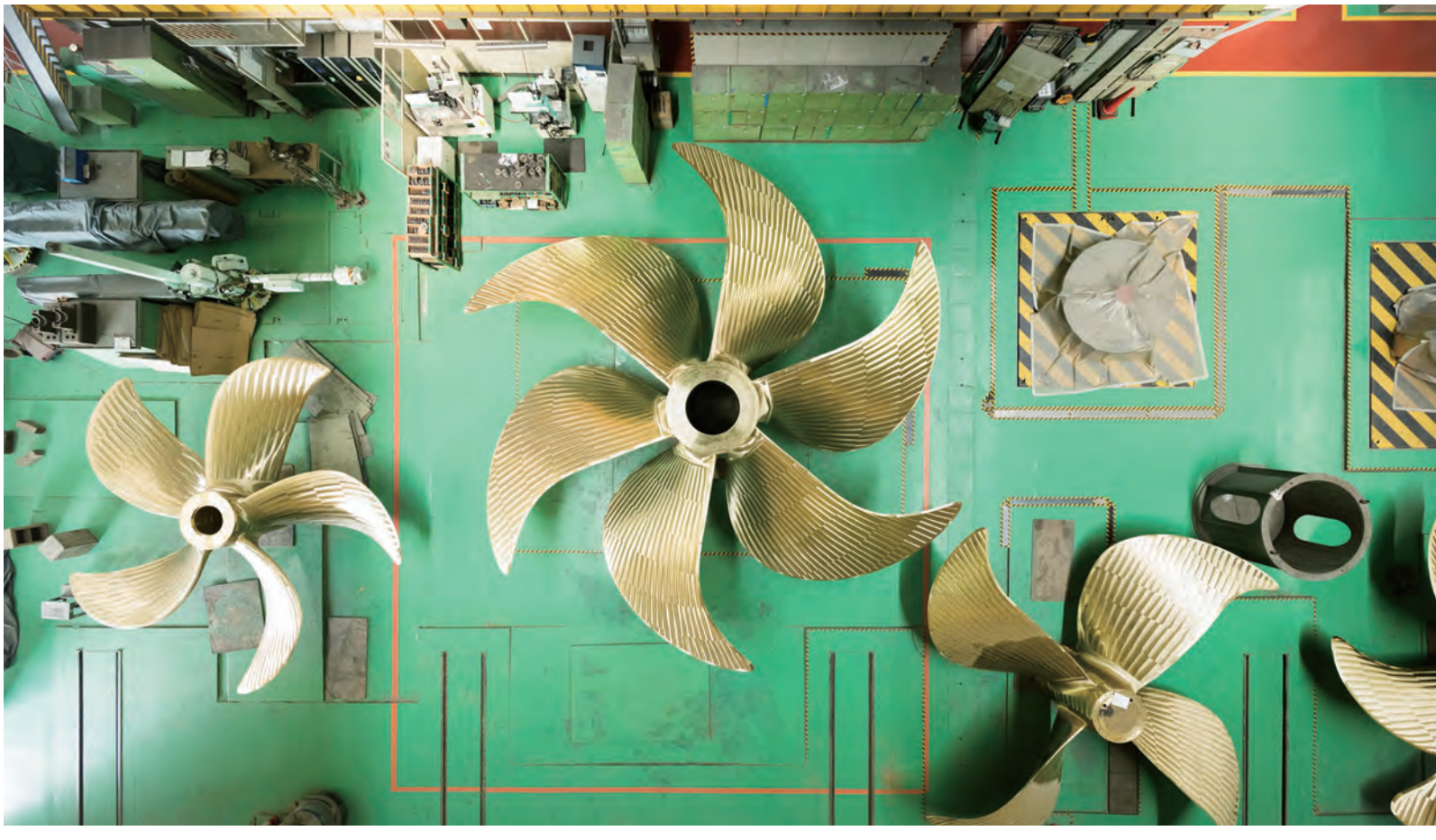
NAKASHIMA
We Go Beyond

Propelling

Issue 7 Commemorative Edition : Tamashima Works reaches its 5,000-unit milestone



Tamashima surmounts challenges by channelling founder's spirit

Over a 13-year period, Tamashima Works has turned out a total of 5,000 units from its factory—a level of pace and productivity that has impressed the world.

Propelling, a newsletter from Okayama, Japan, spotlights the hidden allure of propellers and aims to steer the world's ships, and their world, one step into the future

The story began in 2005, when capacity at Nakashima's main factory was nearing its limit and a new factory seemed essential.

Yet all the directors were reluctant to pull the trigger on building a new facility at Tamashima, which is located at the Seto Inland Sea. They saw it as an unprecedented investment that risked the company's future.

