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Maruha Nichiro introduces a fish counting system with AI tracking —Automated live fish counting process for aquaculture—

Maruha Nichiro Corporation, together with Tokyo Artisan Intelligence Co., Ltd., has developed an automatic live fish counting system using AI-based image processing technology. Maruha Nichiro has been using the new system since April 2020 at its group company, Sakurajima Fish Farm Co., Ltd., which farms yellowtail and amberjack.

—Background—

Maruha Nichiro has been exploring potential uses for AI and IoT technologies in aquaculture for some time. By using AI-based image processing technology to recognize individual fish, it has created a system capable of replacing human-based counting of live fish in offshore aquaculture vessels with automatic counting. This was impractical using conventional imaging technology because of the rapid motion of the fish.

—Benefits—

The new system is expected to enhance the efficiency of aquaculture through the following benefits.

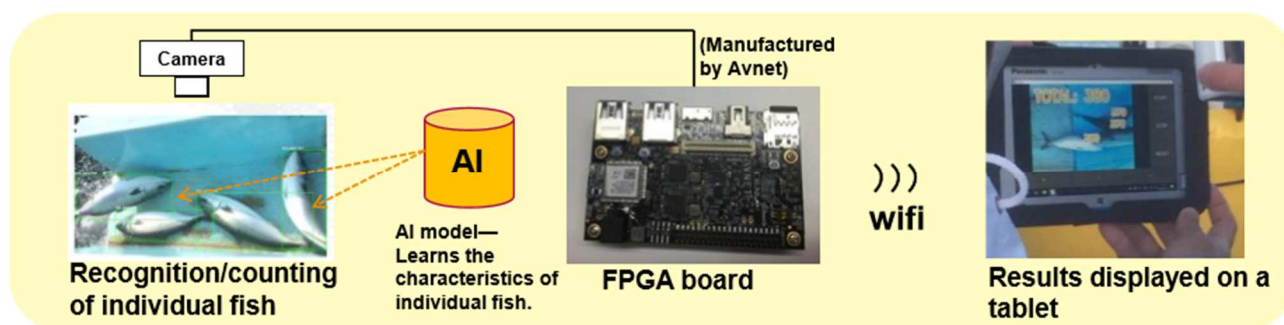
1. Reduction of human error, leading to improvements in product quality
2. Safety improvements resulting from the reduction of physical stress on workers
3. Improved financial returns made possible by reductions in labor costs and other cost items
4. Adaptation to a shrinking labor force through the ability to run aquaculture operations with fewer workers

—Future Potential—

Maruha Nichiro has already verified the effectiveness of the system with yellowtail and amberjack. Going forward, it also plans to apply the technology to yellowtail and amberjack juveniles as well as other fish species.

The Maruha Nichiro Group has identified the conservation of marine resources as one of the main objectives in its Medium- to Long-term Sustainability Management Plan. This is reflected in its medium-term goal of promoting the acquisition of certification for sustainable fishing and aquaculture operations. The Maruha Nichiro Group remains committed to the development of aquaculture in harmony with the environment and local communities.

—System Overview—



* FPGA board

A field-programmable gate array (FPGA) board is an integrated circuit (IC) capable of storing internal logic for specific purposes. By optimizing the architecture, it is possible to create a system that is more compact and uses less power than a GPU.

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