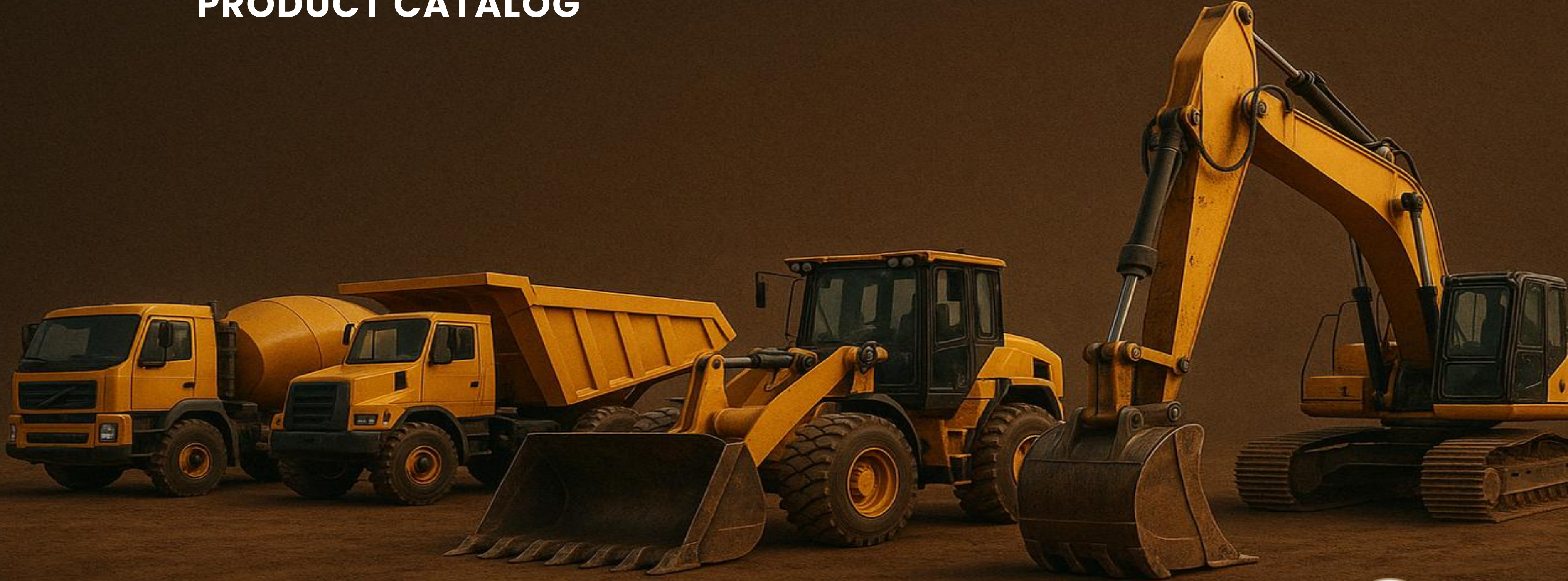




# METADIAĞ

## PRODUCT CATALOG

2026



[metadiag.com](http://metadiag.com)

**Your Future is Secure with Our High-  
Technology R&D Solutions**



# COMPANY PROFILE

Metadiag Biliřim Teknoloji Sanayi ve Ticaret Ltd. řti. is an R&D-driven technology company established in 2016, developing advanced technology solutions for industrial systems, primarily in the automotive and heavy commercial vehicle sectors. Operating within Yıldız Technical University Technopark in Istanbul, the company aims to grow in both domestic and international markets by developing high value-added electronic systems and software.

Metadiag provides innovative solutions for OEM manufacturers and the aftermarket, particularly through the systems it develops in the fields of vehicle safety, driving analytics, fleet management, and power electronics. These systems are built around the collection of real-time vehicle data, its analysis, and its transformation into critical decision-making mechanisms.

With its strong R&D infrastructure, engineering capabilities, and development approach based on real needs from the field, Metadiag produces solutions that integrate technology into real-world operations and delivers a sustainable competitive advantage in the sector.



# META DAMPER

Metadamper has been developed as a safety system for dump trucks. With the 6-axis gyroscope and accelerometer incorporated within its structure, it analyzes ground inclination and, in addition to preventing operation on risky ground, optionally provides 360-degree safety for vehicles by also monitoring the opening angle of the tailgate and dump body through additional wireless sensors.

Metadamper has a black box infrastructure that records all critical events and operational data occurring in the vehicle.



# STANDART

Proactive rollover prevention with 4-axis angle analysis

Automatic intervention mechanism in ground-induced sinking and collapse risks

Smart warning system (Audible & Visual Notifications)

Data Recording Infrastructure and Black Box Feature

Engine safety in the event of rollover with Metastop (Optional)



# WIRELESS SENSORS

With the Wireless Dump Sensor, it prevents backward rollovers by applying a 55° Safe Lifting Angle Limit.

It prevents rollover risks by preventing the dump body from being lifted in conditions where the dump tailgate does not open.

The dump sensor automatically stops the lifting operation when the dump body reaches its maximum opening angle, extending the service life of vehicle components.



## 4.3" TOUCHSCREEN DISPLAY

It provides a dump prevention and automatic dump lowering function while the vehicle is in motion.

With the checklist feature, it enables routine control through the screen (optional).

The diagnostic feature instantly notifies the driver, via the screen, of faults that may occur in the equipment being used.



## TRIP COUNTING SENSOR

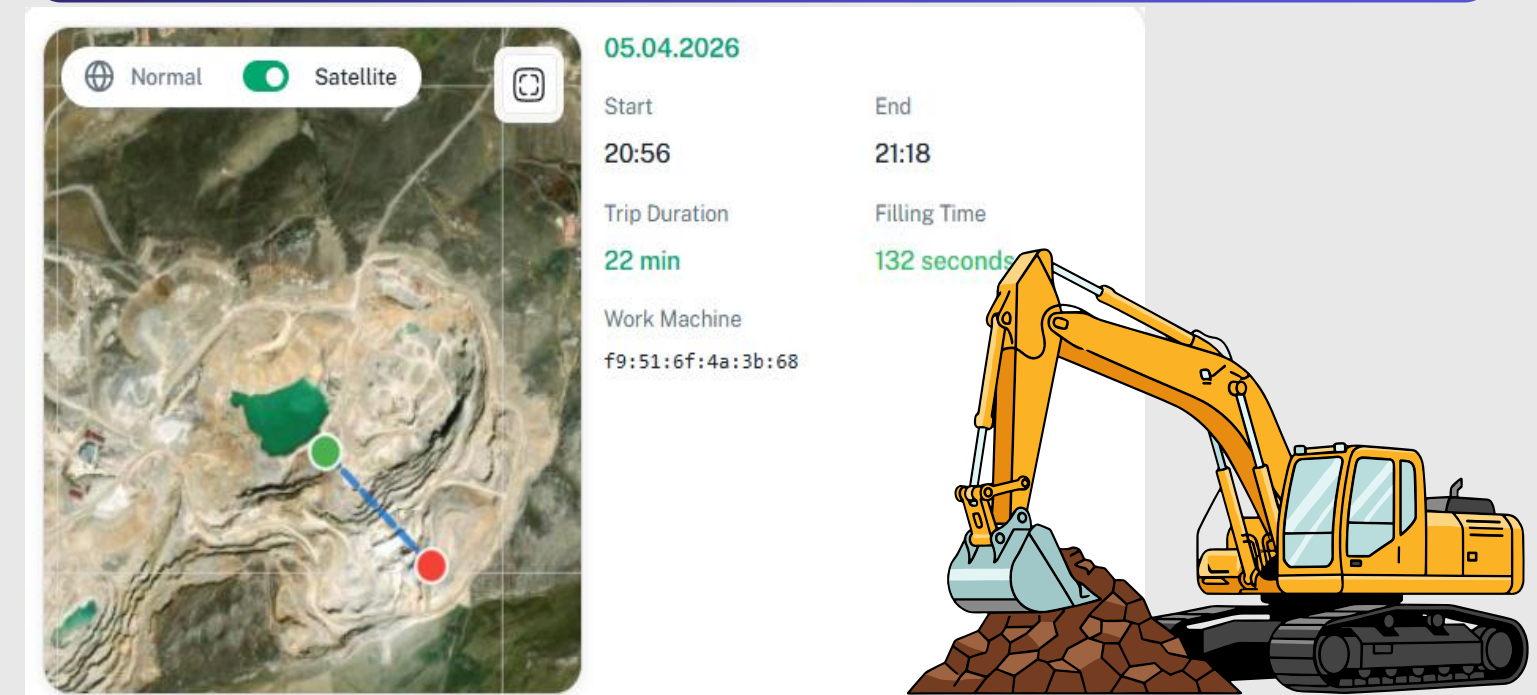
With the sensor placed on work machines, trip cycles are automatically detected and recorded.

The trip start and end locations are recorded.

The work machine and dump truck information related to the trip is recorded.

By calculating the total number of trips and loading durations, operator and work efficiency are reported.

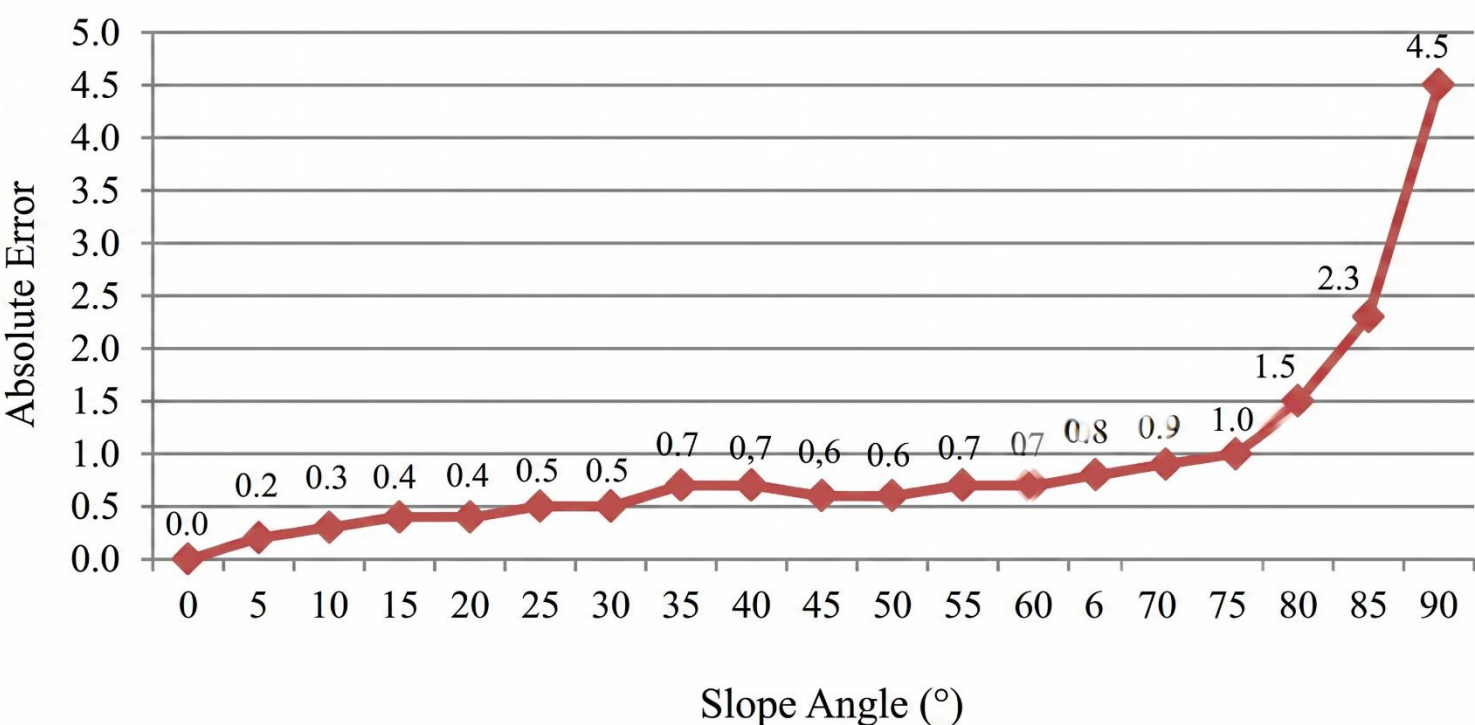
It provides performance analysis for all trucks and work machines with Daily-Weekly or Monthly reporting options.



