



UNITED NATIONS  
INDUSTRIAL DEVELOPMENT ORGANIZATION



# STePP

Sustainable Technology Promotion Platform

## Technologies from Japan

- Energy Technologies
- Environmental Technologies
- Agribusiness Technologies
- Human Health Technologies



As of March 2021



# **UNIDO ITPO Tokyo's Sustainable Technology Promotion Platform (STePP) is designed to share information on Japanese technologies that contribute to inclusive and sustainable industrial development.**

## **Concept**

UNIDO ITPO Tokyo promotes selected sound and productive Japanese technologies in order to accelerate the transfer of such technologies to developing and emerging countries.

Technologies registered on STePP tackle many issues and challenges faced by current societies striving for inclusive and sustainable industrial development. This includes energy technologies, environmental technologies, agribusiness technologies and human health technologies, all of which are provided by Japanese companies seeking to implement their technologies in developing and emerging countries.

STePP aims to become a platform where Japanese technology providers and governments/companies in developing and emerging countries can find partners for collaboration to achieve effective and sustainable technology transfer.

## **Criteria for Registration**

The technologies are evaluated for registration on STePP by the UNIDO STePP Evaluation Committee based on the following criteria;

1. Applicability in Developing and Emerging Countries
2. Competitive Advantage
3. Conformity with UNIDO's Mandate of Industrial Development
4. Contribution to Sustainability
5. Technical Maturity

Categories of technologies promoted are listed in the next page. Foreign Direct Investment (FDI), Joint Ventures (JV), and licensing of technologies, etc. are some of the ways by which the technologies can be transferred.

Any organizations in developing and emerging countries, such as governmental organizations, private enterprises, institutions or NGOs, are welcome to approach the technology providers on STePP through the contact person listed below each technology.



## Categories of UNIDO ITPO Tokyo's STePP

### Energy Technologies

- Renewable energy (ex: solar, wind, geothermal, small hydro, biomass)
- Energy saving and energy storage (ex: co-generation, storage batteries, energy saving)
- Utilization of unused resources (ex: high-efficiency and low-emission fossil fuel utilization)

### Environmental Technologies

- Pollution prevention and control (ex: pollution prevention of air, water and soil)
- Waste treatment and management (ex: industrial and municipal waste treatment)
- Circular economy (ex: 3R (reduce, reuse, recycle) related technologies)

### Agribusiness Technologies

- Food value chain\*<sup>1</sup> (ex: processing and quality control of food and drinks)
- Production enhancement (ex: soil conditioner)
- Adaptation to climate change (ex: drip irrigation system)
- Water resource management (ex: desalination, fresh water storage)

### Human Health Technologies\*<sup>2</sup>

- Public health (ex: drinking water supply, prevention of infection, toilets)
- Monitoring and diagnostic equipment (ex: simple equipment for health monitoring in remote areas)

\*1: Processing, transportation, preservation or quality control of acceptable, except for real foods and drinks (beverages).

\*2: It excludes pharmaceuticals, highly invasive medical devices for the human bodies, and folk remedies, etc.

For the detailed information please access  
[www.unido.or.jp/en/activities/technology\\_transfer/technology\\_db/](http://www.unido.or.jp/en/activities/technology_transfer/technology_db/)

#### UNIDO ITPO Tokyo

UNIDO's Investment and Technology Promotion Office, Tokyo (UNIDO ITPO Tokyo) was established in March 1981 and is one of 9 offices worldwide belonging to UNIDO's ITPO Network.

UNIDO ITPO Tokyo's mission is to help developing countries and economies in transition in their efforts to achieve inclusive and sustainable economic development by promoting foreign direct investment (FDI) and technology transfer from Japan, through various promotion activities in Japan and also in recipient countries using UNIDO's private and public sector networks.



UNITED NATIONS  
INDUSTRIAL DEVELOPMENT ORGANIZATION

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# Index

**NEW** Registered in 2020

	Company	Technology	Energy Technologies	Environmental Technologies	Agribusiness Technologies	Human Health Technologies	page
	1	AffordSENS Corporation	Vitalgram®: Wearable Multi-Vital Sensor			X	60
	2	AGC Inc.	Electrodialysis Using Ion Exchange Membranes		X	X	25
		High durability film "F-CLEAN™" for greenhouse	X		X		47
<b>NEW</b>		KANAZAWA INDUSTRY CO., LTD / AGC Inc.	Electrolyzed Water Generator Incorporated with Ion Exchange Membrane			X	60
<b>NEW</b>	3	ARKRAY, Inc.	ARKRAY Japan: Blood Biochemical Analyzer "The Lab 004"			X	61
<b>NEW</b>	4	Bamboo Chemical Laboratory, Ltd.	3 Types of Small Hydropower Generator	X			9
	5	BGCT JAPAN K.K., Creative Co., Ltd.	Solid Recovered Fuel "Green Coal" - RPPWF™	X	X		9
	6	Biomaterial in Tokyo Co., Ltd.	Ethanol Production through Yeast Fermentation	X			10
	7	CHUWA INDUSTRIAL CO., LTD. / M.K.D. Corporation	Environment-friendly and Smokeless Incinerator: CHUWASTAR		X		25
	8	COMOTEC Corporation	Cassette-type Black Smoke Removal Device		X		26
	9	CR-POWER LLC	Biofuel and Waste Management: C-POWER PLANT	X	X		10
	10	Donico Inter Co., Ltd.	Micro-Sizer: Glass Cullet Production Equipment		X		26
			Efficient Glass Interlayer Separation Equipment		X		
<b>NEW</b>	11	Earth Clean Tohoku Co., Ltd.	Energy Saving Air Conditioning without Freon "DESICCANT+MEGACOOl®"	X		X	11
	12	EcoCycle Corporation	EcoClean and GreenClean Series for Bioremediation		X		27
	13	ef-initials Co., Ltd.	Multilayer Nanotechnology Coatings			X	47
	14	EiShin Co., Ltd.	Energy Efficient & Eco-Friendly Automobile Filter Spray	X	X		11
	15	Excelsior, Inc.	Mt. Fuji Toilet: Portable and ECO-friendly Hygiene Facility		X	X	28
	16	Fermentation Co., Ltd.	Integrated Ethanol Production System Utilizing Biomass		X	X	28
<b>NEW</b>	17	Fujita Corporation	Container Unit "Quick & Easy Hospital" with Remote Supervision IT System			X	61
	18	FUMIN Co., Ltd.	Coating for Ultraviolet and Infrared Ray Shielding	X			12
			"MR-X" Agricultural Materials for Environmental Protection			X	
	19	GAINA Pro Co., Ltd., NISSIN-SANGYO CO., LTD.	GAINA - A Multifunctional Ceramic Coating Material	X			12
<b>NEW</b>	20	GIKEN LTD.	Press-in Method (Piling technology) with "Silent Piler"		X	X	29
<b>NEW</b>	21	Green Science Alliance Co., Ltd. (Fuji Pigment Co., Ltd. Group)	Biodegradable Resin: Nano Sakura		X		29
	22	GUUN Co., Ltd.	Fluff Fuel Technologies Derived from Waste Plastics		X		30
	23	HINODE SANGYO Co., Ltd.	Elbic Series Solutions for Wastewater Treatment		X		30
			Hinode Microbubble Generator (HMB)		X		
	24	Hitachi Metals, Ltd.	Amorphous Energy Efficiency Distribution Transformer	X			13
<b>NEW</b>	25	HORIBA, Ltd.	Accurate and Fast Non-contact Infrared Thermometer: IT Series	X		X	13
	26	IHI Corporation	TIGAR®(Twin IHI GASifier)	X			14

