MEITRACK T399L COLD CHAIN LOGISTICS SOLUTION

Combining temperature sensors, door sensor and fuel level sensor to make the cold chain logistics process transparent

Meitrack Team

Keyword : Cold Chain Logistics | Temperature Sensor | Door Sensor

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Catalogue

01. Project Background

02. Solution

03. Presentation

04. Why Meitrack

Project Background

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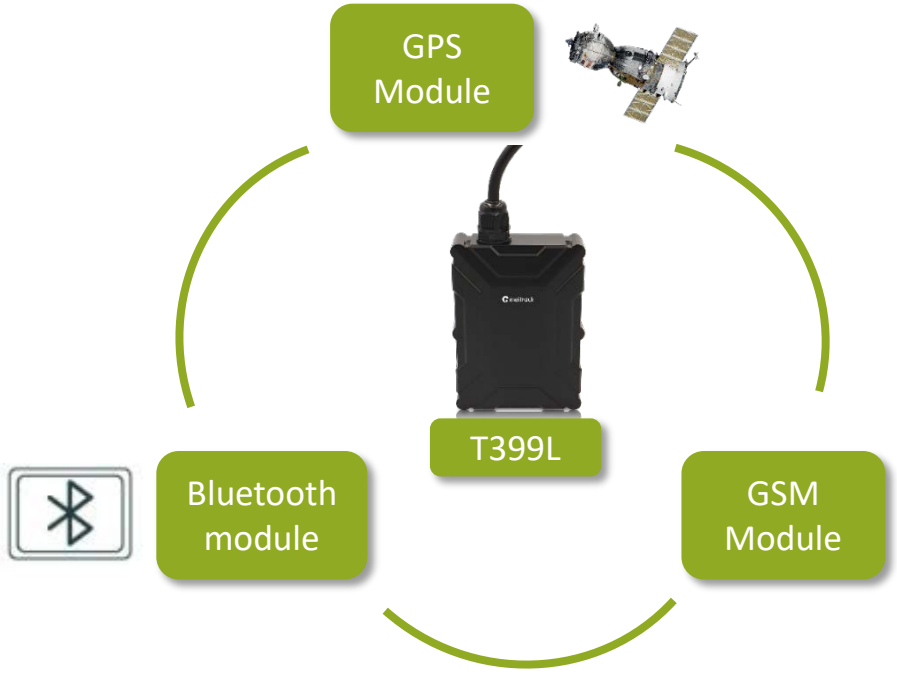
In recent years, people's consumption demand for cold chain food has been increasing. The storage and transportation of various agricultural products, frozen foods, dairy products, etc. require refrigeration. The quality of cold chain logistics generally depends on three aspects, namely transportation time, refrigeration temperature, and the shelf life of the food itself. However, the accelerating process of globalization has led to increasingly complex operations in the cold chain logistics industry, requiring more professional and efficient information technology as an auxiliary means.

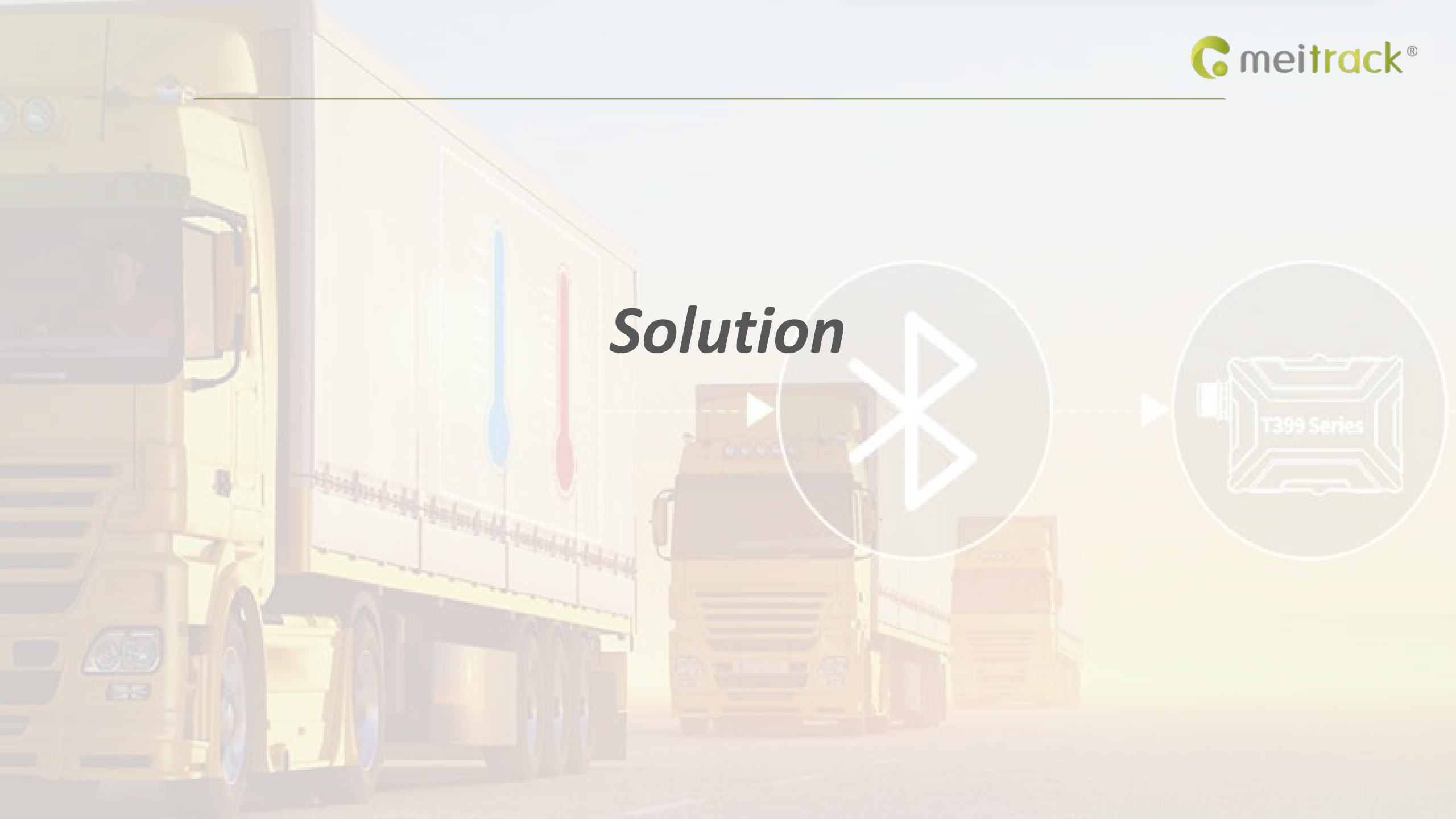
Cold Chain Logistics → Refrigeration temperature | Transportation time | Food shelf life

