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The Role of Robots and Mechanisms in Collection Orders in Warehouse

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INTRODUCTION

Traditionally, collection of orders have been a very time-consuming task, often leading to errors and inefficiencies, as well as placing a strain on the workforce due to its physical nature. However, with the advent of robotic picking systems, warehouses can achieve exceptional levels of order picking efficiency and increased productivity.

Logistics warehouse companies develops and implements innovative solutions in robotics for warehouses, with an emphasis on modular and scalable systems. Their portfolio includes reliable and efficient solutions, from palletizers to autonomous robots that handle peak loads. High costs and labor shortages during peak seasons make robotics key to reducing costs and increasing speed and accuracy in warehouses and distribution centers.

The challenges of the peak sales season become a major burden on businesses that use manual processes. The goods in the warehouse must be of the right quality, be in the right place, at the right time and in the right quantity. The challenge of inventory management is to balance and meet all these needs. Accurate tracking of inventory levels is key.

RESULTS

There are many robotic solutions available today that are highly effective at automating order collection processes and can be easily integrated into existing operations to meet both short-term needs and long-term growth goals.

Automated storage and retrieval systems can process large volumes of goods with minimal human intervention, reducing errors and increasing throughput. They provide exceptional levels of speed and accuracy for order picking tasks, as well as space optimization thanks to compact storage.

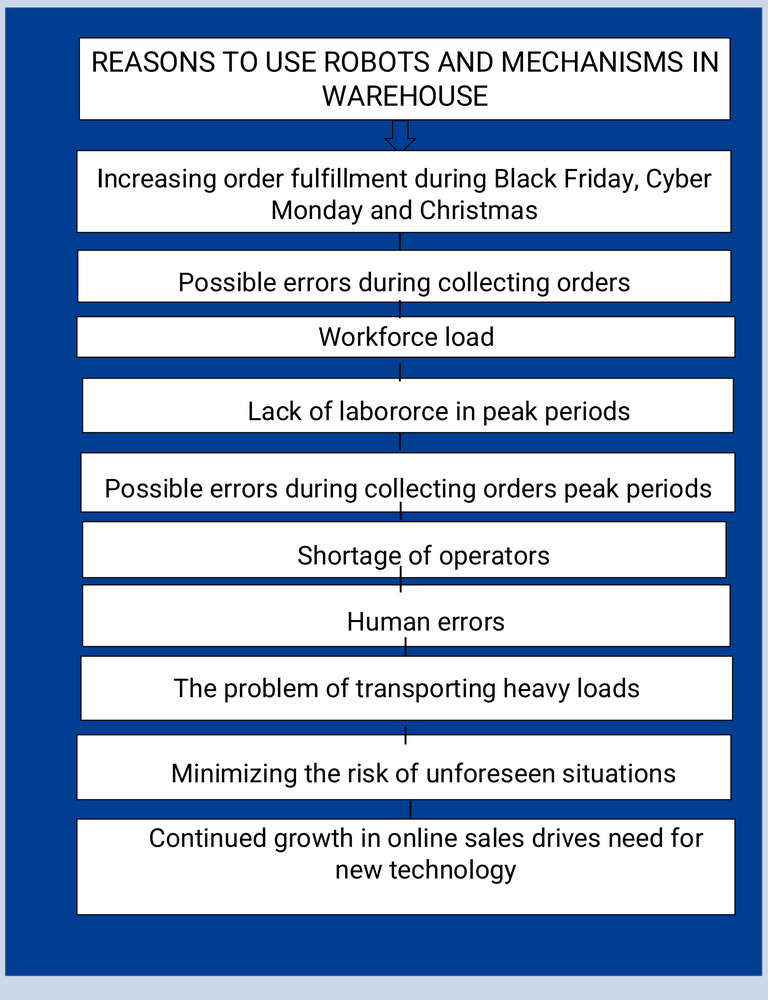
Autonomous mobile robots are increasingly using in e-commerce, 3PL and retail operations. They are highly adaptable and ideal for dynamic environments, especially where there are significant peaks in order fulfillment or frequent inventory turnover. They also provide a safe working environment by using sensors and cameras to avoid obstacles, infrastructure and people while moving around the warehouse along pre-planned routes.

METHODOLOGY

During research were used methods of gathering facts related to the object of research (observation, registration, measurement) and methods of analysis of facts, properties, factors and phenomena according to various indicators and criteria (evaluation, comparison, comparison, classification, implementation, systematization).

CONCLUSION, CONTRIBUTION AND NOVELTY

Robotics can combine picking and packaging, increasing efficiency of warehouse. Specialized palletizing systems perform the tasks of inspection, weighing and automatic labeling, offering a complete solution. They also integrate easily with other automation technologies such as pipelines, AMR and ASRS solutions. By adding a depalletizing robot, businesses can fully automate the unloading of products from pallets, further streamlining operations. Robotics comes in many forms, and choosing the right solution is important for efficiency, flexibility and future growth.



References

- Automation and robotization of warehouse and logistics enterprises. URL: https://sunone.com.ua/articles-uk/avtomatizaciya-ta-robotizaciya-skladu-i-logistichnih-pidpriiemstv/
- Collection of seasonal orders has become easier. URL: https://haski.ua/blog/zbir-sezonnyh-zamovlen-stav-prostishym
- FedEx Fulfillment plans to expand by investing in robots. URL: https://logist.fm/news/fedex-fulfillment-planuie-rozshirennya-za-rahunok-investiciy-u-robotiv
- Innovate with SBRobotics. URL: https://sbrobotics.ua/
- Optimize your logistics in advance before the peak season. URL: https://haski.ua/blog/optymizujte-svoyu-logistyku-zazdalegid-pered-pikovym-sezonom