As of March 2021

# Index

**NEW** Registered in 2020

	Company	Technology	Energy Technologies	Environmental Technologies	Agribusiness Technologies	Human Health Technologies	page
	27	JAG SEABELL CO., LTD.	Micro Hydropower System (ultra-low head)	X			14
	28	Japan Conservation Engineers & Co., Ltd.	Fulvic Acid Extract "Fujimin"		X		48
	29	Japan Insulation Co., Ltd.	Thermal Insulation Materials Using Biomass	X	X		15
	30	JTOP Co., Ltd.	On-site Regeneration System of Activated Carbon Filtration Unit		X		31
	31	KAIHO INDUSTRY CO., LTD.	Eco-Friendly ELV Recycling System		X		32
	32	KANEKA CORPORATION	KANEKA Biodegradable Polymer PHBH™		X		32
	33	KAWASAKI KIKO CO., LTD.	Tea Ingredient Analyzer		X		49
	34	KAWATOKU CO., LTD.	Removing Heavy Metals from Water		X		33
	35	KIHARA WORKS Co., Ltd.	Food Dehydrator with DDS (Dual Drying System)		X		49
	36	KINSEI SANGYO CO., LTD.	Waste Incinerator of Gasification System		X		33
	37	KITA MACHINERY Co., Ltd	Engineering Design and Construction Method of Wastewater Treatment		X		34
			Engineering Design and Construction Method of Micro Hydropower	X			15
	38	Kokusaikan Corporation Japan / Japan Nano Coat Co., Ltd. / Miyako Roller Industrial Co., Ltd. / ef-initials Co., Ltd. / Nano-Science Laboratory Corporation	Nanotechnology & Industrial Coatings	X		X	16
	39	KOMAIHALTEC Inc.	Mid-Size Wind Turbine "KWT300" (300kW)	X			16
	40	KYOCERA Corporation	Photovoltaic Module / Solar Hybrid System	X			17
	41	Lequio Power Technology Corp., Okinawa Medical Device Co., Ltd.	Portable Ultrasound Scanner			X	62
	42	MARS Company	High-Quality Food Preservation: Kuraban		X		50
			Special Ice Maker from Salty Water: sea snow		X		50
	43	MARUSYO SANGYO CO., LTD.	Antimicrobial Coating: Inviroshield M5		X	X	62
<b>NEW</b>	44	Nanatsubaki Inc. (Matsuzawa kawaraten Group)	Electrodeless Germicidal Lamp: "SVI (Super Virus Inactivity) Light"			X	63
	45	Mebiol Inc.	Sustainable Agriculture through Film Farming		X		51
	46	Meiwa Co., Ltd.	Biochar for Drought-vulnerable Agriculture		X		51
			Converting Organic Waste into Charcoal		X	X	34
	47	Microtech Inc.	Drinking Water Quality Analysis Technology			X	63
	48	Mikuniya Corporation	Mishimax Organic Waste Treatment System		X		35
	49	Mitsubishi Chemical Aqua Solutions Co., Ltd.	On-Site Water Treatment System		X	X	64
<b>NEW</b>			Oil Adsorbent DiaFellow™ DM		X		35
<b>NEW</b>			Real-time Online Wastewater Monitoring System		X		36
	50	Nabell Corporation	Portable Solar Power Charge and Storage System	X			17
	51	Nakayama Iron Works, Ltd.	Pico and Micro Hydropower Systems	X			18

As of March 2021

# Index

NEW Registered in 2020

	Company	Technology	Energy Technologies	Environmental Technologies	Agribusiness Technologies	Human Health Technologies	page
	52 NascNano Technology Co., Ltd.	Multifunctional Nano-coating Technology		X		X	64
NEW	53 NEW STANDARD'S Co., Ltd.	AWG (Atmospheric Water Generator) with Ultra-efficient Condensation System "Sarastear®"			X	X	65
	54 NGK INSULATORS, LTD.	Sodium Sulfur Battery System	X				18
	55 Nihon Genryo Co., Ltd.	Eco-friendly Mobile Sand Filtration Device		X			36
		Eco-friendly Non-Electric Sand Filtration Device		X			37
		Eco-friendly Sand Filtration Device		X			37
	56 NIHONHAKKO Co., Ltd.	KID System		X			38
	57 Nippon Basic Co., Ltd.	Bicycle-Powered Water Purifying Equipment		X		X	65
		Desalination of Seawater for Drinking			X		52
	58 Nippon Biodiesel Fuel Co., Ltd. (NBF)	Rural Energy Supply with Jatropha	X		X		52
	59 Nomura Kohsan Co., Ltd.	Mercury Waste Recycling Technology		X			38
	60 Old Faithful Japan Co., Ltd.	Clean Move		X		X	66
	61 OOHASHI CO., LTD.	Road Mats Made of Recycled Polyethylene		X	X		53
NEW	62 O's&Tec Co., Ltd.	High Voltage Generator for Maintaining Freshness "Wi-Free"			X		53
	63 OSMO Co., Ltd.	Distributed Simple Water Purification Plant System		X		X	39
	64 Panasonic Corporation	Rechargeable Solar LED Lantern	X				19
	65 3ms Inc.	Energy-Saving Ceramic Sheets for Air Conditioners	X				19
	66 RBC Consultant Co., Ltd.	Water Treatment with Bakture System		X	X		39
	67 Sanso Electric Co., Ltd.	Water Treatment Facility: "Desalion"			X	X	54
NEW	68 Saraya Co., Ltd.	Anti-Viral Alcohol-Based Hand Rub and Improvement of Hygiene Environment through Infection Prevention and Control by Hygiene Instructors				X	66
	69 Shinko Tecnos Co., Ltd.	Plastic Changing to Oil Machine (BP-2000N/5000N)	X	X			20
		Hydrothermal Treatment Technology		X			40
NEW	70 Shinmei Co., Ltd.	Food Traceability Technology Utilizing QR Code, RFID IC Tag and Printer			X		54
	71 Sion Corporation	Functional Material: CircuLite	X	X			40
NEW		Anti-Virus/Microbe Porous Material and Applied Equipment		X		X	67
	72 SO-EN CO., LTD.	Water Treatment with Carbon Fiber		X			41
	73 Solar Wind Technology inc. / KANKYO BUNKA KENKYUSHO Co., Ltd. / Aga Material Co., Ltd.	Hypochlorous Acid Type Disinfectant: JIAT X KIREIKUKAN				X	67
	74 STELLA ENVIRONMENT CORPORATION	Small-Type Medical Waste Incinerator		X			41
	75 Sugawara Industry Co., Ltd.	Asphalt Waste Recycling Technology		X			42
	76 Sumino Co., LTD.	Micro Hydraulic Power Unit (Spiral Type Pico-Hydro Unit)	X				20
	77 Sumitomo Electric Industries, Ltd.	Concentrator Photovoltaic (CPV) Power Generation System	X				21
		Vanadium Flow Battery System for Energy Efficiency	X				21
	78 TAIKI SANGYO CO., LTD.	Electric Food Dryer			X		55

