

# Modernizing public transport with real-time bus tracking and enhanced safety

## GRAND PRIX

IOT PROJECT OF THE YEAR 2024

This project won the Grand Prix at the IoT project of the year 2024 contest. Explore the article and [learn more about all the winners](#).

### Challenge

Delays, detours, lousy driving practices, and safety issues plagued public transport in Lebanon. Commuters were accustomed to long waiting times, lack of comfort, and a pervasive sense of danger.

Seeing the need for improvement, the local company [ACTC](#), specializing in passenger and goods transportation and other logistics services, set out to change the situation.

ACTC wanted to modernize the public transport system in Lebanon and create a safe and enjoyable customer experience. [MaliaTec](#), a renowned Wialon partner, took on the exciting project with ACTC. Read more to learn how the result of their work influenced 78% of current commuters to switch to ACTC buses.

### Solution

Maliattec created a complex solution for digitalizing a large fleet of public buses across Lebanon. Generally, the bird's eye view of this solution is the following:

- Hardware was installed on the buses, which collected information about what happened with the bus and sent it to Wialon.
- In Wialon, the information was configured to be shown and analyzed by ACTC employees, such as dispatchers.
- Information was sent to third-party apps through API.



ACTC buses

Let's see what each part of the solution was offering.

#### Software component of the project

The software delivers data for all project participants: ACTC employees, bus drivers, and commuters.

- A Streamax solution is used to manage the buses' screens and drivers' tablets, as well as for video replay.
- Wialon is set to [control fuel levels](#), generate route deviation alerts, generate customized driver reports, manage the driver identification keys, and [monitor the bus in real time](#).
- Via API, the data from Wialon is sent to a third-party passenger application, which provides live location, ETA, and next-stop data.
- Wialon [fleet management software](#) helps to manage all the preventive maintenance related to the buses.
- Integrating Wialon with the payment gateway allowed passengers to be charged based on the length of the trip.

#### Hardware component of the project

MaliaTec used a mix of hardware from multiple vendors for this project to satisfy the client's needs.

The latest AI DVR from [Streamax](#) was employed as the project's base. It is connected to passenger counters, AI and ADAS cameras, human-computer interaction screens, passenger information displays, outdoor LED screens, and bus validators with a payment gateway.

The GPS hardware was integrated with [Teltonika](#) RFID driver identification sensors, [Mechatronics](#) fuel sensors, and buses' doors.



MaliaTec provided a centralized control room for real-time bus tracking

#### Other services offered to the client

The client's training lasted six full days and covered hardware, Wialon, Streamax, the back-end server components, and general questions.

MaliaTec currently has a 7-day/13-hour-per-day technical person on standby to support the operations of ACTC buses.

### Results

As a result, ACTC gained complete control over the buses and could influence everything, from the driver's behavior to payments, from following the routes to making sure every drop of fuel was serving a good cause, not for the aims of fraudsters. The project revolutionized Lebanese [public transport with fleet management](#), making it a better citizen service.

ACTC launched the first phase of 96 buses, part of a larger plan to implement 605 more across Lebanon. Each bus picks up an average of 450 passengers daily, and more lines are opening weekly.

#### Cost savings due to fleet management

The client detects any fuel manipulation, tracks maintenance and repairs, holds drivers accountable for [driving quality](#), and prevents stopping at illegal stops or using the buses for private trips. All this saves the company money every day.

#### More passengers of public transport

78% of current commuters have switched to ACTC buses. 22% of commuters have started using public transport because these buses are deployed. They never considered it earlier due to the low quality of the services.


#### Cross-country business impact

The project made the news in Lebanon for weeks and exploded on social media. Even if minuscule compared to the troubles Lebanon is facing, it brought hope that the private sector, in close cooperation with the government and global companies, can thrive and make a change.

#### Video proof

The buses were attacked seven times, but luckily, thanks to the project's video telematics component of the public transport safety solution, all the attempts were caught on camera. The Lebanese Internal Security Forces cooperated with Maliattec to retrieve the footage from the MDVRs.


#### Company profile

 **IoT project of the year nomination:** Growing fleets

**Country:** Lebanon

**Industry:** Passenger transportation

#### Solutions

 Wialon

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