Milesight

Track Your Bus at Fingertips!
A LoRa-based Smart Bus Tracking System (Pilot Project)

Real-time bus tracking system pinpoints the exact location of buses at all times and provides the estimated arrival time for passengers. Consequently, the most commonly used technology in a tracking system is the GPS (Global Positioning System) combined with a cellular network. As a matter of fact, traditional GSM-based GPS tracker counts on the licensed band, such as 3G/4G, to transmit GPS location data. However, a large number of SIM cards installed in hundreds of trackers causes big money.

To better solve this problem, Milesight introduces LoRa technology for bus tracking system. As is known to all, LoRa technology utilizes unlicensed frequency and is virtually free of communication charge. A single LoRaWAN gateway can cover nearly 10km in distance to communicate with thousands of GPS trackers without cellular network, which greatly reduces data fees. Also, combining GPS with LoRaWAN technology for more accurate geographical positioning and less data fee makes the whole system realize the true "cost-efficient" benefit.

PROJECT

Milesight worked with its partner to test a smart bus tracking pilot project in Mexico.

The project aims at creating a LoRaWAN network that covers a certain area within the city of Saltillo to communicate with end devices installed on buses and at bus stops so that passengers can know the arrival time of next bus and drivers can know the real-time traffic information on the scheduled routes.

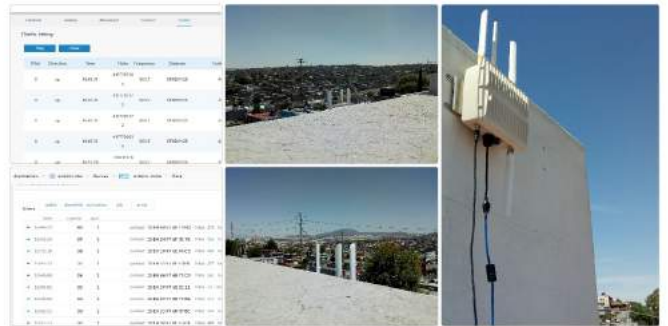## HARDWARE INFO

- UG87 LoRaWAN Gateway
- (What is LoRa Gateway?)

SOLUTION

Step 1: GPS and acceleration sensors collect location and speed data;

Step 2: Use UG87 LoRaWAN gateway collects data periodically from all sensors as the bus moves;

Step 3: UG87 LoRaWAN gateway sends information to the network server where speed, location, direction, and other variables are collected;

Step 4: Application server estimates the arrival time of the next bus and sends it to the bus stop, as well as the real-time traffic information on scheduled routes to bus drivers.

Bus Sensor → UG87 LoRaWAN Gateway → THE THINGS NETWORK → Bus Stop / App

Benefit

Cost saving

Using loRaWAN technology to set up communication between gateway and end nodes can save huge monthly date fee.

Customers Satisfaction

Passengers can rely on the bus tracking system to manage their travel plan.

Real-Time Monitoring

Real-time traffic monitoring for bus safety and emergency alert.