



EQUIPMENT TRACKING IN HAZARDOUS AREAS WITH ATEX-CERTIFIED EYE DEVICES

INTRO

In industries where hazardous environments are common, such as oil and gas, chemical or pharmaceutical manufacturing, equipment often needs to be transported. Tracking the location, usage, and maintenance status of this equipment is essential not only for operational efficiency but also for safety. This requires a tracking device which is certified to work in such environments.

CHALLENGE

Industries posing hazardous environments are enormous: for example, the global oil and gas industry is worth an astonishing **\$7,331 billion**, while the revenue of the global chemical industry is over **\$4,7 trillion**. What is special about these industries is that their environments tend to have a higher risk of explosions and **flammable materials**, so equipment must be certified to ensure that it meets strict safety criteria and does not compromise the environment in which it is used.

Moreover, many processes in these industries are time-sensitive. Delays in locating or accessing equipment can cause significant disruption to operations. In addition, in large chemical, oil and gas facilities, equipment is frequently moved or can be easily misplaced, requiring time and resources to search for it. Stringent safety regulations in hazardous environments require close monitoring of equipment, especially that which could pose a risk if it malfunctions. High-value equipment in remote or less secure areas is vulnerable to theft or misplacement.

Finally, inefficient use and maintenance of equipment can lead to increased costs and downtime. There is a need for reliable predictive maintenance based on usage time and the amount of time equipment or tools spend in specific locations. Fortunately, Teltonika Telematics offers a practical solution to these challenges.



ATEX-CERTIFIED EYE DEVICES ENABLE ASSETS TO BE LOCATED QUICKLY IN HAZARDOUS ENVIRONMENTS

SOLUTION

To solve these challenges, [EYE Beacons ATEX](#) and [EYE Sensors ATEX](#) are used, so that industries operating in hazardous environments can ensure that they are getting the operational benefits of equipment tracking without compromising safety. Both devices are designed to operate safely in specific explosive atmospheres, which is confirmed by [ATEX Zone 1](#) certification. It offers reliable tracking of personnel and assets without posing a risk of ignition.

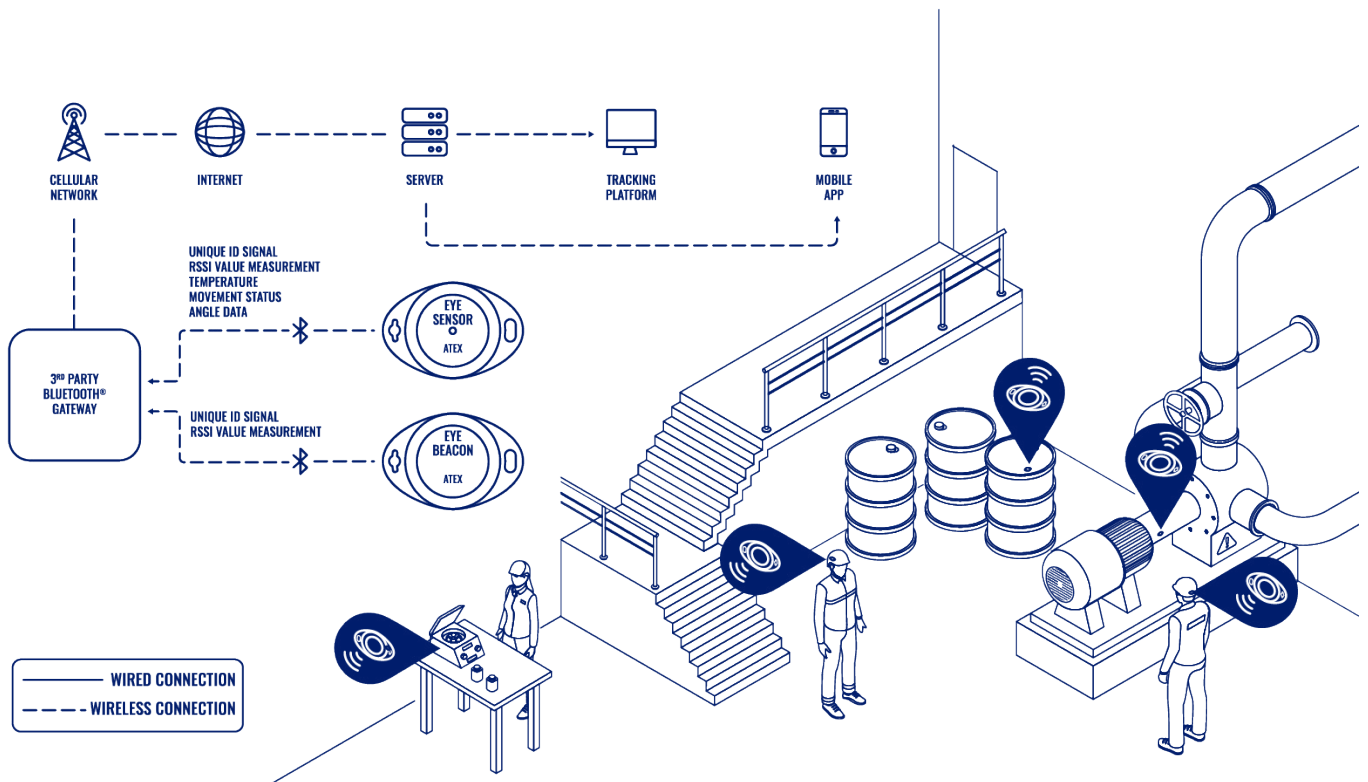
How it works – Teltonika EYE devices are attached to any items, such as tools, machines, containers, pumps, centrifuges and the like. These models are then scanned by selected gateways placed around the site or by smartphones running a third-party app. These gateways or smartphones can determine the location of each item with the EYE device with room accuracy using a technology called [RSSI](#) (Received Signal Strength Indicator).

The solution helps to quickly locate assets throughout the facility, saving time and effort that would otherwise be spent searching for them, especially when they are moved. Data from EYE devices can also be used by the platform to automatically alert if someone enters a dangerous area or if an item is taken where it shouldn't be. This can help prevent theft or misuse of equipment.

Finally, it helps to schedule equipment maintenance based on its usage. If the EYE Beacon is used, asset usage can be determined by its presence in a particular location within a facility. If the EYE Sensor is chosen, additional asset movement data could be used to learn about its usage. For example, if a tool is stationary for an extended period, it could be considered 'idle'.

In summary, when a piece of equipment is due for maintenance based on its hours of use, the chosen platform can send instant alerts. This is particularly important in hazardous areas where equipment failure can lead to serious safety concerns. The data collected from these beacons can be analysed to identify patterns that may pose safety risks, allowing proactive measures to be taken to improve safety. This improves safety in hazardous environments and significantly reduces the risk of accidents.

TOPOLOGY



BENEFITS

- **Safe and compliant operations** – ATEX Zone 1 certification ensures that EYE Beacons ATEX and EYE Sensors ATEX can be used safely in hazardous environments.
- **Reduced time spent searching for equipment** – room-accuracy location enables assets to be found quickly, increasing operational efficiency. It also helps to ensure that equipment is used appropriately and not left in the wrong place.
- **Prevented theft and misplacement** – based on asset location, the operators can ensure that equipment is not left in the wrong places or moved out and stolen.
- **On-time maintenance** – Teltonika EYE devices help to ensure that equipment is regularly maintained and is not used outside of its designated area, improving safety.
- **Data-driven decision-making** – learning the details of equipment usage allows managers in charge to take the necessary action to prevent failure, breakdowns, and make strategic purchases.