

**E-world**  
energy & water 2024

# TOKYO

## PAVILION

**Feb.20-22(Tue-Thu)**  
**9:00 am to 6:00 pm\***

\*Closes 5:00 pm on final day

**Messe Essen HALL5 5H106**



**TOKYO  
METROPOLITAN  
GOVERNMENT**

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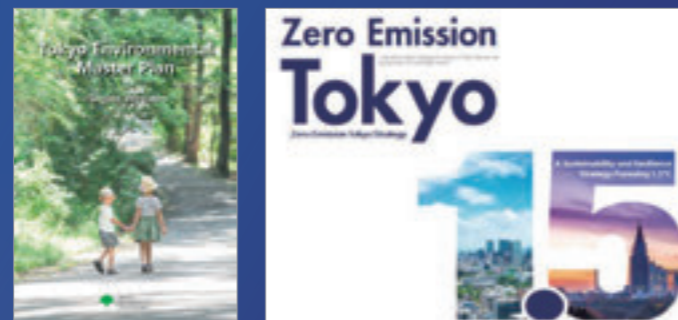
# TOKYO PAVILION at E-world 2024

## Messe Essen HALL5 5H106

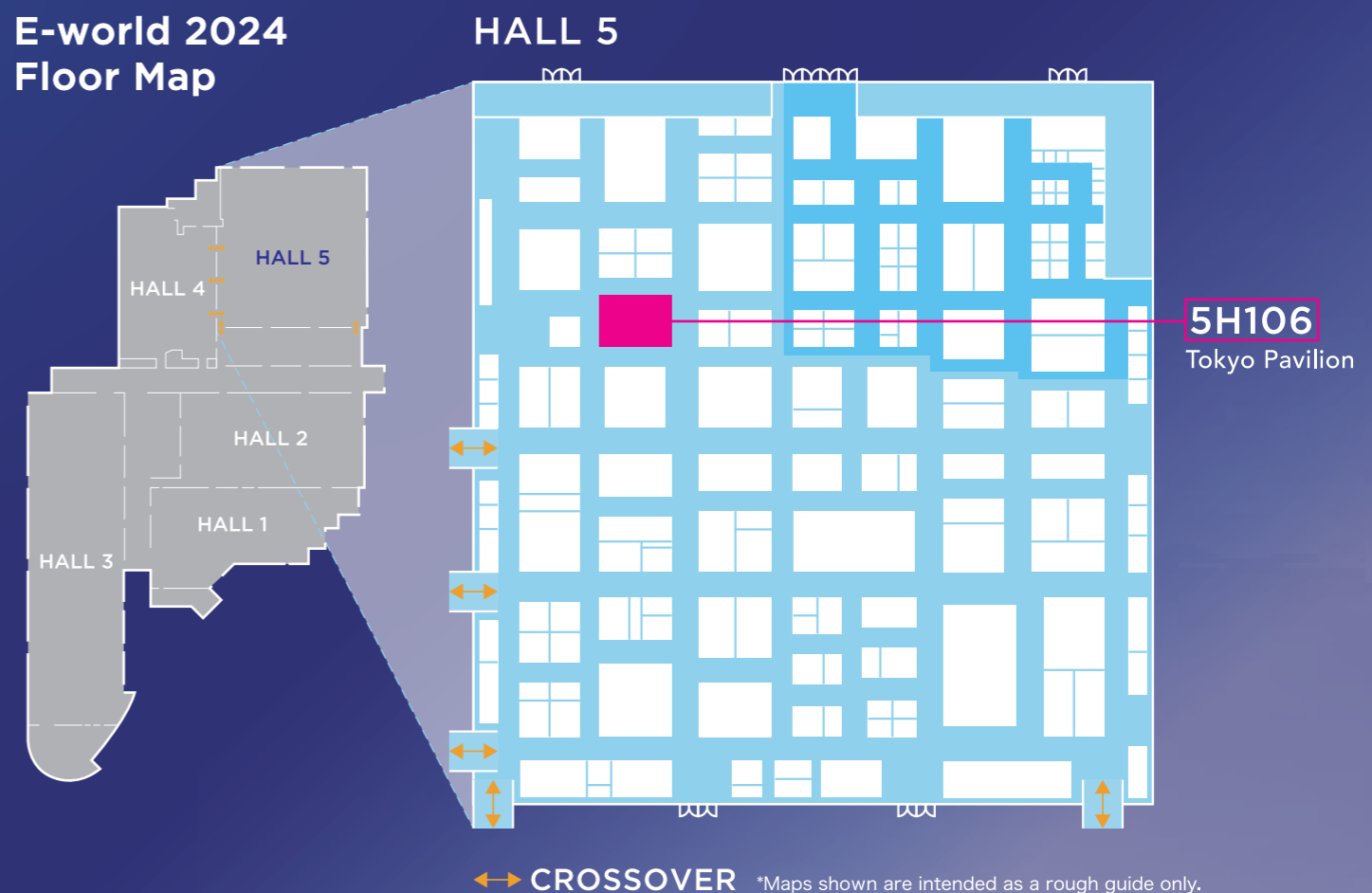
Tokyo, the capital of Japan, sets a goal to become a green and resilient global city creating a sustainable future that is safe, secure, and welcoming.