President Motoyoshi Nakashima swam against the tide to build it. In doing so, he seized the opportunity to innovate, including the instalment of an advanced propeller-blade processing machine. This proved vital to the company's manufacturing capabilities.

Yasuhiro Kawai, then deputy manager of the production department, stepped up to lead the milestone project of building the new factory. Despite a seemingly impossible timeframe (one year from planning and design to completion), the factory was ready on time, in 2006.

As if it had been waiting for Nakashima's new facility, a global shipbuilding boom soon emerged. No one had imagined that Tamashima's production capabilities would save not only Nakashima, but also the entire Japanese shipbuilding industry.

Even after the boom peaked in 2011 and Tamashima Works had established its reputation in the world, it maintained its output of 400 units a year and has now achieved a total 5,000 units (as of July, 2019).

At the Tamashima factory, many features reflect Kawai's spirit, which has been passed down to his successors, Shintaro Sahara and Eiro Dozono (both introduced in this newsletter).

The factory has a linear and compact layout with no unnecessary passageways. Machines are developed jointly with the manufacturer (three patents have been acquired), incorporating ideas from workers on the site and specialising in propeller manufacturing. NC machines are able to import design data directly without going through the CAD/CAM process, greatly reducing the work time.

On the other hand, the polishing process, which requires attention to detail down to a single micron, has been left in the hands of skilled craftsmen to achieve the finest quality.

In innovation and tradition, Nakashima has continued to challenge itself to pursue perfection. The Tamashima Plant is one example where this has come to fruition. ■

Nakashima People Vol. 7

Shintaro Sahara (pictured right)

General Manager, Propeller Production Department, Tamashima Factory, Nakashima Propeller

Sahara, who used to manage Tamashima Works' casting department, now oversees the whole factory.

Q. How does it feel to have turned out 5,000 units?

A. I don't consider it anything special, just a point in time in our everyday operations. Of course we are proud, but we also have a sense of urgency. Our next step will determine how Nakashima evolves in the future.

In order to honour what our predecessors have left for us, we can't simply look to preserve it; we must try to go beyond it. It's important to have a vision for the future, then calculate what we need to do now to achieve it. When doing something new, it's also important to have the courage to leave things behind.

Q. What do you envision for the future?

A. What is common now will no longer be common in the future. For example, we know that current methods of casting will become difficult in the near future because of factors such as the procurement of necessary materials. It is also inevitable that manufacturing will become more automated and robotised, especially when it comes to hazardous tasks, to protect workers.

I think we should try to digitise the skills of our experienced craftsmen, refined through 100 years of history, and make them into more transferrable assets.

We aspire to be an innovative company, to master the balance of top-level technology and traditional craftsmanship to deliver quality unique to Nakashima. It's not an easy goal, but we will continue to work hard towards it, protecting what needs to be protected, letting go of what needs to be let go, and creating innovative paths for our operations.

Q. How will you lead Tamashima going forward?

A. Our priority should be on training the next generation. Talented people with innovative vision and the ability to manage with sensitivity can't be replaced by AI or robots.

Ideally, a factory operates like a speed skating team. Rather than one person leading the whole time, several leaders should form a team. The person best positioned to take the lead at a particular time should lead, then switch to another person when the situation or problem to be solved changes. We should have a system in place in which we always have fresh ideas and perspectives, so we can continue to pursue goals beyond the immediate one. ■

Eiro Dozono (pictured left)　General Manager, Production Control Department, Nakashima Propeller

Dozono was part of the team who played a central role in launching the Tamashima factory and has since been in charge of machinery and the finishing process. He currently leads production management for all of the group's factories including those in the Philippines and Vietnam.

Q. What are your thoughts on reaching the 5,000-unit milestone?

A. The number is simply the result of our efforts to do what we need to do at Nakashima. We continue to offer build-to-order production, designing and manufacturing propellers for each unique ship, and delivering without delay. The spirit that has driven the Tamashima Works over the years is now being passed on to the group's overseas factories.

Q. What underlies the manufacturing capabilities of the Tamashima factory?

A. In addition to tangible features such as the layout, processing machinery and measuring instruments that are uniquely developed, we have been focused on developing a production system that uses IoT since we began operating. The stock of data allows us to accurately determine the timing for delivery.

Apart from our cutting-edge manufacturing system, we are also in tune with the *monozukuri* (the art of making things in Japan) spirit of our origins. Tamashima Works is a vital place in our company where the sanctity of the moment of creation in *monozukuri* is felt and shared. This is Nakashima's emotional asset that has been passed down since the beginning of the company.

