

October 13, 2023

NEXTY Electronics Corporation

**NEXTY Electronics Develops Water Surface Garbage Collection Drone
Equipped with a Compact Air-Cooled Hydrogen Fuel Cell**Expanding the Range of Applications for Hydrogen, a CO₂-Free Energy Source

Toyota Tsusho Group's electronics trading company, NEXTY Electronics Corporation (Head Office: Minato-ku, Tokyo; President: Yasuhiro Kakihara; hereinafter referred to as "NEXTY Electronics"), has completed the development of a water surface garbage collection drone equipped with a compact air-cooled hydrogen fuel cell ("Hydrogen Fuel Cell") in September 2023. The company also plans to continue promoting activities aimed at expanding the use of hydrogen energy.

As momentum grows to reduce CO₂ emissions, hydrogen is attracting increasing attention as a clean energy source that does not emit CO₂. Because compact air-cooled hydrogen fuel cells have only recently been introduced to the market, increasing awareness and market size is critical to promoting their use. With a focus on reducing environmental impact and achieving extended operating times, NEXTY Electronics has been investigating the use of hydrogen fuel cells for a wide range of applications, which has led to this latest development of a hydrogen-powered water surface garbage collection drone.

During the development process, it was necessary to harmonize the technical operation of the hydrogen fuel cell with that of other equipment. As a result of pursuing development using hydrogen fuel cells (Protium series) from Spectronik Pte. Ltd., which are easy to semi-customize and for which NEXTY Electronics is a distributor, NEXTY Electronics succeeded in extending cruising ranges to roughly double the range of water surface garbage collection drones that use lithium-ion batteries.*¹ This drone, developed for water surface garbage collection purposes, is designed to operate for approximately 4 to 16 hours on a single hydrogen charge.*²

NEXTY Electronics has previously provided technical support for the installation of hydrogen fuel cells in the development of hydrogen fuel cell-powered electric radio-controlled lawnmowers and aerial drones. NEXTY Electronics will continue to contribute to global environmental preservation in the future by installing hydrogen fuel cells in a wide range of equipment, including unmanned vehicles, golf carts, aerial drones, robots, and agricultural machinery, thereby expanding the range of applications for hydrogen fuel cells.

*¹ Based on NEXTY Electronics' research

*² Depending on usage conditions and the hydrogen container it is equipped with.

Companies involved in the development (in no particular order):

JFE Container Co., Ltd.

SIVAX INC.

HAFT Inc.

Heisen Yoko Co., Ltd.

The recently developed electric water surface garbage collection drone will be on display at the NEXTY Electronics booth at CEATEC® 2023, to be held from October 17 to 20 at Makuhari Messe in Tokyo.

<https://www.ceatec.com/ja/exhibition/detail.html?id=270>

【Company Overview】

■ About Spectronik Pte. Ltd.

Company: Spectronik Pte. Ltd.

Location: Singapore

Based in Singapore, Spectronik designs and manufactures high-density hydrogen fuel cells for industrial applications. The company's flagship product is its Protium series of hydrogen fuel cells, which have been deployed in over 28 countries and are used in a variety of air, land, and sea applications, including unmanned aerial vehicles, ground robots, and water vehicles. All Spectronik hydrogen fuel cells are designed and manufactured in Singapore.

Visit the link below for more information.

Spectronik website: <https://www.spectronik.com/>

【Company Overview】

■ About NEXTY Electronics

Company: NEXTY Electronics Corporation

Location: Shinagawa Front Building, 2-3-13, Konan, Minato-ku, Tokyo

NEXTY Electronics is one of the core members of the Toyota Tsusho Group's electronics business and boasts top-of-class scale in the automotive electronics sector. With its core strengths of technology and products, NEXTY Electronics meets customer and global needs in a broad range of areas and provides solutions to the challenges faced by society. It achieves this by actively adapting the autonomous driving, connected, and other leading-edge technologies it has cultivated in the automotive electronics sector for use in other industries. It offers optimum solutions that transcend regions and business sectors by leveraging the Toyota Tsusho Group's global network.

Visit the link below for more information.

NEXTY Electronics website: <https://www.nexty-ele.com/english/>

*For related information on hydrogen fuel cells, please refer to the following link.

■ Related press releases

[NEXTY Electronics and Spectronik signs Distribution Agreement \(7/7/2002\)](#)

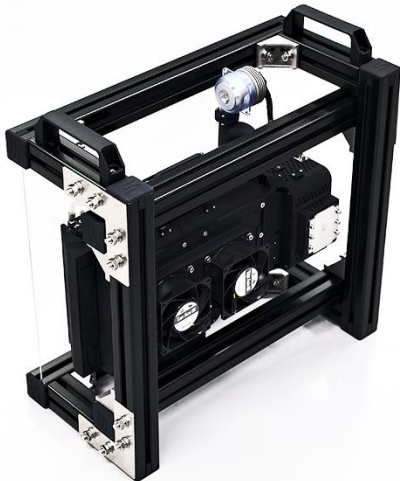
[NEXTY develops eco-friendly electric radio-controlled mowers equipped with Spectronik hydrogen fuel cells \(3/29/2023\)](#)

■ [Special Feature on Fuel Cells](#) (Japanese only)

- The water surface garbage collection drone developed by NEXTY Electronics



- Spectronik's Protium series hydrogen fuel cell used by the water surface garbage collection drone



[For inquiries concerning this release]

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