

# CASE STUDY



Project time: 2019 | Application location: Malaysia | Shipment quantity: 350 units

## About Lora

LoRa, an abbreviation for long range, is a patented digital wireless data communication technology of Semtech Corporation. It uses license-free radio frequency bands to provide long-range data transmission of up to 15 kilometers with low power consumption. The LoRa wireless communication scheme based on spread spectrum techniques features long distance, low power, multiple nodes and low cost, and no SIM card is required.

## Project background:

This project is applicable to large orchards, palm plantations, and farms without GSM network coverage. These farms are usually far away from the center of cities. Due to a lack of GSM network coverage, after transportation vehicles enter these areas, they cannot be monitored, tracked, and managed in real time. Farm managers cannot know whether the driver steals fuel, loads goods at designated locations, and participates in illegal activities during transportation. Therefore, we develop a vehicle tracking management device based on LoRa and 3G dual communication to help customers resolve data communication problems in areas without GSM network coverage.

## Device: T399G GPS tracker + Ultrasonic fuel level sensor + SOS button + RFID reader

- ▶ With LoRa and 3G dual communication, the device will automatically detect and connect a valid network.
- ▶ The ultrasonic fuel level sensor with an accuracy of 1 mm can monitor the fuel level and detect fuel filling, fuel theft and fuel consumption abnormality.
- ▶ The scheme supports driving behavior detection. With the iButton reader, driver attendance can be remotely managed, which avoids unauthorized or illegal operation of drivers after they leave work. Driving behaviors can be monitored by detecting harsh acceleration, harsh braking, collision, etc. The scheme also supports the idling alert and geo-fence alert, so that farm managers can know the driver's working status and check whether illegal transportation occurs.

### Tracking platform:

Meitrack MS03 tracking platform is used in this project. Detailed farm map can be loaded, so that farm managers can pinpoint the location of the transportation vehicle in the farm. The MS03 platform supports the travel route offset alert and allows users to monitor driving routes of the vehicle. If the driver does not drive the vehicle according to the preset driving route, an alert will be triggered. It can also provide the driving route statistics report, fuel statistics report, trip statistics report, event statistics report, start point and ending point statistics report, and other reports, which facilitates information management. In addition, user-defined reports are supported to meet customers' differentiated requirements.