# THE NEED FOR METADAMPER

Metadamper prevents the dump body from being raised in slope conditions where, by formulating the terrain inclination and the maximum opening angle of the dump body, the 55° angle limit would be exceeded. In line with the study carried out, it was determined that on ground with a slope angle of 0°, the dump opening angle enters an absolute accident condition after the level of 75°. With a tolerance of 20%, the optimum lifting angle was determined as 60°. Dump body manufacturers, in a way that supports this data, have generally limited the lifting angle to 55 degrees. For a dump truck whose dump body opens to a maximum of 55 degrees; under sloped terrain conditions, it calculates the terrain inclination and limits the total opening angle according to the terrain. On terrain with a vertical slope of 10 degrees, the driver can raise the dump body to 45 degrees.

## ERROR ANALYSIS BASED ON SLOPE ANGLE AND SAFE LIMITS



When official traffic accident statistics are evaluated, it is seen that accidents of the rollover/skidding/overturning type have a remarkable share. Out of a total of 235,071 accidents, 28,108 incidents occurring under the category of rollover, skidding, and overturning (approximately 11.96%) indicate that risks related to loss of balance are at a critical level, especially in heavy vehicle and construction site operations. For this reason, the early detection of rollover risk during operation and the prevention of incorrect usage scenarios before they occur are considered a priority requirement in terms of occupational safety and operational continuity.

## TRAFFIC ACCIDENT DATA BY TYPE OF OCCURRENCE

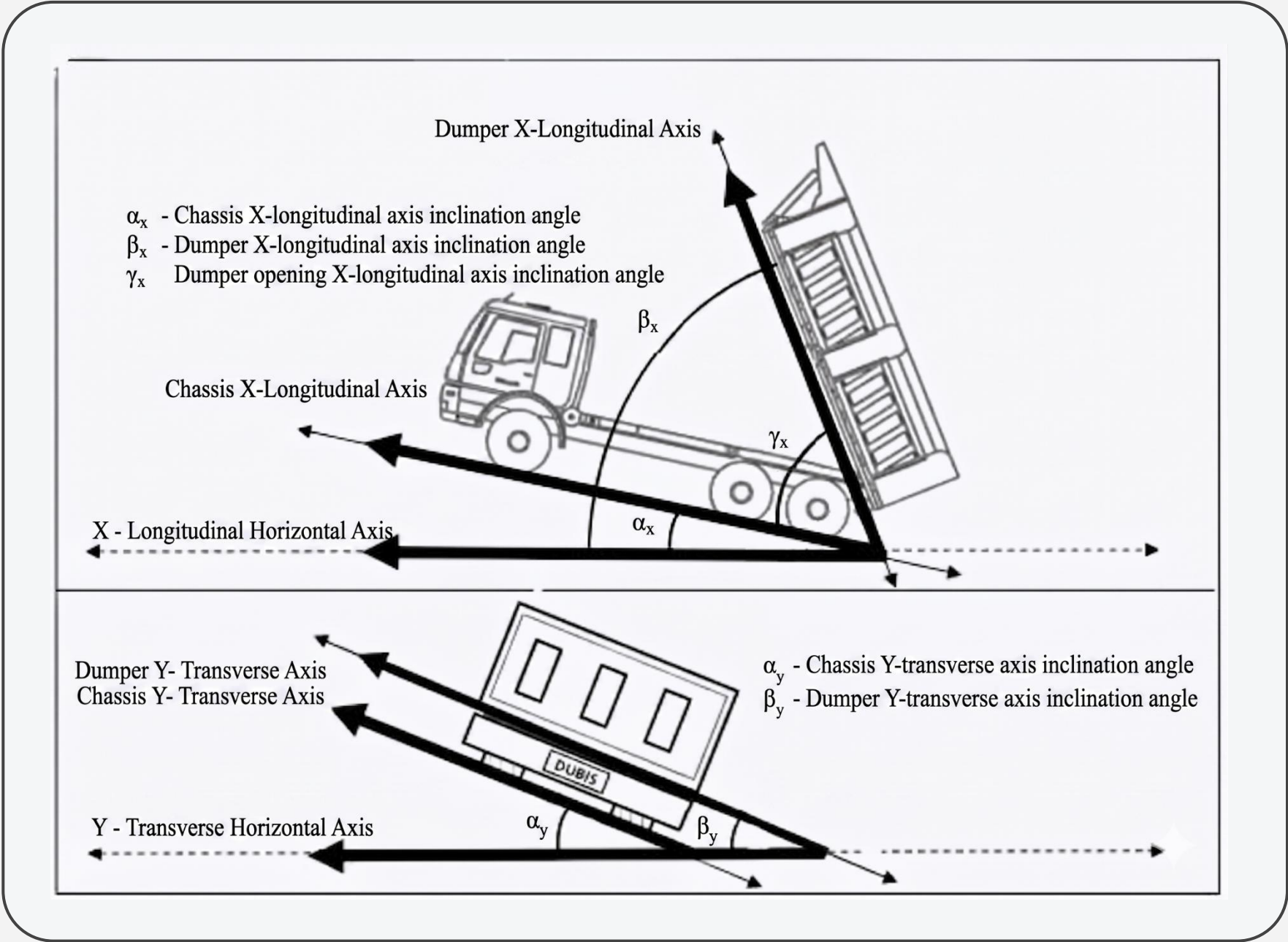
| ACCIDENT TYPE                  | Settlement Area     |       | Outside Settlement Area |       | TOTAL               |       |
|--------------------------------|---------------------|-------|-------------------------|-------|---------------------|-------|
|                                | Number of Accidents | %     | Number of Accidents     | %     | Number of Accidents | %     |
| Side-impact or Side Collision  | 71.974              | 36,85 | 6.059                   | 15,26 | 78.033              | 33,19 |
| Yayaya Pedestrian              | 36.607              | 18,74 | 927                     | 2,33  | 37.534              | 15,97 |
| Rollover, Skidding, Somersault | 23.169              | 11,86 | 4.939                   | 12,43 | 28.108              | 11,96 |
| Leaving the Road               | 11.090              | 5,68  | 14.983                  | 37,69 | 26.073              | 11,09 |
| Rear-End Collision             | 20.119              | 10,30 | 5.801                   | 14,59 | 25.920              | 11,03 |
| Head-On Collision              | 11.017              | 5,64  | 2.389                   | 6,01  | 13.406              | 5,70  |
| Collision with Obstacle/Object | 8.277               | 4,24  | 2.553                   | 6,42  | 10.830              | 4,61  |
| Lateral Side-by-Side Collision | 3.622               | 1,85  | 374                     | 0,94  | 3.996               | 1,70  |
| Hitting a Stopped Vehicle      | 2.942               | 1,51  | 423                     | 1,06  | 3.365               | 1,43  |
| Hitting a Parked Vehicle       | 1.979               | 1,01  | 108                     | 0,27  | 2.087               | 0,89  |
| Person Falling from Vehicle    | 1.784               | 0,91  | 124                     | 0,31  | 1.908               | 0,81  |
| Hitting an Animal              | 577                 | 0,30  | 466                     | 1,17  | 1.043               | 0,44  |
| Multiple Collision             | 1.145               | 0,59  | 291                     | 0,73  | 1.436               | 0,61  |
| Chain Reaction Crash           | 959                 | 0,49  | 287                     | 0,72  | 1.246               | 0,53  |
| Object Falling from Vehicle    | 60                  | 0,03  | 26                      | 0,07  | 86                  | 0,04  |
| TOTAL                          | 195.321             | 100   | 39.750                  | 100   | 235.071             | 100   |

Source: Compiled based on traffic accident data from the General Directorate of Security and the Gendarmerie General Command

# ROLLOVER RISK REPORT FOR DUMP VEHICLES

In studies conducted for vehicles with superstructures whose center of gravity changes, vehicle length and right-left/front-rear slope angles should be examined.

Researchers at TRRL (Transport and Road Research Laboratory) in Great Britain carried out a series of tests for different truck combinations and used a tilt table. They measured the critical rollover angle for different dump trailer lengths and dump body lifting angles. It was determined that as the trailer length increased, the critical rollover angle decreased.



| Trailer length m. | Side angle (box at 0 deg ) | Side angle (box at 45 deg) |
|-------------------|----------------------------|----------------------------|
| 6.1               | 13.4 deg                   | 6.2 deg                    |
| 9.1               | 11.2                       | 5.2                        |
| 12.2              | 9.5                        | 4.3                        |



# META TRACK

MetaTrack is a vehicle tracking and analysis system specially designed for all equipment, including passenger vehicles, heavy vehicle groups, work machines, and generators.

With the wide range of data and reporting options it offers to its users through the MetaFMS platform, it provides operational monitoring and efficiency.



