

# OUTDOOR ROUTER FOR UNDERGROUND EV CHARGING STATION

## HIGHLIGHTS

- ✓ [Etecnic](#) is a Spanish specialist in electric energy and mobility field, providing EV charging stations all over Spain.
- ✓ These underground stations need uninterrupted connectivity to function smoothly and constantly provide data via Etecnic's [EVcharge](#) software to both end clients and engineers.
- ✓ To create the underground EV charging station infrastructure, our partner chose the OTD140 outdoor router, alongside the TAP200 access point, and TSW200 PoE+ switch by Teltonika.

## THE CHALLENGE – UNDERGROUND CONNECTIVITY

The world is constantly transforming into a more modern and technologically-capable place. For instance, it's hard to believe there was a time when we didn't have electric vehicles. Well, these days are long past, as electric cars are conquering the market at the speed of light, currently standing at [40 million](#) in the world.

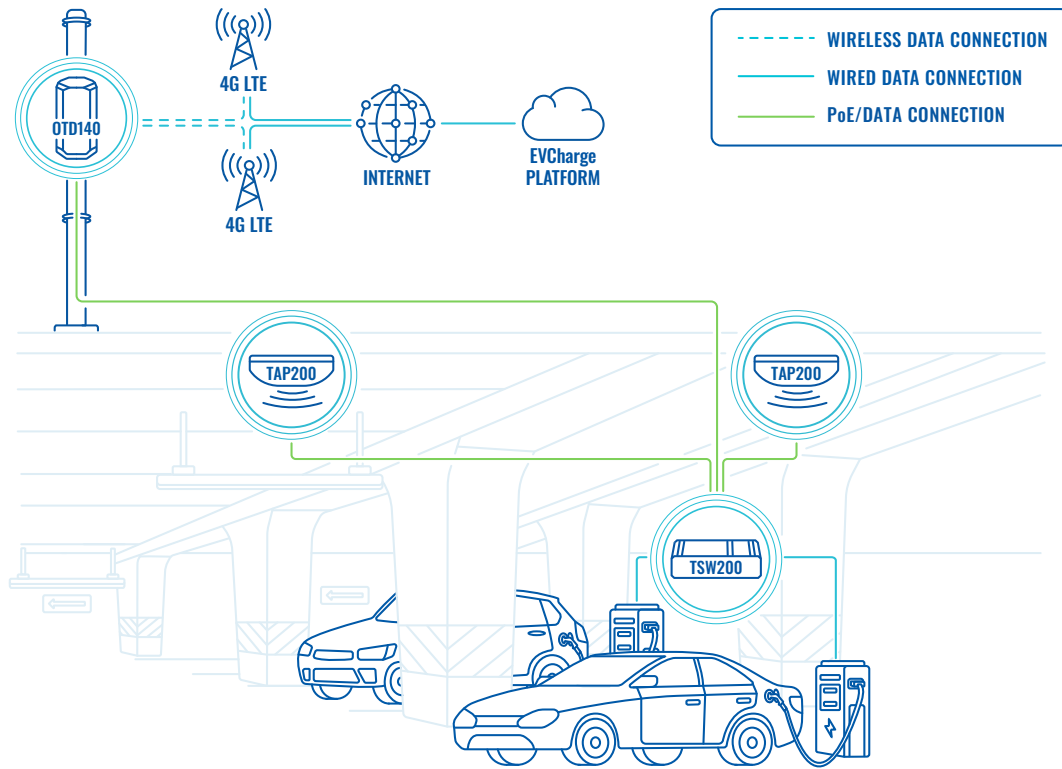
The effectiveness and convenience of owning an electric vehicle greatly depend on the availability and accessibility of reliable charging infrastructure – which is exactly what our partner, Etecnic, specialises in.

Our partner provides underground parking lots with EV charging solutions across Spain. Their EV charging software, EVcharge, is created to provide engineers with an analysis, energy management, and operations platform. It also has a mobile app for its clients, allowing them to see all EV charging information, including charging station locations and charging progress.

Since there is no 4G LTE coverage in underground parking lots, an outdoor router was needed to be installed as close to the entrance as possible to connect end clients with the EVcharge platform.

For this connectivity solution, our three musketeers, the [OTD140](#) outdoor router, [TAP200](#) access point, and [TSW200](#) PoE+ switch, have joined forces.

## TOPOLOGY



## THE SOLUTION – ROUTER + SWITCH + ACCESS POINTS

The OTD140 outdoor router was chosen for its 4G LTE connectivity, PoE+ ports, and [IP55 casing](#) allowing it to withstand outdoor environmental conditions.

Moreover, this outdoor router is equipped with [auto-failover](#), making sure that the EV charging station is never without Internet. The OTD140 provides seamless LTE Cat 4 connectivity, is backward compatible with both 3G and 2G, and has two SIM card slots for enabling connectivity switching scenarios.

Let's not forget that the OTD140 outdoor router is equipped with both a PoE-out port and a PoE-in port, meaning it can both power another device and be powered by another device, as long as those devices support PoE or if a PoE injector is added.

Lastly, the OTD140 supports [MQTT](#), VRRP, DHCP, [TCP and UDP](#), as well as many other protocols. This dust and water-resistant cellular router secures connectivity using [firewalls](#), access control, VPNs, and VLAN capabilities.

The charging equipment needed to be connected to the outdoor router in order to send the data to the EVcharge platform. To make that connection possible, our partner added the TSW200 PoE+ switch to the solution, connecting it via the Modbus TCP/IP protocol to the equipment and via RJ45 to the router.

Moreover, our partner needed to enhance Wi-Fi coverage in the underground charging station. That's why the TAP200 wireless access point was a perfect choice. It's equipped with PoE-in functionality, meaning it's able to receive power through an Ethernet cable via PoE technology.

Etecnic connected multiple access points to the TSW200 switch via RJ45, enhancing Wi-Fi coverage and making sure that all corners of the charging station are equipped with uninterrupted connectivity. It allowed the EVcharge software to provide real-time data to end clients and engineers.

So, if you'd like to implement underground connectivity for your network solution, you can't go wrong with Teltonika's OTD140, TSW200, and TAP200!

