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NEWSLETTER INTERNATIONAL

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FOR CONSERVATION AND SUSTAINABLE USE OF TUNAS

Assessing the Fat Content of Frozen Tuna Using AI

**Ishidatech Co.,
Ltd. (Sonofy Co.,
Ltd.)– President:
Hisashi Ishida**

Founded in 1948, Ishidatech Co., Ltd. Began by developing machinery for tuna processing and mandarin-orange canning plants, which are key industries in Yaizu. Guided by the philosophy of “letting machines do what machines can do,” the company has contributed to labor savings and increased efficiency in the seafood and agricultural processing sectors. Today, while focusing primarily on food processing, the company also manufactures equipment for the pharmaceutical industry; it develops custom-made machinery tailored to specific corporate needs, even in niche markets, and provides comprehensive support ranging from design to implementation.

Sonofy Co., Ltd. is a startup spun off from Ishidatech, established specifically to develop and supply inspection equipment for frozen tuna. The company possesses particular expertise in non-destructive testing (which avoids damaging the specimen) using AI and ultrasonic technology.

Ishidatech has long been developing AI-based image inspection technology and applying it to the sorting of agricultural and marine products. Its track record includes systems for sorting sweet potatoes used in shochu production and systems that automatically identify fish species and measure weight. Building on this experience, the company collaborated with Fujitsu



(a major Japanese computer company) to develop an AI-based quality inspection system for tuna.

This system combines ultrasonic technology and AI to non-destructively assess the fat content of frozen albacore tuna. Ultrasonic waves are directed at the fish from multiple angles, and sensors capture changes in the reflected waves, specifically the differences in absorption caused by fat content. An AI trained through machine learning then evaluates the lipid condition. While the conventional method relied on workers cutting and visually inspecting selected samples, this AI-based assessment achieves accuracy equal to or better than human inspection; it can process one fish in approximately 12 seconds, reducing labor time by up to 80%.

This technology enables 100% inspection, previously a difficult task, allowing for an accurate understanding of quality variations. Consequently, it prevents issues such as overlooking high-value fish or encountering problems due to quality inconsistencies, thereby facilitating appropriate pricing and maintaining trust. Furthermore, by visualizing quality, the system ensures greater fairness for both producers and buyers, and it has earned high praise in actual sales.

It also addresses challenges facing the fisheries industry, such as labor shortages, an aging workforce,



and the transfer of expert skills. By mechanizing the tail-cutting process—a physically demanding and potentially hazardous task—and integrating the system with conveyors, the company aims to realize a safe, labor-saving inspection workflow.

Future plans include expanding the range of target species beyond albacore tuna (to include yellowfin, bigeye, and skipjack tuna, among others) and evolving the system to simultaneously assess quality parameters such as freshness and burnt meat (yake), in addition to fat content.

Contributing to the Ultra-Low-Temperature Distribution of Tuna via Refrigerated Containers

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EF International Ltd. expanded its business from container sales and leasing to specialize in providing ultra-low-temperature reefer containers (marine shipping containers equipped with refrigeration units to maintain low internal temperatures) for the transport and storage of frozen tuna. The company deepened its involvement in the frozen tuna sector after becoming an authorized distributor for an ultra-low-temperature refrigeration unit manufacturer in 2013.

Maintaining the quality of frozen tuna often requires ultra-low-temperature management at the -60°C level; the “Super Freezer” units handled by the company are designed to meet this specific need. While standard reefer containers typically support temperatures down to approximately -30°C , these units stand out for their ability to suppress quality degradation and enable long-term storage through lower temperatures.

Because these ultra-low-temperature containers are highly specialized and shipping lines own only a limited number of them, tuna processors and wholesalers frequently purchase and use them directly. In practice, tuna wholesalers facing storage space shortages have adopted these units to supplement their existing ultra-low-temperature cold storage facilities.

Their use is not limited to transportation; in recent years, they have increasingly been used as land-based storage facilities (simple warehouses). As container-based units, they are easy to install, requiring only site preparation and a power supply to become operational quickly, offering greater flexibility than constructing new, large-scale cold storage facilities. This enables operational improvements such as:

- Increasing storage capacity
- Handling temporary inventory surges during peak seasons
- Consolidating portioning equipment

Furthermore, stable storage at ultra-low temperatures allows for:

- Long-term storage that preserves tuna quality
- Purchasing when market prices are low and selling at optimal times

These capabilities contribute to reducing food loss and expanding profit opportunities.

Additionally, amid a shortage of commercial warehouses and rising costs, demand is growing for these containers as a means of on-site storage within a company’s own premises. Moving forward, plans are underway to expand the technology’s application beyond land-based facilities to include installation on



deep-sea tuna fishing vessels. As a specific example of implementation, a tuna business in Misaki (Miura City, Kanagawa Prefecture) installed a “Super Freezer” unit at a wholesaler’s facility because its own ultra-low-temperature freezer lacked sufficient capacity; the unit is now used to store frozen tuna products.

