

TRANSPORT INFRASTRUCTURE OF LOGISTICS TERMINALS: HOW TO SOLVE CURRENT PROBLEMS

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A logistics terminal is a specialized cargo hub with a high degree of mechanization of loading operations and automation of accounting for processed goods, which is responsible for the shipment, storage, as well as the dispatch and sorting of goods. The terminal can handle cargo by sea, air and road, having all the necessary infrastructure with it, and, as a rule, it is the quality of the logistics center's infrastructure that determines the effectiveness of operations performed in it [1].

The modern infrastructure in the logistics terminal is the most important thing. Currently, terminals may face the following problems:

1. Delays in cargo handling

Reasons: As a rule, there is a shortage of labor or employee experience. Consequences: the risk of delivery of the wrong cargo, delays in delivery, which causes customer dissatisfaction, deterioration of the reputation of the terminal, as well as payment of fines for late delivery of cargo. The solution to this problem may be the introduction of an automated warehouse accounting system and training of employees to improve their skills.

A good prospect in this area is the development of AI bots based on CorpGPT, which can perform various functions, starting with document management automation (processing and classification), ending with building the most profitable, as well as safe routes for cargo delivery, and even training new employees by providing them with real-time background information and testing knowledge [2].

2. Problems with transport infrastructure (motorways and railways, as well as the infrastructure of sea and river ports) (both at the design and construction stage and at the stage of full-fledged operation).

Reasons: Wear and tear due to the high level of operation of infrastructure facilities, lack of necessary financial investments in the maintenance of transport infrastructure. Consequences: risk of transport breakdown, deterioration of the quality of the delivered products, especially glass, etc. The solution can be a careful design, taking into account the local landscape and weather conditions, regular maintenance with the allocation of the necessary amount of finance for this enterprise. The use of computer-aided design software such as AutoCAD Civil 3D or Bentley OpenRoads, capable of analyzing huge amounts of terrain and climate data, is a promising area.

These programs are also capable of creating detailed 3D models of future trails. They can automate routine tasks and help avoid mistakes.

During the construction of highways, special attention is paid to the quality of the pavement material. Modern developments include self-healing asphalt and photocatalytic coatings [3].

The peculiarity of the first one is its ability to repair itself, this mainly concerns small cracks, but with the active operation of the road, this can minimize the cost of its maintenance.

The peculiarity of the second material is its ecological “friendliness”. Roads made of photocatalytic coating, due to the presence of titanium dioxide, are able to purify the air from harmful substances under the influence of sunlight.

The conducted research allows us to draw a number of conclusions: the rapid development of digital technologies makes it possible to automate logistics activities on a large scale. Innovations in the field of chemistry make it possible to create new road materials that are more reliable and environmentally friendly, and subsequently cheaper.

References

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