As of March 2021

# Index

NEW Registered in 2020

	Company	Technology	Energy Technologies	Environmental Technologies	Agribusiness Technologies	Human Health Technologies	page
	79 Takino Filter inc.	Takino Filter Growing Mats			X		55
	80 TAMADA CORPORATION	SF Double-wall Tank		X			42
	81 TBM Co., Ltd.	FOG-green Power Generation System	X	X			22
NEW	82 TBM Co., Ltd. (Times Bridge Management)	LIMEX: Alternate Plastic and Paper Material		X			43
NEW	83 Techno Medica Co., Ltd.	Portable Electrolyte Analyser: STAX-5 inspire				X	68
	84 TECHNO TAKATSUKI, CO., LTD.	Linear Diaphragm Air Pump	X	X			43
	85 TERAL INC.	DC Solar Pump System			X		56
NEW	86 Terios-Tec Co., Ltd. / Parks Co., Ltd.	Hypochlorous Acid Solution Manufacturing Equipment (Patented Technology: Buffer Method)				X	68
	87 TESNA Energy Co., Ltd.	Compact Waste Incinerator		X			44
	88 TOHATSU CORPORATION	Electronically Controlled 4 Stroke Fuel Injection Systems (Model: VF53AS)			X		56
NEW	89 Tokyo Boeki Medisys Inc.	Fully Automated Clinical Analyser "BIOLIS 30i"				X	69
	90 TOTETSU MFG. CO., LTD.	Rainwater Harvesting and Underground Storage			X		57
	91 Tottori Resource Recycling Inc.	Porous System		X	X		57
	92 Toyokosho Co., LTD.	Photocatalytic Deodorization System: PCF® Hybrid		X			44
	93 Tromso Co., Ltd.	Rice Husk Briquette Machine		X	X		58
NEW		Water Purifier "Welvina" Series		X		X	69
NEW	94 TSP TAIYO INC.	Mobile Inspection System with Solar Modules				X	70
NEW	95 Tsuji plastics Co., Ltd.	Battery-free Innovative Solar Charger	X	X			22
	96 Tsukishima Kankyo Engineering Ltd.	Waste Liquid Incineration System		X			45
	97 VPEC Inc.	Power Router for ECONETWORK	X				23
	98 Well Create Co., Ltd.	Merry's System: Food Waste Composting and Creating Recycling Loop		X	X		45
	99 Yamaha Motor Co., Ltd.	Clean Water Supply System for Rural Areas		X		X	70
	100 YIELD Co., Ltd.	Photocatalyst Titanystar		X		X	71
	101 Y's Global Vision, Inc.	Compact-Sized Desalination Device			X	X	58

As of March 2021



# Energy Technologies

- » **Renewable energy**

(e.g. solar, wind, geothermal, small hydro, biomass)

- » **Energy saving and energy storage**

(e.g. co-generation, storage batteries, energy saving)

- » **Utilization of unused resources**

(e.g. high-efficiency and low-emission fossil fuel utilization)



NEW

Bamboo Chemical Laboratory, Ltd.

Renewable energy

## 3 Types of Small Hydropower Generator

### Target Area

Rural electrification

### Technology

The company's three types (Pelton, screw, undershot) of small-scale hydroelectric power generators are optimally applicable corresponding to the locational conditions such as water flow and head. The range of power generation output is 10kW or less. Compared to large-scale type, the initial cost and operation cost are relatively inexpensive. In general, it is appropriate to install in small and medium-sized irrigation canals.

### Sample Projects

In total, 23 hydropower units of the three types have been installed. In developing countries, 1 unit of Pelton type in El Salvador, 3 units of screw-type in Myanmar and 1 unit of screw-type in the Philippines have been operating.



Website: [www.pikara.ne.jp/bamboo906/](http://www.pikara.ne.jp/bamboo906/)  
Contact: Mr. Masayuki TSURUHA [m-tsuruha@mb.pikara.ne.jp](mailto:m-tsuruha@mb.pikara.ne.jp)

Renewable energy  
[Environmental Technologies: Circular Economy]

BGCT JAPAN K.K. / Creative Co., Ltd.

## Solid Recovered Fuel 'Green Coal' - RPPWF™

### Target Area

Fossil fuels; Carbon dioxide emissions

### Technology

"RPPWF™" is a promising alternative fuel resource to coal and oil, produced entirely from waste materials. It is made from non-hazardous, non-recyclable papers, plastics/plants and wood waste, and other household and industrial waste. Because RPPWF™ contains a lot of biomass, CO<sub>2</sub> emissions can be mostly reduced to zero. Also the combustion efficiency is much higher than coal and oil.

### Sample Projects

Pilot production of RPPWF™ was successfully completed at the company's test plant.



Website: [www.bgct.jp](http://www.bgct.jp)  
Contact: Mr. Michihiro KIYAMA [info@bgct.jp](mailto:info@bgct.jp)

Biomaterial in Tokyo Co., Ltd.

Renewable energy

## Ethanol Production through Yeast Fermentation

### Target Area

Ethanol production

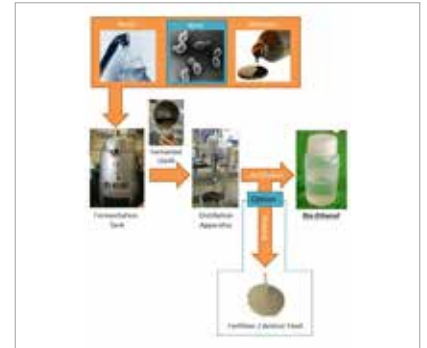
### Technology

The company's strains of yeast used in fermentation process for converting sugars into ethanol have the advantages of being active in high sugar concentrations, low levels of impurities, and resistance to high temperatures. Using these strains of yeast can produce safe ethanol, not only as an alternative fuel, but also as a beverage additive.



### Sample Projects

Several studies have been done at various universities in Japan and the tolerance of the yeasts to high temperatures has been tested in collaboration with the Starch Technology Center at the Agency for the Assessment and Application of Technology in Indonesia.

Website: [www.biomt.jp/](http://www.biomt.jp/)

Contact: Mr. Motoi YAMANAKA

[bits@biomt.co.jp](mailto:bits@biomt.co.jp)

CR-POWER LLC

Renewable energy  
[Environmental Technologies: Circular Economy]

## Biofuel and Waste Management: C-POWER PLANT

### Target Area

Waste disposal; Energy production

### Technology

C-POWER plant thermally decomposes organic carbon such as municipal solid waste and various biomass to produce fuel gas which can be utilized for electricity generation and chemical feedstock, in a continuous process. It consists of the 'horizontal rotating cylindrical kiln' (U-turn kiln) and the 'spiral cylinder interior horizontally rotating kiln' (Hybrid kiln) which enable high energy efficiency and low output of ash. C-POWER plant can generally treat 20kg of raw materials per hour.



### Sample Projects

Starting with the development of the U-turn kiln in 2000, CR-POWER LLC proceeded to the construction of the pilot plant in 2004. In addition, the company invented the Hybrid kiln to enforce gasification reaction in 2012. There are three commercial C-POWER plants operating in Japan.

Website: [www.cr-power.jp/eng](http://www.cr-power.jp/eng)

Contact: Mr. Akimichi HATTA

[hatta@cr-power.jp](mailto:hatta@cr-power.jp)

NEW

Earth Clean Tohoku Co., Ltd.

Energy saving and energy storage  
[Agribusiness Technologies: Food value chain]

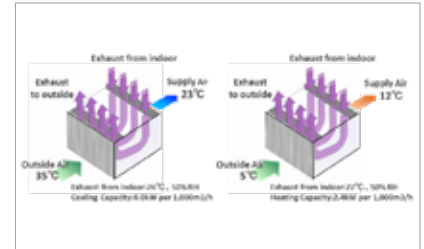
## Energy Saving Air Conditioning without Freon "DESICCANT • MEGACOOOL® "

### Target Area

Air conditioning with no freon

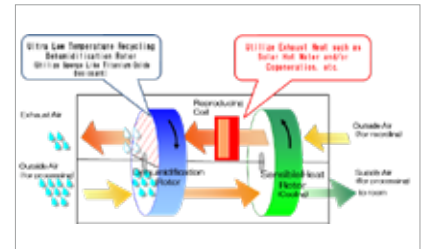
### Technology

DESICCANT•MEGACOOOL® is a new air conditioning system which has basic functions of cooling, heating, dehumidifying, ventilation, humidifying, removing bacteria, deodorization, and air purification. It is an energy-saving and environmentally friendly product since it efficiently utilizes phenomenon of water vaporization as well as heat exchange and does not use freon gas.



### Sample Projects

Both DESICCANT unit and MEGACOOOL® have been delivered to various places across Japan such as supermarkets, food production factories, hospitals, etc.



Website: [www.earthclean.co.jp/](http://www.earthclean.co.jp/)

Contact: Mr. Masahiro OOTANI

[m.ootani@earthclean.co.jp](mailto:m.ootani@earthclean.co.jp)

EiShin Co., Ltd.

