

D-Link®

4G & 5G M2M SOLUTIONS

Unleash the capabilities of Industry 4.0, IoT, Smart Cities and Buildings



4G and 5G M2M Solutions

Our M2M 4G and 5G solutions consist of:

- wide range of industrial 4G and 5G routers
- optional cloud management platform D-ECS (D-Link Edge Cloud Solution) for deployments and monitoring

D-Link's M2M industrial routers use 4G and 5G mobile networks to establish communication paths. bidirectional, secure and redundant data transmission between company control centers and remote connected devices (IoT, IoD etc.). D-Link's D-ECS platform is an easy-to-use tool for administrators to efficiently deploy and monitor all remote M2M routers.

Companies need to have a solution capable of meeting the new challenges of Industries 4.0, IoT, Smart City/Building, predictive/remote maintenance, Supply Chain, etc....



Principal advantages

<p>Designed for multi-SIM*</p>  <p>No downtime thanks to multi-SIM failover</p>	<p>Secure VPN connections</p>  <p>Built-in VPN client and server support for secure connectivity</p>	<p>Industrial grade design</p>  <p>Zinc plated steel housing for rugged protection</p>	<p>Remote management</p>  <p>Cloud management platform (deployments, monitoring and administration)</p>
<p>GPS Tracking*</p>  <p>Real-time geolocation</p>	<p>Wi-Fi Connectivity*</p>  <p>Facilitates the maintenance of equipment locally and/or provides wireless connectivity to mobile customers</p>	<p>WAN Connectivity</p>  <p>4G/5G internet access and/or WAN</p>	<p>WAN fault tolerance</p>  <p>Stable WAN access with backup from M2M mobile routers</p>

*Depending on the model specification

4G and 5G M2M solutions Permanent internet connectivity

Reliable and stable internet connections



Cloud-based applications require businesses that they maintain reliable internet connections. In installing D-Link M2M routers, businesses can use an efficient mobile network with WAN backup to increase the redundancy of critical applications and provide load balancing to improve the efficiency of data transmission over multiple WAN connections. THE companies have a reliable, stable and security of their critical applications.

Broadband access



In the absence of a traditional high-speed internet connection (xDSL, FFTx), 4G and 5G networks provide a simple and easy-to-implement response to high-speed connectivity needs.

A low cost alternative for various applications



IoT, Smart City or maintenance solutions require little bandwidth. Installation and associated subscriptions enable low-cost deployments.

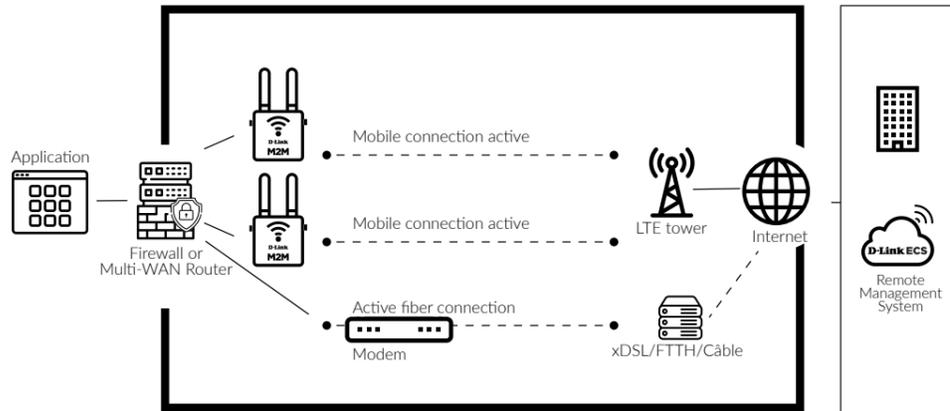
M2M application cases for companies

Case 1

WAN backup and load balancing on fiber and mobile links

To ensure uninterrupted WAN connectivity, connect the service firewall/router to D-LINK M2M routers to establish an extended multi-carrier infrastructure (load balancing and/or redundancy with automatic failover).

Benefits: simplicity, flexibility of implementation and reduced costs compared to a traditional professional WAN offer (FTTx, xDSL, etc.)

