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For immediate release

Kyudenko Corporation

Joint Research with Kyushu University
Kyudenko Presents Results of Project to Develop an Instrument for
Measuring Indoor Illuminance Using a Swarm Robot System

On December 21, 2022, Kyudenko presented the results of a joint project undertaken with Kyushu University to develop an instrument for measuring indoor illuminance using a swarm robot system.

Kyudenko and Kyushu University entered into an organizational partnership with the goal of creating innovations to solve societal issues last December, and the partners are currently pursuing the joint research project under that agreement.

After testing a swarm of recently completed prototype illuminance measurement robots in an actual, almost-finished building, the partners presented the results of the test.

The presentation was held at ESR Fukuoka Amagi Distribution Center, a building being designed and built by Maeda Corporation for ESR Ltd. with a scheduled completion date of December 27, 2022.

Swarm robotics control technology allows multiple robots to work together while communicating to boost the efficiency of illuminance measurement. Although the test was conducted in a limited area, the partners confirmed labor savings of about 20% compared to measurements made by human workers.

Illuminance measurements are usually made at night to avoid the effects of sunlight, and the need to measure large areas means the process takes time and imposes a high human workload. The ability to use robots to perform measurement work is expected to reduce this workload.

As they work to commercialize the technology for use in the field, the partners plan to develop new functionality for the system, including to streamline its algorithms and provide the ability to format output measurement data for various illuminance measurement forms and automatically generate illuminance distribution diagrams.

As the entire construction industry grapples with the need to ease chronic labor shortages and boost productivity, Kyudenko will accelerate its efforts to utilize advanced technology and

information technology to save labor and boost efficiency not only in illuminance measurement, but across a wide range of operations.

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