Energy saving and energy storage  
[Environmental Technologies: Waste treatment and management]

## Energy Efficient & Eco-Friendly Automobile Filter Spray

### Target Area

Emission reduction from vehicles

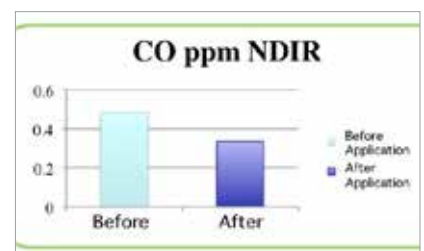
### Technology

"eco-SPRAY," allows cleaner combustion in the car engines which translates into improved power and fuel efficiency as well as reduced emissions. The spray is applied to car air filters every 5,000-6,000 km to reduce harmful emissions and increase gas mileage, typically from 8-20%, while decreasing air pollution.



### Sample Projects

Distributed in 15 countries since 2012: China, Thailand, Canada, USA, UAE, Romania, Korea, Cambodia, Vietnam, Iran, Philippines, Bangladesh, Nepal, Taiwan and Japan.



Website: [eishin-e.jp/en/](http://eishin-e.jp/en/)

Contact: Ms. Mitsuko ISHINABE

[info@eishin-e.jp](mailto:info@eishin-e.jp)

FUMIN Co., Ltd.

Energy saving and energy storage

## Coating for Ultraviolet and Infrared Ray Shielding

### Target Area

Ultraviolet rays; Building and vehicle temperature control

### Technology

The ultimate solar control coating technology called FUMIN COATING™ forms an ultra-thin transparent film of 1.5 microns thickness that shuts off about 90% of ultraviolet rays and 70% of infrared rays. It can be applied on any type of curved or bumpy surface glass and polycarbonate. Because 85% of visible light transmission is achieved, the exterior appearance and interior brightness are not affected at all.



### Sample Projects

5,000 construction projects have been completed during the past 10 years. This coating was also selected for The National Art Center of Tokyo covering 4,700 square meters glasses. In Singapore, it was verified that this technology reduced the temperature within an elevator by 2 degrees Celsius (20% energy saving).



Website: [www.fumin.jp/index\\_en.html](http://www.fumin.jp/index_en.html)

Contact: Mr. Katsuo YAGISAWA [k-yagisawa@fumin.jp](mailto:k-yagisawa@fumin.jp)

GAINA Pro Co., Ltd / NISSIN-SANGYO CO., LTD.

Energy saving and energy storage

## A Multi-functional Ceramic Coating Material

### Target Area

Energy efficiency

### Technology

GAINA is a unique paint that can provide strong insulation effect just by painting it. By providing insulation, it helps to reduce energy cost. The product originated from the technology developed at the Japan Aerospace Exploration Agency (JAXA) for H-IIB type rocket development.



### Sample Projects

The shipping of GAINA started in 1999, and the cumulative shipping quantity is 627,390 cans in 2018.



Website: [www.gaina.com/](http://www.gaina.com/)

Contact: NISSIN-SANGYO., LTD. [Inquiry@gaina.co.jp](mailto:Inquiry@gaina.co.jp)



Hitachi Metals, Ltd.

Energy saving and energy storage

## Amorphous Energy Efficiency Distribution Transformer

### Target Area

Energy loss in conventional transmission and distribution system

### Technology

Metglas® amorphous metal distribution transformers (AMDTs) with up to 80% lower core loss than conventional ones increase efficiency of energy transmission and distribution. They contribute to energy saving of distribution grids and reduction of CO<sub>2</sub> emissions.



### Sample Projects

This technology was developed in the 1970s, and AMDTs started to be used in the 1980s. They have been used in many countries such as Japan (410,000 units), USA (420,000 units), China (385,000 units), India (800,000 units), Mexico (65,000 units), Brazil (60,000 units) and the Republic of Korea (80,000 units).



Website: [www.hitachi-metals.co.jp/e/index.html](http://www.hitachi-metals.co.jp/e/index.html)

Contact: Mr. Masahiro OKADA [masahiro.okada.dp@hitachi-metals.com](mailto:masahiro.okada.dp@hitachi-metals.com)

NEW

HORIBA, Ltd.

Energy saving and energy storage  
[Agribusiness Technologies: Food value chain]

## Accurate and Fast Non-contact Infrared Thermometer: IT Series

### Target Area

Temperature control/monitoring

### Technology

This series of thermometers allows for accurate, fast and efficient temperature measurement from a distance. Rotating and moving objects can also be measured. It can measure temperature safely and hygienically due to non-contact. This series would fit from household to industrial use and could be used to measure the temperature of automobiles, asphalt pavements, manufacturing process of food, etc.

### Sample Projects

The series are sold in Japan and international markets such as the USA, UK, India, Singapore, Malaysia, China, and Indonesia.



Website: [www.horiba.com/en\\_en/](http://www.horiba.com/en_en/)

Contact: Mr. Leo YASUKAWA [leo.yasukawa@horiba.com](mailto:leo.yasukawa@horiba.com)

IHI Corporation

Renewable energy, Utilization of unused resources

## Biomass Gasification Plant: TIGAR® (Twin IHI GASifieR)

### Target Area

Application of biomass

### Technology

TIGAR® gasifies biomass resources such as wood chip and pellet to produce syngas (synthetic gas: hydrogen, carbon monoxide and other usable gases) by water-gas shift reaction. Syngas can be effectively utilized for various applications such as chemical feedstock and power generation fuel. By converting unutilized resources into a high-value product, TIGAR® reduces a large volume of CO<sub>2</sub> emission and provides a new clean energy solution.

### Sample Projects

The installation and demonstration project to operate for nearly 6,000 hours completed. IHI Corporation is ready to export TIGAR® for commercial purposes.



Website: [www.ihico.jp/en/](http://www.ihico.jp/en/)

Contact: Mr. Takashi SAKANO

sakano4687@ihi-g.com

JAG SEABELL CO., LTD.

Renewable energy

## Micro Hydropower System (ultra-low head)

### Target Area

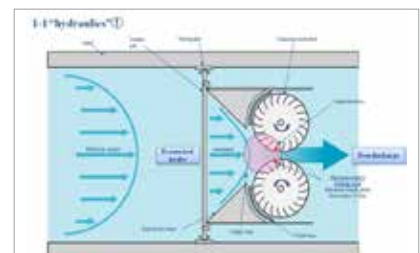
Hydroelectric power generation; Ultra low head environment

### Technology

The STREAM is a run-of-river micro-hydropower generating system that can generate electricity especially in ultra-low head situations. Due to its compact size and ease of installation (typically two days of installation and commissioning in Japan), the system is especially suited for de-centralized power generation. Unlike conventional small hydropower schemes, a power channel, a powerhouse and penstock delivery are not necessary.

### Sample Projects

Since 2008, the company has installed over 20 units in Japan and a pilot system in northern India.



Website: [www.jagsebell.jp/english/index.html](http://www.jagsebell.jp/english/index.html)

Contact: Mr. Akira HIDEAWA

hidesawa@jagsebell.jp

Japan Insulation Co., Ltd.

Energy saving and energy storage  
[Environmental Technologies: Circular Economy]

## Thermal Insulation Materials Using Biomass

### Target Area

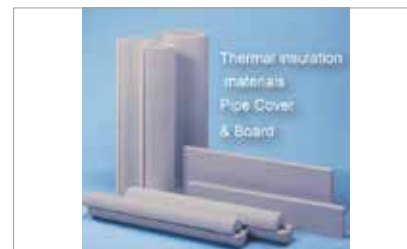
Waste reduction

### Technology

The company has created a technology that uses biomass (rice husks) as a raw material and fuel in order to produce thermal insulation materials. The thermal insulator can cover the pipes and equipment contained in industrial plants, such as power, refinery and chemical plants. It keeps heat from escaping, improving the energy efficiency of the plant and helping the environment. Not only is the material non-combustible, but it is also lightweight and environmentally friendly.