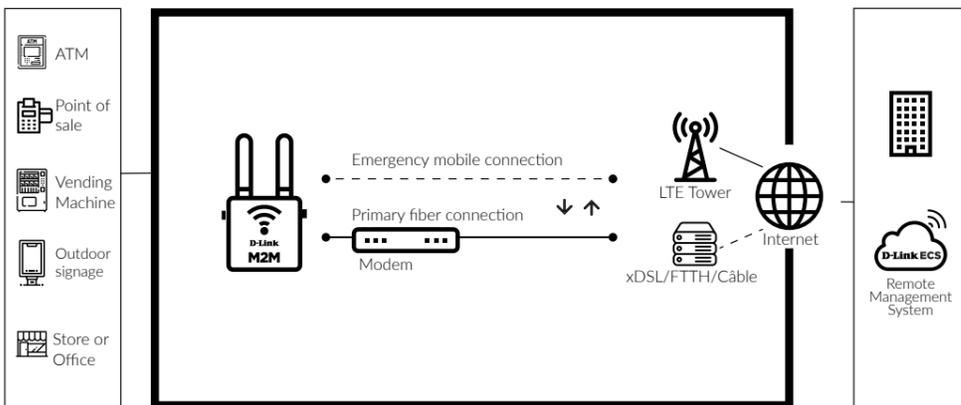


Case 2

Automatic WAN to mobile failover

D-LINK's M2M routers protect wired internet connections (xDSL/FTTx) from any failure by automatically failing over to the backup 4G or 5G network. The multi-SIM possibilities of M2M routers add additional redundancy for critical applications (DAB, IP video surveillance, etc.).

Benefits: continuity of service and automatic in the event of failure of the primary internet access (xDSL, FTTx)

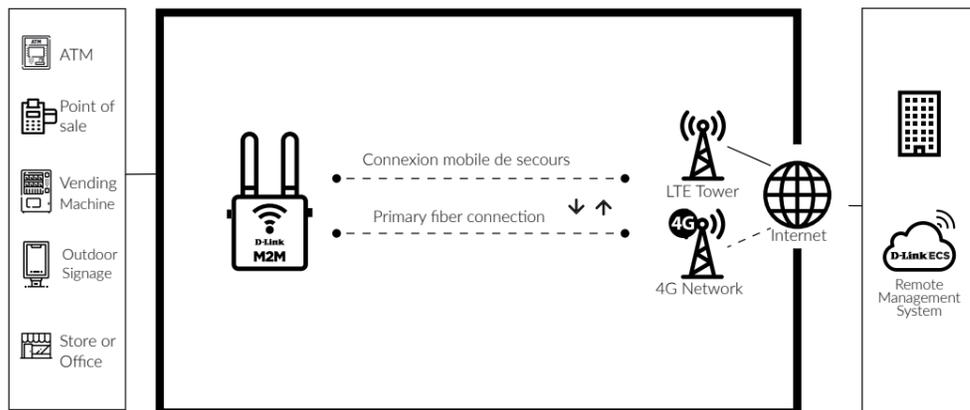


Case 3

Automatic mobile-to-mobile switching

D-LINK's M2M multi-SIM routers provide simple and convenient fault tolerance by switching the internet connection from SIM 1 to SIM 2 in the event of a failure of the primary operator mobile network.

Benefits: continuity of service and automatic in the event of failure of primary mobile internet access



Case Studies : Real-Time Analytics in Trains

4G M2M allows operator to monitor and control passenger occupancy in trains and stations

