

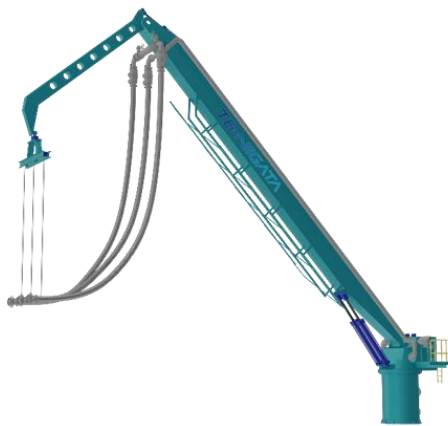
To all members of the press

August 17, 2023
Tokyo Boeki Holdings Corporation

TB Global Technologies Ltd.
**The First in Japan! Jointly developed vessel mounted
Bunkering Boom for Ammonia**

TB Global Technologies Ltd. (Tokyo; Laurent Poidevin, President; hereinafter "TBG"), a group company of Tokyo Boeki Holdings Corporation (Tokyo; Hideshige Tsubouchi, President), signed a basic agreement on 16th August with Nippon Yusen Kabushiki Kaisha (hereinafter "NYK"), Japan's largest shipping company, to jointly develop bunkering boom for ammonia marine fuel.

The installation of a bunkering boom being developed by TBG on the Ammonia Bunkering Vessel (ABV) by NYK will greatly contribute to the safety and efficiency of fuel supply to ammonia-fueled ships. They are expected to become increasingly popular in the late 2020s in order to decarbonize the shipping industry. This will be the first attempt to develop a bunkering boom for ammonia in Japan.



3D model of bunkering boom for ammonia

While operations with entirely by hoses tend to be less durable and reliable due to their sensitivity to torsion, this bunkering boom features a combination of reliable rigid pipes, swivel joints, and hoses for safer and more efficient cargo handling operations. It is also equipped with an Emergency Release System (ERS) that allows quick disconnection between vessels in the event of an emergency. When the ERS is triggered, it is designed to minimize the leakage of ammonia into the sea.

Since ammonia does not emit carbon dioxide (CO₂) when combusted, it is expected to be a next-generation marine fuel that contributes against global warming. Nevertheless, it is highly toxic, so leakage prevention when used as a marine fuel is essential.



3D model of an ammonia fuel supply ship

TBG will continue to contribute to the sustainable development of the energy society and provide value to our stakeholders.

*NYK Company Profile

Nippon Yusen Kabushiki Kaisha

Head Office: Yusen Building, 2-3-2 Marunouchi, Chiyoda-ku, Tokyo

Representative: Takaya Soga, President

Website: <https://www.nyk.com/english/>

TB Global Technologies Ltd. HP <https://www.tbgtech.co.jp/en/>

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About Tokyo Boeki Group

Tokyo Boeki Group is an independent corporate group consisting of 16 companies, including Tokyo Boeki Holdings Corporation (27F, 2-2-1 Kyobashi Edogrand, Chuo-ku, Tokyo; President: Hideshige Tsubouchi), and 15 domestic and overseas operating companies with rich individuality, and it celebrated its 75th anniversary since its establishment in 1947.



With the "spirit of management participated by all" as our core value, we aim to become a group that continues to provide new value to the world by synergistically enhancing the presence and competitiveness of the entire group while each group company conducts independent corporate activities.

Tokyo Boeki Group will continue to innovate under a free and vigorous culture, without fear of change, and contribute to the realization and sustainability of a better society in which all stakeholders can lead safe and secure lives, economies, and social activities.

<https://www.tokyo-boeki.co.jp/>