

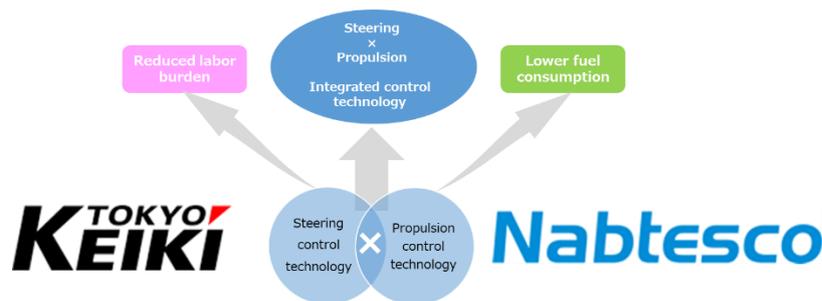
August 4, 2022

### Nabtesco and TOKYO KEIKI to Start Joint Development of Marine Vessel Equipment

Nabtesco Corporation (headquarters: Chiyoda-ku, Tokyo; President & CEO: Kazumasa Kimura) hereby announces that it will start the joint development of a system product to be used in marine vessels with TOKYO KEIKI INC. (head office: Ota-ku, Tokyo; Representative Director, President & CEO: Tsuyoshi Ando), with a view to contributing to lower fuel consumption and a reduced labor burden in the navigation of ships.

In order to mitigate global warming, the reduction of CO<sub>2</sub> emissions has become a challenge to be met on a global scale. The shipping industry is responding by implementing the Energy Efficiency Existing Ship Index (EEXI) regulations and Carbon Intensity Indicator (CII) rating system targeting large ocean-going ships under operation in and after 2023. Moreover, for further maritime safety, a better working environment for crew and greater competitiveness of Japan's maritime industry, there have recently been increasing expectations for the practical use of autonomous navigation technologies for ships.

For the joint R&D, Nabtesco will provide the propulsion system control technology developed for its remote control systems for marine vessel engines, while TOKYO KEIKI will provide the steering control technology developed for its autopilot systems and gyrocompasses. The two companies will fuse these technologies to optimize steering & engine control based on the analysis of the operational status and external environment of each ship, thereby contributing to lower fuel consumption, safe navigation and a reduced labor burden in the shipping industry.



Going forward, the two companies will foster the development of element technologies for autonomous navigation and conduct marketing activities toward practical use in 2025 of the system that they will develop as a product that provides functions that meet the needs of ship owners and crew.

In order to validate the effectiveness of this system, a demonstration test has already been conducted onboard the HOKUYU MARU (5,750 GT), a cement carrier, with the support of Daiichi Chuo Naiko Kaisha, a Daiichi Chuo Shipping Group company.

Nabtesco and TOKYO KEIKI, by using their respective control technologies, will continue development activities for the lower environmental impact of ships, greater navigation safety and future autonomous navigation, thereby contributing to the solution of social issues.

## ▽About Nabtesco Corporation

Nabtesco was born through the integration of Teijin Seiki Co., Ltd. and NABCO Ltd. in 2003. It is a manufacturer of machine components, and with its unique motion control technology, supports the automation of manufacturing sites as well as safe, secure and comfortable land, sea and air transportation. Nabtesco has been manufacturing marine vessel equipment since 1950 and boasts a roughly 50% share in the Japanese market and a roughly 40% share in the global market for remote control systems for marine vessel engines, which now represent one of the core products of the company. For marine vessel equipment, its total cumulative shipment has exceeded 50,000 units. Presently, the company also supplies the following products: control equipment for auxiliary propulsion systems such as side thrusters and fin stabilizers; electronic governor systems; and hydraulic valves used for fuel injection in electronically controlled engines. As the bases for the marine vessel equipment business, Nabtesco has the Seishin Plant in Nishi-ku, Kobe City, production bases in Busan, South Korea and Shanghai, China, and service bases in Singapore and the Netherlands.

Establishment: September 29, 2003

Location: 7-9, Hirakawacho 2-chome, Chiyoda-ku, Tokyo

Representative: Kazumasa Kimura, Representative Director, President & CEO

URL: <https://www.nabtesco.com/>

## ▽About TOKYO KEIKI INC.

TOKYO KEIKI was founded as Japan's first measuring instrument manufacturer in 1896. Presently, it engages in B-to-B business with both the private and governmental sectors to support a range of social infrastructure, including that related to ships, ports and harbors, industrial equipment, construction machinery, water supply and sewerage systems, and defense and railroad equipment. Since its founding, TOKYO KEIKI has been manufacturing nautical instruments and has an 80% or more share in Japan and a 60% or more share in the global market for its core products, namely gyrocompasses and autopilot systems. Its advanced control technologies are also adopted for autonomous ships and wind-powered ships. TOKYO KEIKI's bases for marine vessel equipment include its head office in Kamata, the Yaita Plant, sales offices in Kobe and Imabari, and service bases in the United States and China.

Establishment: May 1, 1896

Location: 2-16-46, Minami-Kamata, Ota-ku, Tokyo

Representative: Tsuyoshi Ando, Representative Director, President & CEO

URL: <https://www.tokyokeiki.jp/>

## ▽About Daiichi Chuo Naiko Kaisha

Daiichi Chuo Naiko Kaisha is a wholly owned subsidiary of DAIICHI CHUO KISEN KAISHA. It mainly manages coastal cement carrier operations, including crew assignment and the maintenance of ships, and also manages the operation of ocean-going cement carriers.

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