### Sample Projects

The factory in Vietnam to produce insulation materials using the technology was launched in May 2016, and has been supplying materials. We have also supplied materials in Malaysia, Singapore, Indonesia, Philippines and some other countries.



Website: [www.jic-bestork.co.jp/](http://www.jic-bestork.co.jp/)

Contact: Mr. Koji ANDO [k-andou@jic-bestork.co.jp](mailto:k-andou@jic-bestork.co.jp)  
Mr. Takashi KAWAMOTO [t-kawamoto@jic-bestork.co.jp](mailto:t-kawamoto@jic-bestork.co.jp)

KITA MACHINERY Co.,Ltd.

Renewable energy

## Engineering Design and Construction Method of Micro Hydropower System

### Target Area

Regional electrification

### Technology

A micro hydropower system developed by KITA MACHINERY is providing not only excellent machines but also the know-how in understanding the site conditions, selection of equipment and parts, design and installation method. Based on the know-how, we can make an optimal suggestion for local needs and conditions. Parts and equipment can be operated with less maintenance, which can help local people to operate by themselves. After installation, operating cost is very low.

### Sample Projects

For the past 5 years, this micro hydropower system was installed in the Philippines (1 unit), Myanmar (5 units) and El Salvador (1 unit, for experimental use).



Website: [www.kitakikai.co.jp](http://www.kitakikai.co.jp)

Contact: Ms. Tomoko KANAMURA [kanamura@kitakikai.co.jp](mailto:kanamura@kitakikai.co.jp)  
Ms. Haruka UENISHI [haruka.uenishi@kitakikai.co.jp](mailto:haruka.uenishi@kitakikai.co.jp)

Kokusaikan Corporation Japan / Japan Nano Coat Co., Ltd.  
 Miyako Roller Industrial Co., Ltd. / ef-initials Co., Ltd.  
 Nano-Science Laboratory Corporation

*Energy saving and energy storage  
 [Human Health Technologies: Public Health]*

## Nanotechnology & Industrial Coatings

### Target Area

Excessive temperature stress in building; Accumulation of dirt on roofs, walls and others

### Technology

This product will reduce excessive temperature stress for people in buildings, households, and factories, and will protect crops in warehouses, goods in containers, and passengers in buses. Heat cutting paint will bring down temperatures by over 10°C on roofs and gas/oil tanks. Dust repelling function coated on painted surfaces will protect the heat cutting function from deterioration or accumulation of dust or dirt.

### Sample Projects

The product has been in the market for 5 years and used by Japan Railways for 3 years.



Website: N/A

Contact: Ms. Setsuko TIMUR

aladdintimur@gmail.com

## KOMAIHALTEC Inc.

*Renewable energy*

## Mid-Size Wind Turbine "KWT300" (300kW)

### Target Area

Supply of electricity to power stations and existing facilities

### Technology

The KWT300 is one of the very few high-spec, mid-size wind turbines available in the world. With 6.5m/s of annual average wind speed, one unit of wind turbine generates 600MWh/year, which is equivalent to the annual electricity use of 160 households. The KWT 300 is highly adaptable to the conditions of developing countries because of its flexibility (easy transportation, construction and various applications) and safety conscious design (strong, stable, and resistant to extreme winds, lightning and earthquakes).

### Sample Projects

A prototype was installed in Japan and has been operational since 2006. In 2010, one unit and technical training services were provided to the Wind Energy Technology Center in Mexico, established by UNDP and the Electric Research Institution of Mexico. In 2012 and 2013, 3 more units were installed in Japan.



Website: [www.komaihaltec.co.jp/english/](http://www.komaihaltec.co.jp/english/)

Contact: Renewable Energy Business Department [renew@komaihaltec.co.jp](mailto:renew@komaihaltec.co.jp)



## KYOCERA Corporation

Renewable energy

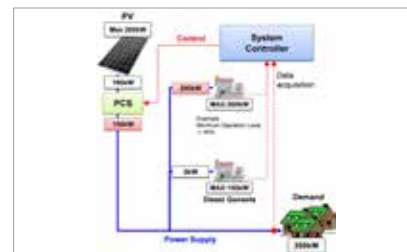
## Photovoltaic Module / Solar Hybrid System

### Target Area

Difficulties of managing hybrid renewable energy systems

### Technology

The company provides a solar hybrid system that can integrate photovoltaic solar panels with diesel generators or other renewable energy sources. The key technologies are the reliable and durable photovoltaic modules and electrical control of the hybrid system.



### Sample Projects

Since 2009, Kyocera has supplied photovoltaic power generation systems with a capacity of 3,000kW or more not only within Japan, but also in other countries. The company has introduced the system with a capacity of less than 1MW without batteries to Spain, Thailand, Mongolia, Syria, Palau, Djibouti, Maldives, Marshall Islands, Tajikistan, USA and Thailand.



Website: [global.kyocera.com](http://global.kyocera.com)

Contact: Mr. Yusuke SATO [yusuke.sato.sd@kyocera.jp](mailto:yusuke.sato.sd@kyocera.jp)

## Nabell Corporation

Renewable energy

## Portable Solar Power Charge and Storage System

### Target Area

Electricity generation in remote areas

### Technology

The nanoGrid is a portable solar power system that can generate and store electric power from sunlight and AC power supply. It features superior weather resistance and is ideal for non-electric power source areas.



### Sample Projects

The solar power system which consists of nanoGrid\_2 (solar panel) and FSP type1000 (lithium-ion battery) was installed to Japanese Red Cross Society.



Website: [www.bellows.co.jp/en/](http://www.bellows.co.jp/en/)

Contact: Mr. Toru WAKAMATSU [nabell@bellows.co.jp](mailto:nabell@bellows.co.jp)

Nakayama Iron Works, Ltd.

Renewable energy

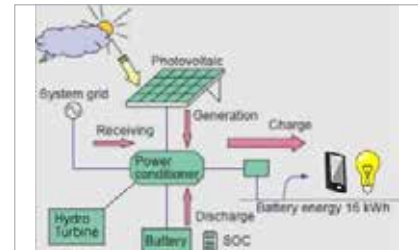
## Pico and Micro Hydropower Systems

### Target Area

Hydroelectric power generation

### Technology

The micro turbine is a matured technology. This system features advantages such as low manufacturing cost, a reliable and stable electric control panel system, and reduced power generation cost, in comparison to conventional power generation systems.



### Sample Projects

The company implemented small community development projects in Japan in 2012 and 2014. A more affordable technology was established and successfully implemented in collaboration with the Indonesian Small Hydropower Association. Additionally, the company has been proceeding with a small hydropower project in India since 2012 with JAG Seabell Co., Ltd. through OEM to provide turbines for hydropower generation.



Website: [www.ncjpn.com/en/](http://www.ncjpn.com/en/)  
 Contact: Mr. Yoshinobu WATANABE      overseas@nakayamairon.co.jp  
 Ms. Sayaka OKA

NGK INSULATORS, LTD.

Renewable energy, Energy saving and energy storage

## Sodium Sulfur Battery System

### Target Area

Energy storage

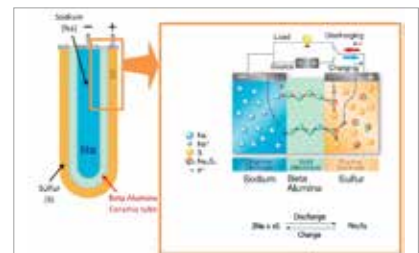
### Technology

Sodium Sulfur Battery System technology -- NAS<sup>®</sup> battery -- is currently the only commercially mature, large-scale energy storage technology that can be installed anywhere. It can be used for peak shaving, load leveling, and emissions reductions. From large capacity and high-energy density to long life and small size, there are many advantages to this technology.



### Sample Projects

The current total worldwide installed capacity (including under construction) of NGK's NAS battery systems is approx. 525 MW (3,560MWh), as of March 2018, including 360MW in Japan, 37MW in Europe, 20MW in North America and 108MW in UAE.