As such, Tokyo is host to many outstanding products and advanced technologies in the environment and energy sectors. This exhibit is presented by 10 Tokyo-based SMEs who are industry leaders in these sectors in Japan.

Check out the technologies and products displayed in the Tokyo Pavilion to find out their true ability and take this opportunity to consider collaborating with the Tokyo SMEs.



E-world 2024 Floor Map



# TOKYO PAVILION

## CONTENTS



### DG TAKANO

#### •Products on show

- Bubble90 blue, 80% water-saving nozzle
- meliordesign, self-cleaning dishware

#### •Specialist sectors

- Manufacturer of water-saving & energy-saving solutions
- Environmental services



### Digital Grid Corporation

#### •Products on show

Digital Grid Platform (DGP)

#### •Specialist sectors

- Power transaction platform
- Renewable energy transaction platform



### Helvetia INC.

#### •Products on show

- Nessum adaptor VPLC-4000
- Nessum Control module VPLC-CORE400

#### •Specialist sectors

Nessum is capable of long-distance wired and short-distance wireless communications over a variety of wired and wireless communication media.



### hibot Corporation

#### •Products on show

- Float Arm
- Long-Reach Snake Manipulator

#### •Specialist sectors

- Robotic solution for infrastructure inspection and maintenance
- AI-driven DX services for inspection data management
- RaaS "Robot as a Service" business model



### inQs Co., Ltd.

#### •Products on show

- SQPV Glass
- Energy Harvesting Glass

#### •Specialist sectors

- Energy harvesting
- Indoor window panes
- Construction materials
- Power for small electronics



### LEBO ROBOTICS INC

#### •Products on show

Wind turbine Blade Repair Robot

#### •Specialist sectors

- Wind turbine blade repair robots.
- Wind turbine blade inspection robots.



### Nano Frontier Technology Co., Ltd.

#### •Products on show

- Blackest coating on flat substrate
- Blackest coating on U-shaped substrate

#### •Specialist sectors

- Receiver coating for CSP
- Nano material composite
- Carbon nanotubes



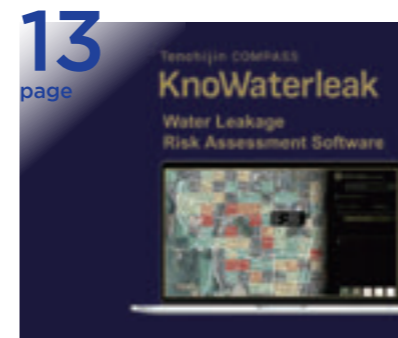
### SYSTEM BRAIN CORPORATION

#### •Products on show

NANO-MAINTENANCE

#### •Specialist sectors

Glass coating for buildings, PV arrays



### Tenchijin inc.

#### •Products on show

- Water Leakage Risk Assessment Solution
- Renewable Energy Site Search Solution

#### •Specialist sectors

- Water suppliers (municipalities, municipal companies, utilities)
- Renewable energy (solar, onshore wind) farm developers and planners



### Totetsu Manufacturing Company Limited

#### •Products on show

Aqua Palace Universal Water Storage System

#### •Specialist sectors

Rainwater harvesting and use system, capacity 100m³ to 100,000m³



### SAVE 80% WATER

80% less water and more cleaning power than a regular tap—Bubble90 blue is the world's best water-saving solution for businesses. Trusted by 80% of the major restaurant chains and 50% of supermarkets in Japan, our technology is widely employed in hospitals, factories, airports, infrastructure projects and even the Japanese military. Collectively, our customers save as much water as all of Osaka city uses in a month.

