

Propelling

Issue 6



Nakashima People Vol. 6

Yuichi Kato General Manager, Production Department, Okayama Factory, Nakashima Propeller

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

Yuichi Kato was appointed general manager of production at the Okayama factory after working in after-sales services. He now oversees the creation of propellers and a variety of other equipment, making him a vital part of Nakashima's commitment to providing total solutions. As he embarks on his new endeavour of optimising Nakashima's propulsive performance, we asked him about the task ahead.

Q. What is your role in Nakashima Propeller?

Although my colleagues and I all work with propellers, it is inevitable that departments have subtle differences in their way of thinking. One of my roles is to embrace and orchestrate those differences, allowing innovative propulsive solutions to emerge. Acquiring knowledge in design and being exposed to direct feedback from customers using our

products were both important experiences to prepare me for my current line of work. I have also benefitted greatly from experiencing the culture of each department first-hand.

Q. What is an experience at Nakashima that you will never forget?

One time when I went to repair a fishing vessel, the owner of the ship piled up sandbags in front of me and said: "I'll sink this ship if it's not fixed by the end of the day." As this situation illustrates, through negotiations with owners I have come to understand first-hand that the maintenance of a ship can be a life-and-death issue for them.

Naturally, I've become committed to making proposals for what our customers truly need, which are not always what they necessarily want to hear and may involve difficult negotiations.

“One of my roles is to embrace and orchestrate differences, allowing innovative solutions to emerge”

Yuichi Kato



Q. What new initiative are you working on to improve propulsive performance?

Nakashima’s propellers are built to order to fit the characteristics of each ship, and their performance is even improved when the propellers are delicately managed according to the conditions at sea. In the past, it was sometimes frustrating when we needed to use control system equipment that relied on products from other companies.

To address this issue, we acquired an electrical equipment manufacturer last year. Together with our equipment department that I supervise, we are now working on the in-house development of control equipment. I majored in electrical engineering at university, so this has been a personally rewarding experience.

The massive amount of data drawn from Nakashima’s second-to-none history in manufacturing will become very useful in the development process. With our refined capabilities in design, making full use of supercomputers and tapping into over 90 years of experience in manufacturing, we expect the control equipment to evolve alongside our propellers. This will be one of the keys to realising our vision to optimise the propulsive performance of ships, from stern to bow and from bow to stern.

By using both our own propellers and our own control equipment, we will also be able to collect detailed information from ships at sea more efficiently. This

will not only give us an advantage as automatic operations become more common, but it will also allow us to suggest preventive maintenance to shipowners at an early stage, improving safety and minimising costs as a result.

