



# MINING CARGO CONTROL

## INTRO

Mining is a highly specialised industry that relies heavily on large equipment for its operations. Despite being quite unique and dealing with issues that other industries do not, mining companies can manage their daily activities seamlessly thanks to technology. GPS tracking devices will help to meet the challenges faced by the mining industry today while avoiding unnecessary costs and complications.

## CHALLENGE

The mining industry faces many challenges at different stages of the business cycle. Logistical challenges include the need for transport to move heavy equipment and to transport mined products, as mining sites are usually located in remote areas.

Remoteness is a serious concern. At mining sites and in the vast areas surrounding them, traditional radio means may not be available, i.e. none of the cellular networks (2G, 3G or 4G LTE) can be used for communication. The Iridium satellite network, on the other hand, covers the entire surface of the earth and provides a unique means of transmitting data.

Ineffective management can quickly lead to high and unnecessary costs. By tracking loaded vehicles, companies can ensure that time is not wasted on the road and minimise the costly risk of theft. Cargo must be monitored at all times - from the mine site to its final destination. Only then can it be delivered safely.

The key to effective planning and organisation of day-to-day operations is to receive information continuously and without delay, such as the location of vehicles, even when the GSM signal is unavailable or lost. In this way, a company will never lose track of its fleet and will be able to properly update its supply chain, which includes various types of transport. All of this makes it possible to achieve the ultimate goal of delivering freight on time.

It is also important to have accurate data on the cargo loaded. Otherwise, there is a risk of accounting errors and, more importantly, some of the cargo may be stolen without anyone knowing. In the mining industry, where large quantities of products are in constant circulation, theft prevention is a very relevant issue indeed.



## SOLUTION

Teltonika [FMC650](#) vehicle GPS tracker from the [PROFESSIONAL](#) series provides you with the most accurate tracking data available. With this information at your fingertips, you can make up-to-the-minute decisions and save time on cargo delivery. As a result, you can make more runs in the same amount of time.

**How it works** - when the GSM network is not available, the [Iridium Edge®](#) satellite modem can be used to transfer data to the server via the Iridium satellite network. From the North Pole to the South Pole, unlike cellular connectivity, the [Iridium Connected® Telematics Solution](#) works in every corner of the world. This means information is available without interruption, so you can keep your fleet under control at all times.

Accurate data on the load can be obtained by using load sensors that measure weight. This functionality helps both to keep precise accounting records and to prevent theft. If someone tries to steal part of the load, the operator will receive information about the difference in the weight of it.

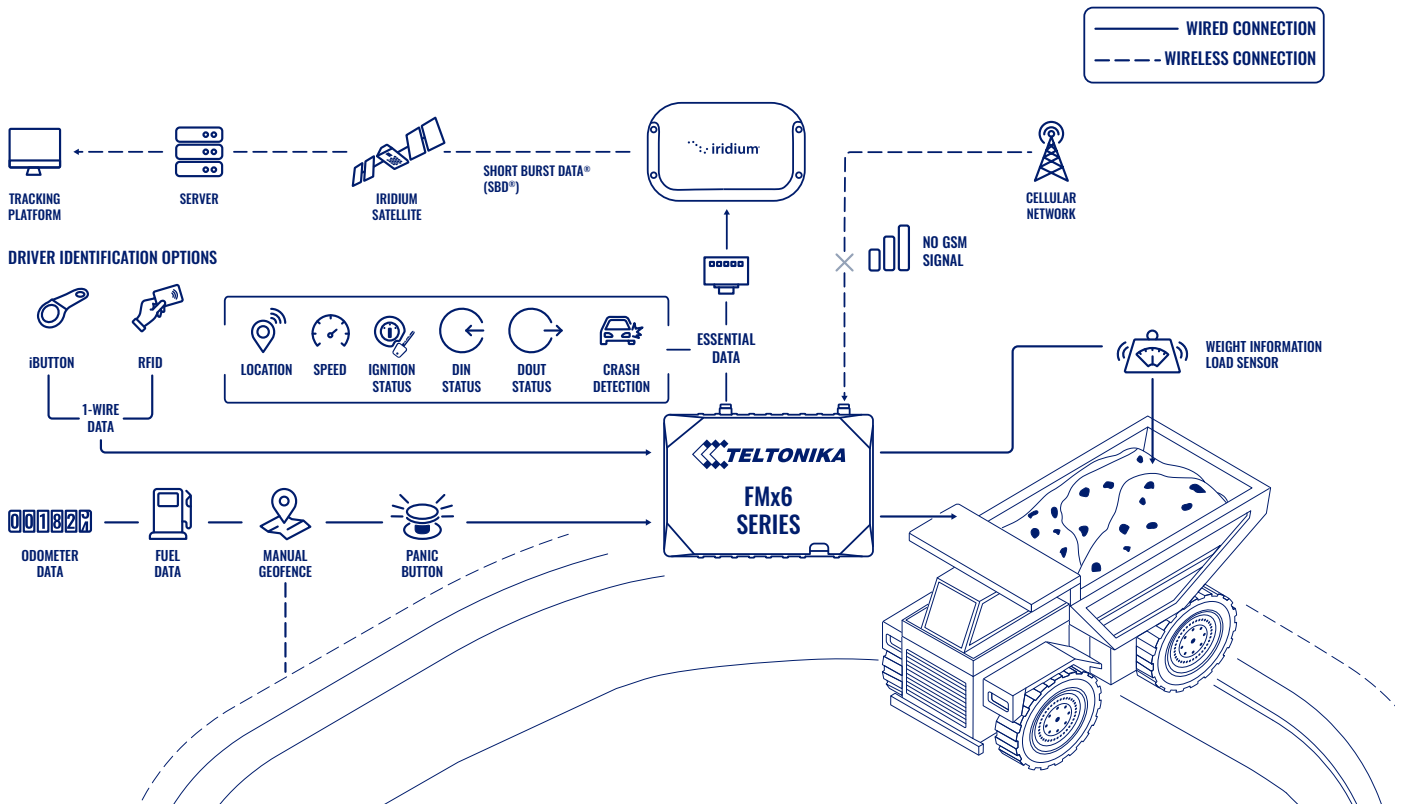
To protect cargo, it is also essential to set vehicle geo zones, i.e. to manually mark a virtual fence or the perimeter of a physical location. The vehicle can only be operated within a specific zone. If it is violated, an immediate notification is sent.