Website: [www.ngk.co.jp/nas/](http://www.ngk.co.jp/nas/)  
 Contact: Mr. Hironao HAYASHI      hayasi@ngk.co.jp  
 NAS Battery Sales & Marketing Overseas Department      nas-battery@ngk.co.jp

## Panasonic Corporation

Renewable energy

# Rechargeable Solar LED Lantern

## Target Area

Non-electrified area

## Technology

This rechargeable solar LED lantern is a multifunctional portable lantern that can be used as lighting, as a battery charger and as a solar panel. It comes with a 3.5W solar photovoltaic panel, which can fully recharge the waterproof lantern in 6 hours in fine weather. The batteries can be recharged more than 1,500 times. The LED lifespan is more than 10 years.



## Sample Projects

Recharging system of the lantern is performed by Panasonic's Ni-MH battery, which has been increasingly sold and distributed in Japan since 1990.



Website: [www.panasonic.com/global/home.html](http://www.panasonic.com/global/home.html)

Contact: Mr. Junichi NAKAMURA [Nakamura.jyunici@jp.panasonic.com](mailto:Nakamura.jyunici@jp.panasonic.com)

## 3ms Inc.

Energy saving and energy storage

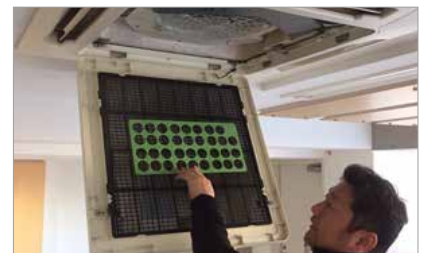
# Energy-Saving Ceramic Sheets for Air Conditioners

## Target Area

Energy efficiency of air conditioners

## Technology

The product, called Reidan-kun, is a ceramic sheet to be placed in the air conditioner. By enhancing the efficiency of heat exchange, it can reduce energy consumption by up to 26%.



## Sample Projects

More than 13,000 sheets were installed in the first year from August 2016 in Japan.



Website: N/A

Contact: Mr. Shinya WATABE [s-watabe@3ms-inc.com](mailto:s-watabe@3ms-inc.com)

## Shinko Tecnos Co., Ltd.

**Plastic Changing to Oil Machine (BP-2000N/5000N)**Target Area

Plastic waste; E-waste; Medical waste; Energy needs

Technology

A thermal decomposition plant called the “plastic to oil machine” can manufacture liquid fuel, combustible gas, and carbonized products from plastic wastes, E-wastes, waste tires, waste toners, medical wastes and crude-oil derived products. The machine has the advantages of easy operation, low fuel consumption, and production of high quality heavy and light oils.

Sample Projects

This technology has been adopted by more than 15 plants in Japan and introduced to Vietnam since 2013, Saudi Arabia since 2014, Indonesia since 2014, and China since 2015.



Website: [shinko-eng1.webnode.jp/](http://shinko-eng1.webnode.jp/)  
Contact: Mr. Kentaro NAGASAWA [info@shinko-mfg.co.jp](mailto:info@shinko-mfg.co.jp)

## Sumino Co., LTD

**Micro Hydraulic Power Unit (Spiral Type Pico-Hydro Unit “PicoPica10”, “PicoPica500”)**Target Area

Renewable Energy

Technology

Spiral PicoPica Hydraulic Power Unit is a promising pico-hydro power generation equipment which has potential for dissemination in non-electrified areas, with its characteristics including low-head generation and dust-resistance. “PicoPica10” is a small 10W unit, and “PicoPica500” is a 500W unit which generates enough energy for an average Japanese household.

Sample Projects

Since 2011 to date, 500 sets of PicoPica10 have been sold in Japan. PicoPica500 was released on December 2017 and it has already been placed in Nikko City, Tochigi Prefecture, Japan.



Website: [suminoseisakusho.jp/index.html](http://suminoseisakusho.jp/index.html)  
Contact: Mr. Masaya SUMINO [m\\_sumino@suminoseisakusho.jp](mailto:m_sumino@suminoseisakusho.jp)



Sumitomo Electric Industries, Ltd.

Renewable energy

## Concentrator Photovoltaic (CPV) Power Generation System

### Target Area

Solar power generation

### Technology

The conversion efficiency for the Concentrator Photovoltaic (CPV) system by Sumitomo Electric Industries, Ltd. is twice that of a standard silicon solar module. This is achieved through tracking of the sun and through the use of special lenses that direct sunlight into a high intensity.



### Sample Projects

The CPV system has been installed in Japan, Mexico and Morocco.



Website: [global-sei.com/contact/](http://global-sei.com/contact/)

Contact: Energy System Division [cpv-contact@info.sei.co.jp](mailto:cpv-contact@info.sei.co.jp)

Sumitomo Electric Industries, Ltd.

Energy saving and energy storage

## Vanadium Flow Battery System for Energy Efficiency

### Target Area

Energy storage

### Technology

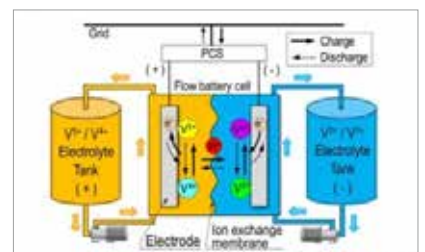
The vanadium flow battery (redox flow battery), can absorb and stabilize the fluctuations of outputs predicated by renewable energy sources. Essentially, it's a large scale energy storage system featuring a vanadium flow battery that charges and discharges depending on oxidation and reduction of vanadium ions in electrolytes.



### Sample Projects

One of the world's biggest flow battery of 60,000 kWh (15MW\*4h) is installed in Hokkaido.

The 8,000kWh (2MW\*4h) flow battery demonstration project has started in California in 2017.



Website: [global-sei.com/contact/](http://global-sei.com/contact/)

Contact: Energy System Division [cpv-contact@info.sei.co.jp](mailto:cpv-contact@info.sei.co.jp)

Renewable energy  
[Environmental Technologies: Waste treatment and management]

TBM Co., Ltd.

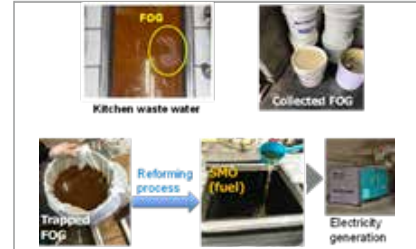
## FOG-green Power Generation System

### Target Area

Fats/Oil/Grease treatment from wastewater

### Technology

Wastewater derived from daily preparation and consumption of foods contains a lot of fats, oils and grease (FOG). TBM Co., Ltd. has two innovative techniques to reuse FOG: 1) Technique for the perfect separation and collection of FOG from wastewater, 2) Reforming technique of collected FOG to produce a new bio fuel for electricity generators.



### Sample Projects

Since its opening in April 2017, the FOG-green power generation system's power plant in Saitama prefecture generates 100KW x 24 hours x 365 days. In addition, we are proceeding the installation of our green power plants in various municipalities: Yokohama city, Tokorozawa city and Toshima-ku of metropolitan Tokyo.



Website: [kankichikun.com/english/](http://kankichikun.com/english/)

Contact: Mr. Seigo HIGASHI [info@kankichikun.com](mailto:info@kankichikun.com)

NEW

Tsuji plastics Co., Ltd.

Renewable energy  
[Environmental Technologies: Circular Economy (3R)]

## Battery-free Innovative Solar Charger

### Target Area

Off-grid

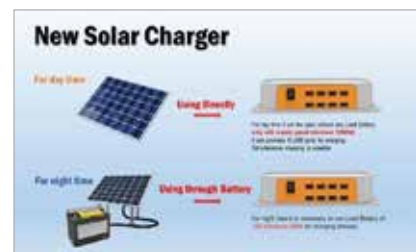
### Technology

The device uses no batteries at all. Its life expectancy is 10 years and it has 8 USB ports for charging. Once the device is connected to solar panel, it can equalize and optimize electricity supply to charge mobiles, lights, etc. In addition, maintenance cost will be almost nothing since there is no cost of battery replacement.