Q. What will you be doing beyond Nakashima’s 100th anniversary?

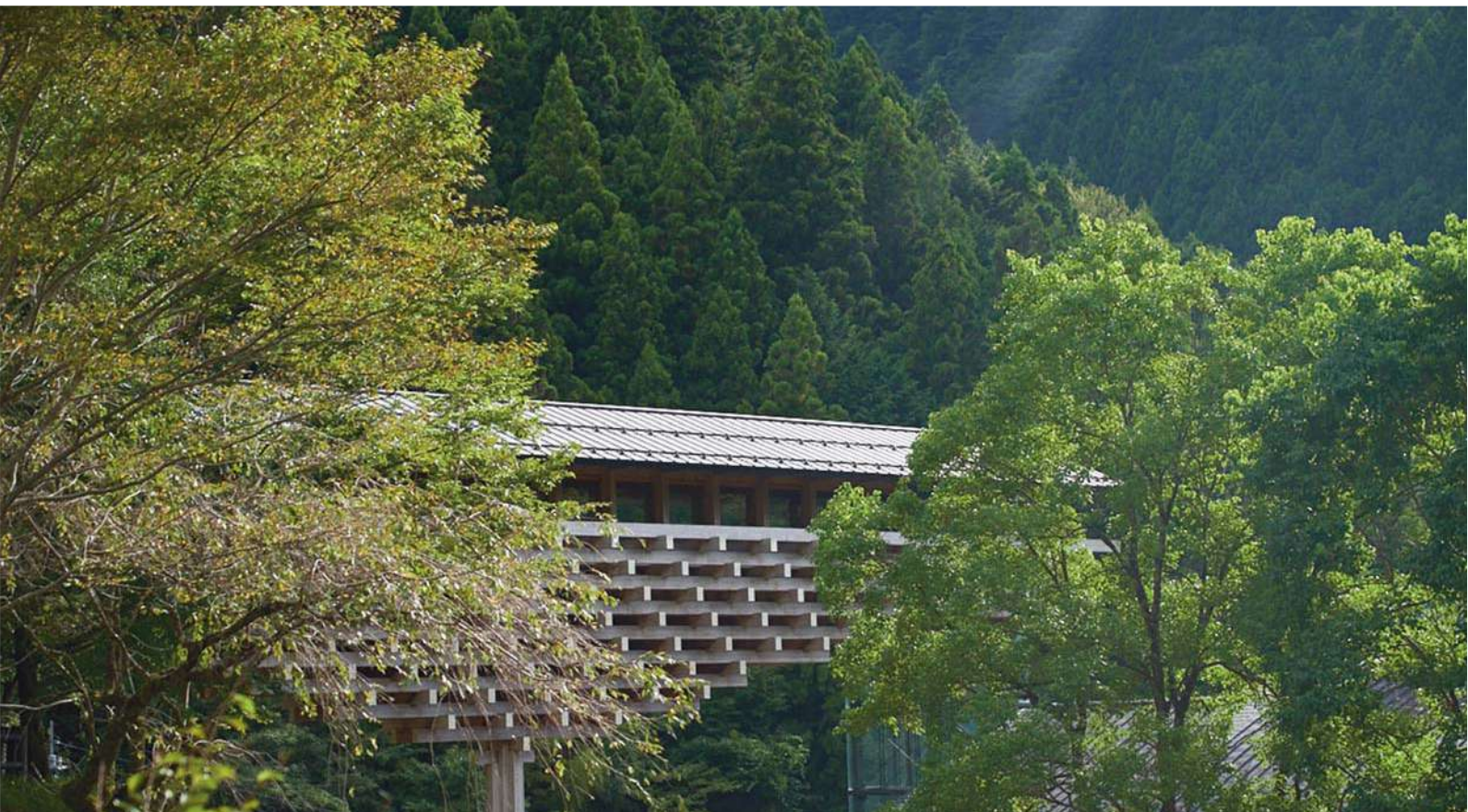
I have heard that far more mysteries remain about the sea than about outer space. We are glad to play a role in making the sea more accessible, and welcome the challenge of showing how the refined quality of our propellers translates into performance for ships in a variety of situations.

I used to dream of a ship without propellers, but for now I will be pursuing possibilities for propellers that have yet to be discovered. ■

Nakashima’s Aesthetics

Propelling towards a new horizon

To view the entire ship from the propeller—this new perspective draws inspiration from Japanese people’s distinct worldview and aesthetic to see the whole in the details, manifested in *monozukuri* or traditional craftsmanship.



INTROSPECTION — JAPANESE INNOVATION

Nature Technology

More than 30 years have passed since sustainable development became a common theme for the world. With its remarkable technological advancements, human society looks as if it's progressing. However, in reality, individuals, companies—entire nations—are trapped in a blind alley of consumption, competition and growth. We have become consumers walking steadily towards a future of ruin. In an instant, we can destroy natural resources built over billions of years and cultural assets nurtured over thousands.

How did we get to this point? Before the Industrial Revolution, or more broadly the Enlightenment, communities and businesses developed in Japan over hundreds of years with a view of the self as part of nature, with distinctive aesthetics arising from this perspective. These traditional values allowed innovation, economic development and, importantly, the nurturance of a humble yet avant-garde civilisation where humans and nature sustainably prospered together as one ecosystem.