Transport Operator

Regional rail operator in Spain

Challenge

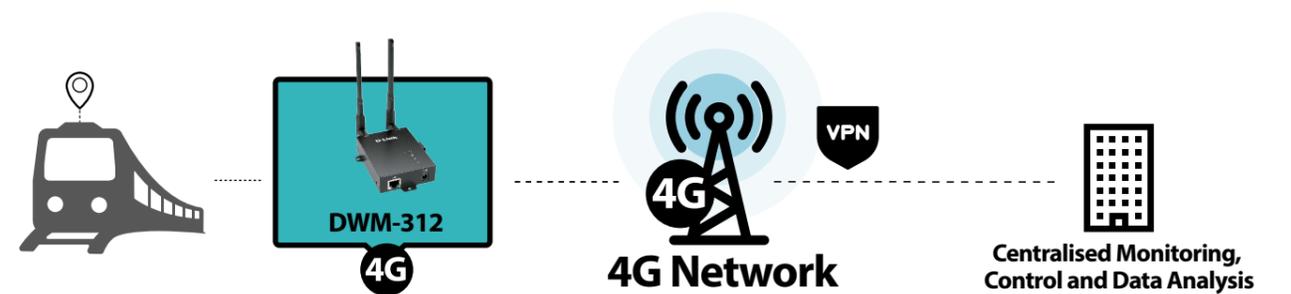
The trend to make the companies and public administrations more data-driven means even moving objects such as trains must transmit the information in real-time from the onboard sensors and IoT devices. This became even more prevalent during the COVID-19 pandemic as occupancy sensors on the trains allows passengers to be directed to different carriages to maintain social distancing. For railway environments, security is obviously of the utmost importance as well as the device's ability to operate in adverse temperature, humidity and vibrations conditions.

Solutions

DWM-312 4G LTE M2M VPN Routers were installed in the trains to guarantee connectivity in tunnels and places with low coverage. The DWM-312's galvanised steel housing and industrial-grade components, together with a wide operating temperature range of -20C to 60C, made it suitable in the challenging environment. Two high-power external antennas with SMA connectors ensured 4G coverage, while dual SIM slots with fallback function guaranteed redundancy. TR-069 support and robust security with different encryption and VPN tunnelling protocols made the DWR-312 ideal for M2M (Machine to Machine) applications.



Project Size
60 units
 DWM-312
 (4G LTE M2M VPN Router dual sim)



Case Studies : WAN Backup

Managed Service Provider (MSP)

Service Provider

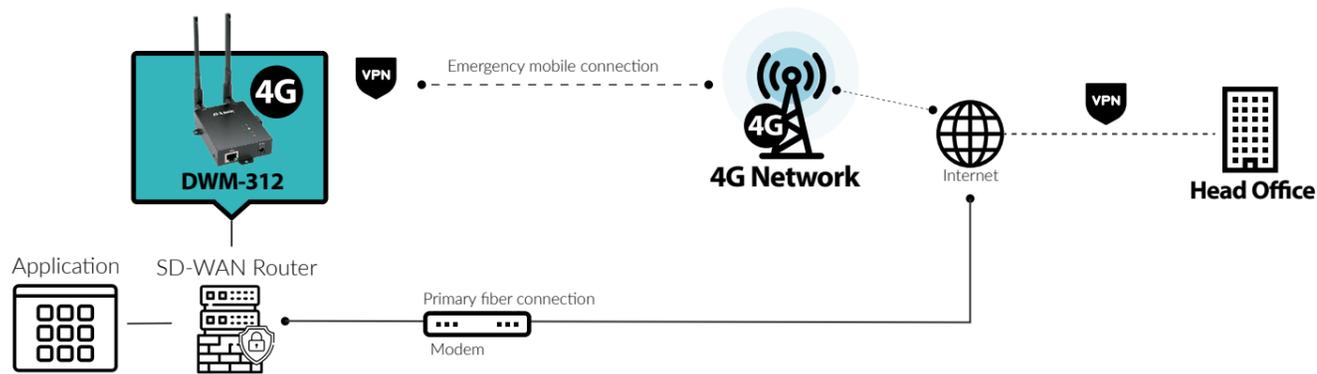
The SD-WAN network combined with fiber optic broadband offers flexible and high-speed internet connectivity to business users. To provide high quality service with minimum downtime, a second backup WAN link is required.

Challenge

Fiber optics have dramatically improved the speed of WAN connectivity. With the rapid adoption of cloud-centric office and communication applications, any interruption in internet connection can seriously affect business operations. Having a second fiber as a backup link is an expensive option due to high fixed monthly subscription fees.

Solutions

The DWM-312 Dual SIM 4G VPN Router brings mobile broadband as a WAN backup link. Connect the DWM-312 to the 2nd WAN port of the SD-WAN router and enable the auto-failover function. In the event of a failure of the primary fiber optic link, the Internet connection will be switched over to the mobile network via the DWM-312. With two built-in SIM slots, the DWM-312 improves WAN redundancy with automatic failover between two mobile networks. Data transmitted over the public Internet is also well protected by the DWM-312's built-in VPN function.



