



# MANAGEMENT OF HEAVY-DUTY VEHICLES WITH BLE ACCESSORIES

## INTRO

The global construction equipment market is of great importance for the economy which is estimated to steadily grow and [reach 234.6 billion dollars](#) in the year 2030. Heavy machinery is undoubtedly a crucial part of the industry and, the [increasing fuel prices](#) are a great challenge for operators and business owners. Teltonika Telematics devices and BLE accessories open up new possibilities and can be very useful here.

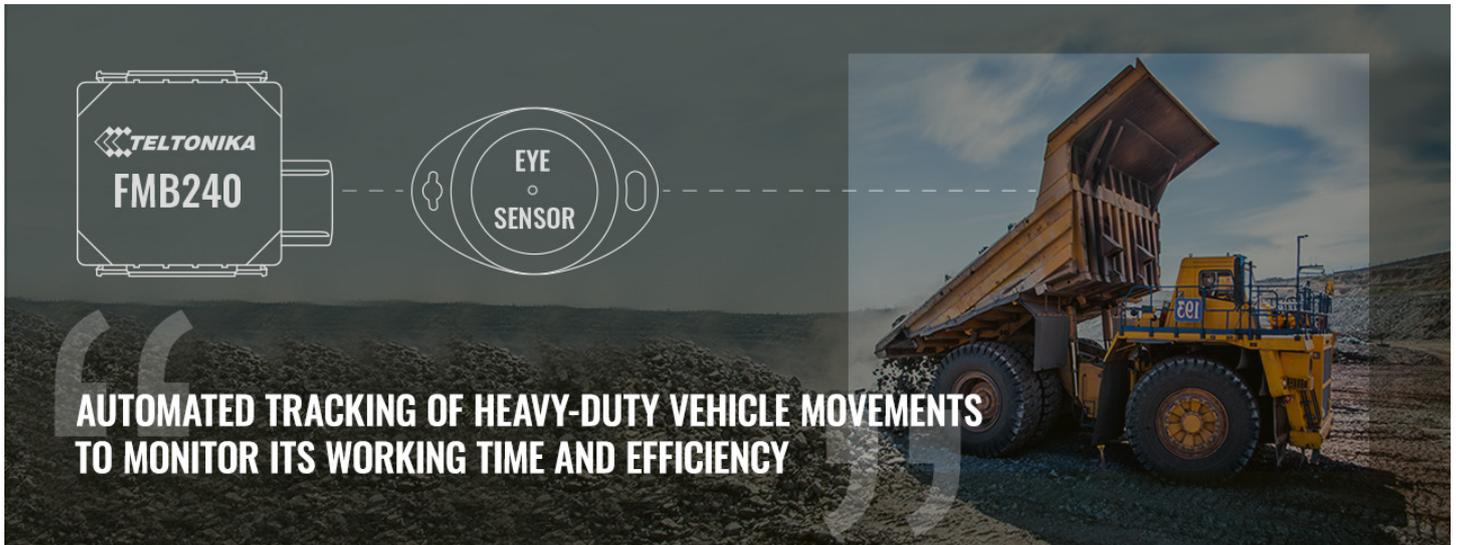
## CHALLENGE

The costs of heavy machinery are enormous, and it is estimated that its' [average productivity](#) is only 62% at best. That means that this expensive equipment is not being used for a lot of time. It is unacceptable that such costly machinery is so barely used and results in higher costs than it could be.

Furthermore, spending time idling is another big challenge. It is estimated that, for example, one manufacturer's heavy machinery is [idling 40 per cent](#) of total running time, resulting in 400 gallons in annual fuel waste per machine. These actions create very high costs, especially in larger fleets, that could be prevented with the help of smart telematics solutions. It is necessary to prevent situations when valuable materials are unloaded out of a dump truck without authorisation, especially in times of rising construction prices, harsh competition and construction materials being among [top cargo theft](#) targets.