Starting in the Meiji period, however, during a time of rapid modernisation, Japan began to pursue a model for civilisation that sought to subdue nature. Gradually, Japanese people lost their sense of awe and respect for nature, along with the unique innovation capabilities that can arise from a symbiotic relationship.

But perhaps Japanese people's sense of belonging to nature is re-emerging. For instance, Hideki Ishida, emeritus professor at Tohoku University, has proposed a new paradigm for innovation called nature technology.

Nature technology isn't just another bundle of technological innovations for their own sake. It is innovation with a clear purpose. It proposes to embrace a variety of environmental and socio-economic constraints, and resolve life's small discomforts and inconveniences, by drawing on the wisdom of nature. It centres on reinterpreting mechanisms from nature for practical use, and combining them with traditional wisdom to resourcefully endure and enjoy small imperfections—leaving room for self-reliance to achieve better wellness. Nature technology also characteristically restores the intimate relationship of humans with nature.

These features support an emotionally rich lifestyle (versus one of mere convenience or efficiency associated with human-centric technologies), the ultimate purpose of nature technology.

For example, we can develop an air-conditioning system that does not use electricity by taking cues from termite nests that maintain the same temperature inside, despite huge temperature fluctuations outside in the savanna from day to night. By mimicking the characteristics of the soil that surrounds the termite nests in our own structures, we could live comfortably throughout the year while also reining in our energy consumption.

In 2015, the United Nations set out a list of Sustainable Development Goals with a renewed sense of crisis. Can nature technology help make the dream of a sustainable future a reality? Success depends on our ability, first and foremost, to rediscover our place in nature. ■

NAKASHIMA PROPELLER

We Go Beyond

Headquartered in Japan's Setouchi region, the centre of the country's shipbuilding industry, Nakashima Propeller is a manufacturer of marine propulsion equipment boasting a leading share in marine propellers.

Having started as a foundry for fishing boat propellers, the company has continued to pursue innovation in the capability of propellers to deliver security, safety and comfort. It will be celebrating its 100th anniversary in 2026.

A ship's optimal state is found when it is viewed from the propeller, the centre of propulsive functions. With this fresh perspective, Nakashima Propeller seeks to offer a full range of services catering to each ship's entire life cycle while achieving fuel efficiency to reduce the burden on the environment. Nakashima Propeller works to contribute to the world, beyond the realm of its industry.

■ OUR STRENGTHS

JAPANESE QUALITY

Nakashima Propeller offers refined in-house capabilities in design and manufacturing. Using a high-performance computer with a 5000 core large-scale processor, Nakashima's craftsmen create a blueprint based on data accumulated from a world-class production history of 1 million propellers. Moreover, with its unique manufacturing skills that integrate cutting-edge technology and experienced craftsmanship, Nakashima is fully equipped to delicately reflect design in manufacturing and deliver reliable Japanese-quality products.

CUSTOMISED PRODUCTION

The propeller is at the centre of optimising propulsion performance—and a hundred different vessels will have a hundred different propellers. Rather than pursuing efficiency as a manufacturer, Nakashima takes pride in its commitment to build-to-order production, designing and manufacturing optimal propellers for each unique ship under an integrated production system.

CUTTING-EDGE USE OF SMART TECHNOLOGY

Nakashima's smart technology is able to define the shape of the high-efficiency propeller's complex three-dimensional, curved surface. By increasing the surface area of machining with adjustments such as modification of the trailing edge, a process requiring special craftsmanship is simplified and speedy production without dispersion is achieved.

SERVICE ANY TIME, ANY PLACE

Nakashima Propeller promptly responds to propeller damage by sending repair engineers from its worldwide network to your site. Nakashima takes into account various conditions such as the ship's fuel efficiency, course and degradation due to ageing to propose solutions such as edge modification, fuel-saving polishing and retrofit, providing detailed support throughout the ship's entire life cycle.