## Data Items



AdBlue Level



Tonnage Information



Fault Codes



Engine Hours



Engine RPM



Engine Temperature



Total Mileage



Total Fuel Consumption



## Reporting and Infrastructure



Zone Reports



Efficiency Reports



Live and Historical Location Tracking



2G-3G-4G GSM Band Support



Idling and Operation Reports



Route Reports



## LIVE AND HISTORICAL LOCATION TRACKING

CAN Data

Today

Weekly Average

Monthly Average

  
Average Speed  
**33.95 km/h**  
Max: 90 km/h

  
Average RPM  
**1,022 RPM**  
Max: 2,008 RPM

  
Average Temperature  
**83.6°C**  
Max: 101.0°C

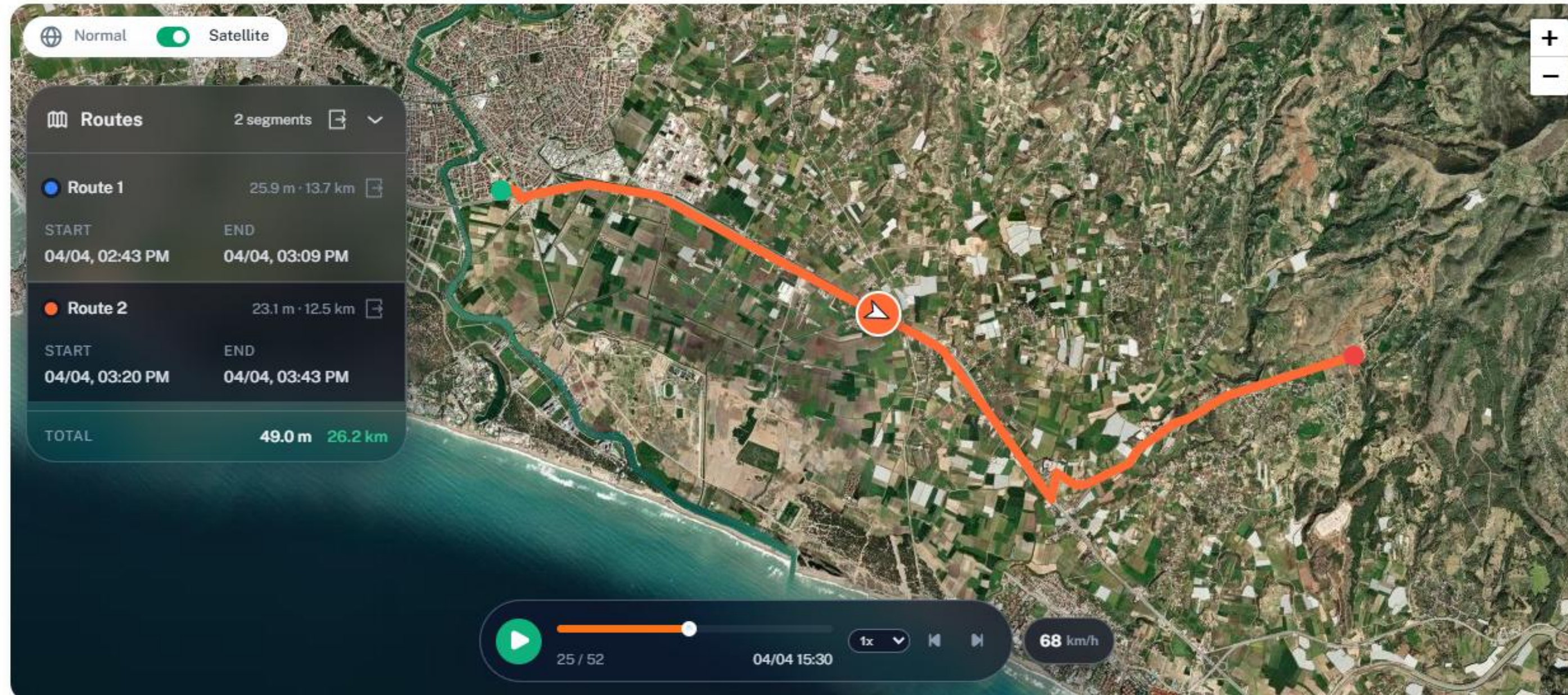
  
Engine Hours  
**57.05 hours**

  
Average AdBlue  
**69.8%**  
Max: 99.6%

  
Average Fuel  
**74.2%**  
Max: 100.0%

  
Average Consumption  
**15.1 L/h**  
Max: 83.1 L/h

  
Date Range  
**10.04.2026**  
16.04.2026



CAN-BUS ANALYSIS REPORTS

Meta Analysis

Daily Weekly Custom

Fuel Mobility  
↑ 1 refuel (+%68)

26 Mar - 13:14

%28,4 → %96,4 +68%

Motor  
90 %  
26.03.

Visible Metrics

- ☒ Engine RPM
- ☒ Engine Temperature
- ☒ Fuel Level
- ☒ Tonnage
- ☒ Total Distance
- ☒ Total Fuel
- ☒ Instant Fuel Consumption
- ☒ AdBlue Level
- ☒ Engine Hours

Tonaj  
17,31  
26.03.

Topla  
25.5  
26.03.

Topla  
26.7  
26.03.

AdBlue  
3,8 L/h  
26.03.2026 17:34

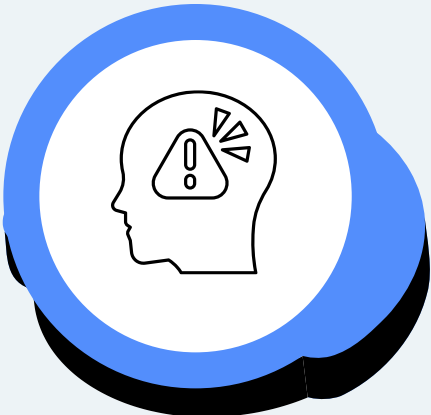


# METAVISION

MetaVision is a domestic electronic tracking and analysis system that can work in full integration with passenger vehicles, heavy vehicle groups, and work machines; and that incorporates Artificial Intelligence (AI)-based driver analysis algorithms, multi-channel image recording support, and in-depth CANBus data analytics within its structure. It operates as the black box of the vehicle through both CANBUS and image data.



Fatigue and Drowsiness Detection



Distraction



Mobile Phone Use



Smoking Detection



Speed Limit Warning



Seat Belt Violation



DVR Module



DMS Camera



Recording Camera



Speaker

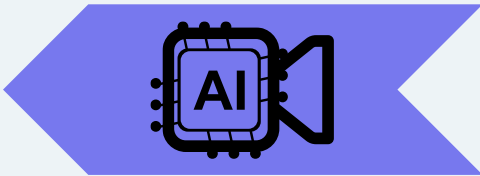
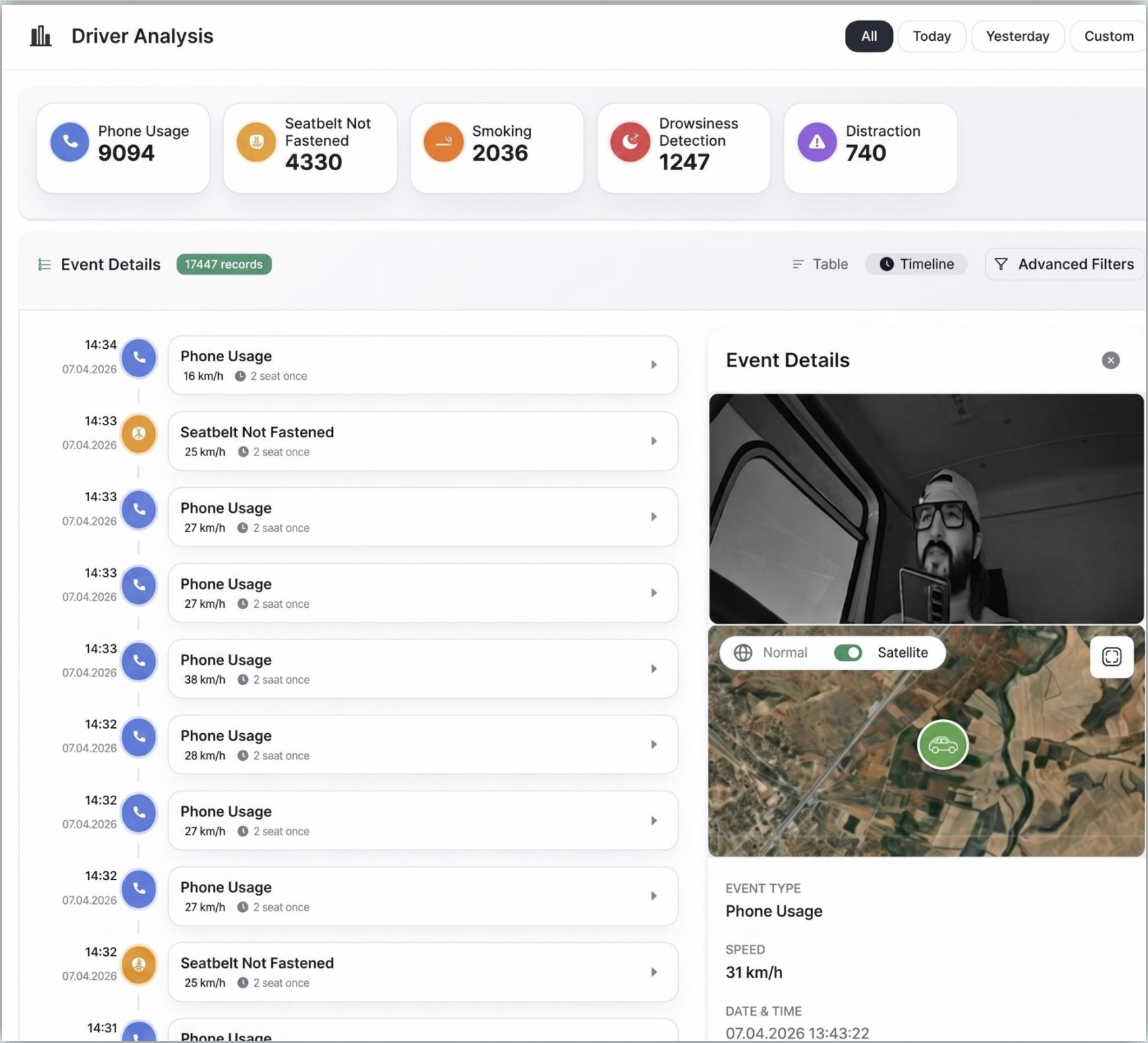


GPS + LTE Antenna



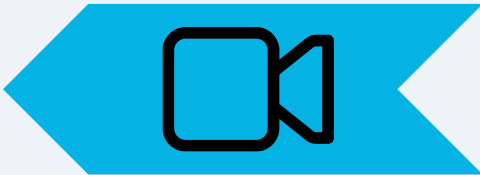
Panic Button

# DRIVER ANALYSIS AND REPORTING SYSTEM



## AI-Supported Driver Analysis Camera (DMS)

MetaVision minimizes accident risks by analyzing driver behaviors instantly. The system warns the driver audibly and sends an alarm for all violations to the MetaFMS portal.



## 4-Channel FHD Camera Support

With 1080P FHD cameras, MetaVision stores all video recordings in its memory for up to 60 days with its internally expandable high capacity of up to 1 TB.



## CANBUS Data Analytics

It analyzes and presents to users many types of data such as instantaneous fuel consumption, engine speed, temperature, operating hours, fault codes, total distance, and the tracking of carried load weight.



## Offline Data and Video Storage

Location data and recordings collected in “blind spots” where the GPRS signal is lost are automatically and completely transferred to the MetaFMS portal when the connection is re-established.



## Emergency Alert

When the driver presses the emergency button inside the vehicle, a red-colored “Emergency” alarm is generated on the portal. This alert instantly notifies the authorized operator of the vehicle’s current speed, location, and time.

