the safe distances that are required during the current pandemic situation.

The Challenge

The pandemic has not been the only driving factor for the execution of the project. According to Jorge Arias, CEO of Dioxinet, "company and public authority trends are moving towards data-driven services, meaning even moving systems such as metros are required to transmit information in real-time from the sensors and IoT devices with which they are integrated."

In rail environments, the security needs, and adverse environments in terms of the temperatures, humidity and vibrations to which hardware is subjected means that few solutions on the market are able to support the necessary requirements. However, the 4G Machine-to-Machine (M2M) D-Link DWM-312 router meets those requirements and complies with the required regulations.

The Solution

The CAPPACV eco-system developed by Dioxinet has deployed D-Link DWM-312 industrial routers on Metrovalencia (FGV) trains, thus ensuring connectivity in tunnels and places with poor network coverage. Features:

- Galvanised steel housing and industrial-grade components, with an operating range of -20º to 60º and all the certificates pertaining to the sector.
- 4G LTE connectivity with 2 high-power external antennas with SMA connectors.
- Dual SIM slot for dual SIM fallback configuration that ensures redundancy.
- Connectivity for Machine-to-Machine (M2M) applications
- WAN TR-069 CPE and Metro Ethernet
- Robust security with different VPN tunnelling protocols and encryption.
- Installation versatility due to its compact size, flexible power options, and wall-and-ceiling installation kit.

Dioxinet