The company has also become a supporting member of “Fish Day,” an initiative established by the Fisheries Agency of Japan. Its efforts serve as vital infrastructure for maintaining tuna quality and improving distribution efficiency, thereby playing a part in supporting Japan’s sashimi tuna culture.

Summary of the results of the IOTC Annual Meeting

The 30th Session of the IOTC annual Meeting was held in Malé, Maldives from May 11 to 15, 2026. We report on the results of the IOTC Annual Meeting, focusing on OPRT’s concerns.

1. Conservation and management measures for yellowfin

An agreement was reached on national catch limits for yellowfin tuna, and the total allowable catch (TAC) to 436,867 tons (2027, 2028).

	Tons/year	
	Current catch limit (Resolution of 2021)	New catch limit (2027, 2028)
China	4,641	4,641
Taiwan	10,688	10,688
Comoros	5,279	6,000
The European Union	73, 078	73, 078
India*1	—	25,000
Indonesia	45,426	45,426
Iran*1	—	42,000
Japan	4,003	4,003

Kenya	3, 654	6,000
South Korea	9,056	9,056
Maldives	47,195	47,195
Madagascar*1	—	5,000
Mauritius	10,490	10,490
Oman*1	—	25, 000*2
Pakistan	14, 468	11, 468
Seychelles	39, 577	39, 577
Somalia*1	—	5,000
Sri Lanka	33,254	33,254
Tanzania	3,905	6,000
Yemen	16,474	16,474

*1 Countries that have objected to the current measures

*2 Oman will gradually reduce its fishing capacity to the above catch limit by 2031.

Other countries will consider setting catch limits if their catch exceeds 3,000 tons for two consecutive years.

Regarding the Management Strategy Evaluation (MSE) and Management Procedure (MP), the plan is to proceed with resource assessment and MSE work in 2027, aiming for the adoption of an MP at the 2028 annual meeting.

2. Conservation and management measures for bigeye

Based on last year’s decision, the Total Allowable catch (TAC) for 2026-2028 was 92,670 tons each year.

3. Others

Conservation and management measures of transshipment have been strengthened.

No significant progress was observed regarding the introduction of EM (electronic monitoring) system and issues related to crew labor matters.

FY2026 Ordinary General Meeting

On June 23, the OPRT held its FY2026 Ordinary General Meeting in a hybrid format that combined in-person attendance with online participation.

In his opening remarks, Chairman Uozumi noted that tuna stocks across all ocean areas have recovered to generally healthy levels. However, he pointed out that the number of registered vessels has dropped significantly due to international vessel reduction programs, resulting in the decommissioning of 19 Japanese vessels and reductions in the Taiwanese fleet, as well as an increase in vessels suspending operations amid the soaring fuel costs stemming from the crisis in the Middle East.

He stated that the OPRT would continue to prioritize the recovery and expansion of sashimi tuna consumption this fiscal year as well, implementing strategic tuna campaigns and promoting consumption among younger generations and foreign tourists.

Mr. Suzuki, Director of the Tuna Fisheries Office in the International Affairs Division of the Fisheries Agency of Japan, also delivered a guest address.

During the proceedings, the business and financial reports for fiscal year 2025, the business plan and budget for fiscal year 2026, and a proposal on membership fee structures were presented and approved.

Elections were held following the expiration of the officers' terms, and a subsequent Board of Directors meeting saw the re-election of Chairman Uozumi and Executive Director Isa.

Additionally, following Fiji's admission in May, the Board approved Papua New Guinea's membership, a decision that was subsequently reported to the General Meeting.

Advisor Tsutsumi (former Chairman), who had long supported the organization's activities, stepped down from his role and delivered a farewell address.

OPRT held the first seminar of the 2026 fiscal year on June 23.

Ms. Mako Iioka, Assistant Director of the Marine Fishery Resource Management Unit (International Division, Resource Management Department, Fisheries Agency), gave a presentation on topics including electronic monitoring (EM) for tuna longline vessels and labor issues within international fisheries organizations.

Regarding the implementation of EM, she outlined the discussions and initiatives of Regional Fisheries Management Organizations (RFMOs) and explained operational challenges, such as data collection and analysis.

She also addressed labor issues, explaining the background behind the WCPFC's adoption of labor standards as a conservation and management measure, as well as future trends.

Fiji's new membership approved

The board meeting was held on May 19, 2026. The OPRT discussed the application for membership to the OPRT submitted by the Fiji Fishing Industry Association (FFIA). The FFIA was approved to join the OPRT as it was confirmed that the FFIA agreed with the purpose of establishing the OPRT and managing the capacity of Fiji's longline fishing vessels. The FFIA is the representative body established in 2016 for Fiji's licensed tuna longline vessels operators.

Papua New Guinea's new membership approved

The board meeting was held on June 23, 2026. The OPRT discussed the application for membership to the OPRT submitted by the Fishing Industry Association (PNG) Inc (FIA PNG). The FIA PNG was approved to join the OPRT as it was confirmed that the FIA PNG agreed with the purpose of establishing the OPRT and managing the capacity of PNG's longline fishing vessels.

The FIA PNG is a registered Association with the PNG investment program promotion Association established in 1991.