Working to Generate New Value

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THK's Robot Technology Is Essential to the ExTorch Program

The NTT group utilized its extensive technology, infrastructure, and services to develop its ExTorch program, in which "light will expand beyond expectations and create a world that transcends innovation through joint partnerships with external partners" in pursuit of generating new and unprecedented value. Of the program's five themes, I work on "Creating fully automated, next-generation data centers." I was not considering bringing in robots at first, but when I visited THK and experienced the robot technology they were offering, I realized this was an essential element to making automated data centers. In particular, the robot is easy to operate, so you do not need to reference the manual or instructions. When you move the control rod, the robot recreates the same movement. That means even people who are not experienced with machinery can operate them, and you can purchase the hardware platform by itself at a reasonable price. That allowed us to capitalize on the ability for us to freely customize the program and set it up to achieve our two goals: (1) reduce the labor needed for data center operations and (2) expand and provide this as a service for other types of work, such as for infrastructure facilities and factories.

Proof-of-Concept Trial

We have a data center in Kawasaki where we develop and test out new businesses and services to promote DX with our business partners. This is where we are testing automated operations using robots. In order to achieve our ultimate goal of full automation, our first step was to remotely operate a robot in our test center from our office in Otemachi and thoroughly verify the robot's movements. We then worked on modifications for those areas where the current structure of the data center prevented the robot from working. As one example, we modified the doors and racks inside the room so the robot could open and close them. As a result of steadily repeating this process to improve the operability of the robot, when we unveiled five demos at an event for internal and external parties in October, the robot was well-received by the participants, who granted it the Audience Award through a vote, and some even inquired about purchasing the system.

Advancing the Project

We will present our work to our upper management, who will then make the final decision about implementing the robot. If approved, the next step will be to begin operating robots at an actual data center. This will present two challenges. The first is whether we can customize the hardware. We have inquired several times about verifying the movements and other matters, but if we were able to conduct simple repairs ourselves, it would enable both parties to use our time more effectively. The second concern is that we would like THK to increase the peripheral support that will further improve the operability of the robot.

We hope that THK will continue to provide ample support for the success of this project.

Proof-of-Concept Trial

SEED-Noid performing the same movements at the data center

Author using the tracer controls