

TELEMATICS BUSINESS IN THE REPUBLIC OF BELARUS

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In this article, the author analyzes the telematics market in the Republic of Belarus, identifies the most important features of the content, formation and application of the telematics solution to achieve high-quality and long-term economic results.

The market of telematics services is developed all over the world due to the demand and demand for telematics solutions. Telematics solutions are a relatively new phenomenon for the Republic of Belarus. They include a set of components (software, monitoring equipment, telecommunications products, etc.), which together allows you to solve many problems in different areas of the economy and business, including optimizing the operation of the fleet, automating delivery processes, as well as reducing the cost of production and delivery of goods, works and services.

From the point of view of economic indicators and the system of economic management, the Republic of Belarus belongs to the countries with transition economies, but at the same time has specific features [1].

It should be noted that now there are many products and solutions on the market for monitoring a car, a person, a stationary object, etc. In the Republic of Belarus, there are about 20 companies offering their developments [1]. In Table 1, we looked at some of the largest companies that provide telematics services. For us, the most important criteria for comparison were solving problems, additional functions, and the number of companies using telematics solutions.

Table 1. – Characteristics of telematics products

Company name	Solving problems	Additional features	Service quantity
Gurtam (2009)	Determining the exact location; monitoring the traffic schedule; analyzing the effectiveness of the fleet; optimizing routes; ensuring safety; analyzing the effectiveness of the entire fleet; searching for nearby objects	Fuel consumption control; temperature control; passenger counter; the fact of opening the doors; communication with the dispatcher; "Alarm button"; remote engine lock	>2 500 000
Beltransputnik (1994)	Control of location, speed and route; fuel consumption, eco-driving, driving efficiency ratings of drivers; compliance with AETR, time forecast by tachograph, DDD remotely; control of refrigerator modes and temperature telematics of transportation; legal support of disputes. Geofencing. Smart Maps		About 35 000
Omnicom (2006)	mileage based on geographical zoning; idle time; engine operation in various modes	Fact of opening doors	>3 000
Resurscontrol (2008)	Determining the exact location; search for the desired address; route drawing; control of vehicle speed, fuel consumption, axle load, visits to control points; temperature control; passenger counter;	"Alarm button"; remote engine lock; notification in the form of SMS or email	No data about the numbers

Source: compiled by the author on the basis of [2-6].

After analyzing the tabular data, several conclusions can be drawn.

First, most of the solutions that companies provide are very similar: they monitor the movement of transport, the behavior of the driver, the technical condition of transport and cargo.

Secondly, we found that Gurtam, which has Wialon (a platform for GPS monitoring and IoT), provides a more suitable telematics solution. To access the web interface, you only need a browser. macOS, Linux, Windows-no difference. The main functionality of the monitoring system on a smartphone or tablet. Wialon covers 99% of the customer's GPS satellite monitoring needs. Another 1% of each business has its own, and these are specialized tasks [7]. Wialon provides an application for monitoring route vehicles and a service for monitoring delivery services, as well as web-based solutions for monitoring the quality of driving, driver mode, and maintenance planning [7].

Based on our analysis and the experience of Belarusian telematics companies, we can conclude that telematics solutions can also be used in online medicine and mobile healthcare, which in turn will allow us to implement the following pros:

- consultations in the process of providing medical care to patients;
- training of medical personnel;
- monitoring the treatment of patients;
- monitoring and analysis of the health status of the country's population.

The Republic of Belarus has a "Republican system of Telemedicine counseling", which includes 251 organizations. Through it, medical professionals exchange experiences and consult with each other on particularly difficult cases. There is also a unified telemedicine system for digital fluorography in Minsk [8]. EPAM (an IT software development company) oversees the system of accounting for organ and tissue donors, which can also be attributed to telemedicine [9]. Every year the competition in the market of telematics solutions increases, but at the same time more advanced, more technologically advanced solutions become in demand. Consumers are willing to invest in solutions that will reduce costs and increase efficiency in the long run. In our opinion, new solutions will be introduced to the telematics market, which will be more reliable, more informative, and more convenient for the user.

Over the past 20 years, the number of cars in the Republic of Belarus has increased fourfold, exceeded 3 million units and continues to grow. At the same time, the Republic of Belarus is gradually approaching the average European level of vehicle ownership – about 500 cars per 1000 residents. A sharp increase in motorization can lead to an aggravation of the entire complex of transport problems: a decrease in traffic speeds, traffic jams, an increase in accidents, and a deterioration in environmental indicators that characterize the quality of the urban environment. [10]. In our opinion, to avoid such problems, companies and enterprises can implement telematics solutions in the practice of their business. Using satellite tracking and the ability to transmit data about a dynamic unit, companies and their customers can track the condition of goods, location, regulate the work of drivers and their behavior on the roads, as well as the quality of delivery of goods to their destination. If a GPS device and a SIM card with the Internet are sufficient to track the location of a car with a load, then additional tools are used to track the condition of the cargo and the quality of work of drivers, such as video monitoring, temperature and motion sensors, optical character recognition (OCR) for reading container numbers, radio frequency identification (RFID) and QR codes for identifying and tracking deliveries, tachographs for tracking dynamics and monitoring the driver, as well as basic digitization of trade documents, and much more. Thus, thanks to telematics solutions for monitoring the delivery of goods, goods movement, vehicles, GPS technology is changing the traditional aspect of many business areas. Providing up-to-date transport data allows you to continuously optimize transport operations: routing, queuing, loading and unloading, and so on. At any time, 24 hours a day, the organization can get complete information about the date, time, speed of the vehicle, the location of an individual vehicle, this group or all vehicles at the same time. Thus, he / she has full control of the vehicles. Constant monitoring of transport also allows you to.

Based on the conducted research, the author comes to the conclusion that the telematics market of the Republic of Belarus has the potential for long-term development due to the existence of strong players in the telematics business, as well as the presence of an advanced IT sector, which in the structure of the telematics complex is a software manufacturer and improving the offer of telematics solutions. The more unique the supply, the greater the demand among consumers, as a result, increases the profit of the manufacturing company and affects the macroeconomic result through microeconomics indicators. Companies that produce telematics services in the Republic of Belarus can consider foreign experience in the development and application of telematics solutions for the successful implementation of their own strategies to attract consumers. Among the potential users of telematics services are both business representatives and individuals, the final decision for which may differ depending on the desired end result. In addition, the availability of a telematics unit and monitoring software in special cases can be a starting point for the development of advanced systems integrated with databases and programs of customer enterprises to provide service according to business needs.

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