Project Background

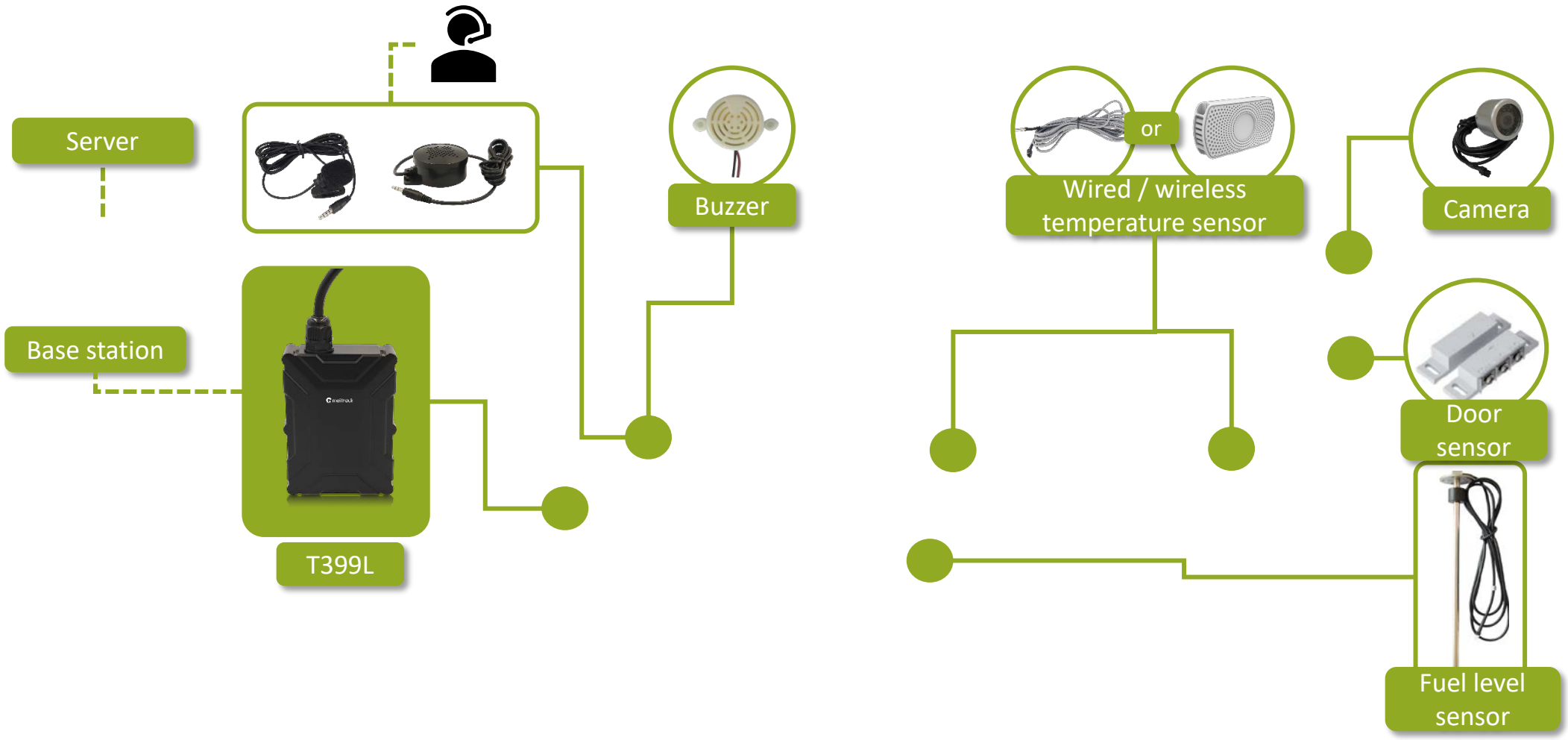
Cold chain transportation requires refrigeration throughout the transportation process, but some drivers will turn off the refrigeration machine during transportation to save fuel costs, and only turn it on at the starting point and the end point. In this way, fresh goods may deteriorate, thereby increasing the company's losses. With Meitrack 's GPS tracker T399L+ temperature monitoring solution, managers can monitor the temperature of the cold storage at any time and obtain the real-time location of the transportation.



Solution



Solution



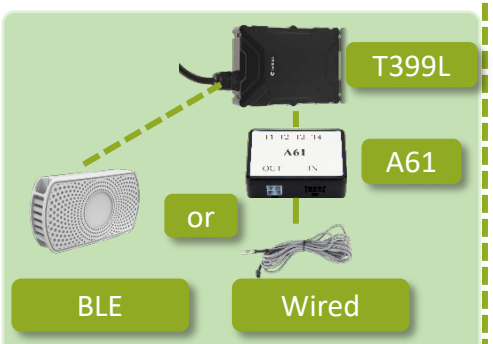
T399L can upload location information in real time. It can detect the temperature of the cold room and the fuel consumption of the truck through sensors. When an abnormal situation occurs, it will trigger the buzzer to remind the driver. Managers can view reports and uploaded photo evidence on the platform.

Solution

Two-way communication

If any abnormal situation occurs, the managers can contact the driver immediately

Temperature monitoring

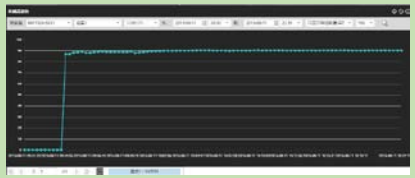


You can choose wireless or wired temperature sensor to monitor the temperature of the cold room in real time.