## LOCATION - VIDEO MONITORING SCREEN

CAN Data

Today

Weekly Average

Monthly Average



Average Speed  
**18.76 km/h**  
Max: 44 km/h



Average RPM  
**1,154 RPM**  
Max: 2,170 RPM



Average Temperature  
**92.0°C**  
Max: 103.0°C



Engine Hours  
**7.75 hours**



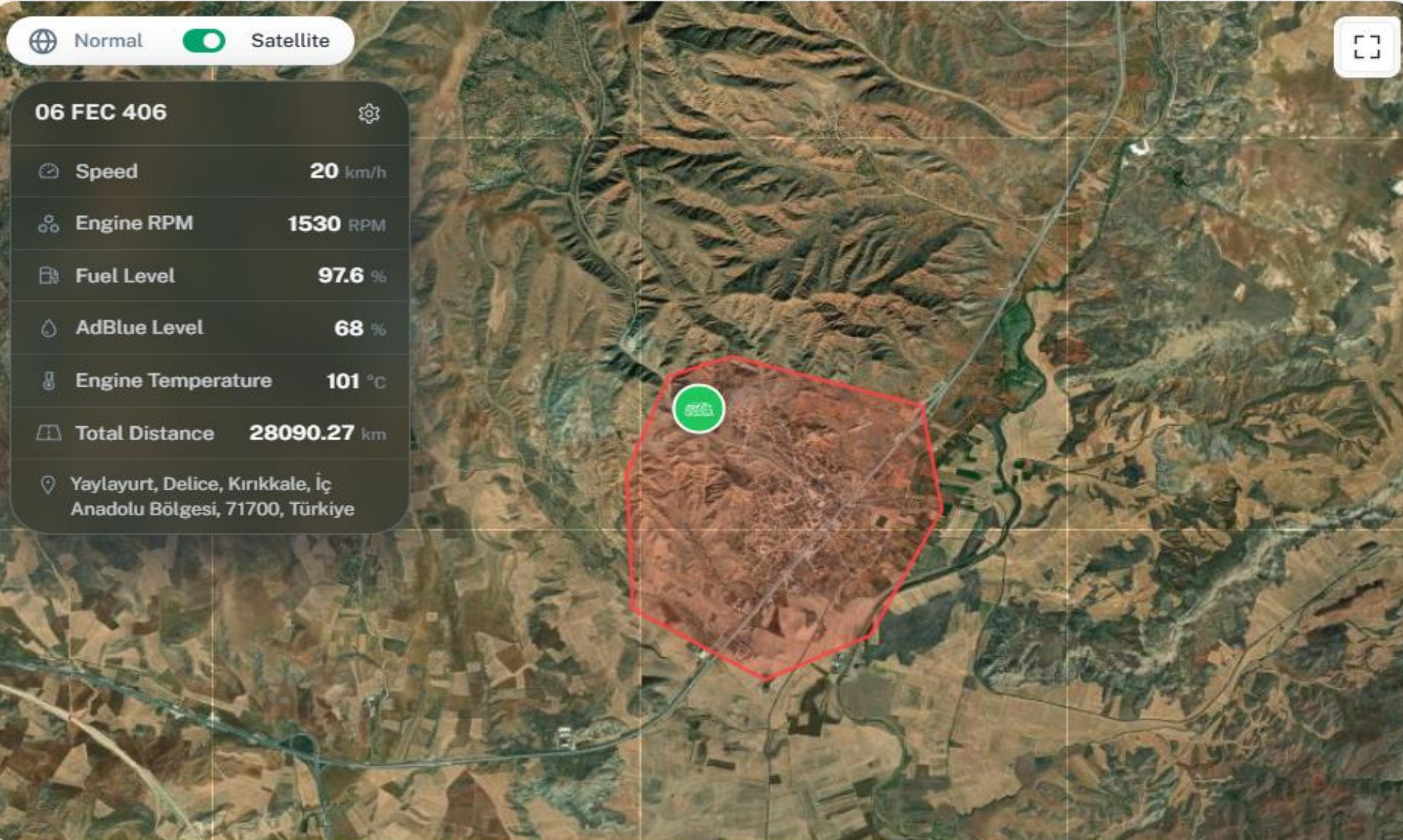
Average AdBlue  
**71.4%**  
Max: 78.0%



Average Fuel  
**79.2%**  
Max: 99.6%



Average Consumption  
**12.7 L/h**  
Max: 72.6 L/h



Geofences

Location History



## History Records

Start Date

07.04.2026 00:00

End Date

07.04.2026 23:59

Load Records

09:16 - 09:21  
09:21 07/04/2026 42.36 MB

Play

09:11 - 09:16  
09:16 07/04/2026 42.36 MB

Play

# WHY METAVISION

Studies show that nearly 90% of accidents are caused by driver error. MetaVision is an AI-supported vehicle safety and analysis system designed to solve this problem, helping to improve both driver and vehicle safety.

TABLE 3: FAULT RATES IN FATAL AND INJURIOUS TRAFFIC ACCIDENTS BY YEARS  
2012-2023

| YEARS | HUMAN FACTOR |                 |                |            | VEHICLE<br>% | ROAD<br>% |
|-------|--------------|-----------------|----------------|------------|--------------|-----------|
|       | DRIVER<br>%  | PEDESTRIAN<br>% | PASSENGER<br>% | TOTAL<br>% |              |           |
| 2012  | 88,86        | 9,75            | 0,44           | 99,05      | 0,33         | 0,62      |
| 2013  | 88,97        | 8,91            | 0,43           | 98,31      | 0,92         | 0,77      |
| 2014  | 89,12        | 9,21            | 0,48           | 98,81      | 0,62         | 0,58      |
| 2015  | 89,76        | 8,67            | 0,45           | 98,88      | 0,58         | 0,54      |
| 2016  | 90,02        | 8,60            | 0,41           | 99,03      | 0,50         | 0,46      |
| 2017  | 90,29        | 8,35            | 0,37           | 99,01      | 0,55         | 0,45      |
| 2018  | 89,64        | 8,28            | 1,09           | 99,01      | 0,64         | 0,35      |
| 2019  | 88,89        | 7,92            | 0,85           | 97,65      | 2,05         | 0,30      |
| 2020  | 88,65        | 6,93            | 1,46           | 97,04      | 2,69         | 0,27      |
| 2021  | 87,23        | 8,21            | 1,76           | 97,20      | 2,57         | 0,23      |
| 2022  | 87,03        | 9,47            | 1,17           | 97,67      | 2,14         | 0,19      |
| 2023  | 89,06        | 9,04            | 0,63           | 98,72      | 1,12         | 0,15      |

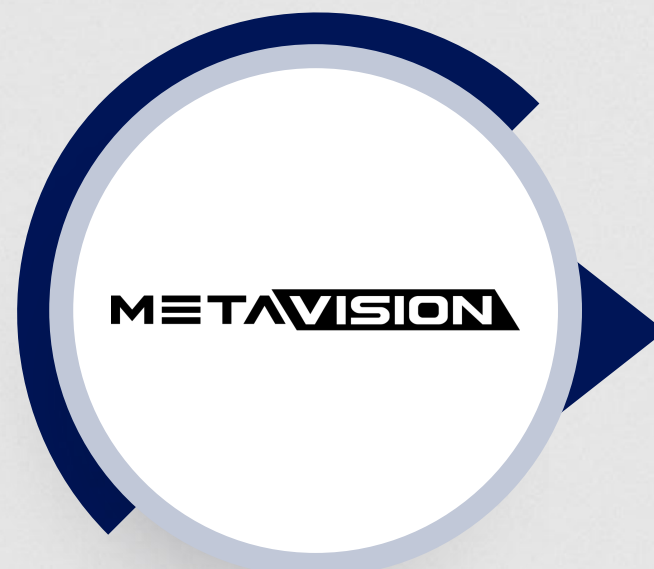
Source: TurkStat (TÜİK) (2012), while 2013-2023 information is compiled according to traffic accident data from the General Directorate of Security and the General Command of Gendarmerie.

## ■ Safety and Trip Counting

With MetaFMS, you can monitor trips in real time, generate trip analysis reports, and create dump status records.

## ■ Video Monitoring and Recording

Driver alerts, as well as live and historical camera footage, can be viewed through MetaFMS.



## ■ Maintenance Tracking and User Authorization

Vehicle maintenance intervals, performance analyses, and all reporting options can be monitored by authorized managers.

## ■ Vehicle Tracking and Reporting

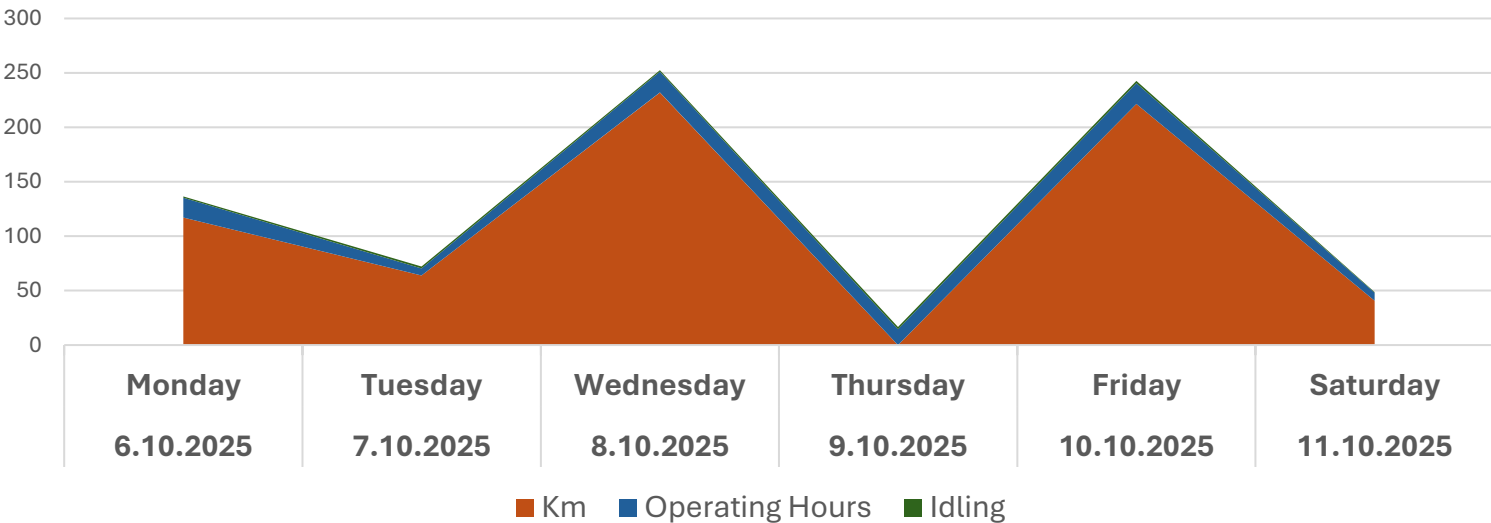
With GPS and CANBUS telemetry data, both driver and vehicle tracking, along with all analysis reports, can be monitored through MetaFMS.