Project Size

300 - 400 units
DWM-312

(4G LTE M2M VPN Router dual sim)

Case Studies : Internet of Things (IoT)

Managing a Nationwide Network of Vending Machines

Service Provider

Top-tier mobile operator in North America

Challenge

Vending machines provide consumers an easy and quick way of accessing popular food, beverages and consumables at the convenient locations. To manage and maintain a network vending machine efficiently, remote sensors are installed. Cost-effective WAN infrastructure is required to connect the vending machines to the central management centre.

Solutions

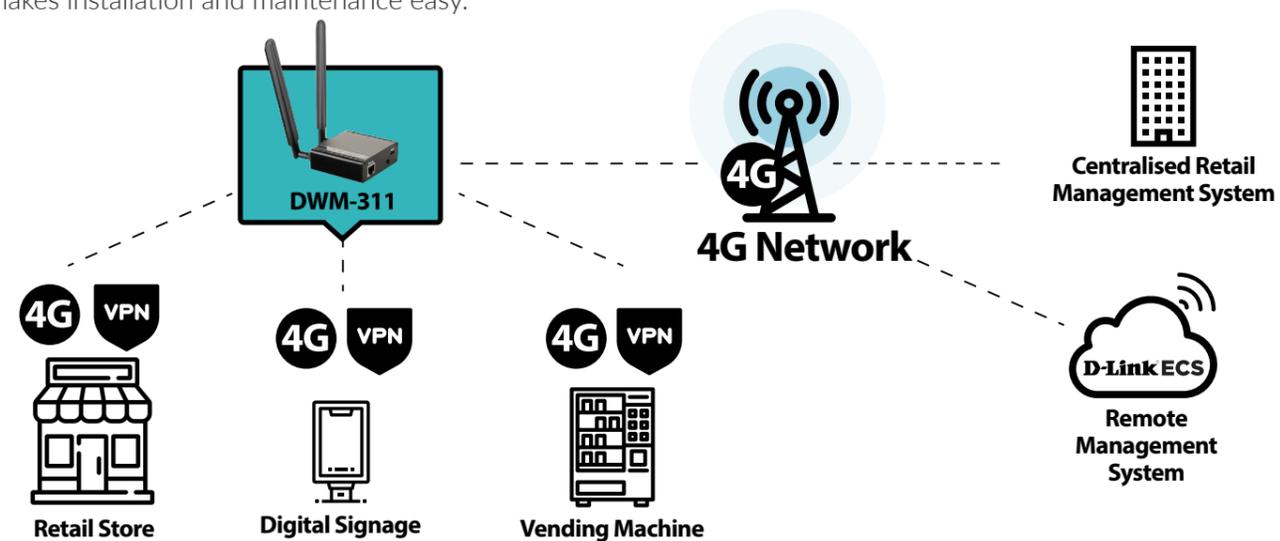
D-Link DWM-311 was chosen to provide secure VPN WAN connection over 4G/LTE to each vending machine. High-speed, good signal coverage, instant-on and paid-per-use 4G LTE network is the most suitable WAN infrastructure. With optional high-gain 4G antennas and built-in USB powered connector, DWM-311 makes installation and maintenance easy.