### CUT DISHWASHING TIME BY 98%

No scrubbing, sponges or detergents—a quick rinse with water cleans all food leftovers in mere seconds. Our unique nanotechnology drastically shortens the dishwashing process, turning a chore into a quick and effortless affair. Save water, money and energy, while also reducing your environmental footprint and CO2 emissions. Rated safe by the Japan Food & Hygiene Inspection.

### LIFESTYLE OF THE FUTURE

Less energy, less water, and no detergent. With your chores done in mere seconds, all that's left is to decide how to spend your newfound time

## COMPANY PROFILE



**Representative**  
ALEKSANDAR NAYDENOV

**HP**  
<https://dgtakano.co.jp/>



Japan's No.1 water-saving solutions provider. Helping people and businesses save water, time, money and energy while reducing their environmental footprint.

### Target companies

- Large real estate companies and developers, who also offer FM (facilities management) services.
- Public companies who handle water (such as national water companies) or public-private partnerships who supply and manage the country's water supply.
- Holding companies or other companies with large portfolios of restaurants, shops, supermarkets, factories, hospitals, etc.
- Any distributors with large volume and market presence, who specialise in commercial or standard kitchens, bathrooms and toilets.
- Mosques or other religious buildings

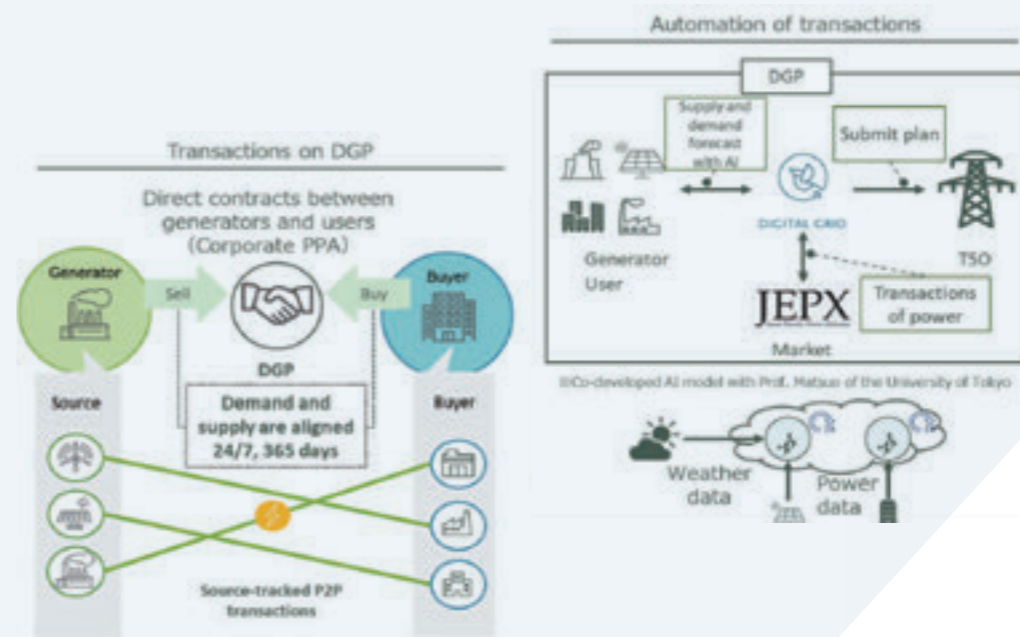
### Target end users

- Restaurants
- Supermarkets
- Prayer rooms and mosques
- Hotels, malls and any other establishments with commercial kitchens and/or high water use
- Schools and universities
- Real estate developments
- Government infrastructure projects