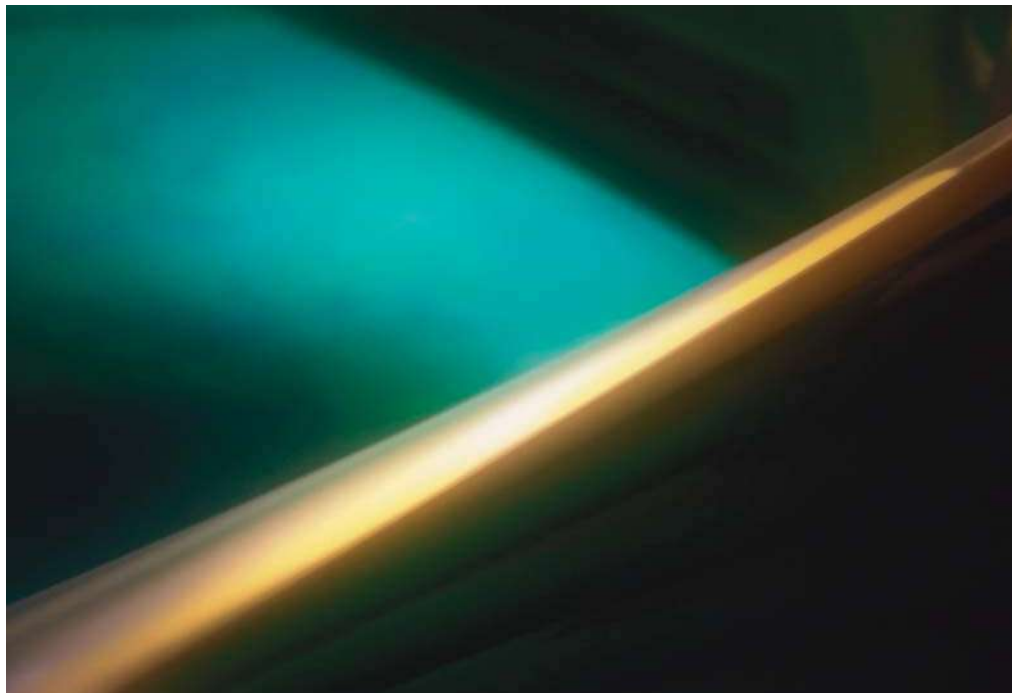
■ OUR SERVICES

Nakashima Propeller designs and manufactures marine propellers (FPP and CPP), thrusters, energy-saving devices for the stern and CFRP propellers.

We also offer a full range of after-sales service, including repair of damaged propellers, edge modification, fuel-saving polishing, support of propulsion equipment for ships in operation and optimisation of propulsion performance for fuel efficiency.

*We provide propellers for ULCS, VLCC, VLOC, VLGC, LNG/LPG-carriers, PCC, cruise ships, working boats, coastal vessels, research vessels and coast guard vessels

*Our services satisfy requirements for all major classification certificates (including ice-class)



“World-recognised Japanese quality cannot be described solely in terms of mechanical precision or reproducibility. Lacquerware used at the dinner table, Japanese knives that are indispensable to create Japanese delicacies—only with the deep commitment and thorough experience of the people who make them can the full potential of such products be unleashed. Our propellers embody the same spirit of Japanese quality.”

—H. Kubo, general manager, innovation section, Nakashima Propeller

■ EVENTS

SEA ASIA - Singapore, 9-11 April 2019

BARI-SHIP - Imabari, Ehime, Japan, 23-25 May 2019

NAKASHIMA PROPELLER CO., LTD.

688-1, Joto-Kitagata, Higashi-ku, Okayama, 709-0625, JAPAN
+81 86 279 5111

npcwebmaster@nakashima.co.jp
<https://propelling.jp>

Japan · Singapore · Vietnam · Philippines · China
Korea · Taiwan · U.S.A. · Brazil · Turkey · U.K. · Namibia · UAE

Propelling, Issue 6 (20 November 2018)

Produced by Yaoyorozu-ING Company Co., Ltd.

Photo by Takumi Ota [P1], Makoto Tomioka [P2]

Copyright 2018 NAKASHIMA PROPELLER Co., Ltd. All Rights Reserved.