

# LONG-DISTANCE CONNECTIVITY FOR PARKING TICKET MACHINES

## SUMMARY

Surface parking lots cover more than 5% of all urban space in the USA alone. With a big part of the population owning personal cars, the parking lots can become quite chaotic without monitoring. Parking ticket machines help manage those spaces by limiting the parking time available for each vehicle. However, for this system to function correctly across the city, a reliable internet connection is a must.

## CHALLENGE

Parking ticket machines are placed all over the urban areas. The considerable distance between devices makes connecting them into a single shared network challenging. In such a case, the data has to cover vast distances without decreasing transfer speed and quality. However, an Ethernet connection's effectiveness falls off as latency and consumption increase as the gap between devices grows. Also, Ethernet cable is susceptible to electrical signal interruptions, making it less reliable over long distances. Lastly, each parking ticket machine has multiple components that require connectivity.

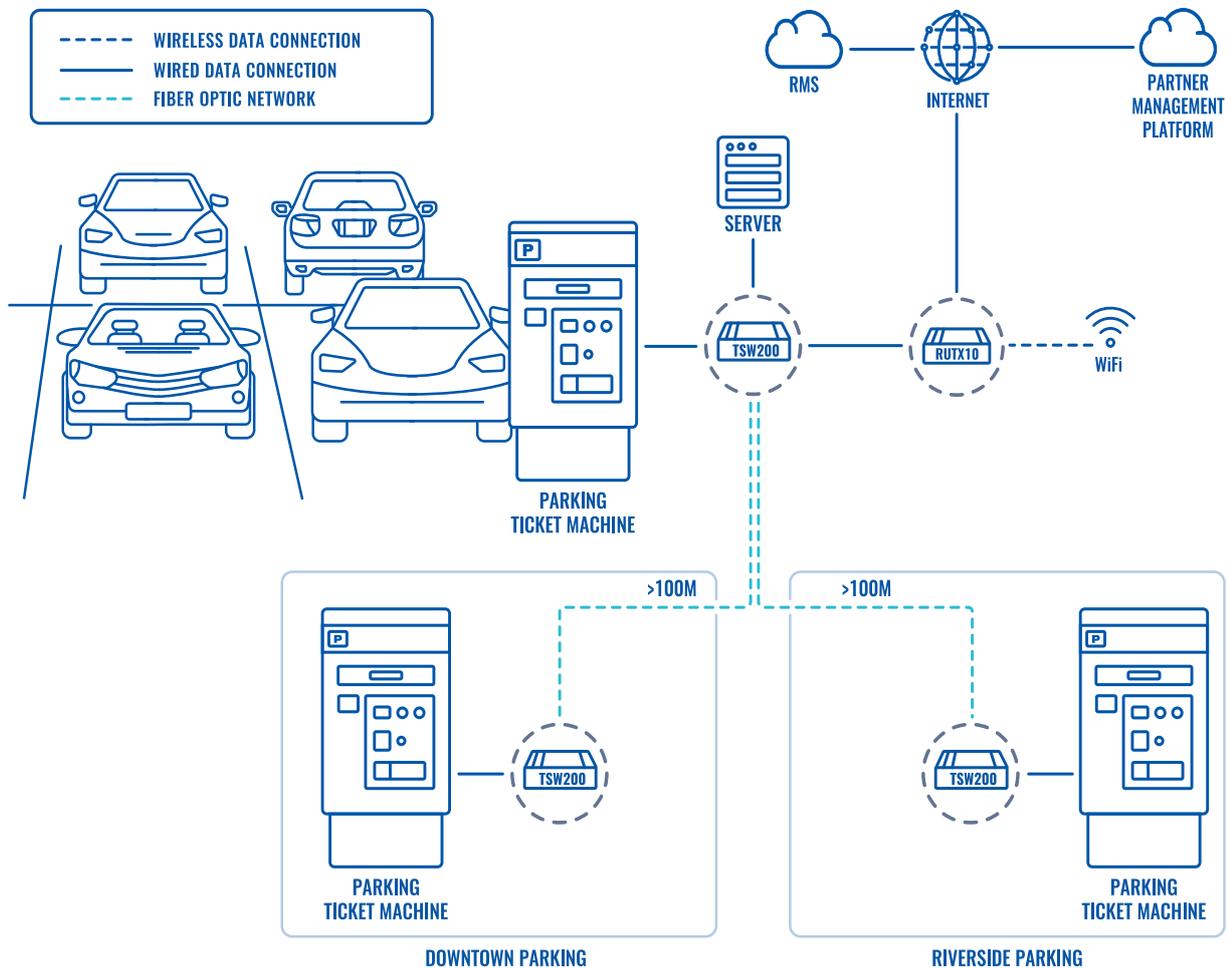
## SOLUTION

In this case, Teltonika Networks TSW200 industrial switch helps create a single far-reaching combined network, incorporating parking ticket machines all across the city. An Ethernet cable is only effective under 100 meters. For this reason, TSW200 features two SFP ports that connect to other switches with a fiber optic cable and transfer data over long distances, creating a shared physical network and stabilizing transfer speed. Meanwhile, the RUTX10 Ethernet router provides connectivity for this solution through a wired connection to TSW200.

The TSW200 has eight PoE+ Gigabit Ethernet interfaces that provide connectivity and, in addition, act as a power source for the connected equipment if necessary. Multiple available ports make the entire solution more effective and easier to install. Each port provides up to 30W to connected devices. Here the TSW200 also connects to an on-site server at the central parking lot, enabling it to collect and process data.

The rugged construction of TSW200 is excellent for this solution because it can withstand extreme temperatures and moisture, making it great for outdoor setups. Lastly, TSW200 implementation is fast and easy, thanks to multiple mounting options and a plug-and-play design.

## TOPOLOGY



## BENEFITS

- Two SFP ports allow expanding networks over great distances without sacrificing connection speed or quality.
- Eight PoE+ ports can provide power and connectivity to a system with multiple devices.
- The rugged casing is resistant to harsh environmental factors like extreme temperatures and moisture that solutions often experience in outdoor environments.
- Fiber optic cable is more reliable than an Ethernet connection and can resist electrical interferences.

## WHY TELTONIKA NETWORKS?

Teltonika Networks prides itself on delivering high-quality and easy-to-use products. We have many years of experience when it comes to offering reliable connectivity for our clients. We use this experience to provide our clients with the devices designed with specific requirements in mind. Even if the solution requires a stable internet connection over large distances, is made up of multiple devices or is in a complex location, Teltonika Networks can offer the best product based on that specific setup.

