

Nabtesco and the technologies setting the Industry 4.0 era in motion



“We are devoting a lot of our energy to enhancing added value through the development of mechatronic and systematized products, under the keywords ‘motion control’”

Katsuhiro Teramoto, President & CEO, Nabtesco Corporation

With the emergence of Industry 4.0 technologies such as advanced robotics, automation, Big Data, IoT, and electronic vehicles, a new era of *Monozukuri* manufacturing has begun.

Combining their industrial, technological and innovative prowess, Japanese companies have positioned themselves at the global forefront of Industry 4.0—building high-performing products, parts and components for these new technologies, while also incorporating them into their *Monozukuri* manufacturing practices.

“Japan’s advanced technology cultivated from *Monozukuri* and years of basic research, will work as advantages towards creating products using information technologies like Big Data and IoT,” says Katsuhiro Teramoto, president and CEO of Nabtesco Corporation.

“We are currently striving to create ‘smart factories’ by leveraging data, analyzing it and bringing in digital transformation throughout the production system. Since 2017, after conducting some research on

AI and *Monozukuri*, we saw the rewards of the development within the company.”

A reputed leader in motion control, Nabtesco develops cutting-edge products and technologies that will support the Industry 4.0 era over the coming decades, from precision reduction gears for industrial robots, to components and systems for the next-generation of automobiles, trains, aircraft and marine vessels.

Comprising of diverse business domains – such as precision reduction gears, hydraulic equipment, railroad vehicle equipment, aircraft equipment, commercial vehicle equipment, marine vessel equipment, automatic doors and platform doors, packaging machines and welfare equipment – Nabtesco currently holds approximately 100% of the Japanese market for flight control actuation systems; while globally it has secured a share of approximately 60% for precision reduction gears for the joints of medium- and large-sized industrial robots, and an approximate 25% market share for traveling units for hydraulic equipment.

Its transport solutions, such as railroad vehicle equipment, aircraft equipment, commercial vehicle equipment and marine vessel equipment, grow and expand its OEM sales, while providing continuous and stable services with the MRO (maintenance, repair and overhaul) business. And last but not least, the automatic doors business will experience stable and gradual growth as its value may be reassessed due to a desire for non-contact in the post-COVID-19 era.

With growing trends towards electrification and automation, and increasing demand for industrial robots over the coming years, Mr. Teramoto expects production of precision reduction gears at Nabtesco’s existing Japan-based factory to increase from 680,000 to 900,000 units, while the company has also acquired another factory site in Japan to complement its existing Japanese and Chinese factories.

“Industrial robots with our precision reduction gears will contribute to stability in quality, in addition to automation and labor-saving,” says Mr. Teramoto, who sees major potential for the company’s preci-

sion reduction gears in other areas where electrification is required. “Our greatest advantage would be our co-creation with clients. We understand our clients’ demands, and then develop a product that meets those demands,” he adds.

Indeed innovation through co-creation will be crucial for Nabtesco moving forward, which is why the company continues to seek partnerships and M&A opportunities that can unlock further development of its existing technological areas of expertise.

“Our R&D center in Kyoto implements CAE analysis, additive manufacturing technology, digital transformation, and intellectual property strategies. Through this center, we connect with companies and universities which provide engineers for deeper and greater discussion. We have developed a win-win relationship with them,” adds Mr. Teramoto.

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