## Digital Grid Platform (DGP)

Our vision is to pass on a world to the next generation without any energy limitations. Digital Grid Platform (DGP), battery storage business, and GX navi are the three main businesses we offer. DGP contains two businesses. The first one is power transaction platform which realizes commercial and industrial electricity consumer-driven flexible power procurement, offering retail electricity menus with partially fixed pricing options, including wholesale transactions. The other is renewable energy transaction platform, which implements physical PPA and virtual PPA. Regarding with DGP, we have obtained a patent for a series of transaction logics for conducting site-specific power transactions, along with

high-precision supply and demand management. We have 60 corporate partners investing in our business. Fund raised so far is 4.2 billion yen (≈ 29 million USD). Led by CEO Toyoda and COO Chikakiyo, who conducted DGP research at the University of Tokyo, along with CFO Shimada, a financial specialist, we are spearheading a transformation in power procurement.



# Digital Grid Corporation

## COMPANY PROFILE



**Representative**  
TAKAHIRO YAMADA

**HP**  
<https://www.digitalgrid.com/>



Digital Grid provides a platform with a system allowing "power producers" and "power consumers" to directly engage in buying and selling electricity.

### Target companies

- Octopus Energy
- Unilever
- E.ON
- thyssenkrupp
- Lumenaza
- etc.

### Target end users

- Solar power plant developers
- Renewable energy corporate buyers
- Wind power plant developers
- Electricity corporate consumers
- Energy startups



# Helvetia INC.

## 03



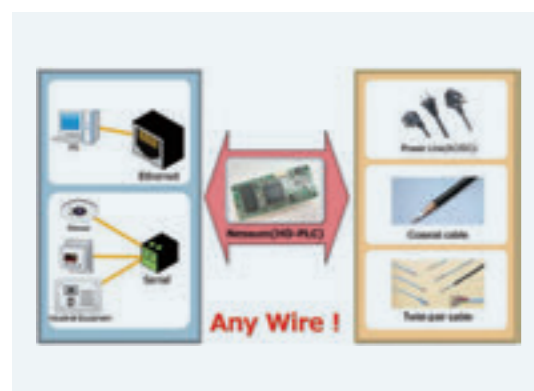
### Nessum(HD-PLC) Communication adaptor

#### Nessum Wire

There are wiring used for various purposes inside and outside buildings, such as dedicated lines, coaxial lines, and power lines. Nessum WIRE allows these existing wiring to be used as is for communication. There is no need for new wiring of communication cables, making it possible to construct a network in a short construction period and at low cost.

#### Nessum Air

By adjusting the transmission power and the size and shape of the antenna, high-speed communication is possible while accurately limiting the communication range. It also reduces radio wave interference with neighboring devices and achieves high security. Nessum uses the same technology for wired and wireless communications, making it easy to create hybrid configurations. Since both can be covered with one communication device, it can be realized at low cost.



## COMPANY PROFILE



**Representative**  
KENICHI GONDO

**HP**  
<https://helvetia.co.jp/en/>



We develop, sell, consult, and customize power line communication products (Nessum). We also develop IoT systems using Nessum products and OEM/ODM development of edge computing system hardware and software.

#### Target companies

- Power Management/Construction Company
- Network configuration Sler
- Network Equipment Sales Company / Trading company
- Solar power system developer, Management company
- IoT system development company

#### Target end users

- Network Designer
- IoT System Development Designer
- Electrical Construction Supervisor
- Building engineer
- Solar Power System Manage



## 04

**hibot**

# hibot Corporation



### Float Arm - Long-Reach Snake Manipulator

Born as an essential tool for the decommissioning of the Fukushima Nuclear Power Plant, hibot's new snake manipulator has undergone a remarkable transformation, evolving into a lightweight, compact, and highly portable device. It's perfect for seamless integration with other systems already operational in the field or as a robust stand-alone inspection device.

Experience the future of precision with hibot's exclusive snake-motion control and ingenious self-balancing technology. The Float Arm excels in navigating complex environments, providing comprehensive data for your inspection and maintenance needs. It not only enhances the safety of hazardous tasks but also optimizes costs, paving the way for your organization's digital transformation.

## COMPANY PROFILE



**Representative**  
MICHELE GUARNIERI

**HP**  
<https://hibot.co.jp/>



A Tokyo Tech startup, pioneering RaaS (Robot as a Service), deploys cutting-edge robotics and AI for infrastructure inspection, maintenance, and digital services.