METAFMS Reporting System

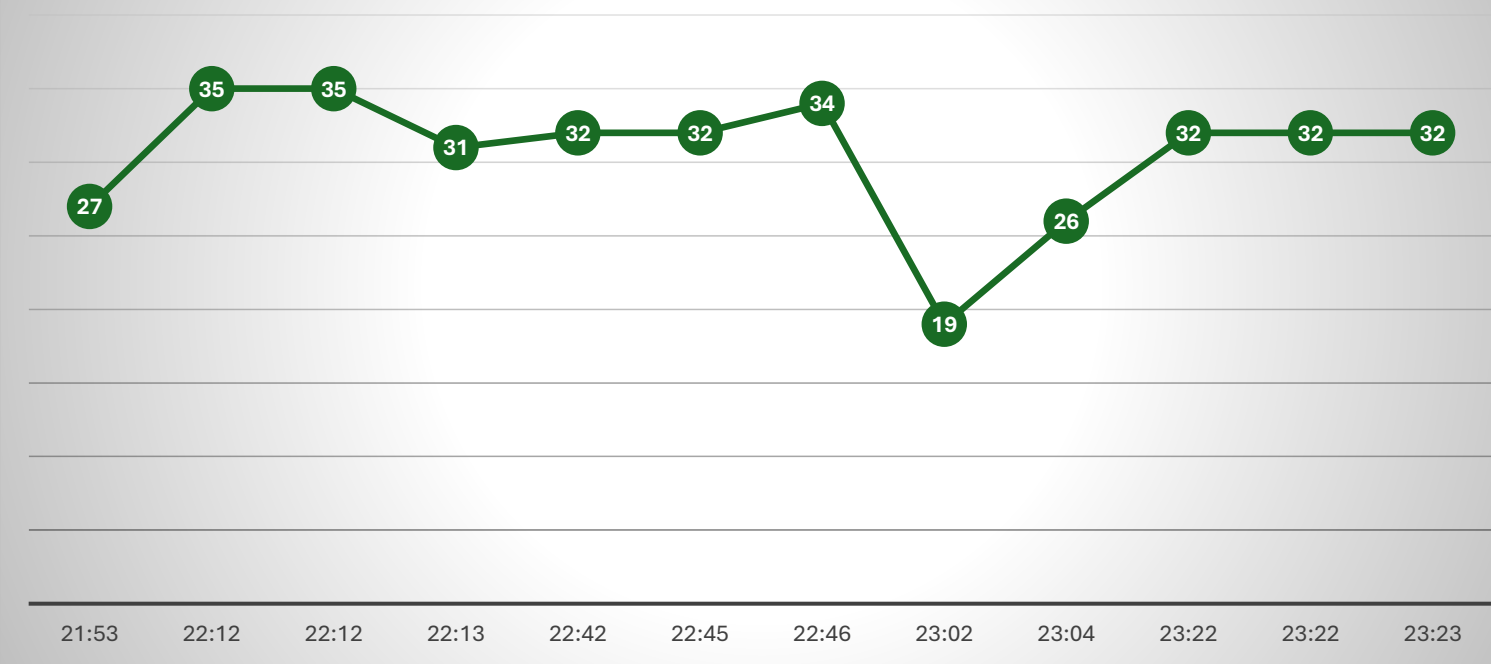
The MetaFMS reporting system delivers customized reports to its users. Users with different authorization levels can view relevant data and reports in line with their assigned access permissions.

Weekly Idle Time Report - 2025-10-06 - 2025-10-11 - 376679



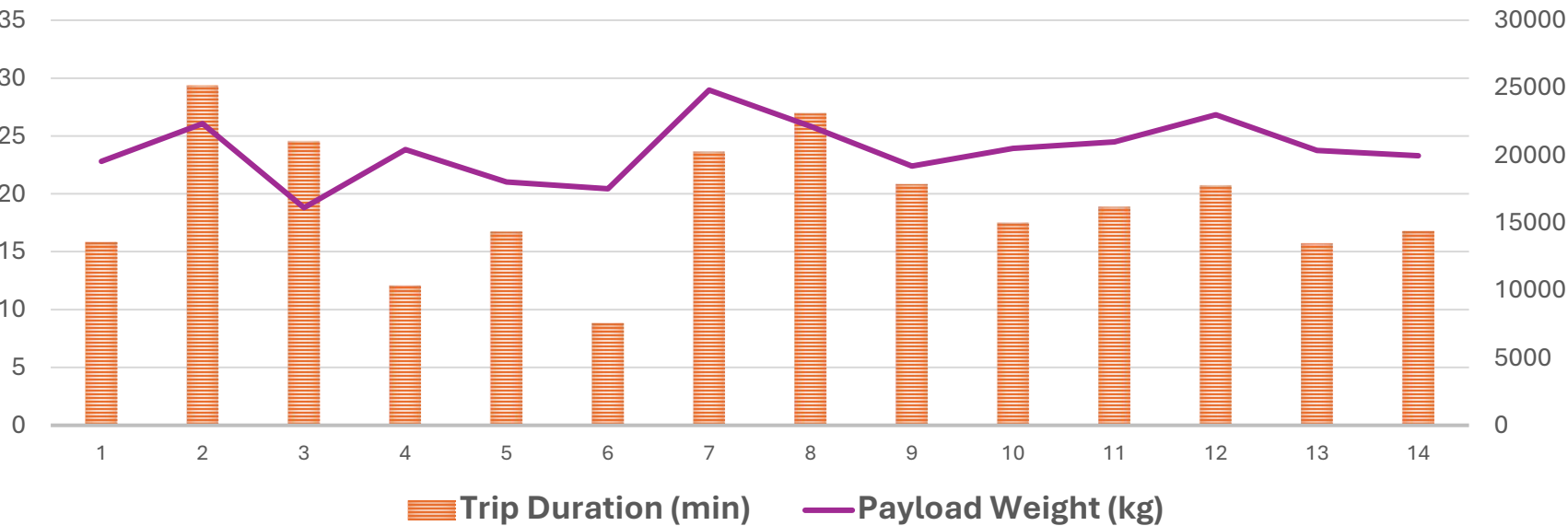
| WEEKLY IDLING REPORT                 |           |        |        |                 |        |  |                         |  |            |
|--------------------------------------|-----------|--------|--------|-----------------|--------|--|-------------------------|--|------------|
| Date Range: 2025-10-06 to 2025-10-11 |           |        |        |                 |        |  |                         |  |            |
| Date                                 | Day       | Plate  | Km     | Operating Hours | Idling |  | FEATURE                 |  | VALUE      |
| 6.10.2025                            | Monday    | 376679 | 117,14 | 18,2            | 1,1    |  | Total Idling Duration   |  | 9,05 hours |
| 7.10.2025                            | Tuesday   | 376679 | 64,08  | 6,2             | 1,8    |  | Total Travel Duration   |  | 84,7 hours |
| 8.10.2025                            | Wednesday | 376679 | 231,94 | 19,2            | 1,33   |  | Total Distance          |  | 675,11 km  |
| 9.10.2025                            | Thursday  | 376679 | 120,98 | 14,5            | 2,13   |  | Number of Reported Days |  | 6 days     |
| 10.10.2025                           | Friday    | 376679 | 221,35 | 19,2            | 2,01   |  | Average Daily Idling    |  | 1,5 hours  |
| 11.10.2025                           | Saturday  | 376679 | 40,6   | 7,4             | 0,68   |  |                         |  |            |