Take and upload the photos

When an abnormal door opening is detected, the device will take a photo and upload it

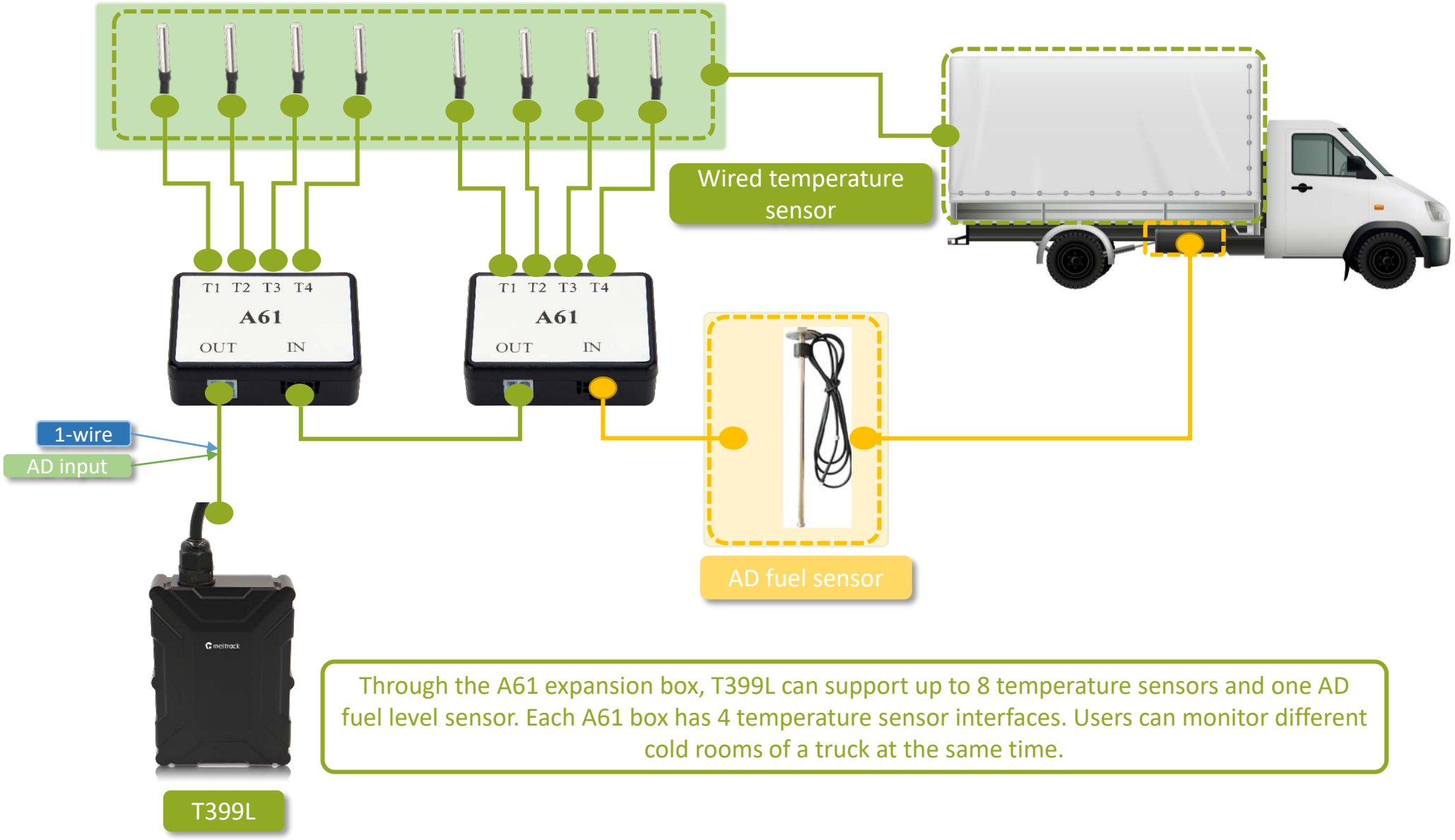
Fuel level detection



Real-time monitoring of fuel levels, uploading alarms when fuel theft or refueling is detected

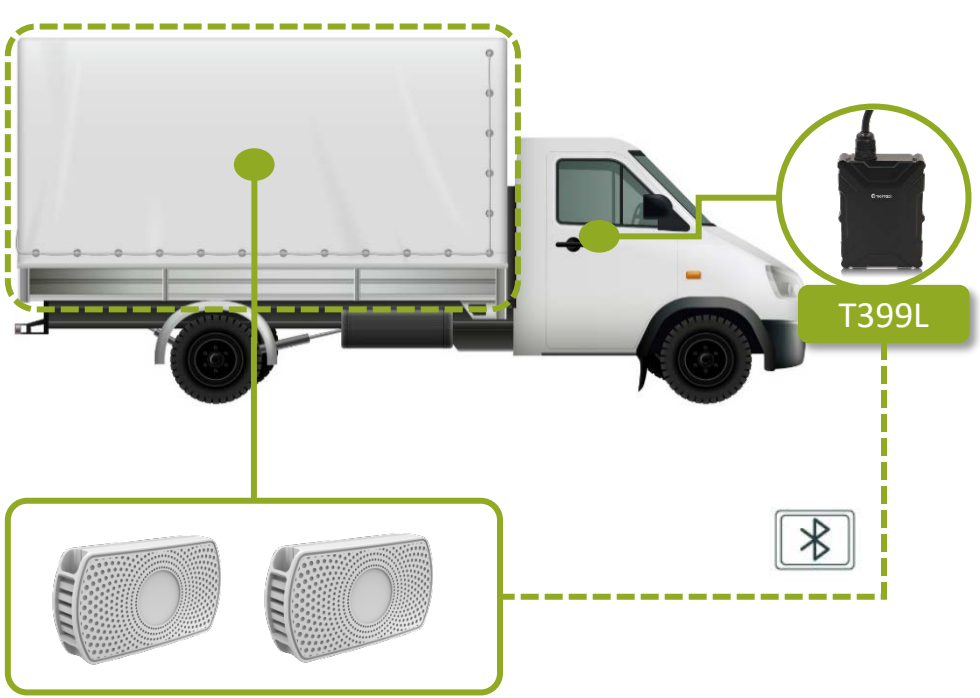
By combining GPS tracker with temperature sensor, fuel sensor and camera, the cold storage temperature, fuel level and driver's driving behavior can be fully monitored. Managers can view the driver's driving record through platform reports to manage the driver's driving behavior.

