



The “meliordesign” line of water-saving dishware, used by disaster victims of the Noto Peninsula Earthquake.



NEW WATER-SAVING TECHNOLOGY HELPS NOTO PENINSULA EARTHQUAKE VICTIMS AND TACKLES GLOBAL ISSUES

A Japanese startup is addressing water scarcity through manufacturing excellence. We looked into the technology of the company, which operates in the area struck by the Noto Peninsula Earthquake and countries with poor water resources, as well as the founder’s vision for solving this global problem.

In February 2024, a video posted on social media caught widespread attention. Set against a kitchen sink backdrop, the clip showed dishes, first grimy with food residue, then sparkling clean, eliciting the amazed exclamation, “I was given plates that can be cleaned in an instant. Isn’t this amazing? This feels like the future! I can’t believe there’s something this convenient while I need to ration water!”

The video was posted by a resident of Suzu, a city in Ishikawa

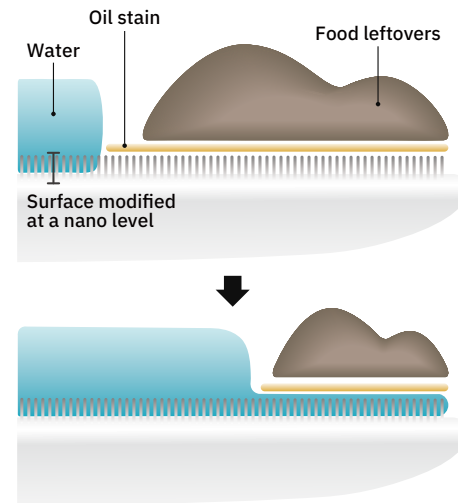
Prefecture heavily damaged by the January 1, 2024, Noto Peninsula Earthquake. At the time of the post, the disaster area was in the middle of an enduring water outage of several months. The featured product was “meliordesign,” innovative dishware that can be cleaned in mere seconds with just a quick rinse, using a minimal amount of water and no detergent whatsoever.

The feedback from the disaster-struck area reached DG TAKANO Co., Ltd., the company behind the

dishware, including founder and CEO TAKANO Masaaki, who commented, “Watching the video, I was so moved to see something we had made help people in a disaster zone—it had me welling up.”

DG TAKANO is a startup committed to solving environmental issues through ingenious product design and superior manufacturing, as exemplified by their meliordesign dishware and water-saving Bubble90 nozzle.

Born as the third-generation



The Bubble90 water-saving nozzle has been well received in the food and beverage sector, and can be found in around 80% of major chain restaurant locations in Japan as of December 2024.



owner of a small metalworking factory in Osaka, Takano sought to address international environmental issues with impactful, marketable solutions. Aiming to build a global customer base, he turned his eye toward water shortages. “While we can’t create water, when it comes to conserving it, we can make a difference using our family factory’s technology and equipment,” Takano explained.

In the company’s early days, Takano worked alone at his family’s factory to develop Bubble90, a revolutionary water-saving nozzle released in 2009. With its globally patented technology, Bubble90 creates powerful jets of water interspersed with air, delivering the same cleaning efficiency as a conventional faucet with just one-tenth the amount of water—all with no electricity.

In 2023, the self-cleaning meliordesign line came out. The concept is simple: save water (Bubble90) and wash faster (meliordesign), resulting in compound savings. DG TAKANO used advanced nanotechnology to develop a special surface treatment for ceramic dishware, creating a structure that allows water to penetrate on the nano

level, removing any leftovers from the dish without detergent. The company claims that the product will cut dishwashing time by up to 98%.

DG TAKANO’s superior water conservation technology has drawn global attention. Currently, over 2 billion people worldwide lack access to safe drinking water, and freshwater shortages are expected to grow increasingly serious in parallel with population growth. DG TAKANO has already introduced its technology to Saudi Arabia, where most of the land is desert and water scarcity is a critical issue. In late 2023, the company signed a memorandum of understanding (MOU) with a major Saudi investment firm to expand their water conservation business there. Since then, the company has joined some of Saudi Arabia’s landmark “gigaprojects” to create an environmentally advanced city and is now running several individual demonstration projects.

One of these projects involves water conservation in mosques. As Takano explained, “In Islam, worshippers perform the Wudu cleansing ritual—washing their hands, feet, and face—before each of their five daily prayers.

Bubble90 saves 80% of the water required for this ritual.”

Another project that DG TAKANO has been pursuing is the development of a recycling system that converts 100% of kitchen wastewater and food leftovers into biofertilizer. “70% of the water we use is for agriculture. In other words, a water shortage means a food shortage. We are now working on the design of a new infrastructure system to solve both these issues simultaneously,” Takano said.

Takano’s stated goal is to create “a world where people and the planet coexist in harmony.” Indeed, his company’s products are empowering those who are directly facing natural disasters and environmental challenges. Armed with its water-saving technologies, DG TAKANO is on the frontline in tackling all and any issues related to water scarcity—a journey to follow closely. ●



TAKANO Masaaki, founder and CEO of DG TAKANO Co., Ltd., explained his vision, “Japanese small and medium-sized enterprises (SMEs) have the best manufacturing technology in the world. I want to leverage this ‘hidden’ deep tech resource that we have in addressing global environmental challenges. I’m confident this will become a success story that represents the best of Japan.”