Time and Speed Distribution of Selected Region Events

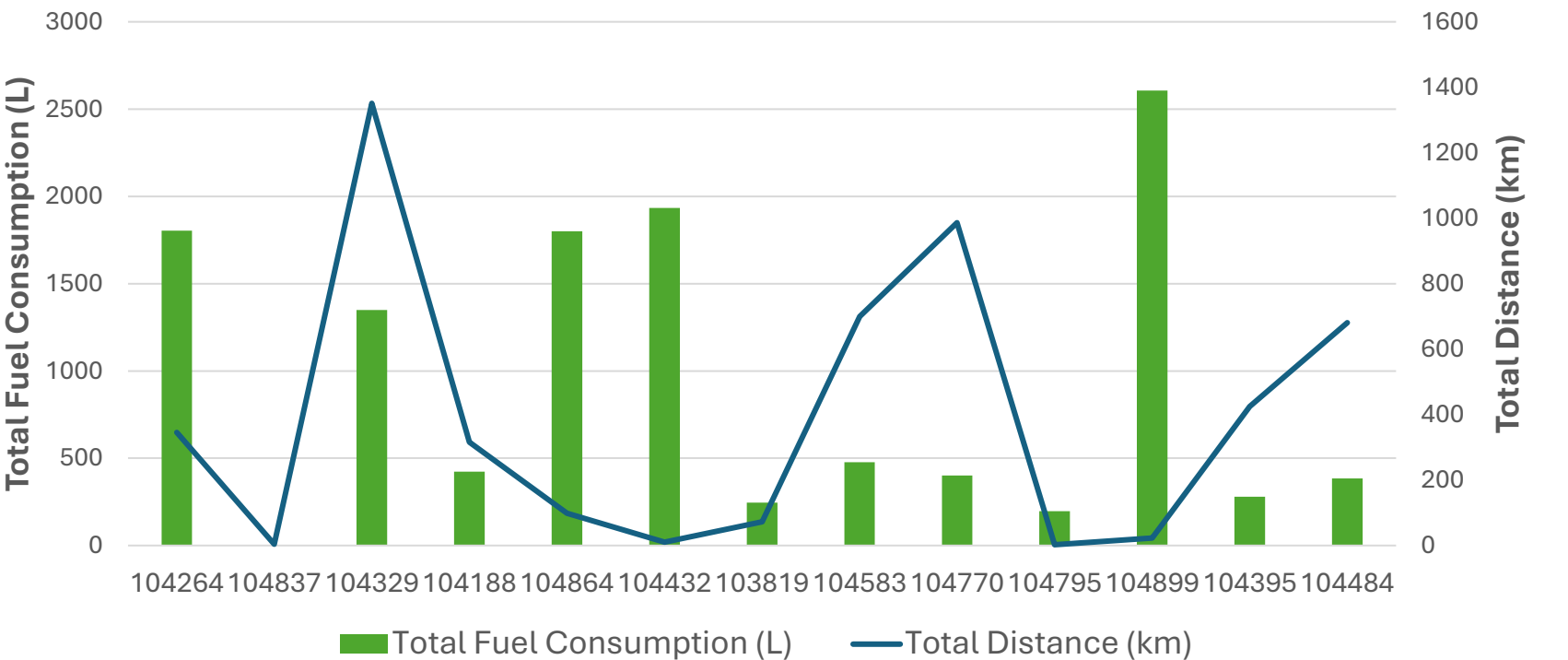


| Selected Region Events                                                        |            |                  |            |            |              |
|-------------------------------------------------------------------------------|------------|------------------|------------|------------|--------------|
| Period: 2026-03-31 21:00 to 2026-04-29 21:00   Region: Taşagil Temporary Camp |            |                  |            |            |              |
| Plate                                                                         | Event Type | Event Time       | Latitude   | Longitude  | Speed (km/h) |
| 104329                                                                        | Exit       | 31.03.2026 21:53 | 36.952.805 | 31.214.777 | 27.00        |
| 104329                                                                        | Entry      | 31.03.2026 22:12 | 36.954.094 | 31.213.610 | 35.00        |
| 104329                                                                        | Speeding   | 31.03.2026 22:12 | 36.954.094 | 31.213.610 | 35.00        |
| 104329                                                                        | Exit       | 31.03.2026 22:12 | 36.950.878 | 31.215.349 | 31.00        |
| 104329                                                                        | Entry      | 31.03.2026 22:42 | 36.953.949 | 31.213.703 | 32.00        |
| 104329                                                                        | Speeding   | 31.03.2026 22:42 | 36.953.949 | 31.213.703 | 32.00        |
| 104329                                                                        | Exit       | 31.03.2026 22:43 | 36.957.317 | 31.212.545 | 34.00        |
| 104329                                                                        | Entry      | 31.03.2026 23:02 | 36.953.808 | 31.213.877 | 19.00        |
| 104329                                                                        | Exit       | 31.03.2026 23:04 | 36.957.069 | 31.212.685 | 26.00        |
| 104329                                                                        | Entry      | 31.03.2026 23:22 | 36.954.906 | 31.213.333 | 32.00        |
| 104329                                                                        | Speeding   | 31.03.2026 23:22 | 36.954.906 | 31.213.333 | 32.00        |
| 104329                                                                        | Exit       | 31.03.2026 23:23 | 36.958.283 | 31.212.074 | 32.00        |
| 104329                                                                        | Entry      | 31.03.2026 23:58 | 36.955.658 | 31.213.266 | 38.00        |
| 104329                                                                        | Speeding   | 31.03.2026 23:58 | 36.955.658 | 31.213.266 | 38.00        |

EQUIPMENT: EX - 52 - DAILY DUMP TRUCK TRIP AND TONNAGE REPORT



Fuel Consumption / Distance Chart



Daily Dump Truck Trip and Tonnage Report

Vehicle Plate: 06 EZK 779 Construction Equipment: EX - 52 | 2026-03-31 — 14th Trip | Total Payload: 284.925,68 kg

| Start    | End      | Trip Duration (min) | Loading Duration (sec) | Vehicle Tare Weight (kg) | Payload Weight (kg) |
|----------|----------|---------------------|------------------------|--------------------------|---------------------|
| 05:58:05 | 06:13:55 | 15,83               | 457                    | 15000.46                 | 19550,83            |
| 09:00:20 | 09:29:40 | 29,33               | 219                    | 15000.46                 | 22344,62            |
| 10:16:52 | 10:41:22 | 24,5                | 1158                   | 15000.46                 | 16113,01            |
| 10:50:06 | 11:02:11 | 12,08               | 244                    | 15000.46                 | 20419,12            |
| 11:09:25 | 11:26:09 | 16,73               | 586                    | 15000.46                 | 18009,83            |
| 11:33:51 | 11:42:41 | 8,83                | 265                    | 15000.46                 | 17508,98            |
| 13:40:04 | 14:03:42 | 23,63               | 201                    | 15000.46                 | 24827,62            |
| 14:11:04 | 14:38:00 | 26,93               | 383                    | 15000.46                 | 22155,28            |
| 14:50:55 | 15:11:44 | 20,82               | 584                    | 15000.46                 | 19198,82            |
| 15:22:35 | 15:40:04 | 17,48               | 469                    | 15000.46                 | 20500,11            |
| 16:25:23 | 16:44:14 | 18,85               | 249                    | 15000.46                 | 20982,43            |
| 16:53:18 | 17:14:00 | 20,7                | 251                    | 15000.46                 | 22998,35            |
| 17:20:56 | 17:36:38 | 15,7                | 300                    | 15000.46                 | 20348,91            |
| 18:04:53 | 18:21:39 | 16,77               | 475                    | 15000.46                 | 19967,77            |

Fuel Consumption Report

Period: 2026-03-31 21:00 - 2026-04-29 21:00

| Plate  | Total Fuel Consumption (L) | Average Fuel Consumption (L/100 km) | Maximum Engine Temperature (°C) | Total Distance (km) | Number of Refuelings |
|--------|----------------------------|-------------------------------------|---------------------------------|---------------------|----------------------|
| 104264 | 1804                       | 522,73                              | 89.00                           | 345,11              | 2                    |
| 104837 | 0                          | 0                                   | 79.00                           | 3,59                | 0                    |
| 104329 | 1348,38                    | 99,81                               | 104.00                          | 1351                | 7                    |
| 104188 | 423,24                     | 133,94                              | 101.00                          | 316                 | 2                    |
| 104864 | 1801                       | 1825,98                             | 93.00                           | 98,63               | 3                    |
| 104432 | 1934                       | 19545,42                            | 81.00                           | 9,89                | 0                    |
| 103819 | 245                        | 337,46                              | 99.00                           | 72,6                | 0                    |
| 104583 | 477,76                     | 68,25                               | 106.00                          | 700                 | 2                    |
| 104770 | 400,33                     | 40,6                                | 91.00                           | 986                 | 4                    |
| 104795 | 196,5                      | 8156,64                             | 92.00                           | 2,41                | 3                    |
| 104899 | 2606,5                     | 11553,02                            | 83.00                           | 22,56               | 6                    |
| 104395 | 278,94                     | 65,63                               | 97.00                           | 425                 | 2                    |
| 104484 | 384,99                     | 56,53                               | 105.00                          | 681                 | 1                    |

# META FMS MetaDumper Checklist Monitoring

With the checklist feature provided by the MetaDumper system, drivers can complete their daily and weekly checklists via the MetaDumper display and send them to the MetaFMS platform for managers to review and monitor.

 **Daily Checklist Status**

Daily Vehicle Control - 06 EBU 974 (16 questions)

| Date                       | Status        | Positive Answers | Negative Answers | Answer Time | Actions                                                                                       |
|----------------------------|---------------|------------------|------------------|-------------|-----------------------------------------------------------------------------------------------|
| October 23, 2025 Thursday  | Not Submitted | -                | -                | -           |            |
| October 22, 2025 Wednesday | Incomplete    | 0/16             | 3/16             | 13:36       |  Answers  |
| October 21, 2025 Tuesday   | Incomplete    | 1/16             | 2/16             | 23:46       |  Answers |
| October 20, 2025 Monday    | Incomplete    | 2/16             | 1/16             | 18:38       |  Answers |
| October 19, 2025 Sunday    | Incomplete    | 3/16             | 0/16             | 07:28       |  Answers |
| October 18, 2025 Saturday  | Incomplete    | 3/16             | 0/16             | 18:42       |  Answers |
| October 17, 2025 Friday    | Incomplete    | 0/16             | 3/16             | 05:26       |  Answers |
| October 16, 2025 Thursday  | Not Submitted | -                | -                | -           |          |

## Checklist Summary

Positive Answers

1

Negative Answers

2

## question (16)

 1. Is the operator cabin fully enclosed with a sturdy cabin?

Expected Answer: Yes Given Answer: Yes

 2. Is the dumper body in good condition?

Expected Answer: Yes Given Answer: No

# METAFMS Device Records

The MetaFMS interface enables diagnostic checks for all connected equipment. This screen also allows users to monitor potential device failures and track the remaining license validity periods.

 Device Logs

Severity

Event

Module

Showing 10 logs

| Severity | Event | Module | Date                |
|----------|-------|--------|---------------------|
| Warning  | Lower | Damper | 18.10.2025 18:22:00 |
| Warning  | Lower | Damper | 18.10.2025 18:21:51 |
| Warning  | Lower | Damper | 18.10.2025 18:21:44 |
| Warning  | Lower | Damper | 18.10.2025 18:21:12 |
| Warning  | Lower | Damper | 18.10.2025 18:19:59 |
| Warning  | Lower | Damper | 18.10.2025 18:19:10 |



# METAWAY

Designed to measure the operational efficiency of concrete mixers and optimize workflow between the construction site and the batching plant.



**Identifying  
lost time**



**Reducing  
operational  
costs**



**Ensuring fully  
automated  
data tracking**



# Our Objectives

**Fully automate mixer trip counting and  
consolidate operations into a single  
dashboard**

**Measure the plant-to-pump cycle by  
time, distance, and duration**

**Reveal efficiency levels and operational  
bottlenecks through daily, weekly, and  
monthly reporting**



# Operational Cycle

How Is a Standard Trip Monitored?

01

## Loading

The mixer is loaded at the batching plant, and the zone sensor logs the event.

02

## Transit

The mixer departs the batching plant and travels toward the pump. Distance and travel time between the two locations are calculated in real time.

03

## Discharge

Concrete is discharged as the pump consumes the load.

04

## Completed Trip

A trip is counted as completed once the mixer leaves the pump area.

05

## Visualization

The entire workflow is consolidated into a single dashboard.





