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SUPPORT OF IOT TECHNOLOGIES AND MOBILE CONTROL IN WAREHOUSES

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Abstract
Currently warehouse in the industry big changes happened is giving From places pulling inventories until storage, they whole supply chain efficiency in raising important role who plays efficient to tools turned.

Keywords. IoT, smart systems, artificial intelligence, AI, automated, inventory, control, encryption.

Introduction

In the world of logistics, the introduction of Internet of Things (IoT) technologies has revolutionized warehouse climate control and mobile management. According to the 2024 Zebra Technologies Warehousing Vision Study according to the decision acceptance 77 percent of those who do employees technology with increase in the warehouse automation of strengthening the most good method and required in economics competitiveness save the only way to stay admit that Request results that's it shows that by 2024 go IoT devices in storage apply them replacement not but of workers the work activities improves. Inventory of processes one part technology tools with automated warehouses smart called warehouses[1].

References analysis and methodology

IOT sensors monitor temperature, humidity and air quality in real time, which ensures optimal conditions for the storage of goods and reduces spoilage.

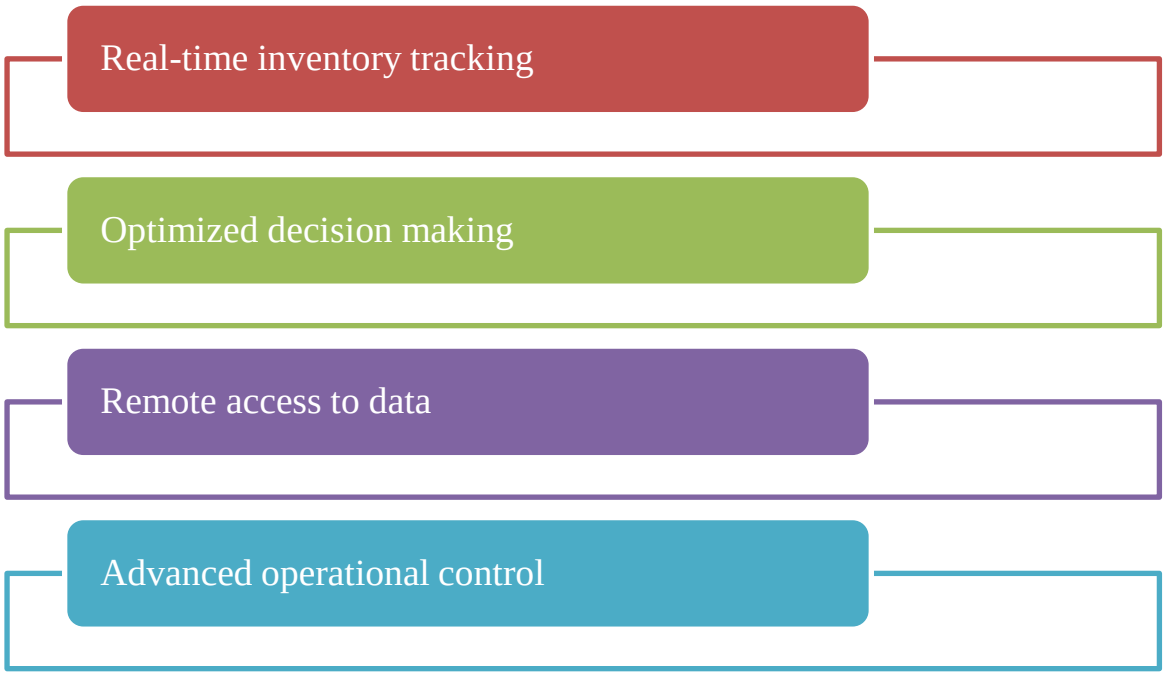
Smart climate control systems automatically adjust settings and save energy by maintaining ideal conditions.

1. Real time monitoring.
- climate data ensures immediate response to any violations.
2. Automated settings.
- the systems make real-time adjustments, saving time and reducing the risk of human error.
3. Energy efficiency.
- smart systems optimize energy use, reduce operating costs and reduce environmental impact.

Results :

IoT devices enable real-time inventory tracking, allowing managers to make informed decisions and optimize warehouse operations.

Mobile apps provide remote access to warehouse data, allowing managers to stay connected and in control at all times.



IOT technologies can be seamlessly integrated with existing warehouse management systems, ensuring a seamless transition[2].

Customizable dashboards and reports provide in-depth analytics for continuous improvement of warehouse processes.

1. Continuous integration:

➢ connect IoT devices with existing systems without disrupting daily operations.

➢ a variety of software and hardware options provides flexibility in implementation.

2. Advanced analysis

➢ real-time data analysis provides valuable insights for strategic decision-making and process optimization.

➢ configurable dashboards provide an at-a-glance view of important warehouse performance metrics.

3. Enhanced data security

➢ implement robust security protocols to protect sensitive warehouse and inventory data from cyber threats.

➢ encryption and multi-factor authentication ensure data integrity and privacy[3].

Reduced operating costs, increased inventory accuracy and increased operational efficiency contribute to a significant return on investment (ROI).

Real-time data insights enable proactive maintenance, optimize equipment performance and reduce downtime.

1. Cost savings: reduce energy consumption and maintenance costs.
2. Inventory accuracy: reserves minimize and in real time observation through too much except stock cases .

3. Operation efficiency: processes simplification and resources distribution improvement

Connection problems and data safety with depends problems such as done increase problems to be possible IOT in placement the most good to practices compliance to do through solution to be done need [4].

Employees regularly respectively teaching and qualification increase efficient to use provides and IoT supports systems management

1. Connection problems : Potential network limitations strong connection solutions with solution do it and excesses .
2. Information safety : Sensitive protection to do for strictly safety measures and regularly inspections done increase data and assets .
3. Employees training : Employees equipment for wide comprehensive study programs present take advantage of IoT maximum level increase for knowledge and skills.

Discussion.

IoT technology continue doing achievements prophecy to do such as the news take coming is expected in warehouses analytical and autonomous inventory management .

Artificial intellect and the car learning with integration efficiency more increases and warehouse operations according to intelligence .

1. Predictable Analysis : Repair guess do it needs, forms of demand and operational concepts proactive decisions acceptance to do for .
2. Autonomous inventory - management : Automated inventory observation and to fill systems continuously work for efficiency .
3. AI and machine - learning: intellectual systems to learn able and optimization for adaptation warehouse processes .

IoT technologies successful integration to do for each bilaterally assessment transfer need warehouse environment to himself typical needs and problems [5].

Experienced IoT service showing providers with cooperation design and done increase for very optimal efficiency is important for customized solutions.

Conclusion

Summary by doing so to speak assessment and planning each bilaterally assessment transfer to the warehouse to be placed requirements and potential regions improve for . Steps for in detail the plan work exit IoT technologies current reach violations minimize . Expert advice IoT service providers with in touch be work on the way out approved experience and warehouse solutions done increase adapted, adapted solutions search for certain needs and problems warehouse environment.

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