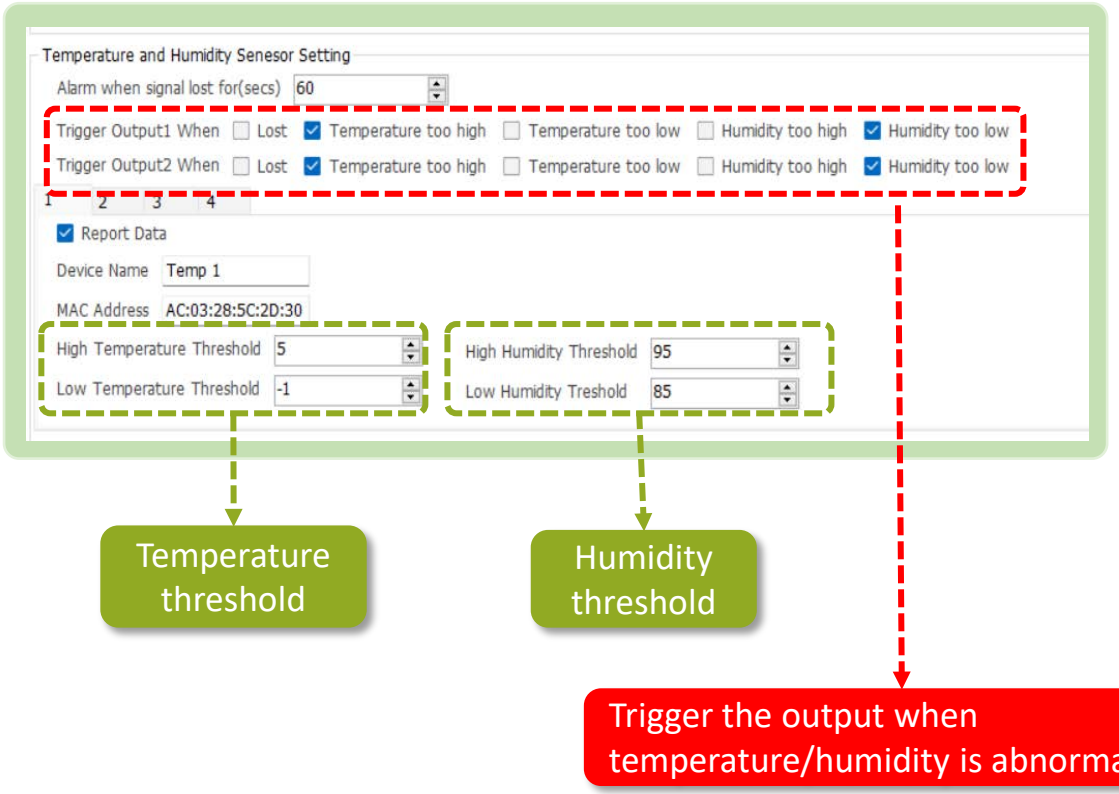
Solution - Wired Temperature Sensor and Fuel Sensor



Through the A61 expansion box, T399L can support up to 8 temperature sensors and one AD fuel level sensor. Each A61 box has 4 temperature sensor interfaces. Users can monitor different cold rooms of a truck at the same time.

Solution - Wireless Temperature and Humidity Sensor



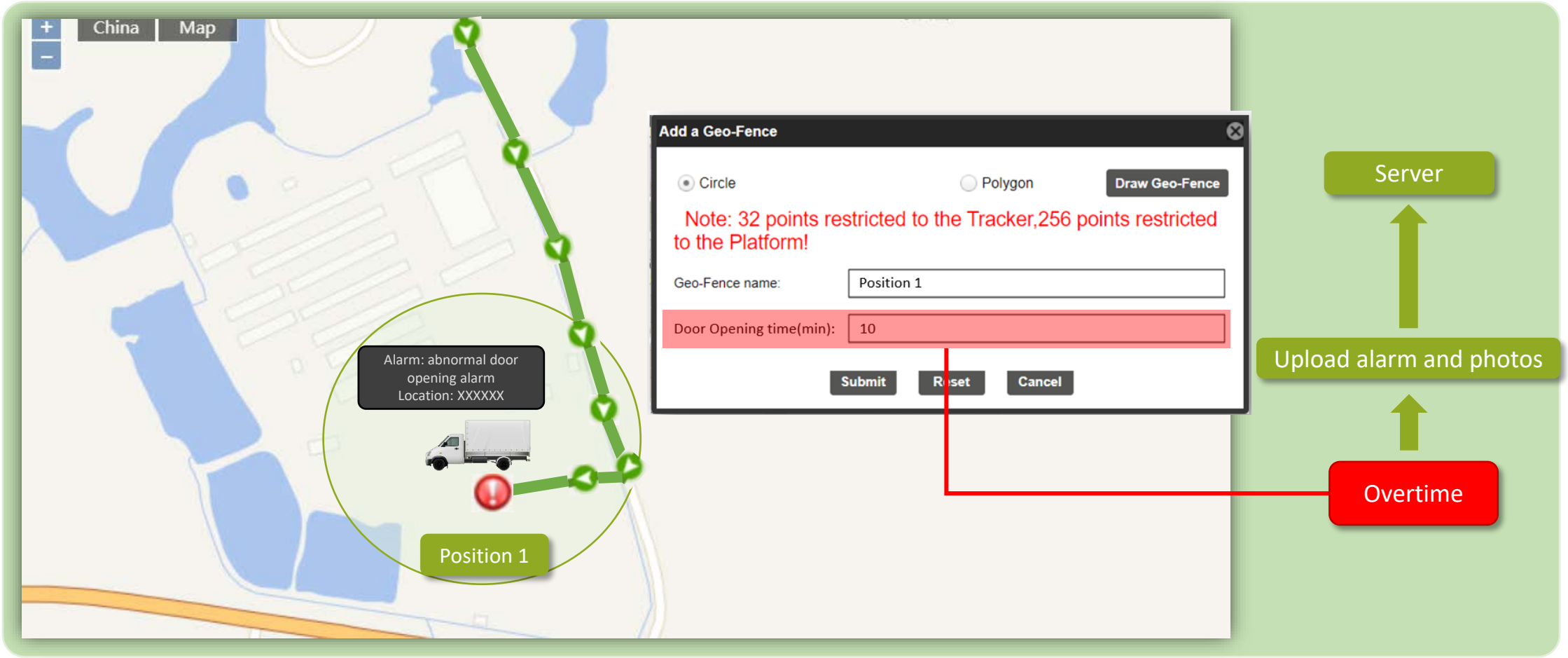


T399L can connect up to 4 Bluetooth temperature and humidity sensors at the same time. Users can configure high and low temperature thresholds and high and low humidity thresholds. When the temperature or humidity is abnormal, the device will upload an alarm and trigger the output.