# Map-Based Tracking

Pump29 Trips

MAC Address:  
f3:09:25:03:aa:79

Last Usage:  
07.04.2026 18:51:17

Power Plant59 Trips

MAC Address:  
e2:f6:6f:86:f6:79

Last Usage:  
07.04.2026 18:49:15

Pump30 Trips

MAC Address:  
94:51:dc:4f:32:4a

Last Usage:  
29.03.2026 05:27:52

10.03.2026 - 09.04.2026 Trip Histories

TodayYesterdayThis WeekThis MonthFilter

59 results

NormalSat

02.04.2026

Power Plant (Loading) - Start  
01:49

Pump (Unloading) - Start  
02:19

Loading Duration  
8 Minutes

Total Trip Duration  
32 Minutes

Power Plant (Loading) - Finish  
01:57

Pump (Unloading) - Finish  
02:21

Unloading Duration  
2 Minutes

sensor  
e2:f6:6f:86:f6:79  
f3:09:25:03:aa:79

02.04.2026

Power Plant (Loading) - Start  
00:27

Pump (Unloading) - Start  
01:02

Loading Duration  
18 Minutes

Total Trip Duration  
36 Minutes

Power Plant (Loading) - Finish  
00:44

Pump (Unloading) - Finish  
01:03

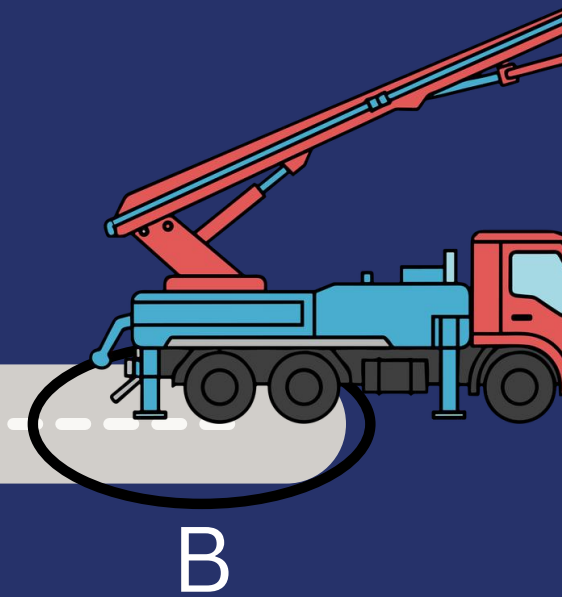
Unloading Duration  
1 Minute

sensor  
e2:f6:6f:86:f6:79  
f3:09:25:03:aa:79

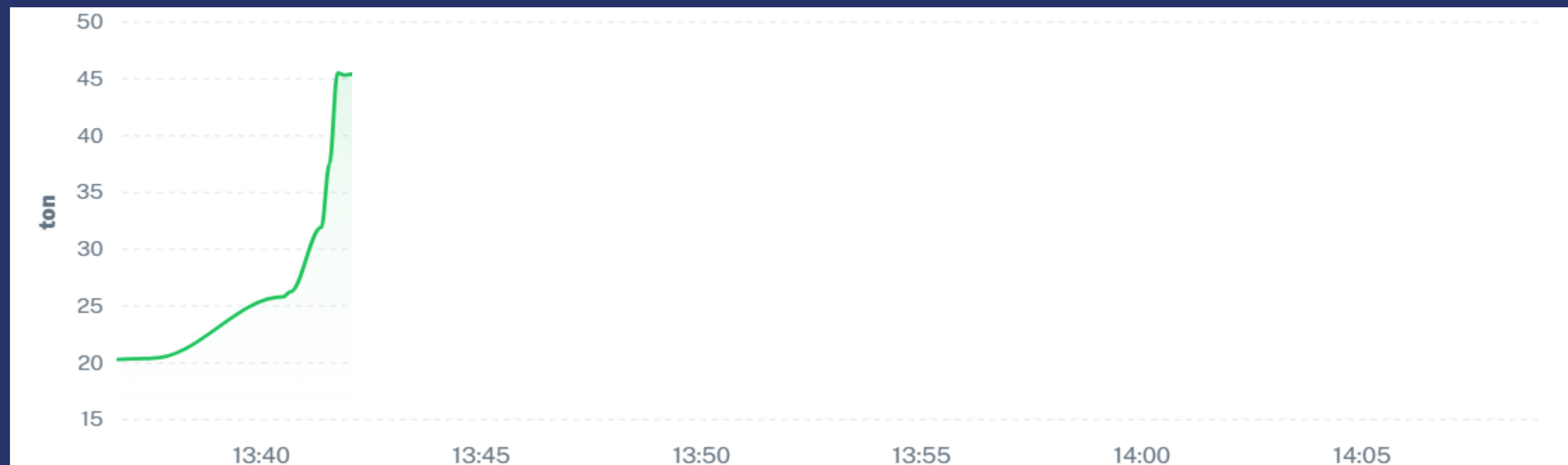
NormalSat

# Total Operating Time Total Fuel Consumed

TRIP:07

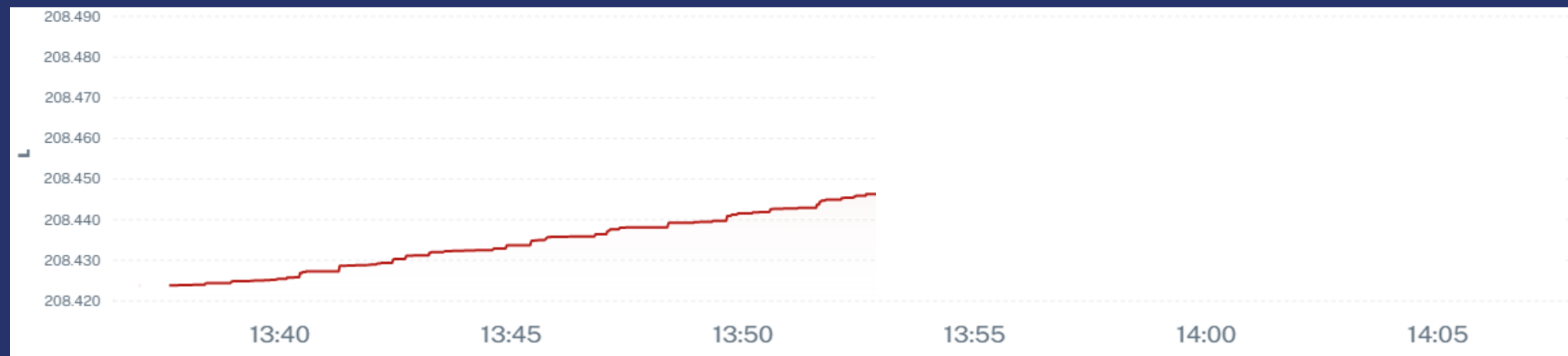
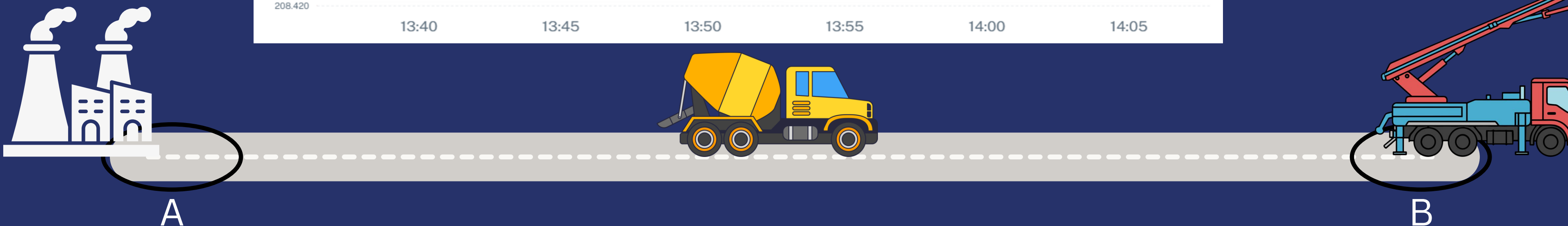