Moreover, it is also difficult to ensure that the driver of heavy machinery does not work in certain unsafe areas. For example, in an area where the movement of the excavator arm is considered risky, the vehicle may drive through the area to reach its destination, but the excavator arm must not start moving to avoid disastrous consequences, and the fleet manager must be informed of such actions to taking preventive measures. If a driver accidentally starts to work outside the authorised area, he/she must be informed and stopped immediately.

Fortunately, with Teltonika Telematics fleet management devices, combined with BLE accessories and smart thinking, these challenges can be overcome seamlessly and ensure maximum efficiency.



## SOLUTION

To solve these challenges, we use the ADVANCED category Teltonika GPS tracker **FMB240** with an integrated CAN bus data processor and **EYE Sensors**. The latter is used to track angular movements of various heavy-duty vehicles - hydraulic dumpsters, concrete rotators, excavator arms, plough trucks and graders, combines, harvesting headers and others.

**How it works** - angular movement tracking allows operators to monitor the real working hours of heavy machinery and its' employees, instead of just idling. Angular data of the sensor may be compared to an engine working time to objectively evaluate how much time the machine and driver were actually working, and how many hours it spends idling and simply wasting fuel and profits.

For instance, if it is observed that the engine of the excavator is working, but angular data of EYE Sensor does not show movement data of the excavator arm, it means that the fuel is being wasted but no real work is being done. It is also applicable to other types of heavy machinery whose operations include lifting, such as hydraulic dumpsters. This solution helps to take preventive action and save these considerable costs that are wasted when machines are idling.

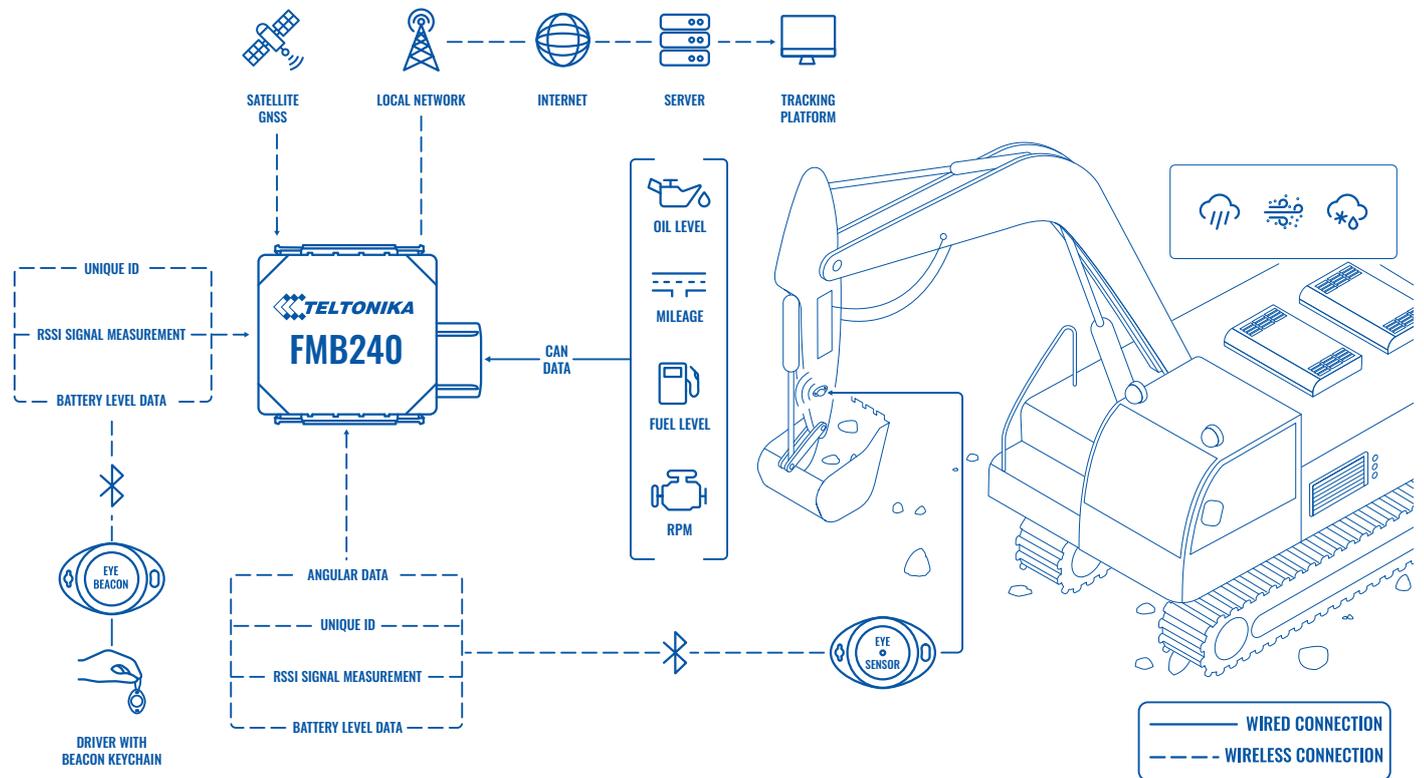
To know if heavy machinery is working in areas considered risky, the EYE Sensor also comes in very handy. Thanks to its' angular movement recognition capabilities, fleet operators can see whether equipment such as excavator is being used in dangerous areas where it is not supposed to, by measuring the angular movement of the machinery, for example, the excavator arm. If that is the case, they need to be promptly informed about such irresponsible actions and take necessary actions.