### Sample Projects

This solar charger is a new product launched in August 2019. Thus, it has only been tested and introduced in Uganda. However, other products which have similar structure have been sold for more than 20 years in Japan.



Website: [www.tsuji-pla.co.jp/en/home-2/](http://www.tsuji-pla.co.jp/en/home-2/)

Contact: Mr. Yoshikatsu TSUJI [y.tsuji@tsuji-g.com](mailto:y.tsuji@tsuji-g.com)

VPEC Inc.

Energy saving and energy storage

# Power Router for ECONETWORK

## Target Area

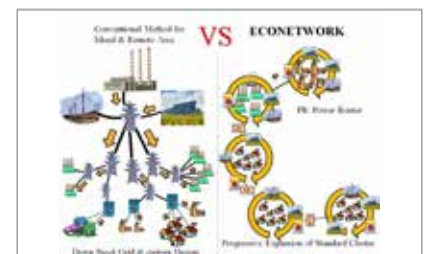
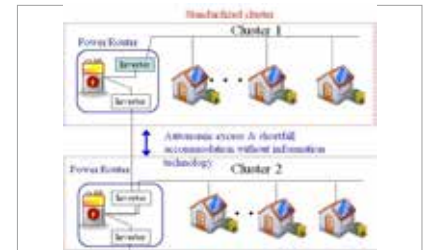
Energy loss in conventional electric distribution systems

## Technology

Power Router (PR) controls the electricity flow from one cluster to another cluster autonomously. ECONETWORK, which stands for Electricity Cluster Oriented Network, is a new architecture for electric distribution that makes the massive deployment of renewable energy sources available. PR consists of two inverters and a battery and accommodates the excess and shortfall of electricity transfer among clusters, without expensive telecommunication lines, thus contributing to the reduction of cost and complexity of electrification.

## Sample Projects

Computer simulation with Waseda University showed that the concept worked as designed. Laboratory test of the twin inverters function has been conducted with Osaka Gas & Waseda University, and resulted in proving the concept & simulation.



Website: [www.vpec.co.jp/index\\_e.html](http://www.vpec.co.jp/index_e.html)

Contact: Mr. Satoshi NAGATA

s-nagata@vpec.co.jp



# Environmental Technologies

A large sea turtle is swimming in clear, turquoise water. The turtle is positioned in the lower half of the frame, moving towards the right. The water is bright and clear, with some light rays visible. The background is a gradient of blue and green, suggesting a shallow, clear ocean environment.

- » **Pollution prevention and control**  
(e.g. pollution prevention of air, water and soil)
- » **Waste treatment and management**  
(e.g. industrial and municipal waste treatment)
- » **Circular economy**  
(e.g. 3R (reduce, reuse, recycle) related technologies)



AGC Inc.

## Electrodialysis Using Ion Exchange Membranes

### Target Area

Water purification

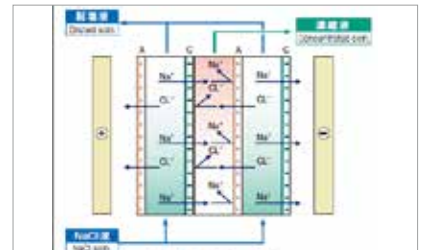
### Technology

AGC Inc. has developed the ion exchange membrane SELEMION™, a FORBLUE™ family product, for electrodialysis. Electrodialysis can efficiently separate organic materials from salt because it only permits ionic materials to pass through the ion exchange membrane. Essentially, the technology provides desalination and nitrate removal from groundwater for generating drinking water.



### Sample Projects

In the late 1990s, the system was installed at more than 10 sites in the Middle East.

Website: [www.agc.com/en/](http://www.agc.com/en/)

Contact: Mr. Yuichiro OGATA

[yuichiro-ogata@agc.com](mailto:yuichiro-ogata@agc.com)

CHUWA INDUSTRIAL CO., LTD. / M.K.D. Corporation

Waste treatment and management

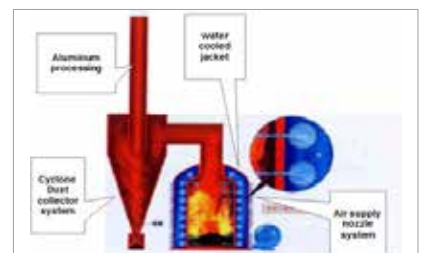
## Environment-friendly and Smokeless Incinerator: CHUWASTAR

### Target Area

Waste Management

### Technology

Chuwa Industrial's "CHUWASTAR" is a highly durable waste incinerator for medical waste. Its durability allows the incinerator to treat waste with high calorific value such as plastic and rubber. Also it does not produce smoke because of the use of forced air supply method. On top of that, the body of the incinerator absorbs heat, which helps to keep the working environment safe.



### Sample Projects

460 sets have been exported to 26 countries including the Democratic Republic of Congo and the Kingdom of Morocco.

Website: [www.chuwastar.co.jp/en/](http://www.chuwastar.co.jp/en/)Contact: Mr. Kuniaki IMAO  
Mr. Kyoji SUGIURA[chuwa-kikou@chuwastar.co.jp](mailto:chuwa-kikou@chuwastar.co.jp)

## COMOTEC Corporation

*Pollution prevention and control*

# Cassette Type Black Smoke Removal Device "MoCobee CT"

### Target Area

Diesel engine smoke

### Technology

Cassette type Diesel Particulate Filter (DPF) "MoCobee CT" is the retrofit device for black smoke removal attached on diesel engine, which can easily remove 99.9% of black smoke regardless of use condition and engine type. "MoCobee CT" can be semipermanently recycled by detaching from scrapped vehicles, versatile to use on various conditions and can be installed on various machineries.



### Sample Projects

3,500 units have been sold for passenger vehicles, 3,000 units for forklifts, 50 units for construction machines, and 30 units for railway vehicles since 1999. In terms of export, 30 units of DPF for busses have been exported to Mongolia and China, and 30 units of DPF for forklifts have been exported to China, Taiwan and Thailand.



Website: [www.comotec.co.jp/](http://www.comotec.co.jp/)  
 Contact: Mr. Soichiro HOSHINO

[info@comotec.co.jp](mailto:info@comotec.co.jp)

## Donico Inter Co., Ltd.

*Waste treatment and management,  
Circular economy*

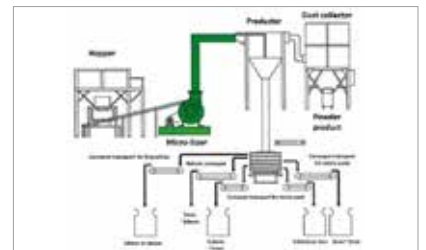
# Micro-Sizer: Glass Cullet Production Equipment

### Target Area

Wasted glass

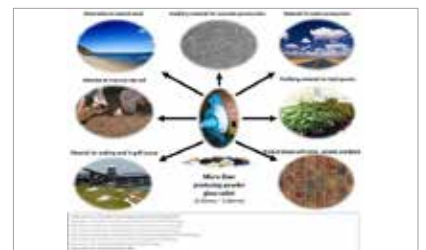
### Technology

The Micro-Sizer is unique and more efficient equipment than the conventional hammer crusher and mill for crushing wasted glass because of its compact dry process, as well as efficient impurity separation process. The Micro-Sizer can produce about 3 tons of glass cullets per hour (up to the powder size of 0.05mm), resulting in glass cullets which can be used for multiple purposes; for example, as alternative materials for natural sand in beach areas suffering from coastal erosion, or as materials for making bricks, ceramics and blocks.



