FOOTFALL ANALYTICS FOR OPTIMIZED PUBLIC TRANSPORT

SUMMARY

Customer behavior is constantly changing, and the public transportation sector is no exception. Various factors can affect it, including seasonality, significant events, or obviously, most relevant today - Covid-19 pandemic and distancing requirements. Gathering and analyzing information on the road traffic structure is crucial for proper routes, bus stops, and timetables. Data analytics can help improve customer experience by offering better schedules, reducing traffic congestion, enhancing safety, and providing additional powerful insights about moving travelers.

CHALLENGE

The challenge in creating the best routes for public transport is in finding ways to take measures that enable efficiently gathering and analyzing information on the road traffic structure and passengers' journeys between given regions. Besides, there also exists a compatibility issue with various types of [legacy] devices found on buses and customizability to meet the varied requirements of different clients.

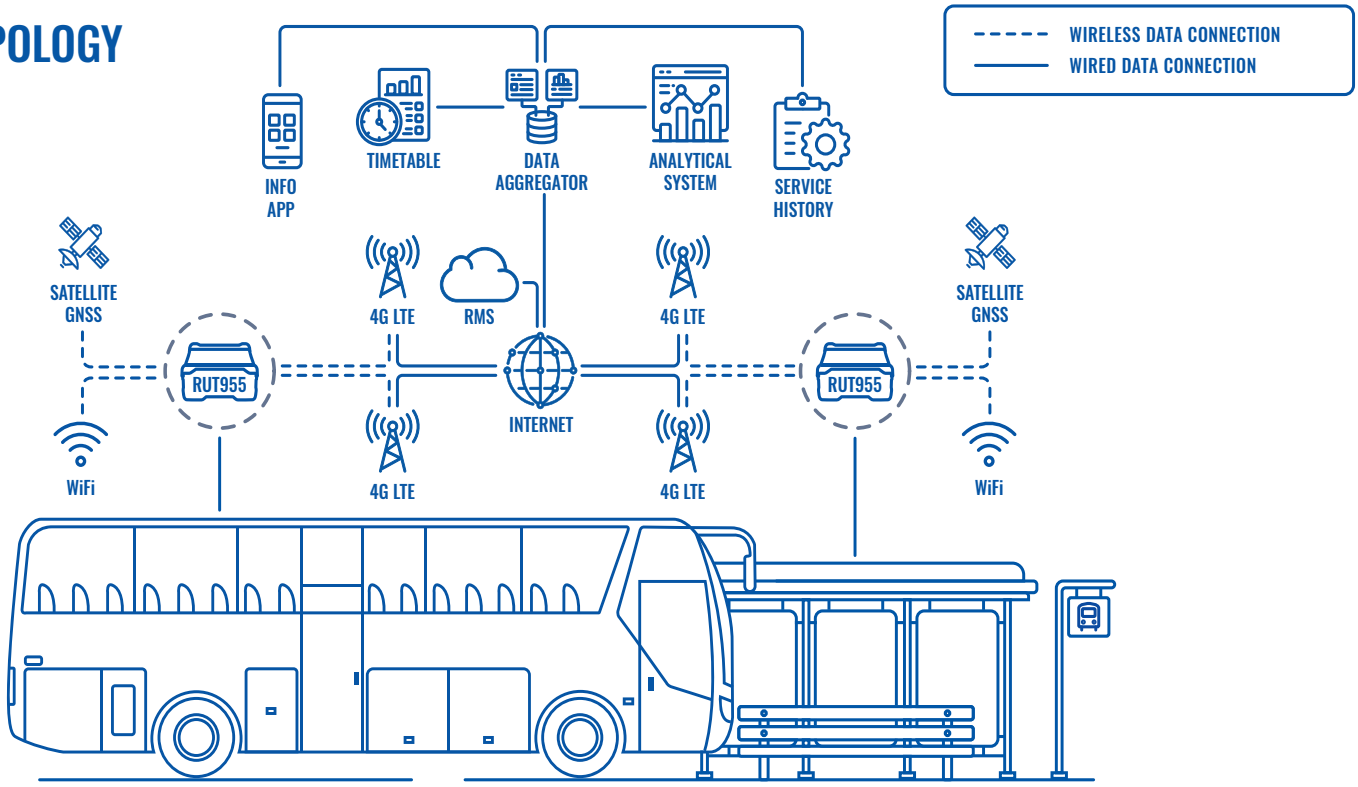
PARTNER - EMBIQ

EMBIQ offers IT solution development services empowering R&D teams and projects by presenting high-quality IT experience in full-stack services, including Concept support, Analytics, Design, Architecture, Software Development, Hardware Development, Automated and Manual Testing, Deployment, and further Maintenance. The company provides professional services in custom software development specializing in business tools, especially those involving locations, positioning, or asset tracking.

SOLUTION

Given a task by one of their clients, EMBIQ designed a platform for optimizing public transport based on the actual data. DSDi Flow is a journey analysis system that enables gathering and analyzing information on the road traffic structure. The analysis is performed by small RUT955 devices installed in vehicles and bus stops that capture and analyze anonymous Wi-Fi signals emitted by passenger smartphones.

TOPOLOGY



The collected data may include passenger traffic between regions with date, time, days of the week, and bus lines. It may also calculate load percentage in regions in terms of the given bus lines, passenger share for bus stops, and the number of passenger journeys between specific destinations with a list of bus lines.

The gathered data allows improving the quality of transport services and optimize costs. Data on the passengers' flow are crucial for optimizing the routes, bus stops, timetables, or developing completely new bus lines. Efficient public transport systems encourage citizens to use public transport instead of private cars, and accurate information provided by terminals enables proper planning of logistic operations.

BENEFITS

- Low costs as there is no need for high investments in expensive infrastructure renewal due to the adaptive nature of the solution.
- Individually selected technology, considering the scale of measurement or specification of the site.
- Automatic Wi-Fi connection data gathering completed by RUT955.
- Durable and rugged industrial cellular router RUT955 allows quick and easy installation even outdoors.
- Easy to integrate and highly customizable solution based on OpenWRT.

WHY TELTONIKA NETWORKS?

EMBIQ commented on why they chose Teltonika Networks for their solution:

"This is a universal device that we can use in many projects. A high-quality RUT955 router allows installation of the device in outdoor projects. It is a significant advantage that we don't have to worry about durability. RUT955 is a reliable product with no problems with connectivity, is easy to integrate, and allows us to integrate our own firmware seamlessly."