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AI robots and automation to take us to the next level

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Would you like to have a robot as a colleague, doing the most boring and monotonous tasks without complaining? This could soon be reality. Because our first AI robot pilot project has just been completed at the terminal in Rosersberg, and the results are very promising.

We are always keen to develop and test new technologies and innovations that can improve our business operations. We do this to be efficient, competitive, and able to meet the needs of our ever-changing industry.

AI is something we've tested in various forms over the years, but working with an actual AI robot is something that had not previously been done. For the past six months, the Rosersberg mail terminal has been running our first ever AI robot pilot project, in which an industrial robotic arm sorted bulk mail and varubrev mail. The pilot project was designed by our Nordic Technology Committee, NTC, and project managed by Carolin Schaffert, Technology Lead for automation at Network and Technology Strategy, PostNord Group.

“The AI robot pilot project is an important step in our efforts to meet the automation needs of today and to be well prepared for the needs of tomorrow,” says Carolin.

Magnus Lundin, Head of Machinery and Maintenance, PostNord Sweden, who is also a member of the NTC, commissioned the pilot.

“We have been working with low-level automation for a number of years, but robotics technology is now ready to take this to the next level. I think automation and AI are key for enabling us to be profitable and an attractive option in the market in the long term,” says Magnus.

Improving our work environment

So how does the AI robot work? Using sophisticated camera technology, the AI robot identifies and sorts small parcels after a cage turner. The camera takes a picture of the bulk flow, the AI network then identifies which parcel the robotic arm should pick first, and the arm then places this parcel in the right place on a conveyor belt. The AI robot also checks that the parcel is “machine friendly” or whether it should proceed to manual handling.

“The AI robot is extremely efficient, roughly twice as efficient as a human, and if you manage the system smartly the robot can work 24/7, with a very low margin of error.

This contributes to increased productivity while reducing production costs in a long-term perspective," says Magnus.

But it is not only efficiency and quality that were in focus during the pilot project. The work environment and creating a sustainable workplace were also important elements, as the robot is intended to be used as an aid.

"Automation of repetitive tasks is an important issue for us. Monotonous tasks and poor ergonomics can cause repetitive strain injuries. With smart technology solutions such as this, these kinds of problems can be avoided," says Carolin.

Hampus Schander, Sorting Blueprint workstream lead, explains further:
"Robotic singulation makes it possible to feed parcels into an existing sorting facility in a cost-effective way and in a limited space. This reduces costs, which is one of the main aims of our Cost Leadership program. The fact that the robot reduces the amount of manual lifting also helps improve our work environment," he comments.

The outcome of the AI robot pilot project is described by both Magnus and Carolin as a success, with cooperation between different business areas and between countries being a major factor in this success.

"The cooperation between PostNord Group, NTC, PostNord Sweden and the terminal in Rosersberg has been excellent. We managed to implement the technology quickly, and I don't think we have ever done such a complex project in such a short space of time. It was a successful project from start to finish," says Magnus.

"The final parts of the pilot project are now being evaluated and the team is analyzing how to increase the number of robots in mail terminals in a next step. In addition, they are also looking at the possibilities of using a similar AI robot for the parcel network, which is of interest for all countries," says Carolin.

"We have lots of exciting AI projects underway. There is huge potential for us in the future with regard to AI and automation," she concludes.

Source: PostNord

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