AS ARVATO SYSTEMS

Improve Your Logistic Processes With the Help of Artificial Intelligence

platbricks® KI-Services

Initial Situation and Challenges

For logistics, the increasing complexity of value chains presents challenges and opportunities as well as globalization and Digital Transformation. One way to successfully meet these requirements is the use of Artificial Intelligence (AI). AI can recognize complex patterns and correlations in large amounts of data that would be impossible or very difficult to find using manual analysis. Machine Learning (ML) is a sub-discipline of Artificial Intelligence that uses knowledge available in databases to derive decision recommendations. You can improve specific logistics processes and increase your competitiveness with the right tools. An end-to-end integrated and automated AI solution is suitable for optimizing workflows, processes, and internal company procedures.

Artificial Intelligence and Machine Learning With the Help of platbricks®

Our cloud logistics platform platbricks®, which is based on Microsoft Azure, offers numerous possibilities to use AI technologies in logistics processes in a meaningful way. In the following, we present examples of possible application scenarios.
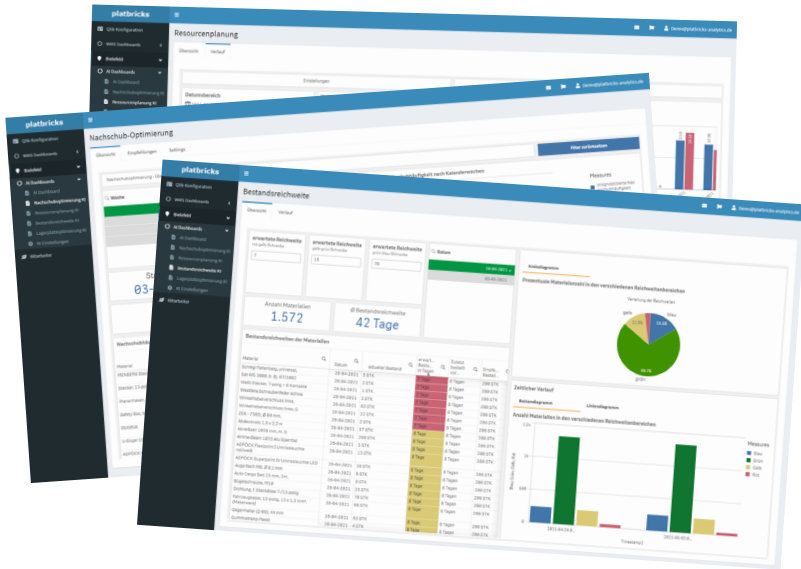
These include:

- ✓ Error Detection With Master Data
- ✓ Route Meter Optimization in the Warehouse
- ✓ Staff Scheduling
- ✓ Inventory Management
- ✓ Replenishment Optimization

Benefits
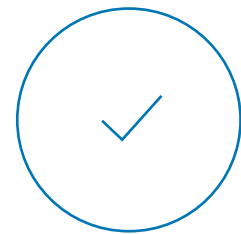
- – AI can find patterns and correlations that would be missed by manual data sifting

- – AI can analyze large amounts of data in a short time

- – AI can improve itself over time, increasing the accuracy of results

- – AI can learn on its own, automatically adapting to changes

- – AI can reduce the risk of human error in decision making

- – AI can make decisions 24/7

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of stock transfer suggestions, and forwarding to the WMS. The microservice is available as a Microsoft web service based on Azure and can be easily integrated using standard interfaces (REST API).

Staff Scheduling

To reduce staff bottlenecks as well as to prevent idle periods, forward-looking staff planning is of great importance. Our AI solution supports you in forecasting the expected workload and calculating staffing requirements at the process level (skill-based) and overall.

Inventory Management

Companies are always looking to minimize inventory costs while providing what their customers need on time. Our solution: implementing an intelligent inventory forecasting technology that enables lean and responsive inventory management. Using Artificial Intelligence, warehouses will be able to predict item sales and expected demand, ensuring that available inventory meets customer needs. Inventory-influencing parameters are constantly evaluated and analyzed. Dependencies are identified from historical and current data and adapted for future forecasts.

Replenishment Optimization

Our AI-supported replenishment optimization supports you in keeping the number of replenishments that have to be run as low as possible. In addition, bottlenecks in the picking zone and waiting times are reduced. For this purpose, a forecast is made regarding order quantities, and individual and dynamic replenishment rules are calculated. The hybrid approach combines AI technology with statistical and rule-based methods.

Error Detection With Master Data

Master data, such as item description, dimensions, or weight, play an essential role in planning processes, e.g., storage location determination, package predetermination, or freight space planning. Each master data record is analyzed for possible anomalies in our solution, such as material or customer master errors. Probabilities and score values are calculated as a measure of the anomaly. In an integrated workflow, a notification is made in the warehouse management system when anomalies are detected. The service is offered as a web service in Microsoft Azure and can be called via Rest API. There is a standard connection to our cloud logistics platform platbricks®.

Route Meter Optimization in the Warehouse

Short route times increase productivity in order picking. We have developed a solution approach for the best possible item positioning and allocation to suitable fixed locations using AI-based algorithms. The following steps are run through: Feeding the AI with pick data, manual selection of special cases if necessary, forecast generation for picks, sequence generation, allocation to the storage bin, selection

[▶] **Watch the demo video now!**

You have questions, need information or a contact?
Get in touch with us.

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