INNOVATIVE TECHNOLOGICA
METHODICAL RESEARCH JOURNAL
ISSN: 2776-0987 Volume 4, Issue 12 December 2023

DEVELOPMENT OF AUTOMATIC WAREHOUSING AND INVENTORY MANAGEMENT SYSTEMS IN MECHANICAL ENGINEERING

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Abstract
The development of automatic warehousing and inventory management systems in mechanical engineering is an urgent topic that attracts the attention of many manufacturing companies. Automation of these processes can significantly improve production efficiency, improve product quality and reduce production costs.

Keywords: development, automatic, control systems, mechanical engineering.

One of the key approaches to automation of warehousing and inventory management systems is the use of automatic warehousing systems such as automatic high-rise warehouses, stackers, conveyor belts and other automation systems. These systems allow you to automatically move and store materials and components in the warehouse, which simplifies the inventory management process and reduces the time spent searching and moving materials in the warehouse.

In addition, automatic inventory planning and management systems are often used in mechanical engineering to automate inventory management systems. These systems allow you to optimize inventory management, taking into account various factors such as product demand, component delivery time, inventory levels, and others. Automatic inventory planning and management systems can also be used to automatically order the necessary materials and control the quantity of materials in the warehouse.

An important aspect of the automation of inventory management systems is the integration of all automated systems into a single production management system. This allows you to automatically adjust production processes based on quality control results and other factors. Integration also allows you to predict possible problems and solve them at early stages of production, which improves product quality and reduces production costs.

Thus, the development of automatic warehousing and inventory management systems in mechanical engineering can significantly improve production efficiency and product quality, as well as reduce production costs. However, for the successful implementation of automation, many factors must be taken into account, such as

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software development, staff training and integration with the production management system.

The development of automatic warehousing and inventory management systems in mechanical engineering is one of the key areas of production automation, which allows increasing the efficiency and quality of production, as well as reducing production costs. This area combines technical and software solutions that help optimize warehousing and inventory management processes.

One of the main advantages of automation of warehousing and inventory management systems is the ability to optimize warehouse operation. Automatic warehousing systems, such as automatic high-rise warehouses, allow you to optimize the use of warehouse space and reduce the time for moving materials and components. This reduces the time required to find and deliver the necessary materials and components, which can significantly improve production efficiency.

In addition, automation of inventory management systems reduces errors and reduces inventory management costs. Automatic inventory planning and management systems can be used to automatically order the necessary materials and control the quantity of materials in the warehouse. This reduces the risk of excessive inventory of materials and components, as well as reduces warehousing costs.

The development of automatic warehousing and inventory management systems also reduces the risks associated with errors and deficiencies in the production process. Automatic quality control systems allow you to identify possible defects and errors at the early stages of production, which allows you to improve product quality and reduce the cost of correcting it.

Finally, the integration of all automatic warehousing and inventory management systems into a single production management system allows you to automatically regulate production processes based on quality control results and other factors. This allows you to improve product quality and reduce production costs.

However, for the successful implementation of automation of warehousing and inventory management systems, many factors must be taken into account, such as software development, personnel training and integration with the production management system. Nevertheless, if properly implemented, automation of warehousing and inventory management systems can lead to significant economic benefits and increase the competitiveness of an enterprise in the engineering industry.

In addition, automation of warehousing and inventory management systems can lead to lower costs for warehouse and personnel maintenance. Automatic

ISSN: 2776-0987 Volume 4, Issue 12 December 2023

warehousing systems reduce the time required to move materials and components, which can reduce the need for a large number of personnel in the warehouse. This can significantly reduce labor costs and improve labor productivity.

Automatic warehousing and inventory management systems can improve safety at work. Automatic quality control systems allow you to identify possible defects and errors at the early stages of production, which allows you to improve product quality and reduce the risk of industrial accidents.

Automatic inventory management systems can help optimize production processes and increase production throughput. Automatic inventory planning and management systems allow you to optimize inventory management, taking into account various factors such as product demand, component delivery time, inventory levels, and others. This can help speed up the production process and increase the productivity of the enterprise.

Finally, automation of warehousing and inventory management systems can help an enterprise improve the quality of its products and improve customer service. Thanks to automatic quality control and inventory management, the company can quickly and accurately fulfill customer orders, increasing their satisfaction and loyalty.

In general, the development of automatic warehousing and inventory management systems in mechanical engineering has great potential to increase production efficiency, reduce production costs, improve product quality and improve customer service.

Conclusion

The development of automatic warehousing and inventory management systems is an important area of production development in mechanical engineering. Automation of these processes can significantly improve production efficiency, improve product quality and reduce production costs.

One of the key approaches to automation of warehousing and inventory management systems is the use of automatic warehousing and inventory management systems. These systems allow you to automatically move and store materials and components in the warehouse, optimize inventory management and reduce the time spent searching and moving materials in the warehouse.

The development of automatic warehousing and inventory management systems also makes it possible to reduce the cost of maintaining the warehouse and personnel, increase safety in production, optimize production processes and increase production throughput.

However, for the successful implementation of automation, many factors must be taken into account, such as software development, staff training and integration with the production management system. If implemented correctly, automation of warehousing and inventory management systems can lead to significant economic benefits and increase the competitiveness of an enterprise in the engineering industry.

Thus, the development of automatic warehousing and inventory management systems in mechanical engineering is an important step in the development of production, which can lead to increased efficiency, lower costs and improved product quality.

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