

# sustainable japan

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## Komatsu builds a sustainable future through innovation

### Unraveling Japanese companies

**HIROKO NAKATA**  
CONTRIBUTING WRITER

Construction sites worldwide are beginning to look different. Remote-controlled excavators now dig up soil, and autonomous haul trucks remove it. Sensors let operators gather data on the machines' conditions and see if any parts need changing. Such technologies have driven Komatsu Ltd. to achieve further global growth, establishing its position as the world's second-largest maker of construction machinery, after Caterpillar.

Komatsu, which now generates about ¥490 billion (\$3.3 billion) in annual group operating profit on sales of ¥3.5 trillion, has grown based on its corporate philosophy, including the "Komatsu Way," its guiding principles for action. The creeds it spells out developed as parts of the corporate culture over a long time, and in 2006 they were written down to help them permeate broadly among the staff. The Komatsu Way explains the strengths of Komatsu and the beliefs supporting these strengths, covering a wide range of themes from leadership to *monozukuri* (production) and brand management. It is now available in 13 languages.



"We had the founding spirit and the Komatsu Way for a long time," said Yokomoto. COSUFI

When Komatsu celebrated the 100th anniversary of its foundation in 2021, it decided to sow its corporate beliefs more thoroughly among its workers. The main background behind this is that it has become a global firm with more than 60,000 workers, around 70% of whom are not Japanese, and this has increased the need to present the direction Komatsu is heading in a way that is easy to understand for its diverse employees and stakeholders. Its buyout of Joy Global Inc., a Wisconsin-based maker of mining equipment, in 2017 also was an impetus.

Komatsu's corporate purpose, as written on its website, is "Creating value through manufacturing and technology innovation to empower a sustainable future where people, businesses and our planet thrive together." And its website also explains about its corporate identity. "We had the founding principles and the Komatsu Way for a long time, and now we have our corporate identity, which is an easy-to-understand, systematic presentation of our purpose and values established in 2021, along with other existing ideas," said Mitsuko Yokomoto, a director and the senior executive officer supervising human resources, education and sustainability at Komatsu.

The interview was part of a monthly series by Naonori Kimura, a partner for the consulting firm Industrial Growth Platform Inc. (IGPI).

The company's foundation dates back to 1921, when Meitaro Takeuchi started an ironworks company to develop mining equipment for a copper mine in the Ishikawa city of Komatsu. The entrepreneur — an older brother of future postwar Prime Minister Shigeru Yoshida — aimed to develop local industries, even after the mine later closed down, because he knew that enriching a country requires industry and human resources. In the corporate culture passed down from that foundation era, the company has pursued quality and reliability, and made efforts to build strong relationships of



Mitsuko Yokomoto, director and senior executive officer supervising human resources, education and sustainability at Komatsu COSUFI

trust with stakeholders. Based on this history, the Komatsu Way was born, and Komatsu presented four values in 2021: ambition, collaboration, perseverance and authenticity.

Komatsu has had to overcome a series of crises on its own. After World War II, the machinery maker survived fierce competition with Caterpillar, the first operating deficit in 2001, the global financial crisis sparked by the failure of the U.S. investment bank Lehman Brothers in 2008 and the Great East Japan Earthquake in 2011. Through the experience of overcoming the crises, the company created a culture where workers can find business opportunities through innovation and developing new value in manufacturing and technology, which further strengthened and company, Komatsu says.

"With this independent spirit and ability to turn crisis into opportunity, we have always had a strong will to make a strong company that would grow even more. And this will is still being nurtured by the Komatsu Way," Yokomoto said.

autonomous haul trucks, bulldozers and excavators equipped with functions for automatically controlling their blade or bucket. And Komatsu is working to further increase the levels of automation and autonomy in equipment and to expand its lineup.

As for the second pillar, Komatsu continues to maximize its business opportunities with machinery that has urban civil engineering specifications in growing markets such as other parts of Asia. Part of the third pillar of enhancing resilience is cultivating human resources. While top managers frequently talk about the corporate purpose and future strategies, employees share their targets as key performance indicators, Yokomoto explained. Even though it can be hard to quantify elements relating to personnel, education and sustainability, the company has long believed that human resources are important, and that part of employees' identities comes from contributing to society through the business, she said.