Solution - Abnormal Door Opening Alarm

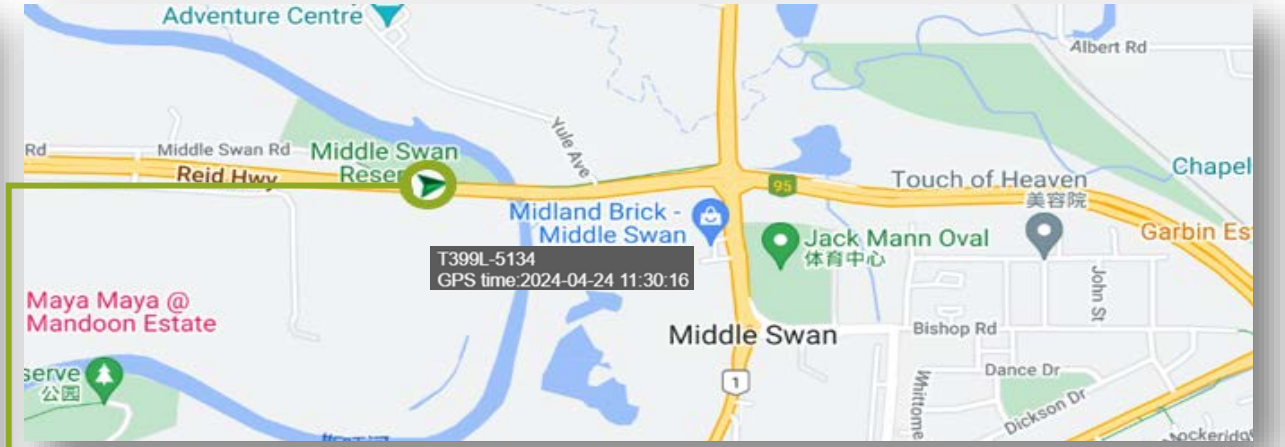
The driver is only allowed to open the door to unload in the designated area. The door sensor is used to detect the door opening status. If the door is detected to be opened outside the designated GEO-fence, an abnormal door opening alarm event will be uploaded. At the same time, the device will take pictures and upload them.

Solution - Abnormal Door Opening Alarm



When the driver opens the door to unload goods within the designated fence, the unloading must be completed within the allowed time. If the time is exceeded, an abnormal door opening alarm will be triggered. This ensures that the operator can complete the unloading in a timely manner within the specified time.

Solution - Driver Driving Behavior Monitoring

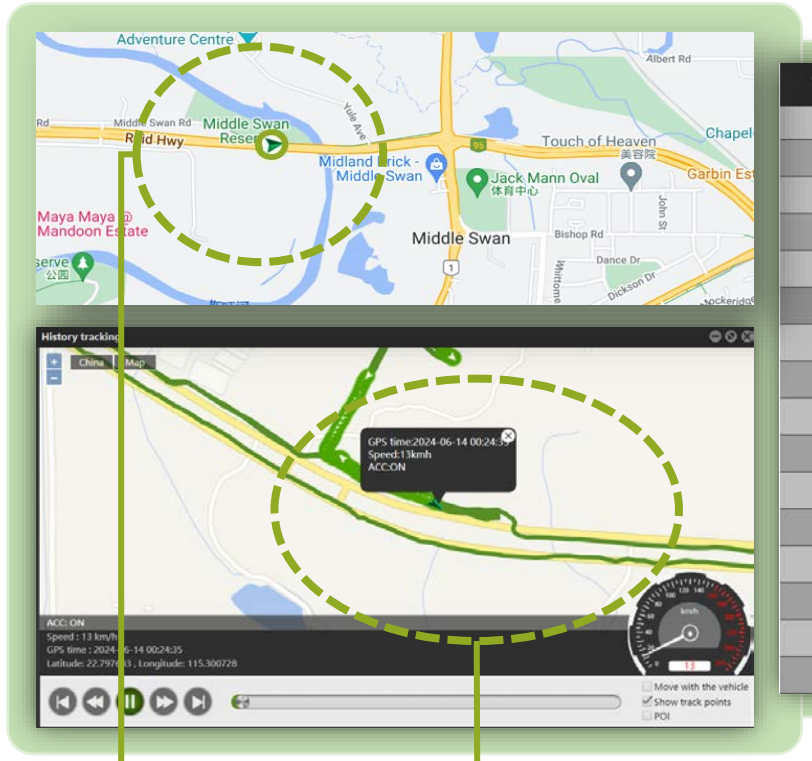


Speeding	Buzzer alarm	Upload alarm to server
Rapid Acceleration	Buzzer alarm	Upload alarm to server
Rapid Braking	Buzzer alarm	Upload alarm to server
Sharp Turn	Buzzer alarm	Upload alarm to server

T399L will use GPS information to determine the driver's illegal driving behavior, such as speeding, rapid acceleration, rapid braking and sharp turns. When the alarm is triggered, it can trigger a buzzer to remind the driver and upload the alarm record to the platform report.