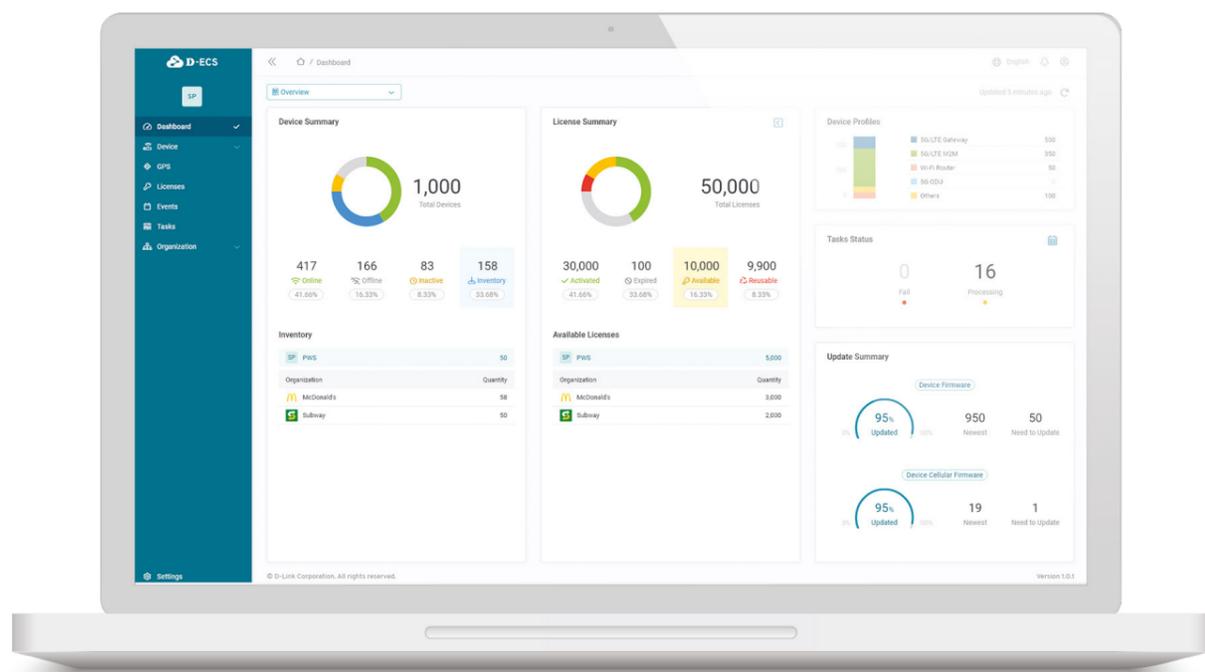


Project Size

3 000 - 4 000 units
DWM-311

4G Single SIM VPN Router

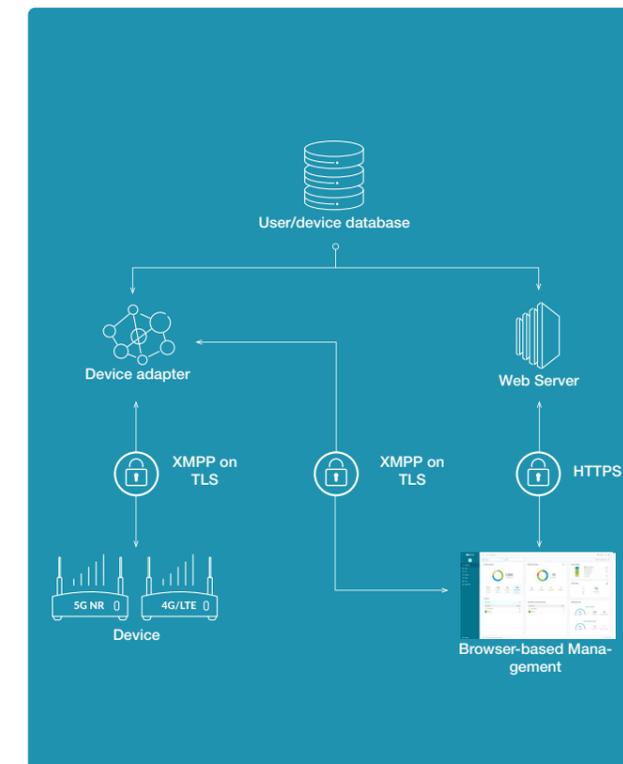




▲ Dashboard



▲ Bandwidth usage statistics



▲ End-to-end encryption

D-Link Edge Cloud Solution

End-to-end solution

D-ECS is a cloud-based 4G and 5G cellular infrastructure deployment, administration and monitoring solution offering end-to-end control of your multi-site devices.

D-ECS eliminates the technical constraints linked to cellular networks thanks to:

- An easy turnkey solution to exploit
- Remote management of all your M2M cellular networks 4G and 5G
- Robust automation with minimal downtime

Cloud management

Managing a network from the cloud has tremendous benefits in terms of control and convenience. There are no technical limits to the number of manageable sites and devices and no additional specialized hardware is required.