#### Target companies

- Oil and Gas Companies
- Chemical companies
- Aircraft Manufacturers
- Power plant companies
- Companies or local authorities who operates industrial boiler at public garbage disposal site
- Test / Inspection / Certification Service Providers who has business relations with above companies
- Construction companies who build public infrastructure (e.g. bridges)

#### Target end users

- Oil / Gas
- Chemical
- Aerospace
- Power Plant (incl hydroelectric power)
- Test / Inspection / Certification Boards
- Construction



## SQPV Glass - Energy Harvesting Glass

### Advanced Energy Harvesting Glass Technology

• SQPV Glass and SQ-DSSC: We have developed the world's most advanced and efficient energy harvesting glass, SQPV glass, and SQ-DSSC, which are designed to seamlessly integrate renewable energy generation capabilities into traditional window systems. SQPV glass is transparent, generating electricity while also acting as an effective heat shield.

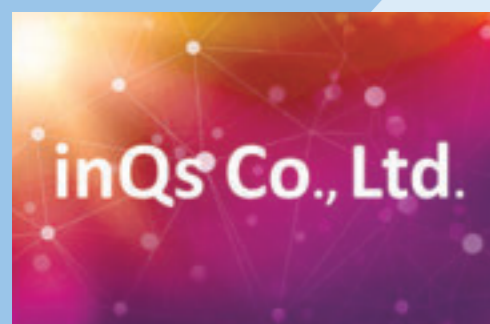
### Versatile and Eco-Friendly Solutions

• Revolutionizing Energy Capture: Our revolutionary SQPV glass transforms the landscape of energy capture from indoor and residual light sources. This electricity can be conveniently used on-site or stored in batteries for emergencies. Importantly, our products are manufactured without harmful chemicals, emphasizing our commitment to eco-friendly solutions.

### Green Building Transformation

• Seamless Integration and Retrofitting: Our products have the potential to transform entire buildings into energy-harvesting structures. The seamless integration of SQPV glass as an inner pane on existing window frames allows for easy retrofitting, making it suitable for various applications such as wooden window frames, stained glass, tabletops, and more. Additionally, SQ-DSSC serves as a stand-alone power supply for IoT devices, emphasizing our dedication to innovation and sustainability.

## COMPANY PROFILE



**Representative**  
RIKE WOOTTEN

**HP**  
<http://www.inqs.co.jp/>



Our innovative glass technologies capture various forms of light energy to produce electricity, providing an eco-friendly solution for generating power locally for local consumption.

### Target companies

- Highly specialized glass manufacturers are creating value-added products for these projects.
- Manufacturers of electronic devices, with a particular focus on IoT for environmentally sustainable power generation.
- Producers of high-value raw materials, encompassing chemical, organic, inorganic, and organic and inorganic hybrid materials manufacturers, are integral to this ecosystem.
- Telecommunications, IT, and air conditioning companies are actively looking for power for their IoT solutions.
- Companies specializing in the installation of glass and glass panels at airports and transportation facilities.
- Universities and research institutions that are conducting research in organic and inorganic hybrid materials and hydrogen generation devices through water electrolysis.

### Target end users

- Public infrastructure construction companies.
- Technology firms specializing in IoT, air conditioning, and other advanced technologies.
- National and local government entities.
- Suppliers of construction materials for buildings and individual housing.
- Enterprises dedicated to the advancement of hydrogen generation equipment and associated technologies.



## LEBO ROBOTICS INC



## Wind turbine Blade Repair Robot

(1) Wind turbine blade repair robots and (2) wind turbine blade inspection robots are designed for operations in elevated locations and can be remotely controlled from the ground. The robot ascertains the blade wear and calculates the optimal blade shape. It then grinds the blade, applies putty and finally polishes the blade to achieve the optimal shape. The robots are also capable of finishing blades by applying paint or a film coating.

## COMPANY PROFILE



**Representative**  
KEITARO HAMAMURA

**HP**  
<https://www.leborobotics.com/en>



We have been developing Remote controlled Wind turbine maintenance robot and providing robotic maintenance service in Japan and Europe.