Deploying its technologies and expertise, Komatsu in 2008 started programs to help Cambodia remove land mines using its machinery and otherwise aid the country's restoration for community development purposes. These were just part of its activities to contribute to the regions where it does business. As of April 2023, it had removed 4,272 land mines from 4,355 hectares of land, built 10 elementary schools in some of those now-safe places, turned 80 hectares to rice and cassava farmland and used its bulldozers to make 48 reservoirs as infrastructure development in the country.

Other projects include free-of-charge lending of machinery to aid areas hit by natural disasters, regenerating forests on mountains that had been mined in North America and planting trees to widen green spaces in China and Indonesia.

"It is part of our philosophy to contribute to society through our business operations. We also want to make contributions by using the knowhow and strengths we have developed in our business," Yokomoto said.

**NAONORI KIMURA**  
INDUSTRIAL GROWTH PLATFORM INC.  
(IGPI) PARTNER



Komatsu Ltd. formalized its corporate identity in 2021, the 100th anniversary of the company's foundation, and declared its corporate purpose to be "Creating value through manufacturing and technology innovation to empower a sustainable future where people, businesses and our planet thrive together."

The essence of what they describe is not recently created, but based on a corporate identity that has been handed down for a long time. It is well known that the company's beliefs and values are systematically described in its corporate philosophy, the "Komatsu Way," which is underlain by resilience to changes in the business environment and whose central idea is to focus on long-term cooperation with various stakeholders.

The top management has been deeply committed to this spirit, letting the idea broadly spread among the company's workers in every country and practicing it thoroughly in everything from daily meetings to product development. That is where the root of Komatsu's strength comes from, and at the same time shows the essence of sustainable management. The stance is also shown in its thoroughgoing activities for social responsibility, represented by its projects to remove land mines.

The company will face the challenge of realizing carbon neutrality. It may not be easy to decarbonize the construction machines used in various environments, but I believe Komatsu can achieve that goal.

## A hothouse of ecological ideas will produce tomatoes in Aomori

### ESG/SDGs

**MAIKO MURAOKA**  
CONTRIBUTING WRITER

Starting in April, a project in the Aomori city of Mutsu, at the northern tip of Honshu, will grow tomatoes using a new cultivation method that will go beyond zero carbon and actually absorb more CO2 than it emits. Built on a large abandoned farm, the facility will also create 100 new jobs.

Its Venlo greenhouse is equipped with an automatic environmental control system for adjusting temperature, moisture and the level of carbon dioxide in the air. The tomatoes will be hydroponically cultivated, and the management of water and fertilization will also be automated.

Mutsu Mayor Tomoya Yamamoto said: "To keep the air inside the greenhouse warm, a biomass boiler that burns wood chips to generate heat was installed. Forests make up about 80% of the total area of the prefecture, so we can use a natural resource we already have instead of using fossil fuels." The carbon dioxide produced by burning the chips won't go to waste — it will be supplied to the tomatoes growing in the greenhouse to accelerate photosynthesis. The amount of carbon dioxide emitted from the boiler and used for cultivation is estimated at up to 4,500 tons annually.

Cutting down old trees and planting seedlings is also an effective way to enhance the absorption of carbon dioxide emissions. "Younger trees absorb more CO2 than older ones. We plan to use part of the profit from the tomato farm for reforestation," Yama-



Biomass will heat the facility and provide clean CO2 for the plants. MUTSU CITY

moto said. About 40,000 trees will be planted across 20 hectares of forest land annually.

In addition, LED lights will be installed to make up for the general low level of light in the area to stimulate the tomatoes' growth, and automatic delivery vehicles will allow workers to be allocated more effectively to where they are needed. The facility is expected to produce 1,500 tons of tomatoes a year on 3.5 hectares of land — 10 times more than conventional cultivation methods can achieve.

The project started when a Hokkaido-based agricultural company, Torafuku Co. Ltd., approached Mutsu in March 2022, soon after it heard news that as many as 500 people had lost their jobs in the midst of the coronavirus pandemic due to the closure of a major stocking factory in Mutsu.

Torafuku, established in 2014, grows vegetables and fruits in greenhouses and on farms in Hokkaido. In 2020, it built the same type of Venlo greenhouse as the one that Mutsu now has. "Through discussions with former Mayor Soichiro Miyashita, the CEO of Torafuku saw potential in our city, which was responsive and quick at decision-making, and decided that this was the place where they wanted to start the future of agriculture," Yamamoto said. In November 2022, Torafuku, Mutsu and Aomori Prefecture signed an agreement, and construction began the next April.