Presentation

Presentation -GPS Positioning and Event Reports



Tracker name	Alarm type	GPS time	GPS valid	Position	Speed	Mileage	Running time
T399L 2436	Cornering	2024-05-15 08:46:43	Valid		28.00	134.6	6Day14:20:5
T399L 2436	Cornering	2024-05-15 08:47:09	Valid		23.00	135.0	6Day14:21:1
T399L 2436	Cornering	2024-05-15 08:47:12	Valid		31.00	135.0	6Day14:21:1
T399L 2436	Sharp Turn to Left	2024-05-15 08:47:12	Valid		31.00	135.0	6Day14:21:1
T399L 2436	Cornering	2024-05-15 08:47:44	Valid		28.00	135.4	6Day14:21:5
T399L 2436	Cornering	2024-05-15 08:47:45	Valid		25.00	135.4	6Day14:21:5
T399L 2436	Cornering	2024-05-15 08:47:46	Valid		28.00	135.4	6Day14:21:5
T399L 2436	Sharp Turn to Right	2024-05-15 08:47:46	Valid		28.00	135.4	6Day14:21:5
T399L 2436	Cornering	2024-05-15 08:48:39	Valid		18.00	135.9	6Day14:22:4
T399L 2436	Hash acceleration	2024-05-15 08:48:41	Valid		22.00	135.9	6Day14:22:4
T399L 2436	Hash braking	2024-05-15 08:48:44	Valid		32.00	135.9	6Day14:22:5
T399L 2436	Cornering	2024-05-15 08:49:07	Valid		45.00	136.2	6Day14:23:1
T399L 2436	Cornering	2024-05-15 08:49:10	Valid		49.00	136.2	6Day14:23:1
T399L 2436	Cornering	2024-05-15 08:49:23	Valid		53.00	136.4	6Day14:23:2
T399L 2436	Hash braking	2024-05-15 08:49:34	Valid		47.00	136.6	6Day14:23:4
T399L 2436	Cornering	2024-05-15 08:49:37	Valid		49.00	136.6	6Day14:23:4