Q. How would you define Nakashima's strengths?

A. As exemplified by the factory here, our predecessors have a history of making unique and bold decisions. Not only the top leaders; this company has a culture of inspiring employees to embark on new challenges. It is our job to pass this appetite on to the next generation, and the culture that allows them to act on it. Personally I have always aspired to an ambitious ideal proposed by the late honorary chairman Tamotsu Nakashima that "we should be able to make a propeller by pressing a button".

Q. What do you think will be the key for further success?

A. As we are required to cater to the changing and diversifying needs of our clients, we need to shore up an organisation that is made up of a diverse set of highly talented people, just like the heroes in *The Avengers*.

Nakashima is becoming a company that can make effective use of everyone's skills across borders. The key to our development is to make this diversity a new source of strength. ■

President's Message

‘Going beyond’ with partners around the world

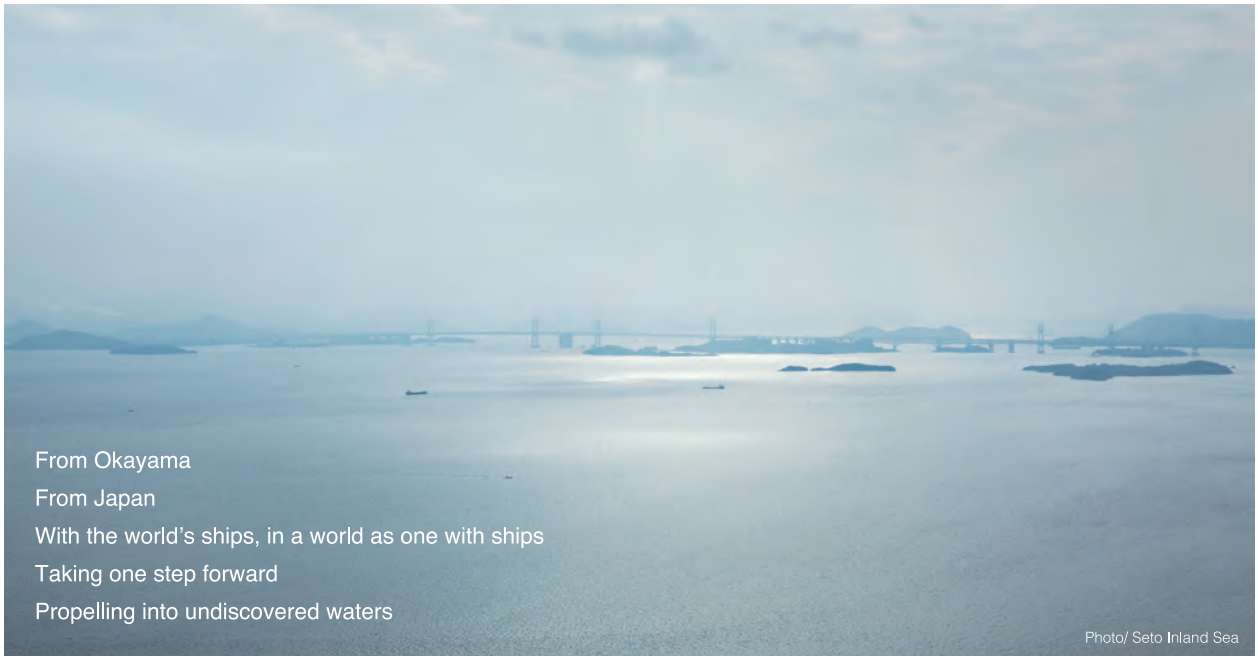
Motoyoshi Nakashima, President, Nakashima Propeller

The mantra since Japan’s period of high economic growth has been to ‘make good things, cheaply’. While this can be one tactic for a manufacturing company, it is certainly not a mission—especially if you are thinking about passing the company on to future generations and building sustainable prosperity.

At Nakashima, we have a distinct perspective on *monozukuri*, which manifests itself in our innovative design and manufacturing capabilities. This approach has helped us become expert in optimising the propulsion performance of each unique ship.

As ships become more automated and equipped with AI, the capacity to effectively transform commands into propulsion power becomes crucial. The time is thus ripe for us once again to work together with partners in a variety of fields around the world to shape the future of ships and the sea.

We will continue to enjoy finding and working with like-minded collaborators across borders to ‘go beyond’, creating new global standards in areas such as environmental performance and elevating the potential of *monozukuri* for a new age. ■



EVENTS

METSTRADE (Amsterdam, The Netherlands), 19-21 November 2019

INTERNATIONAL WORKBOAT SHOW (New Orleans, LA, USA), 4-6 December 2019

SEA JAPAN (Tokyo, Japan), 11-13 March 2020

ASIA PACIFIC MARITIME (Singapore), 18-20 March 2020

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