With D-ECS, automated zero-touch provisioning, scheduled task scheduling, and alerting capabilities, there is no need for repetitive maintenance and configuration tasks.

- Deployment without any intervention (Zero-Touch Provisioning)
- Unlimited scalability
- Reduction of repetitive maintenance and configuration tasks

Full supervision and detailed

D-ECS allows global supervision through dashboards, numerous information and usage statistics: bandwidth, information and quality of cellular, LAN and WLAN signals.

- Dashboards, information and statistics of cellular networks, LANs and WLANs
- Device information with history
- Advanced traffic reports and data analysis

A wide range of 4G and 5G M2M routers

D-ECS is compatible with a wide range of 4G and 5G M2M routers in order to best adapt to business needs: Industry 4.0, IoT, Smart City/Building, predictive/remote maintenance, Supply Chain, etc.

- Easy deployment (Zero-Touch Provisioning)
- Unlimited scalability
- Reduction of maintenance tasks and repetitive configurations

D-Link's Wide Range of M2M Solutions

Routers

4G



	DWM-311	DWM-313	DWM-315	DWM-321	DWM-550
No. of sim slots	1	2	2	2 (HW : A1) 4 (HW : D1)	2
Connectivity	1 x LAN GbE	1 x WAN/LAN GbE 1 x LAN 10/100 Mbps	1 x WAN/LAN GbE 1 x LAN GbE	1 x WAN/LAN GbE 2 x LAN GbE	1 x WAN/LAN GbE 1 x LAN GbE
Max 4G speeds	DL : 150 Mbps UL : 50 Mbps	DL : 150 Mbps UL : 50 Mbps	DL : 300 Mbps UL : 50 Mbps	DL : 150 Mbps UL : 50 Mbps	DL : 150 Mbps UL : 42 Mbps
No. of Antennas	2	2	2	2 (HW : A1) 4 (HW : D1)	2
GPS	-	-	Yes optional antenna	Yes optional antenna	Yes optional antenna
VPN Functions	OpenVPN	L2TP OpenVPN PPTP IPSEC GRE VPN	L2TP OpenVPN PPTP IPSEC GRE VPN	L2TP OpenVPN PPTP IPSEC GRE VPN	L2TP OpenVPN PPTP IPSEC GRE VPN
Administration	Autonomous or centralised				
D-ECS Compatible?	Yes requires additional operating licenses				
Functional T°	-30°C / +60°C	-30°C / +70°C	-20°C / +60°C	-30°C / +60°C	-30°C / +70°C
Others		Firewall VLAN Routing Wi-Fi N	Firewall VLAN Routing Micro-SD	Firewall VLAN Routing Wi-Fi AC	Firewall VLAN Routing USB Port RS232 RS485

Routers

5G



	DWM-311-G	DWM-330-G	DWM-3010	DWP-1010
No. of sim slots	1	2	2	1
Connectivity	1 x LAN 2.5 GbE	1 x WAN/LAN GbE 1 x LAN 10/100 Mbps PoE	1 x WAN/LAN GbE 2 x LAN GbE	1 x LAN 2.5 GbE PoE+
Max 5G speeds	DL : 3.4 Gbps UL : 550 Mbps	DL : 3.4 Gbps UL : 550 Mbps	DL : 900 Mbps UL : 150 Mbps	DL : 4 Gbps UL : 620 Mbps
No. of Antennas	4	4	4	6
GPS	-	-	-	-
VPN Functions	OpenVPN	L2TP OpenVPN PPTP IPSEC GRE VPN	L2TP OpenVPN PPTP IPSEC GRE VPN	-
Administration	Autonomous or centralised			Autonomous
D-ECS Compatible?	Yes requires additional operating licenses			No
Functional T°	-30°C / +60°C	-30°C / +60°C	-30°C / +60°C	-30°C / +50°C
Others		Firewall VLAN Routing Wi-Fi N Micro-SD	Firewall VLAN Routing Wi-Fi AC Port USB RS232 RS485 Micro-SD	IP67 Power Surge Protection 6kV Wi-Fi N

To learn more about the M2M solution for your business,
contact our sales team

D-Link[®]