

INNOVATIVE TECHNOLOGIES IN THE FIELD OF TRANSPORT

Tsarik D. A., student

Rabushko A. D., student

Scientific supervisor – Slesaryonok E.V., senior lecturer

English language department №1

Belarusian National University of Technology

Minsk, Republic of Belarus

The development of transport technologies plays a key role in today's world, affecting the mobility of people and goods, the economy, the environment and public welfare.

Transport of the future is the concept of innovative and sustainable technologies aimed at improving mobility, reducing environmental impacts and increasing user comfort.

Innovative technologies in the field of transport cover a huge amount of different engineering solutions and scientific developments. They include stand-alone transport systems, electric cars, “smart” transport infrastructure, green technology development, and more.

Autonomous vehicles represent one of the most promising areas in transport. The basic operating principles are based on the use of sensors, cameras and artificial intelligence systems to ensure the safe movement of cars without human intervention.

One of the key areas where intelligent systems are emerging is movement control. With machine learning and big data analysis algorithms, you can optimize traffic flows, predict traffic jams and accidents, and control traffic lights to minimize waiting times.

Artificial intelligence systems allow the creation of cars, buses capable of making decisions on the road, adapting to conditions and ensuring the safety of passengers. For example, automated information systems can provide passengers with up-to-date information about schedules, delays, and help with the selection of optimal routes.

Electric cars, in turn, are environmentally friendly alternatives to traditional combustion vehicles. The development of battery technology, increased power reserve and expansion of charging station infrastructure help to stimulate a more environmentally friendly mode of transport.

The development of intermodal transport systems that integrate different modes of transport (cars, trains, planes, ships) helps to optimize transport and reduce travel time.

Engineers and inventors have developed drones that will be able to transport goods and passengers. This is still only in the process, however - it can significantly reduce the use of cars, which will lead to fewer emissions of various substances. From an economic point of view, it is profitable. The safety of people's travel and cargo transportation will also be ensured.

These new technologies are significantly changing the way in which the transport industry operates, making it more sustainable, safe and convenient for all participants. It is important to consider not only the benefits but also the potential risks and challenges associated with the introduction of new technologies in the transport sector.

The development of green technologies that reduce carbon dioxide and other harmful substances is also an important area of innovation in transport. This includes the introduction of biofuels, electric transport, hybrid engines and other innovative solutions.

Innovation in transport continues to grow, creating new opportunities for more sustainable, safer and an efficient transport system capable of meeting the needs of modern society.

Integrating advanced technologies into urban infrastructure to create “smart” cities where the transport system will be linked to other aspects of urban life, such as energy, waste management, education and health.

However, the introduction of new technologies also presents challenges in terms of the need to upgrade infrastructure, ensure cyber security and train personnel to work with new technologies.

As it is possible to mention in the conclusion, the development of transport technologies cannot be halted, due to the fact that it will enable society to become more environmentally sustainable and improve the quality of life of its people despite having to overcome any obstacle that might appear during the application of any technology that was mentioned above.

References

1. Innovations in the transport system [Electronic resource] – Mode of access: <file:///C:/Users/OBT/Downloads/innovatsii-v-transportnoy-sisteme.pdf> – Date of access: 24.03. 2024.