International collaboration has also contributed to the realization of the project. In January 2023, a delegation from Mutsu including Miyashita visited the Dutch city of Westland, a pioneer in facility horticulture, and signed an agreement on friendship exchange to deepen mutual cooperation to promote the development of environmentally friendly facility horticulture and agricultural technology.

Since then, there have been several opportunities to learn about each other's agricultural efforts, including a visit by senior Westland officials to Mutsu in July, a session to exchange views with members of the Dutch horticulture industry ahead of the Netherlands-Japan Horticulture Seminar in



Tomoya Yamamoto, mayor of Mutsu

Chiba Prefecture in October and the attendance of Mutsu officials at the seminar.

Yamamoto emphasized that the relationship must benefit both countries. "While we aim to acquire knowledge and technology from the Netherlands, we also want to be able to give something in return. For example, installing the biomass boiler at the Venlo greenhouse and using the carbon dioxide it generates to enhance tomatoes' growth is a new approach we are taking. We hope that there is something we can share with the Netherlands in this regard," he said.

Yamamoto said there are many other neglected fields in Mutsu. The decreasing number of farmers is mostly due to the aging of the population, possibly accelerated by the harsh climate. Northeasterly winds called *yanase* bring cool, wet weather in the summer, which is not suitable for growing rice and many vegetables.

"But advanced technologies allow us to achieve high agricultural productivity even in a harsh environment," Yamamoto said. "We believe this project will demonstrate that. We enacted a new ordinance to promote smart agriculture and established a subsidy system for the installation of plant facilities." The city's goal is to produce a diverse range of crops and become a "food valley," a center of innovative and sustainable farming.

Mutsu is a member of the Sustainable Japan Network, a group of companies that cooperate with this newspaper to spread information about sustainability in Japan. You can also be part of the network; scan the QR code for more details.

## Restaurant Pas Mal

French cuisine in Yamagata, home of 'brand' foods



TAKEO TERAO  
CONTRIBUTING WRITER

Restaurant Pas Mal could be called the sole authentic French restaurant in the city of Yamagata. Owner-chef Yusuke Murayama strives for true gastronomic cuisine. His dishes emphasize classic sauces making extensive use of wine and brandy, and the "stars" of these creations are local ingredients. Murayama said: "Foods produced in Yamagata are considered premium-quality brands and distributed at high prices outside the prefecture, especially in the Tokyo area. They can't be used at restaurants in the local area, where prices are lower. When local residents go out to eat, they almost always go to an *izakaya* pub where the average cost per person is ¥4,000 to ¥5,000 (\$27 to \$34). It has become the norm in these places to use a lot of products from overseas, including vegetables."

Murayama opened a bistro in the city of Tendo in 2002. When he moved to his current location in 2017, he changed course and transformed the bistro into a gourmet French restaurant. The establishment is managed by Murayama and his younger brother Tatsuki, the maitre. At ¥11,000 and ¥16,000, the dinner course prices are extraordinarily high for the city of Yamagata.



"I want to raise the average dining cost throughout Yamagata Prefecture," said Murayama. "What I want to communicate is not that you can make more money in Tokyo, but that you can also make a living in Yamagata Prefecture." People from outside the prefecture currently comprise 80% of the restaurant's clientele, but the number

**MIEKO YOSHIMURA**  
GOVERNOR OF YAMAGATA



I am honored that Restaurant Pas Mal has been selected as one of the Destination Restaurants 2023.

Yamagata Prefecture is a region surrounded by mountains and the sea, and is rich in natural resources. Chef Yusuke Murayama's cuisine, which uses a wide variety of ingredients from this region, further enhances the richness and charm of Yamagata's culinary culture. I hope that this award will encourage more people to travel to Yamagata and experience the culinary delights of Yamagata.

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of local customers is increasing. To further raise awareness among the area's residents, Murayama periodically carries out collaborations with famous chefs from other regions and reports on them inside and outside the prefecture. Without a doubt, Yamagata Prefecture's future culinary scene is in the process of transforming.

**TAKAHIRO SATO**  
MAYOR OF YAMAGATA



I am very delighted that Restaurant Pas Mal has been selected as one of the Destination Restaurants 2023. Chef Yusuke

Murayama's cuisine, which features local Yamagata ingredients, is a feast for the eyes as well as the palate with its creative ideas and innovations. The city of Yamagata has a diverse culinary culture, blessed with high-quality ingredients nurtured by its rich natural environment. I hope that the selection of Pas Mal will encourage many people to learn more about Yamagata and visit the city.

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