Could my logistics company benefit from a robot?

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Table of content

Robot applications

Robots can be used in a warehouse for all kinds of tasks, for example:

Palletizing/buffering

Often, boxes of different sizes have to be stacked on a pallet in a set pattern. And our robots are designed to help. During the palletizing process, boxes are supplied in a standardized manner via a roller conveyor, after which an articulated robot picks up the boxes in the same way every time and stacks them on the pallet based on, for example, a vision system or a pre-programmed stacking pattern. When the pallet is full, the robot stops and the pallet is removed; a new empty pallet then takes its place. If a different product needs to be stacked, the stacking pattern will need to be adjusted. Pallets can also be removed automatically using an AVG robot. Robotic palletizing systems are often the final stage of a packaging line.

ARCO has also developed a range of robots for the depalletizing process (to empty pallets), which are often used when receiving goods. These robots can also be used for the temporary storage of products (buffering) until they can be moved to the next processing step.

Order-picking

In many warehouses, the order-picking process is fully automated – except for one task: picking individual products from a storage rack or bin and placing them in a shipping box. Often, the problem here is that the products are jumbled in a heap. Thankfully, this problem can be solved by AI.

Packaging

In e-commerce warehouses, packing processes are often still carried out manually, for example, packaging and preparing orders for shipment. Here, employees pick several items, place them in a box, affix a shipping label, and then close the box. But all of these tasks can also be performed by a robot, possibly in combination with a new or existing packaging machine.

Unloading

Another common process in the logistics sector is the unloading of roller containers. This is especially the case at parcel delivery companies, who usually receive the parcels in roller containers, which are often unloaded manually at sorting centres. This step in the process is highly labour-intensive and arduous.

Exploring the goals for robotics in my warehouse and/or distribution centre

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Robots can be deployed in warehouses and distribution centres for several reasons, including:

Staff shortages: The demand for logistics workers is on the rise, in part due to the booming Internet economy. These workers are becoming increasingly difficult to find due to shortages on the labour market and the attractiveness (or lack thereof) of the work. Robotics makes warehouses less dependent on manpower, especially during weekend and night shifts.

Cost reduction: Labour costs are by far the biggest cost item in the logistics sector. Robots offer opportunities to counteract this, especially because they can combine several actions that would otherwise have to be carried out by several employees.

Ergonomics: Working in a warehouse is a physically demanding job, especially in the long term. Employees often have to cover a lot of ground and do a lot of bending, reaching, and lifting, which can lead to injuries and complaints. Robots can step in to cover sick leave in the long term. They can also contribute towards a safer working environment.

Flexibility: Machines often have to be adjusted to process different products or perform different tasks. Robots, on the other hand, can easily switch between various tasks without any loss of capacity. Occasionally, a gripper might need to be changed, for example.

Job enrichment: Many people are afraid that robots will replace them, but this is not the case here; a robot can actually improve the working atmosphere. Just imagine: your employees no longer have to perform the physically demanding, repetitive tasks themselves – there is a robot to do that for them. Operators then work in collaboration with the robot, and are responsible for making sure that it stays up and running.

Quality: It is only natural for people to occasionally become distracted or fatigued or to have difficulty concentrating. This can lead to errors. Robots, on the other hand, can perform the same tasks in the exact same way 24 hours a day.

Speed: These days, more and more customers want to receive their parcels even quicker. And at more and more warehouses, the period between receiving an order and shipping it out is too short to perform all the operations manually. Hardware is no longer enough; intelligent processes are gaining in popularity. Robots can offer a solution here, without delaying turnaround times.

Space-saving: Robots often take up much less space than manual solutions.

Overview of the types of robots

The term “robotization” is often used in logistics, but what does it mean, exactly? A robot is a programmable machine that processes information independently and can therefore perform various physical tasks on its own. In particular, the word “independent” is key, here.

Machines are hardly a new phenomenon in the logistics sector. Most machines can only do what people (mechanization) or higher-level software systems (automation) tell them to do. A robot, on the other hand, can make decisions autonomously based on information, for example, camera images (AI) or data from warehouse management systems.

Industrial robots

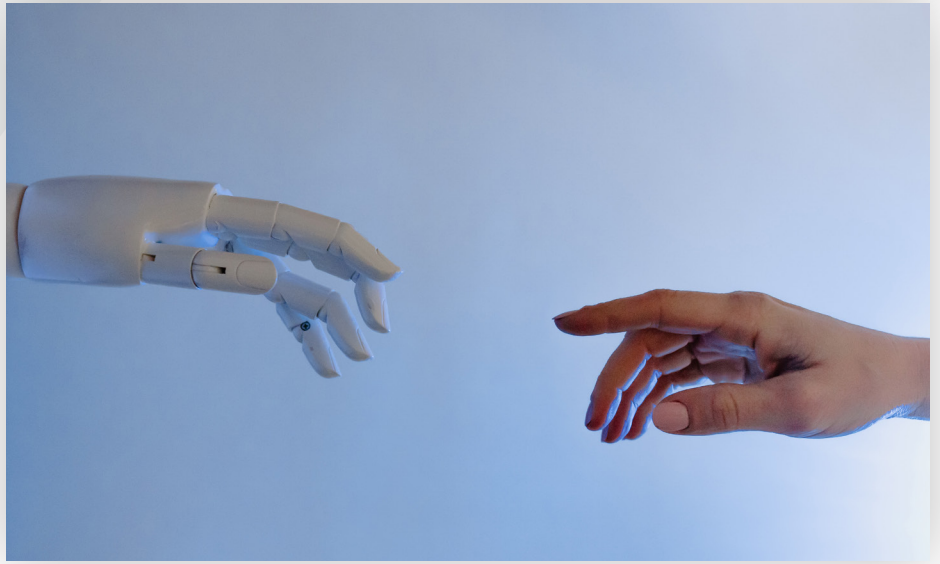
Industrial robots are often used in industry, primarily for repetitive, physically demanding tasks that need to be performed quickly, correctly, and reliably. Palletizing robots at the end of packaging lines in warehouses are a good example of this. Industrial robots often operate in a controlled and safe environment, and they are often surrounded by barriers to protect workers. And because they are often shielded from people, they can operate at high speeds and carry out the tasks accurately.

Cobots

The development of robots has accelerated in recent years as a result of technological advances. The addition of AI (artificial intelligence) and vision technology has given robots brains and eyes. We refer to this kind of robot as “cobots”.

These robots can recognize the product in front of them, see how it is positioned, and figure out how to pick it up. Robots can also operate slower or adjust the pace, for example, if an employee gets too close. Cobots are particularly suitable for working alongside people. They make life easier for workers because they can take over repetitive and physically demanding tasks, which contributes towards a more ergonomic working environment and higher productivity. It also makes working in the logistics sector more attractive.

Industrial robots and cobots are not the only types of robots. If you would like to find out what else is out there, then visit or website.



The rising popularity of robots

The rising popularity of robots

Robots have become an intrinsic part of the automation landscape. In 2008, there were already 4,000 robotized warehouses; this figure is expected to grow to more than 50,000 by 2025, according to market research company ABI research.

This explosive increase is largely due to the rapid pace of technological developments. At the same time, flexibility and efficiency are also key factors in the e-commerce market. In today's market, retailers are struggling to cope with the changing demand for products, seasonal peaks, and rising consumer expectations when it comes to delivery.

The trend towards shorter delivery times is forcing warehouses to process more and more orders ever faster. The deployment of robots enables warehouses to scale up these activities as and when required. Especially now that it is becoming increasingly difficult to find employees to work in warehouses, more and more logistics companies might want to consider using robots.

Need help with a technical issue?

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