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## **THE PROBLEM OF INTRODUCTION AND USAGE OF AUTOMATED WAREHOUSE SYSTEMS IN WHOLESALE AND RETAIL**

Automated warehouse systems (AWS) are systems that involve the use of computer-controlled trucks that lay products to the warehouse and retrieve them from there on the command of the dispatcher.

Warehouses with storage zones, which use the “High Bay” technology, are high-volume single-volume warehouses with high-speed rail-operated cranes. The height of these warehouses reaches 40–50 meters. They can accommodate up to 25–30 tiers of standard pallets. Automated warehouses consist of racks, materials delivery systems for loading into the warehouse and unloaded goods from the warehouse (the system of “loading-unloading” of horizontal and vertical carousel type). The shelves are divided into cells. The capacity of automated warehouses ranges from several hundred cells to hundreds of thousands of cells.

AWS is used for storing the following goods:

- Various small loads (medical products);
- Tools;
- Expensive items (jewelry);
- Spare parts;
- Components for production.

Advantages of AWS:

- Increasing the efficiency of the use of premises by 80 %;
- Increase of accuracy of access to goods by 99 %;
- Increase the productivity of the assembly processes by 400 %;
- Accuracy of inventory accounting — up to 99 %;
- In the case of ubiquitous automation of work, the AWS decreases working hours, as well as the number of employees employed in the warehouse, which results in significant savings of funds previously used to pay workers;

• Ensuring the protection of cargo from various harmful effects, including theft;

- Providing ergonomics;
- Ability to implement system integration of all processes in the enterprise with the help of software.

Nevertheless, there are also disadvantages, among which:

- High cost of implementation and maintenance;
- The possibility of incompatibility with the parameters of existing warehouses, and accordingly the inability to re-equip warehouses;
- This system is not universal for all types of goods;
- AWS can be exposed to various kinds of vulnerabilities (software malfunctions, hacker attacks).

Today, these systems are most actively used in the wholesale and retail trade for the storage of frozen foods, pharmaceuticals and jewelry. AWS is used in the West and in Russia. Among wholesale and retail trade companies that have introduced this technology, we can single out “Miratorg”, “AMEX”. However, this technology is not used in the Republic of Belarus. Studies based on world experience have shown that the High bay warehouse is much more efficient than a conventional warehouse, in case the required storage volumes are more than 30,000 pallet places.

In the long term, the use of this technology will guarantee a competitive advantage of the company, since the turnover in warehouses grows more and more every year. Using the AWS will speed up the process of handling the goods in the warehouse.

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## **PROBLEMS OF COMPETITIVENESS OF BELARUSIAN GOODS IN A FOREIGN MARKET**

In the current economic conditions, characterized by negative consequences of the global economic crisis, the Belarusian producers occurs a rather difficult task — to fight for the preservation of its export potential and the subsequent expansion of the competitive position as post-crisis recovery of the global economy.

For countries with a high degree of openness of the economy, foreign trade is an important factor in socio-economic development. On average for all countries of the world, the volume of foreign trade turnover is 38–39 %. This is the value that represents the total amount of the import and export indicators. This factor is several times lower in Belarus. Belarus is export-oriented country. It means, that the domestic market is not able to absorb all the products produced in the country. Because of the narrowness and insufficient capacity of the country’s domestic market without exports and its expansion, it is impossible to maintain acceptable levels and rates of production. The need to increase the competitiveness of Belarusian enterprises’ products lies in the fact that with the development of market relations a large number of sellers, including foreign ones, poured into the Belarusian market. Foreign manufacturers, developing in a highly competitive environment, have already reached a certain level of product quality, to which our many manufacturers are still far away. To begin with, I propose to consider the problems of the competitiveness of the export of goods:

1. It is a strong dependence on changes occurring on world markets; (Scientific and technological progress is developing very quickly, updating of goods occurs many times faster than Belarus can diversify its products).

2. Inefficient sectoral structure of production.

3. Low share of sales of products with a high share of added value; (in most cases, the cost of goods is overstated compared to foreign companies).