

USE OF GPS TRACKING IN LOGISTICS

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Abstract. *The perspective of the development of GPS tracking in the field of logistics is considered. Technologies and devices that are already actively used, as well as trends and examples are noted possible use of some technologies and devices in the future.*

Transportation of goods and their logistics is an important component of the economy of every country. Currently, there are about 1.3 million trucks in Ukraine, which are used to transport a wide variety of goods. The tasks of the logistics system during cargo transportation are: to deliver the cargo without damage and without loss, to pick up and deliver it in a timely manner, to ensure safety for the cargo and for the surrounding environment. To solve these problems, logistics systems monitor the movement of cargo and its parameters. Transportation of dangerous goods and goods sensitive to changes in environmental parameters such as: temperature, humidity, acceleration and impacts are especially carefully monitored. In order to effectively solve the task of tracking cargo parameters, it is necessary to develop methods and means of computerized remote control of cargo parameters in logistics systems.

GPS monitoring allows you to receive detailed information about the location and movement of vehicles, as well as the time of cargo delivery. This allows logistics managers to control delivery times and optimize routes, which helps reduce costs and improve customer service.

GPS monitoring also allows you to control the behavior of drivers and optimize their work. For example, logistics managers can control drivers' working hours, vehicle speeds, stops, parking lots, and other parameters, which allows to prevent overloading and reduce the risks of an emergency situation.

In addition, GPS monitoring can be used to determine the optimal location of warehouses and other infrastructure facilities. According to the data of GPS monitoring, it is possible to determine which warehouses are closer to potential customers, and to optimize cargo delivery routes.

A boost in the e-commerce sector has brought a breath of fresh air to the logistics business. This huge business opportunity should be utilized by the transport industry players in the best possible way. Logistics companies do not only play in the transport sector, but also need to be able to provide efficiency, effectiveness, visibility and quality for sustainable business development.

The development of devices based on a GPS tracker allows for a more efficient process from reception to completion of shipment. The owner will be able to instantly create and assign tasks to the driver. You can also view the estimated time and distance on the road, the nearest driver to the place, the correctness of the work, as well as the receipt of the goods, based on the records or photos. In some advanced GPS tools, there is a chat function to facilitate coordination between the driver and the manager, so a decision can be made immediately when a delivery problem arises.

All data recorded in the GPS log can be processed into reports that are filtered based on the information you want to display. Report delivery can also be scheduled for any given period. Thanks to an integrated and automated system, the administrative burden will certainly be reduced, especially if the owner has a large logistics fleet. For those just starting a logistics business, this integrated GPS-based system will help you focus more on business development or expansion. As a result - increased work productivity.

With the help of these sensors and beacons, not only the location of the vehicle can be monitored, but also the driving behavior due to violations of several indicators such as speeding, sudden acceleration and sudden braking. In real time, the owner receives a message about these violations. In addition to ensuring the safety of drivers, who are an important asset of the company, driving behavior can also affect the life of the vehicle and the condition of the goods being transported. For added security, some companies purchase panic buttons for drivers who encounter emergencies such as vehicle breakdown or crime.

Also, one of the main problems faced by transport and logistics companies is the management of fuel costs. Inefficient use of fuel can be a significant financial loss for the company and negatively affect its competitiveness.

To solve this problem, transport companies increasingly use GPS fuel monitoring. This technology allows you to monitor the amount of fuel used for each kilometer of the journey, as well as determine the places and times of refueling the vehicle.

GPS fuel control is carried out by installing fuel level sensors in vehicle tanks. Sensors register the amount of fuel in the tank and transmit the information to special software that processes the data and displays it on the user interface.

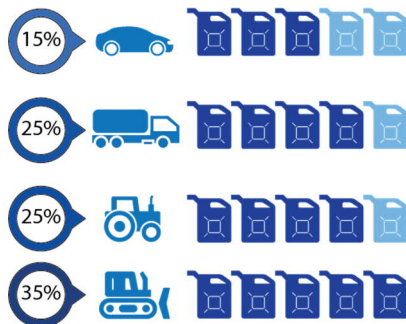


Fig. 1 Increasing the profitability of enterprises after installing a GPS control system for the corresponding types of transport.

One of the benefits of GPS fuel tracking is reducing the risk of fuel theft. Fuel level sensors installed in the tanks register the fuel level and can send messages about unauthorized spills. This helps prevent fuel theft and reduce fuel costs.

Conclusion

In conclusion, GPS monitoring systems are an important element of the successful operation of transport and logistics companies. They allow logistics managers to control the movement of goods and vehicles, improve customer service, optimize routes and increase the safety of cargo transportation.

References

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