## Total Payload Transported

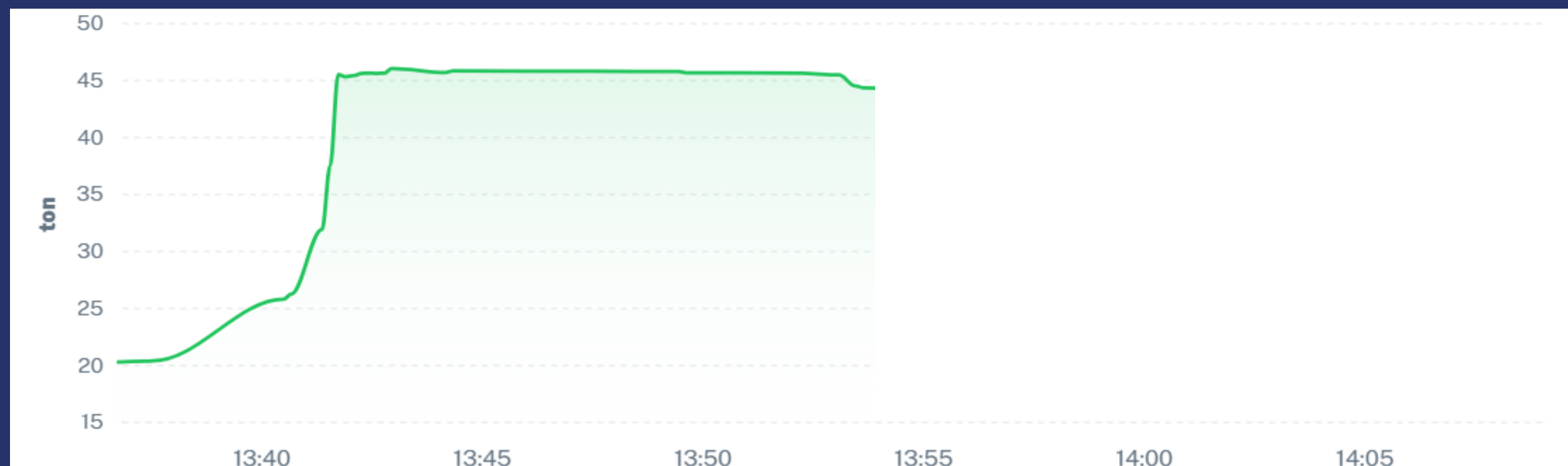


# Total Operating Time Total Fuel Consumed

TRIP:07

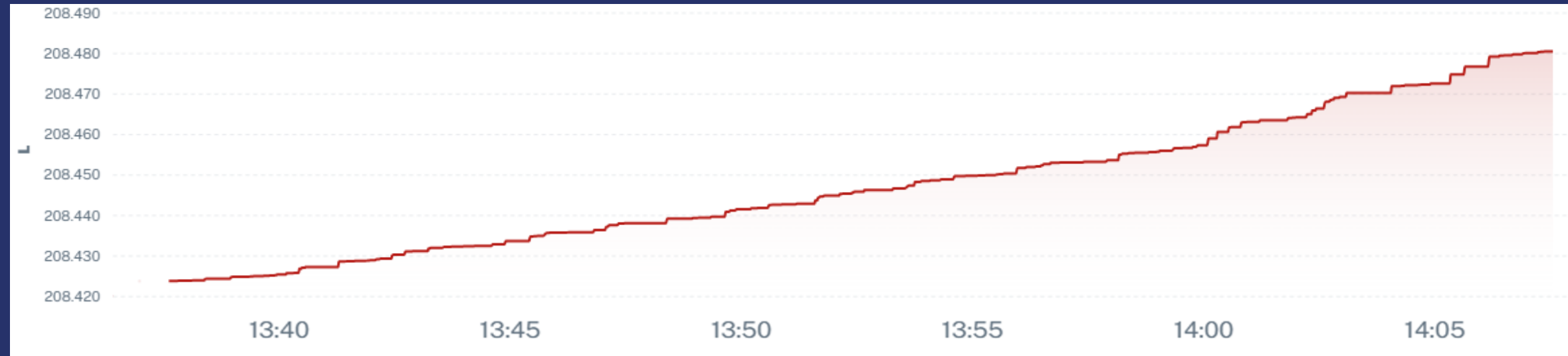


## Total Payload Transported

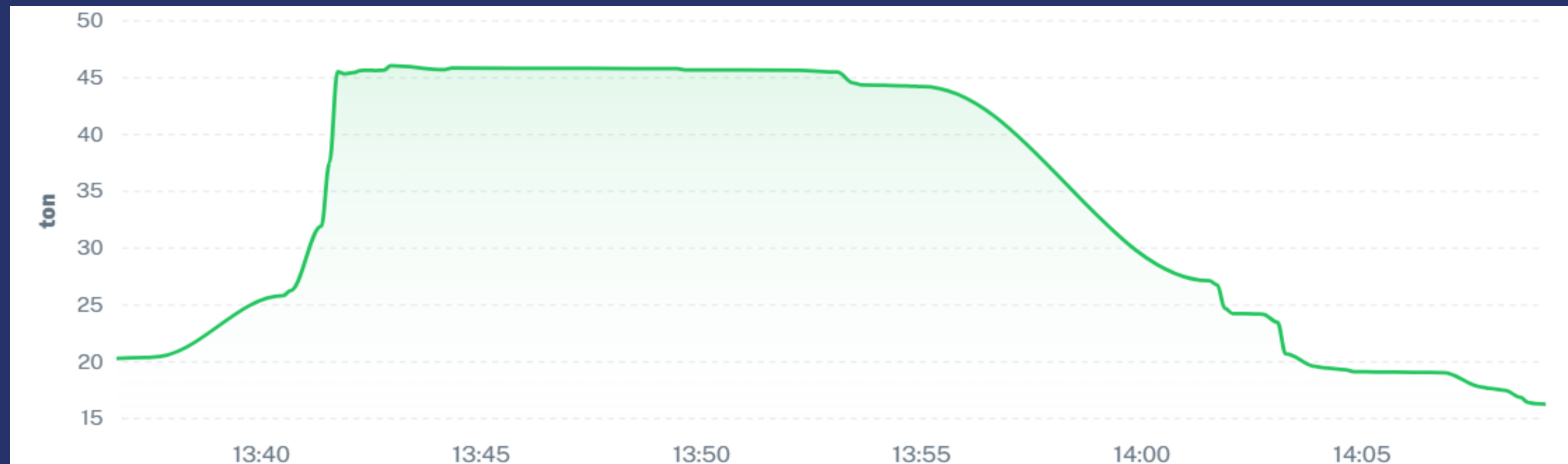


# Total Operating Time Total Fuel Consumed

TRIP:07



## Total Payload Transported

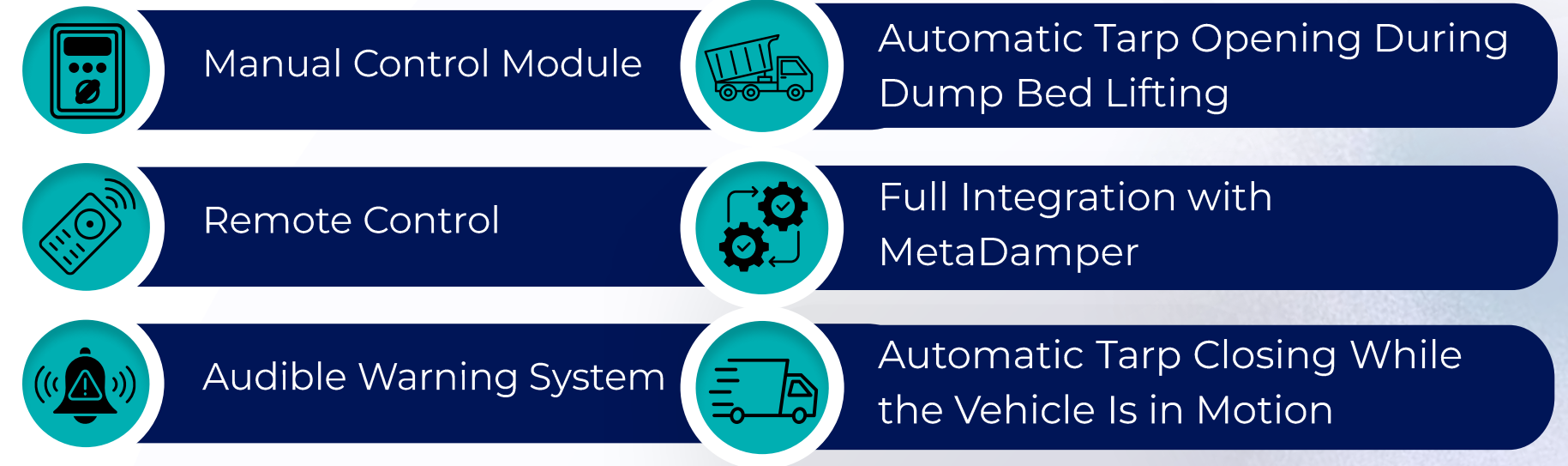


MetaControl is a high-current motor control system designed for both on-vehicle systems and industrial motor-driven applications.

## Areas of Application



## MetaControl for Dump Trucks





9-36V Voltage Range



80A Current Capacity



Programmable Processor



IP68 Protection



Performance Monitoring  
via Wi-Fi Interface





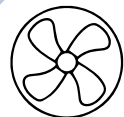
01

MetaCooler is an electronic fan control system developed to optimize thermal management in vehicle and industrial systems, operating with CANBUS-based data. The system dynamically controls fan speed by analyzing engine temperature and RPM parameters in real time.



02

Powered by embedded control algorithms, fan speed is regulated solely in line with the required cooling demand. This prevents unnecessary energy consumption, balances the thermal load across system components, and helps extend equipment life. With its PWM (Pulse Width Modulation)-based drive architecture, the system delivers precise and gradual fan speed control.



03

Compared to conventional hydraulic fan systems, MetaCooler offers lower mechanical losses, reduced fuel consumption, and lower maintenance requirements. By eliminating the need for hydraulic oil, the system minimizes fire risk and enhances overall system safety.



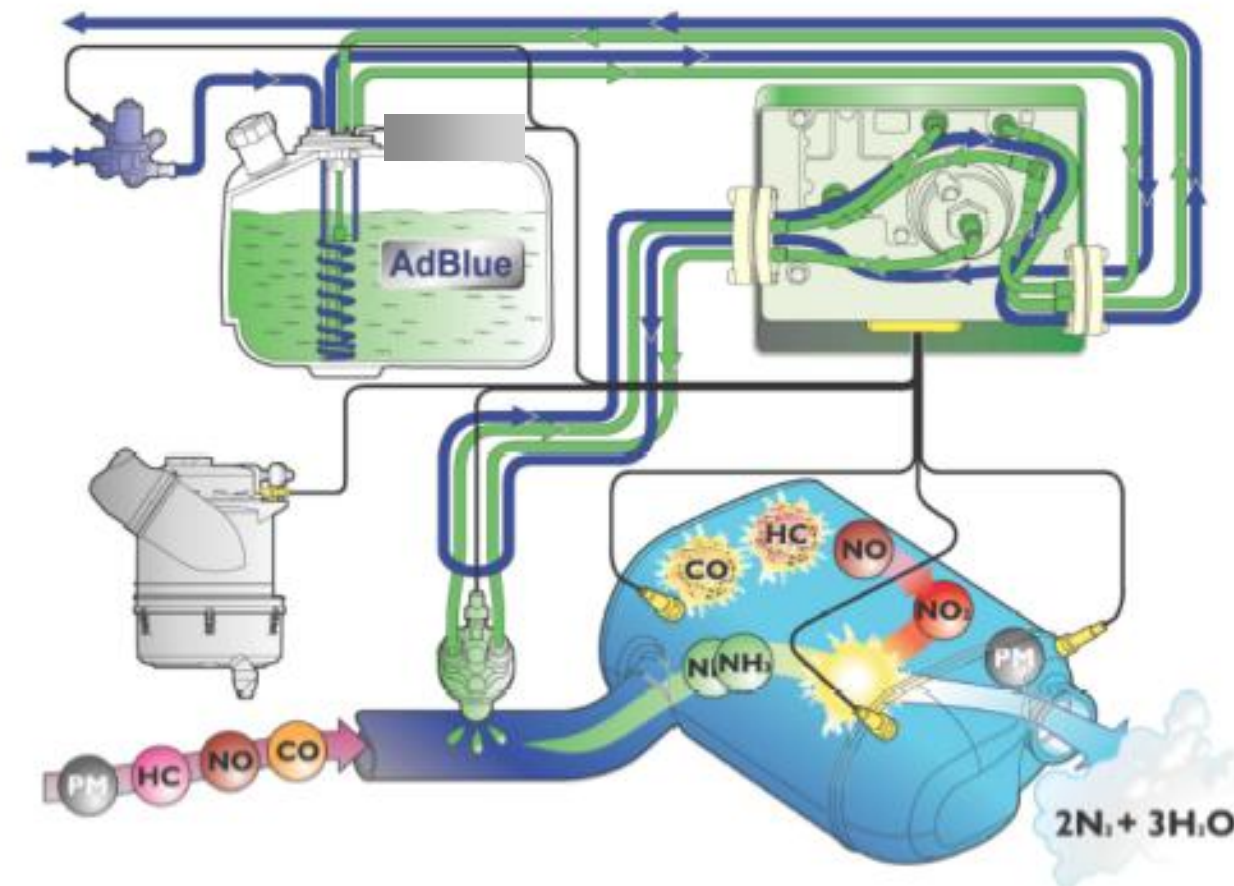
04

The system is modularly designed to adapt to different vehicle architectures and can be used in heavy commercial vehicles, buses, and electric vehicle battery cooling systems. In addition, by communicating with vehicle ECUs via the CANBUS/J1939 infrastructure, it provides an integrated thermal management solution.



# SCR System

The SCR (Selective Catalytic Reduction) system is an active emission control technology that reduces harmful nitrogen oxides (NOx) in the exhaust gases of diesel-powered vehicles and converts them into harmless nitrogen and water vapor.



# Why Is SCR Software Necessary?

[www.metadiag.com](http://www.metadiag.com)

With MetaECU AI, we provide solutions to all of the following issues.



## Crystallization of SCR Fluid

SCR fluid can freeze and crystallize at low temperatures (approximately below -11°C).



## Injector Clogging

Caused by insufficient maintenance of SCR fluid injectors or DEF crystallization.



## Sensor Failures

NOx sensors or fluid level sensors in the SCR system may provide incorrect data.



## Freezing of the SCR Fluid Tank

The SCR fluid tank may freeze in vehicles parked in cold weather conditions.



## Contamination of SCR Fluid

SCR fluid may become contaminated by water, oil, or other foreign substances.



## Technical Failures in the SCR System

Wear or blockage of the SCR catalyst over time.



## Low SCR Fluid Quality

Use of low-quality SCR fluid or fluid that does not meet standards.



## Mixing with Fuel

Accidental filling of SCR fluid into the fuel tank.

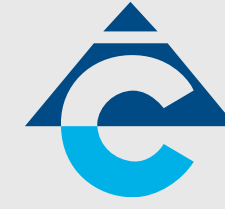
METADİAG

# OUR REFERENCES

www.metadiag.com



**ETİMADEN**  
İŞLETMELERİ GENEL MÜDÜRLÜĞÜ



**ETİ**  
BAKIR



**TÜPRAG**



**BOĞAZİÇİ BETON**

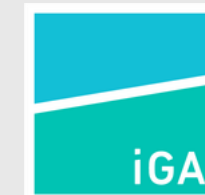


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**ciftay**



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META DAMPER

META TRACK

META VISION

META FMS



YTÜ YILDIZ  
TEKNOPARK

## Contact

(0212) 549 17 12

[www.metadiag.com](http://www.metadiag.com)

[info@metadiag.com.tr](mailto:info@metadiag.com.tr)

İkitelli OSB, Başakşehir, YTÜ İkitelli  
Teknopark Sok 1/103, 34490  
Başakşehir/İstanbul



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[www.metadiag.com](http://www.metadiag.com)

[info@metadiag.com](mailto:info@metadiag.com)