### Target companies

- Wind turbine owners

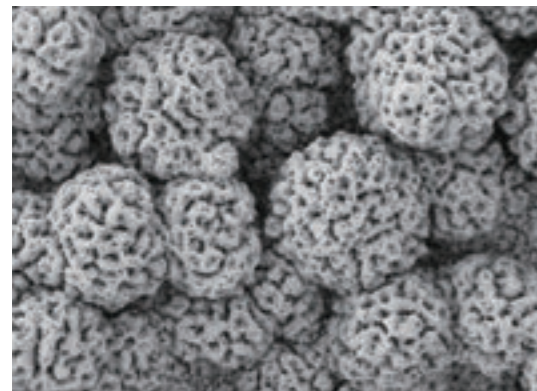
### Target end users

- Wind turbine owners
- Wind turbine manufacturers
- Independent service provider

# Nano Frontier Technology Co., Ltd.



07



## Blackest coating on substrate

World's highest absorption and durability coatings for solar receivers in CSP plants. This coatings are composed of TiO<sub>2</sub> and black pigments. Coral-structured three- layer (base layer, absorption layer and top layer) coating with porous enhance optical properties and durability. This coating shows much higher absorbance and higher durability than conventional coatings used for CSP.

## NANO-MAINTENANCE

In the glass coating generator, the new-generation ceramics come into contact with water, and molecules of a substance called SiO<sub>2</sub> (silicon dioxide) begin to dissolve into the water through an electrochemical reaction from the surface. The dissolved SiO<sub>2</sub> adheres to the construction object and forms three layers (nanoglass layers). Unlike conventional glass coatings that use chemicals, our glass coating uses only water and inorganic natural minerals, so the wastewater can be washed away after application. <Nano Maintenance> We have developed a cleaning solution that mainly contains mold, such as buildings, solar panels, etc., and has the characteristic of eradicating the cause

of mold by killing the sclerotia of mold. In March 2016, we received an order from the Ministry of the Environment for this method of glass coating and protection after cleaning as the nano-maintenance SB method.

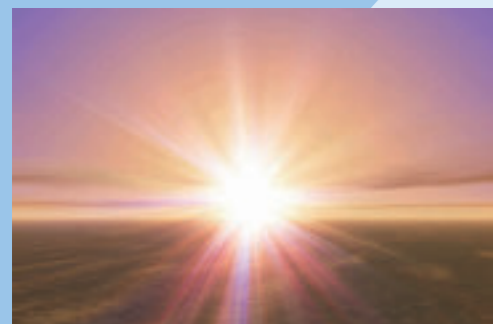
<Nanoshine> Our technology for coating moving objects such as cars, trains, buses, and taxis enables quick and easy construction that is unparalleled in the construction methods of other companies.

08



# SYSTEM BRAIN CORPORATION

## COMPANY PROFILE



We are specialists in the development of nanomaterial composites and have developed high-performance solar absorber coatings. We will promote the use of renewable energy with this coating.

### Target companies

- CSP plant
- Ink manufacturing company (Titanium coordination)
- Drone company (Drone flight and coating)
- Companies and research institutes that own tower receivers

### Target end users

- Research and development company
- Chemical product manufacturing company
- Nanomaterial development company

Representative  
KAORU TSUDA

HP  
<http://www.nano-frontier.com/en>



## COMPANY PROFILE



Representative  
TOMOKAZU KANDA

HP  
<https://systembrain.cc/english/>



A unique coating technology that does not use any chemicals and simply uses only water and composite ceramics to form a vitreous shielding film on the object!

### Target companies

- Building management company (real estate related)
- Internal/external contractor (Transportation infrastructure related)
- Car dealer

### Target end users

- Real estate related
- Building management company
- Transportation infrastructure related
- Internal/external contractor
- Car dealer relationship

### Tenchijin COMPASS KnoWaterleak Water Leakage Risk Assessment Software



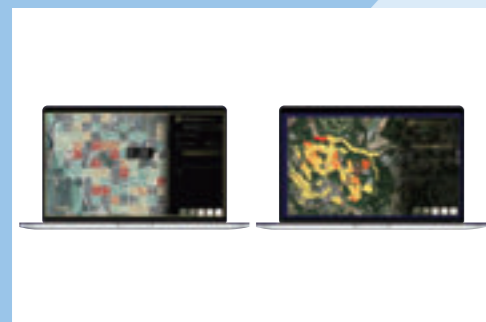
#### For water management KnowWaterLeak: Water Leakage Risk Assessment Solution

The software visualizes risk of water leakage with a spatial resolution of 100m in the entire water network of a city by combining water pipe and environmental data from network and satellites, calculating the probability of leakage with A.I, and mapping the areas the most prone to leakage.

