REAL-TIME BEACH OCCUPANCY MONITORING

SUMMARY

Tourism is one of the main economic drivers in Spain. Although it has been highly disrupted due to the global pandemic, with certain measures in place, people may start enjoying some of the usual holiday activities, including spending time at the beach. The number of people allowed on public beaches is strictly limited. Technological solutions need to be implemented to monitor the capacity and busyness of each beach in real-time to ensure safety and inform the public for better planning.

CHALLENGE

To ensure that distance requirements are met, only a certain number of citizens can spend time at the beach at the same time. Smart technologies are required to facilitate counting and communication to the public to avoid queues. However, the internet connection is often not present at public beaches, especially if they are in more remote areas, away from the city. For this reason, wired connectivity is not an option and a reliable cellular router is a better choice. Being stored outside, the device needs to be sturdy enough and sustain the challenge of changing temperatures and humidity.
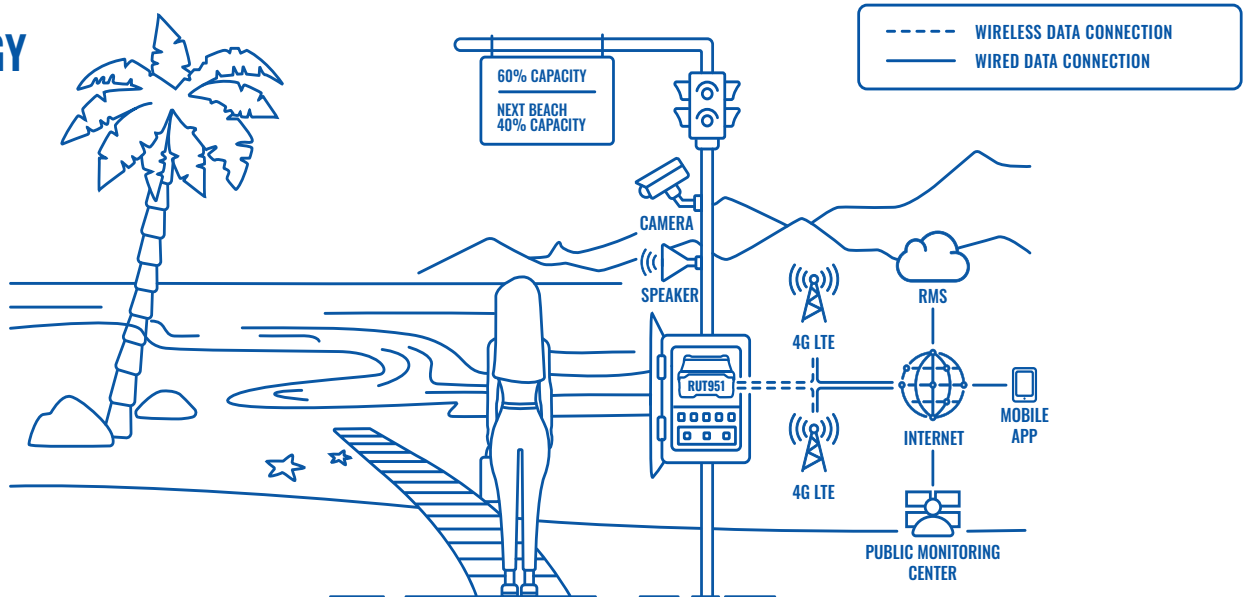
PARTNER

JUMA is a company specialized in technology that improves people's lives, striving for more efficient and safer cities. Founded more than 30 years ago, it has three business lines: the transformation of security and emergency vehicles, command centers and telecommunications networks, and smart city solutions. In these lines of work, they develop solutions with artificial intelligence, IoT, and Big Data.

CODIPRO is a distributor of advanced telecommunications systems with extensive experience in the sector. They offer innovative and personalized solutions, accompanying them in the development of projects from the design phase to their implementation.

TOPOLOGY

Legend:
- - - - WIRELESS DATA CONNECTION
——— WIRED DATA CONNECTION

60% CAPACITY
NEXT BEACH
40% CAPACITY

CAMERA
SPEAKER
RUT951
4G LTE
4G LTE
RMS
INTERNET
MOBILE APP
PUBLIC MONITORING CENTER

SOLUTION

Several sensors and cameras are installed to count the number of people at the beach. These devices are connected to the RUT951 dual-SIM cellular router providing connectivity to the solution. The collected information is sent to the Public Monitoring Center and further communicated through various channels. A digital signage screen shows the occupancy rates at the entrance. It also informs about the busyness of nearby beaches. A speaker is connected to the solution to communicate important announcements and the traffic is managed by a traffic light. Whenever the maximum capacity is reached, it turns red and no more people are allowed to enter.

The same information is also sent to another important piece of the solution - the mobile app. It allows for people to check the information before their trip and avoid queues by choosing the beach according to availability in real-time. This way two major goals are achieved - the safety of the public and at least partial revival of tourism, which has been greatly affected by the pandemic.

BENEFITS

• Reliability ensured by dual SIM and auto-failover switching to a backup option whenever any network issues occur.
• Industrial robustness allows to use the device in outside conditions since it can sustain a temperature range between -40 °C to 75 °C and humidity of 10% to 90%.
• Professional level security ensured by a pre-installed Firewall, multiple VPNs and attack prevention.
• A single RUT951 router is enough to provide connectivity for the whole solution.
• Remote management and maintenance via Remote Management System (RMS).

WHY TELTONIKA NETWORKS?

JUMA representative explained why they chose Teltonika Networks for the project: "Teltonika Networks routers have been instrumental in offering a complete and reliable solution. RUT951 has been key to being able to communicate the data obtained from the sensors to the various devices, to the Cloud, and most importantly - to the people. We have chosen Teltonika Networks routers for their reliability and robustness in outdoor spaces. The confidence that Teltonika Networks offers us is unique in the market. They are our favorite equipment manufacturer for professional environments. The professionalism of the network of distributors has also greatly facilitated our work and the decision to choose Teltonika Networks for projects where safety and reliability are highly demanded."