Another safety measure is to enable driver identification so that only the authorised person can drive a vehicle. To protect the driver, a panic button can be pressed in case of danger to call for immediate help. The fuel monitoring functionality is used to read the vehicle's fuel level and consumption. This enables mining companies to use their resources more efficiently and save costs.

The FMC650 is a professional-grade vehicle tracker with external high-gain GNSS and GSM antennas. This range is particularly suitable for mining equipment and can provide a reliable network connection. With trackers with internal antennas, GPS and GSM signals can be easily blocked by the solid metal surfaces of the vehicle.

Further, the FMC650 model is designed for complex solutions where one device can perform multiple tasks. Features, such as FMS CAN data (J1939), fuel CAN data (J1708), Iridium Edge® satellite modem connected via RS232, dual-SIM and the ability to identify drivers with [iButton](#) or RFID via [1-Wire](#) will maximise the efficiency of your fleet.

# TOPOLOGY



# BENEFITS

- **Efficient cargo delivery** – made possible by having accurate tracking data and instantly getting information even when the GSM network is unavailable so mining companies can maximise fleet efficiency.
- **Protecting cargo to the fullest extent** – using geo zones to make sure that cargo does not leave the specified territory and always knowing the exact weight thanks to weight load sensors.
- **Custom geofencing capabilities** - set virtual boundaries to receive instant alerts when vehicles deviate from pre-defined routes or enter restricted areas, ensuring compliance with safety protocols and efficient route management.
- **Detailed operational insights** - gain valuable insight into vehicle usage patterns, idle times and driver behaviour to optimise operations and increase productivity.
- **Preventive maintenance planning** - track vehicle health and usage to proactively plan maintenance, reducing downtime and extending the life of your mining fleet.
- **Improved safety standards** - monitor driver behaviour to ensure compliance with safety regulations, reducing the risk of accidents in challenging mining environments.
- **Cost-effective fleet management** - by optimising routes, reducing idle time and proactively managing vehicle maintenance, the FMC650 trackers contribute to significant cost savings, improving the overall efficiency of mining operations.

## WHY TELTONIKA?

At Teltonika Telematics, we understand the complex and demanding nature of the mining industry. Our GPS tracking solutions are tailored to the specific needs of mining cargo control. These devices offer unparalleled accuracy and reliability, ensuring that every piece of cargo is monitored from the mine site to its final destination. This meticulous tracking is essential in an industry where every minute counts and the stakes are incredibly high.

Our solution is designed not only for tracking but also to provide companies with real-time, accurate data, even in areas where traditional communications networks fail. The integration of the Iridium satellite network with our products ensures uninterrupted connectivity around the globe, enabling mining companies to maintain constant control of their operations. This level of control and information accuracy is critical to minimising risk, reducing unnecessary costs and improving overall operational efficiency in the mining sector.

## FEATURED PRODUCT

FMC650

## RELATED PRODUCTS

FMB641, FMM650

## RELATED ACCESSORIES

1-WIRE RFID READER, IBUTTON, IRIDIUM EDGE®