#### For renewable energy site development: RENEWABLE ENERGY SITE SEARCH SOLUTION

The product visualizes the most suitable areas to build solar and wind turbine power plants now and in the decades to come. It supports planners, developers, EPC, O&M maximize energy output and performance while minimizing social reluctance, environmental impact and being compliant with legal policies.

## COMPANY PROFILE



**Representative**  
ADRIEN LEMAL

**HP**  
<https://tenchijin.co.jp/?hl=en>



Tenchijin provides its "Land Evaluation Engine" by harnessing satellite data and AI. It analyses the features of each area of land and evaluates its performance. It supports companies in carrying out their business activities in the most profitable and sustainable ways, especially with regard to water infrastructure, renewable energy and agriculture. Tenchin is a JAXA (Japan Space Agency)-certified start-up (JAXAventure.)

#### Target companies

- Water utilities
- Local government / Stadtwerke
- Software provider for water management
- Software (planning, maintenance) for water management
- Sensor (smart-meter, pressure) manufacturers for water management

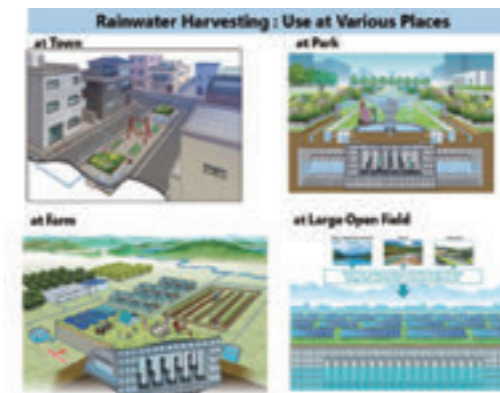
#### Target end users

- Water utilities
- Local government / Stadtwerke
- Solar and Wind energy site developer



TOTETSU MFG. CO., LTD

## Totetsu Manufacturing Company Limited



### Aqua Palace Universal Water Storage System

\*Specification: 1) On-site and distributed storage and use of water, 2) Modular structure allows for flexible storage capacity of 100m<sup>3</sup> to 100,000m<sup>3</sup>, and 3) Utilization of the upper part of the reservoir (withstand load of 25 tons).

\*Use: It can be applied to the multi-purpose use of water storage; a) Storage of digestive water for forest fire prevention, b) Rainwater storage in residential areas for domestic water use, c) Local flood countermeasures by rainwater storage (parking lots of housing complexes, parks, school grounds, etc.), d) Rainwater storage usage (farmland/suburbs near residential areas)

## COMPANY PROFILE



**Representative**  
MASAYUKI KUBO

**HP**  
<https://apwaterstorage.com/>



Totetsu Mfg Co., Ltd. is a comprehensive manufacturer of rainwater storage and utilization. We develop and manufacture products for water storage and use, and focus on water problems such as water shortages, urban flooding, storage of digestive water for forest fire prevention.

#### Target companies

- Engineering company and civil engineering general contractor engaged in rainwater management projects of local governments
- Engineering companies and civil engineering general contractors engaged in projects such as forest fire management, managers of schools, parks, etc., and rainwater management projects implemented by large-scale agricultural businesses.
- Engineering companies and civil engineering general contractors engaged in the development of office buildings and apartment complexes

#### Target end users

- Water use management department of local government. Rainwater storage and use in residential areas, and measures through local flood storage
- Forest fire management department. Storage and use of firefighting water for forest fires.
- Administrators of schools, parks, etc. Collecting rainwater and using it as domestic water
- Large-scale agricultural business operators. Harvesting rainwater and using it for irrigation
- Office building developers, apartment complex developers, etc. Collecting rainwater and using it as domestic water