Real-time tracking

Track playback

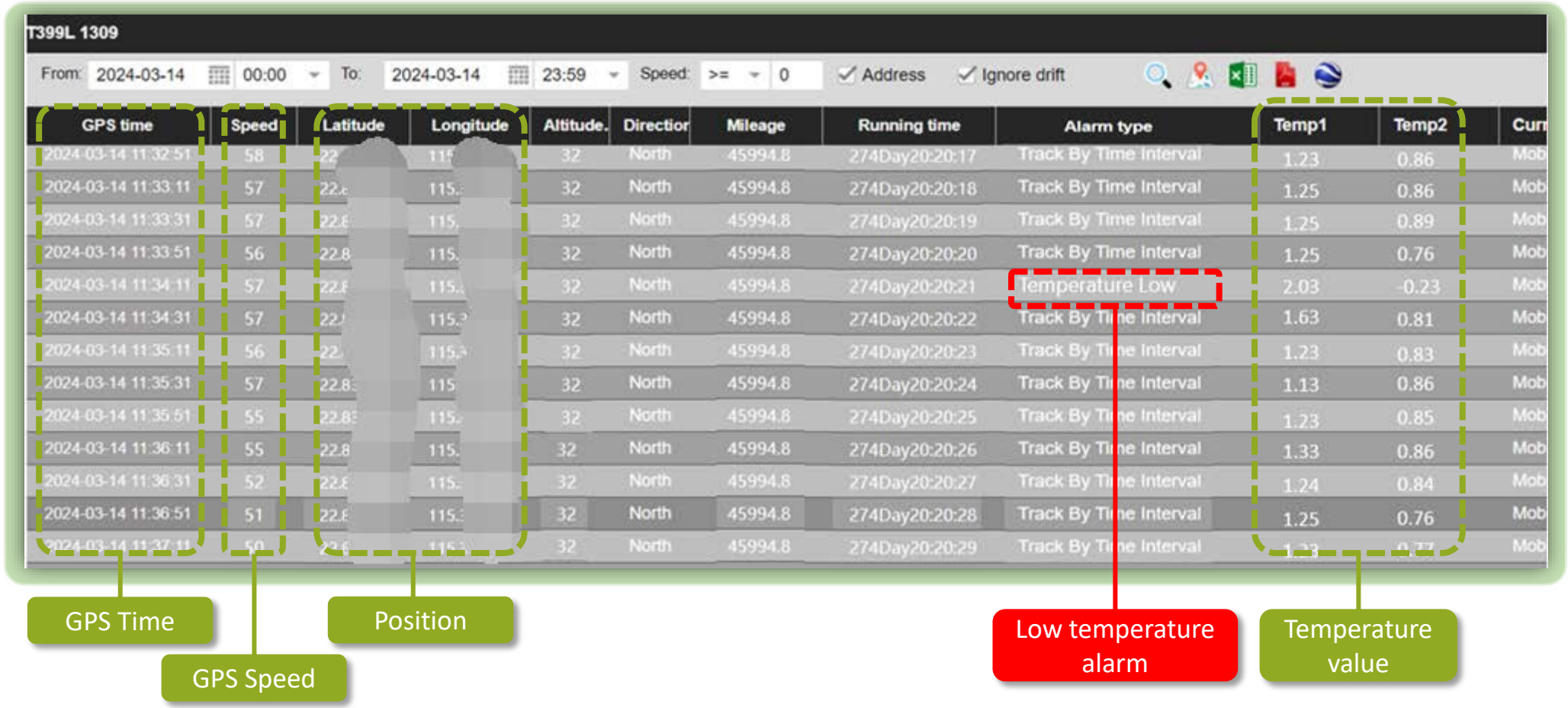
Driver behavior alarm

Position

Speed

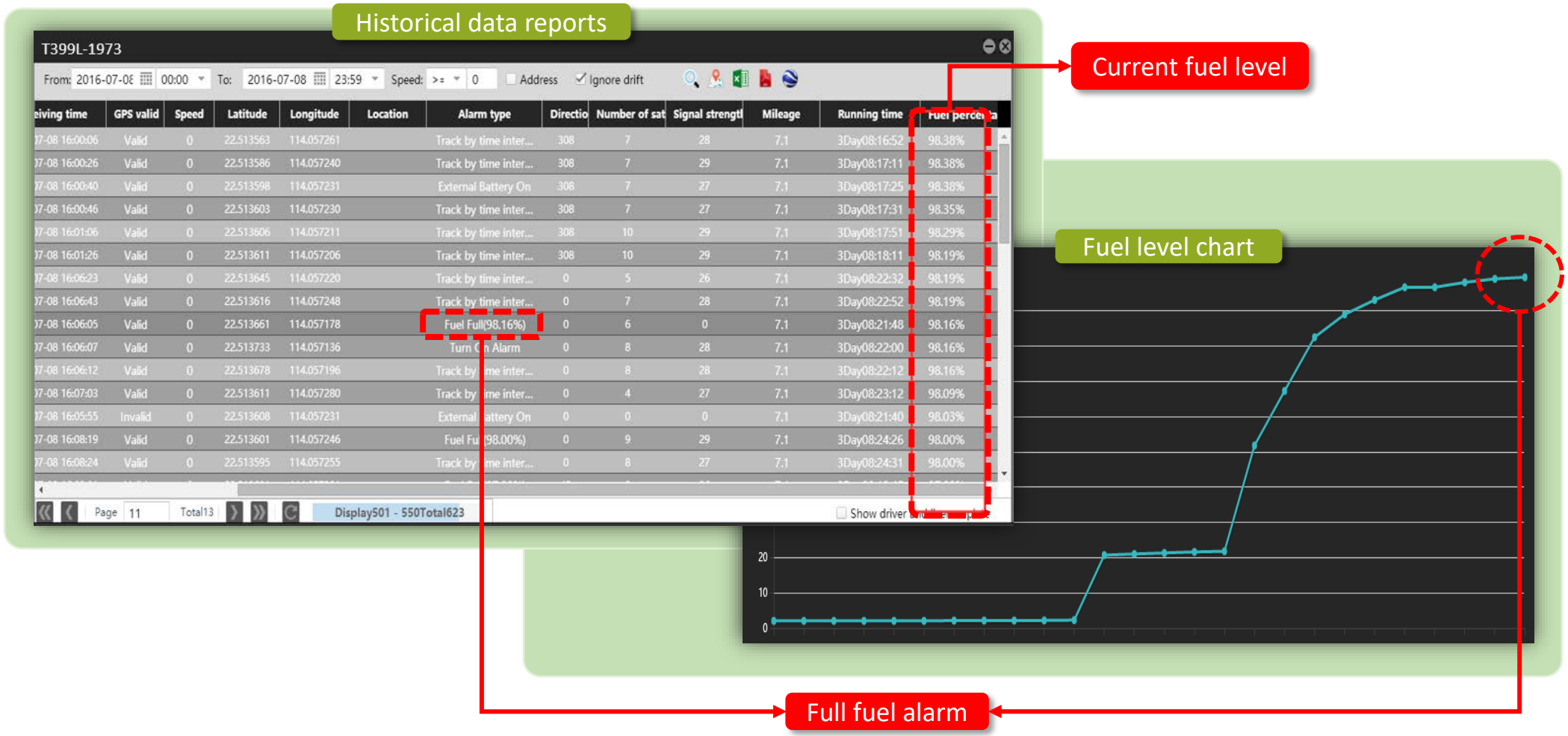
The driver's illegal driving behaviors such as speeding, rapid acceleration, rapid braking and sharp turns will be uploaded to the historical data report of the MS03 platform. The manager can confirm whether the driver's driving meets the safety standards based on these records.

Presentation - Temperature Report



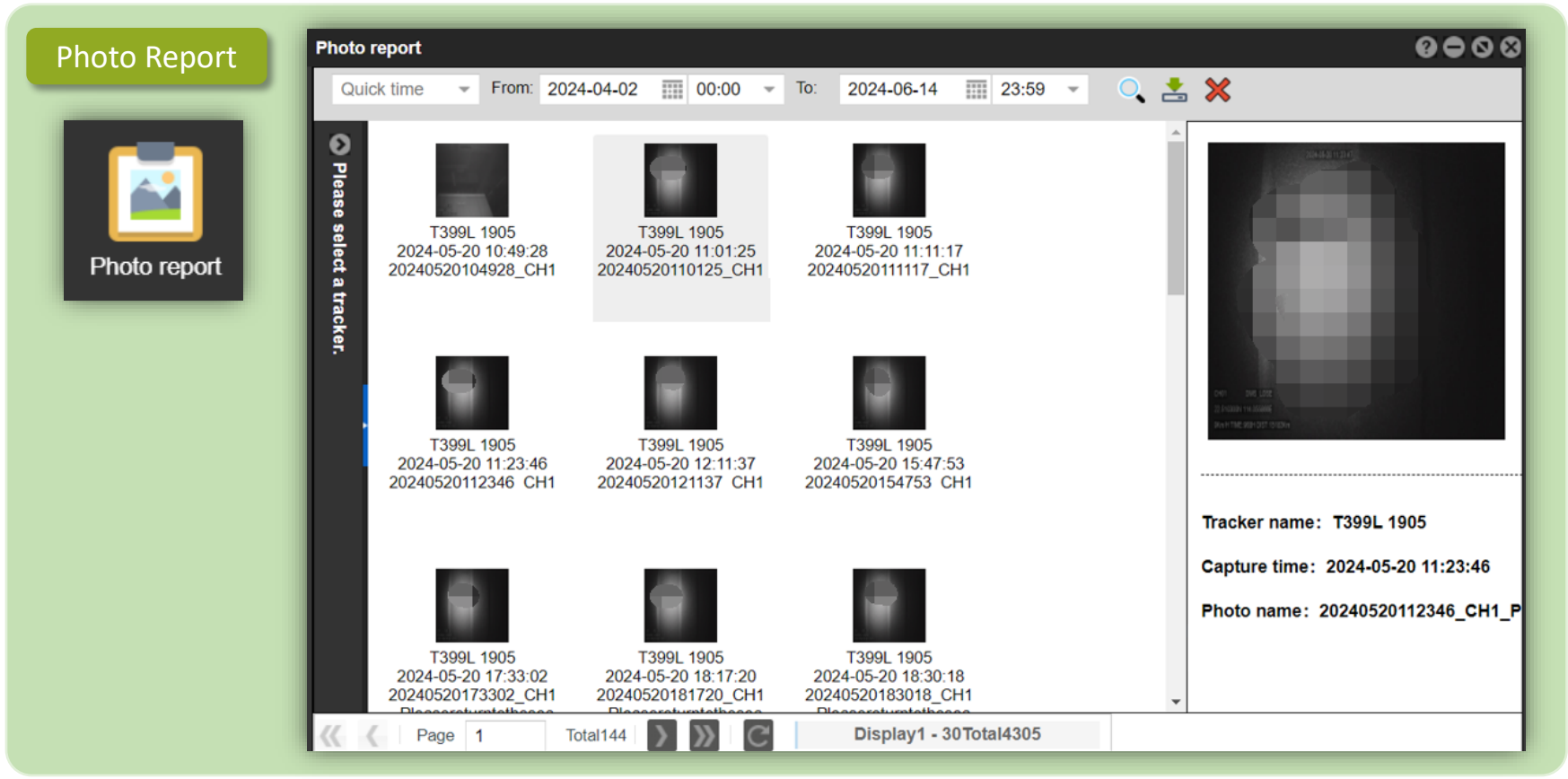
When the temperature is abnormal, such as the temperature exceeds the maximum temperature threshold or falls below the minimum temperature threshold, a temperature high alarm or a temperature low alarm will be generated. These alarms will be uploaded to the MS03 platform and can also trigger the buzzer in the cab to prompt the driver to check in time.