Furthermore, EYE Sensor movement detection helps heavy machinery fleet managers to detect potential thefts. For example, by checking how many dumps there were in general during the day and in which locations, it is possible to recognise if there were any unauthorised unloading of the dumpster, and take appropriate actions if that is the case.

Better yet, to improve employees' accountability, the solution might be combined with **wireless driver identification** and time tracking. With this option, the drivers of the machinery would have their **EYE Beacons**, and the working time of a particular driver would be tracked. On top of regular working time tracking, fleet managers could track if there is any overtime or if the driver is working on a weekend. It may be even spotted if the driver is performing work when it is forbidden to. This would help fleet operators to be in full control of their fleet and workforce and take necessary actions when needed.

Finally, the extensive set of features of the integrated CAN bus data processor with ALL-CAN300 adapter functionality helps to manage fleets as efficiently as possible, while the IP67-rated casing of the FMB240 tracking device ensures that the solution will work in demanding climatic environments and challenging weather.

## TOPOLOGY



## BENEFITS

- **Accurate and reliable data on heavy machine performance** – EYE Sensors enable smart and automated tracking of heavy-duty vehicle movements to monitor its working time and efficiency based on angular movement data.
- **Exact working hours of machines and drivers** – be aware of the working hours of heavy machinery and be sure that it is being used for work instead of idling. It may be used together with EYE Beacons for fully automated driver's working time tracking.
- **Cargo theft prevention** – EYE Sensors help to prevent unauthorised unloading of heavy-duty vehicles and spot it if it happens, which allows to take necessary actions and save a cargo.
- **Comprehensive accountability of a workforce** utilising EYE Sensors and EYE Beacons for convenient and fully automated fleet and employee tracking.
- **Customisable solutions for every project** - to achieve maximum value, the signal strength and data transmission ranges of the Bluetooth accessories can be fine-tuned to suit the needs of the project.
- **Affordable and easy to install** – BLE connectivity enables effortless installation of Teltonika EYE accessories, low power consumption, and interference. They are affordable and, if something bad happens, such as damage or loss, can be quickly replaced.

## WHY TELTONIKA?

For successful management of heavy machinery fleets, we offer an indispensable combo – wireless Bluetooth Low Energy EYE Sensors and EYE Beacons, iOS and Android apps and the high-standard vehicle GPS trackers that heavy-duty fleets and construction companies can significantly benefit from. Rest assured, more than 24 years of experience in a global market, unparalleled product quality, state-of-the-art production facilities with automatic assembly lines and top-rated customer service make Teltonika Telematics the business partner of choice.

## FEATURED PRODUCT

FMB240

## RECOMMENDED PRODUCTS

FMB140

## RECOMMENDED ACCESSORIES

EYE BEACON, EYE SENSOR

