Q&A for "MOTOMAN NEXT Series" Briefing (Summary) Yaskawa Electric Corporation (December 14, 2023)

[Speaker]

Manabu Okahisa, Senior Executive Officer, Regional Manager, China, General Manager, Robotics Div.

- Q What kind of industry responded to the launch of the product?
- A We have received many consultations from food-related customers such as restaurant backyards. We recognize that it is an achievement that we receive many inquiries from different fields than the customers our company has been involved with. In addition, we receive consultations from various markets, for example, to automate tasks involving more than hundreds of types of work objects, which are difficult to teach.
- Q Regarding that this robot is teachless, can MOTOMAN NEXT itself improve the work process?
- A It makes autonomous improvements in response to changes in the environment. Its vision sensors can capture detailed shapes and they are reproduced in virtual spaces (digital twins), leading to new movements.
- Q How do you set the price? And how do you sell it?
- A The sales price will be higher when the robots alone are compared, but we are committed to the added value created by automating tasks that customers have not been able to automate before, so that customers can feel the benefits at the total cost. The KPI is based on the number of installations in areas where automation has not been achieved so far. Sales volume may grow moderately in the early stages, but we believe that once we can demonstrate cases, they can be horizontally applied.
- Q What is needed to further improve the functionality? Also, what are the challenges that you see now?
- A There are still challenges ahead in realizing the automation of various tasks. By working with many partners through an open platform, we can complete tasks and overcome challenges. AI capabilities are still evolving, and we'll need functions to make decisions based on information that combine images and sensors. We will also work on the development of a motion-specific generative AI that not only understands the environment and operates, but also integrates AI functions and operations, such as understanding the structure of shoelaces and untying them.
- Q Could you tell us the outlook for the technology in three to five years? A Humans use various senses to make movements. AI will also become multimodal,

including visual information and force perception information. The goal is to automate complex tasks, such as untying the shoelaces mentioned earlier, by giving instructions.

Q What is the future direction of expanding the lineup?

- A In the future, we will increase the flexibility of the arms by expanding a human cooperative type, a seven-axis type, and a dual-arm type. We believe that the advantage of human-cooperative robots is that they can be used without fences around them, and that their greatest strength is that they can be used anywhere.
- Q How do you approach potential customers in different markets?
- A The approach will be different from the one centered on the automobile market. In Japan, a specialized team will be established to explore the food market. In Europe and the United States, concrete approaches have already been developed to identify cases and projects where they struggle due to labor shortages. It is also characteristic of North America that niche markets and venture companies adapted to individual cases are likely to emerge, and we will promote market development while strengthening partner cooperation.
- Q When did development start? Could you also tell us the background story?
- A Development started around 2019. Our company has an AI subsidiary called AICube, and when they thought about the connection between AI and motion, they came up with the idea of "making work complete". MOTOMAN NEXT is a product created by focusing on connecting sensor technology to motion.
- Q It was mentioned that AI and open platforms are installed, but are you considering new business models for maintenance and software?
- A First of all, we want to build up each case. We will carefully address the customers' demand for automation. As the number of cases increases, software will become a key word, and we will consider business development in the future based on that. However, if we aim for a software business from the beginning, it will be difficult to deal with the customers' "needs", so we will not work on it immediately. With the expanding application of MOTOMAN NEXT, it is also expected that the revenue from service and maintenance will increase.