Presentation - Temperature Report



Use the fuel level sensor to monitor the vehicle's fuel consumption to prevent fuel theft. At the same time, the MS03 platform will record the fuel consumption of each trip.

Presentation - Photo Report

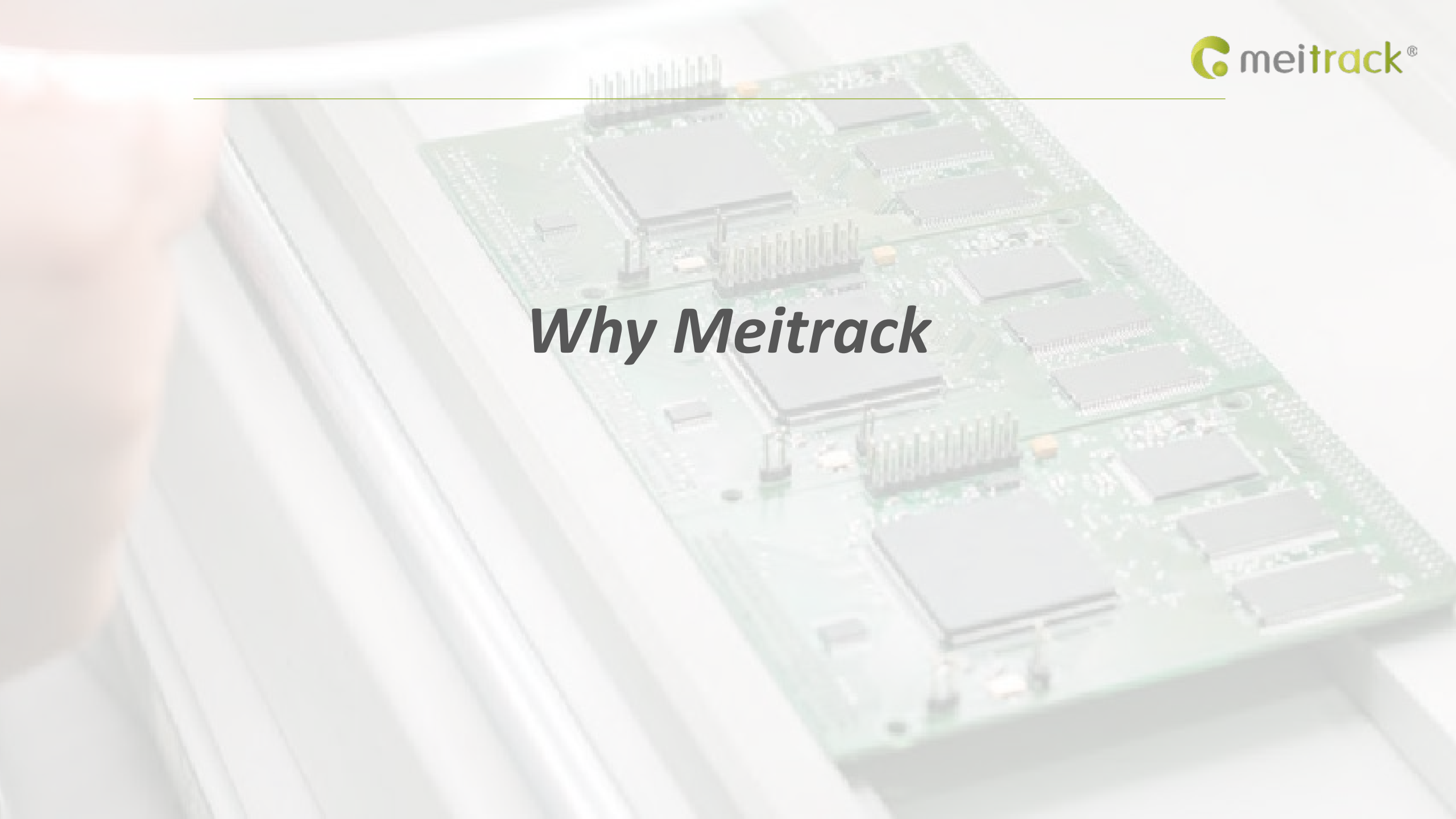


When an abnormal event occurs (such as abnormal door opening), the RS232 camera can be triggered to take a photo and upload it to the MS03 photo report as picture evidence

Presentation - Advantages

Real-time positioning	Support updating positioning information every second
Track playback	The platform can view historical tracks
Temperature monitoring	Support wired or wireless temperature sensors
Fuel level detection	Supports real-time fuel level detection, low fuel / fuel theft / refueling / full fuel alarm
Open the door in designated area	You can specify the area where the door is opened. If the door is opened outside the GEO-fence, an alarm will be generated.
Door opening timeout detection	If the door is opened for too long, an abnormal door opening alarm will be generated
Photo Report	When the door is opened abnormally, the camera will be triggered to take photos and upload them
Idle speed detection	When the idling time is detected to be too long, an alarm will be generated to prevent the driver from consuming too much fuel.
Two-way communication	When an abnormal situation occurs, the administrator can communicate with the driver by phone

This is a complete cold chain logistics solution that can help managers ensure food quality during transportation and save fuel.



Why Meitrack

Why Meitrack

Professional

Meitrack has been continuously developing in the GPS field for 20 years, the stability and functionality of the products have been tested by the market for a long time

Customizability

To provide customers with the functional customization to meet the needs of the project, it is not only a sense, but also a capability

Good Service

Meitrack's aim has always been to focus on the customer and to provide the highest quality service

Innovation consciousness

We are not afraid to push our limitations and are willing to innovate to adapt to the changing markets

THANKS

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