### Sample Projects

Since 1995, the company has been successfully developing business especially in the USA and Japan. About 20 Micro-Sizers have been successfully installed in the USA. In the Japanese market, the company sold about 10 Micro-Sizers to various organizations including glass cullet manufacturers, glass-related companies as well as local governments.



Website: [www.donico.co.jp](http://www.donico.co.jp)  
 Contact: Mr. Kaneyuki INOKO

[kaneyukiinoko@donico.co.jp](mailto:kaneyukiinoko@donico.co.jp)

Donico Inter Co., Ltd.

Waste treatment and management

## Efficient Glass Interlayer Separation Equipment

### Target Area

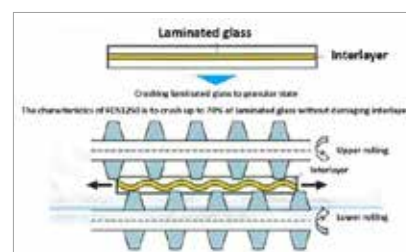
Waste laminated glass

### Technology

The company's glass interlayer separation system consisting of crushing equipment (FDS1250) and exfoliation equipment (NDF1000S) can efficiently separate laminated glass into glass and interlayer, for recycling. The separated interlayer can be reused as recycled interlayer for glass production. The combination of the equipment allows for the efficient recycling of laminated glass, thus contributing to reduce the energy consumption required during operation.

### Sample Projects

Development of the equipment and the dissociation solution was completed in 2008. Since then, the company has successfully installed 10 crushing equipment (FDS1250) and has been improving the sales record.

Website: [www.donico.co.jp](http://www.donico.co.jp)

Contact: Mr. Kaneyuki INOKO

[kaneyukiinoko@donico.co.jp](mailto:kaneyukiinoko@donico.co.jp)

EcoCycle Corporation

Pollution prevention and control

## EcoClean and GreenClean Series for Bioremediation

### Target Area

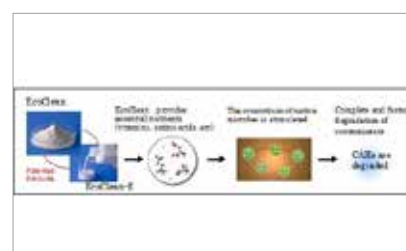
Soil and groundwater contamination

### Technology

The bioremediation products "EcoClean" and "GreenClean" perform in-situ bioremediation or purification of soil and groundwater contaminated with chlorinated hydrocarbons and heavy metals, and petroleum hydrocarbons cyanide compounds respectively. Both products are diluted in water and injected into sub-surfaces to stimulate native microorganisms in a contaminated site. Most contaminated sites can be cleaned in the span of a few months, which requires low energy and mediation cost.

### Sample Projects

Bioremediation products have been applied for cleaning over 170 sites contaminated with chlorinated aliphatic hydrocarbons, chromium (VI), petroleum hydrocarbons and cyanide in Japan, USA, Taiwan, and other Asian countries.

Website: [www.ecocycle.co.jp/e\\_index.html](http://www.ecocycle.co.jp/e_index.html)

Contact: Mr. P. S. Reddy

[reddy@ecocycle.co.jp](mailto:reddy@ecocycle.co.jp)

## Excelsior, Inc.

Pollution prevention and control [Human Health Technologies:Public health]

# Mt. Fuji Toilet: Portable and ECO-friendly Hygiene Facility

### Target Area

Portable toilet and hygiene tools

### Technology

The technology is to sterilize excrement and remove bad odors with a special treatment agent. Chemical material to sterilize and deodorize the excrement (slaked lime, zeolite, etc.) and physical solidification (such as a water-absorbing polymer) can be combined and provided depending on different situations and purposes.

### Sample Projects

This technology is introduced in many countries. In Bolivia, in cooperation with JICA's local office, the company conducted the mobile toilet demonstration test for tourists in mountainous areas and Uyuni Salt Lake.



Website: [excelsior-inc.com/english/](http://excelsior-inc.com/english/)  
 Contact: Mr. Kanichi ADACHI [kan-ichi@excelsior-inc.com](mailto:kan-ichi@excelsior-inc.com)

## Fermentation Co., Ltd.

Waste treatment and management [Agribusiness Technologies: Food value chain]

# Integrated Ethanol Production System Utilizing Biomass

### Target Area

Bioethanol production

### Technology

The company's integrated fermentation/distilling production system allows for turning food scraps into ethanol thus creating new value from what was once considered as waste. This system allows for manufacturing of ethanol utilizing a variety of biomass not only limited to high sugar content materials such as corn and sugar cane. Besides, fermented materials obtained as byproducts can be utilized for animal feed and fertilizer. This technology can provide a sustainable resource recycling system that minimizes waste.

### Sample Projects

The company conducted fermentation experiments with more than 10 types of biomass materials such as rice for non-human consumption or vegetable and fruit waste, all of which were successfully converted into ethanol. The rice ethanol production facility has already been under commercial operation in Japan. Ethanol derived products (aroma products and cosmetics) are sold in major department stores and cosmetic stores.



Website: [fermentation.co.jp/en/](http://fermentation.co.jp/en/)  
 Contact: Ms. Lina (SAKAI) WATANABE [info@fermentation.jp](mailto:info@fermentation.jp)



NEW

GIKEN LTD.

*Pollution prevention and control  
[Agribusiness Technologies: Adaptation  
to climate change]*

## Press-in Method (Piling technology) with "Silent Piler"

### Target Area

Construction with eco-friendly piling

### Technology

The strength of Silent Piler is low noise/vibration and compactness, so that it can be used in constrained areas, such as overwater, areas with restricted headroom, and construction sites alongside existing buildings. It allows the installation of piles without a temporary stage, and hence reduces the construction cost and period.



### Sample Projects

Press-in Method has been adopted in more than 40 countries worldwide such as Senegal, Egypt, Bangladesh, Sri Lanka, Philippines, China, Singapore, Vietnam, Cambodia, Myanmar, Taiwan, Indonesia, Mexico, Russia.



Website: <https://www.giken.com/en/>

Contact: Mr. Takuya FUNAHARA [project@giken.com](mailto:project@giken.com)

NEW

Green Science Alliance Co., Ltd. (Fuji Pigment Co., Ltd. Group)

*Waste treatment and management,  
Circular Economy (3R)*

## 100% Nature Biomass-based Biodegradable Resin: Nano Sakura

### Target Area

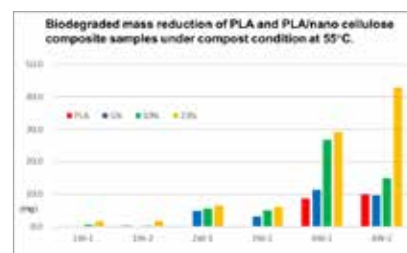
Biodegradable plastic

### Technology

Nano Sakura is a biodegradable resin manufactured from '100% nature' raw materials and biomass. It consists mainly of biodegradable cellulose and/or starch, and/or PLA (polylactic acid). These biodegradable materials can properly be compounded with nano fibrillated cellulose and/or biomass waste. Combined with nanocellulose, it can increase mechanical strength, biodegradability, foaming property, molded property, crystallinity, heat durability, etc.

### Sample Projects

Biodegradable resin products mainly as pellets form have been sold to over 70 customers in Japan and exported to ASEAN countries, Spain, the USA and other countries. Those sold products consist mainly of PLA and starch-based biodegradable resin composite with nano cellulose and biomass waste.



Website: [www.gsalliance.co.jp/en/](http://www.gsalliance.co.jp/en/)

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GUUN Co., Ltd.

Circular economy

## Fluff Fuel Technologies Derived from Waste Plastics

### Target Area

Plastic waste

### Technology

The company recycles raw plastic materials to produce Fluff Fuels, which provide more eco-friendly, space-saving and affordable options as compared with other types of fossil fuels. Fluff Fuels are most often used as alternatives to coal or heavy oil in paper manufacturers in Japan and cement companies overseas.



### Sample Projects

A pilot project to establish a recycling enterprise in Cebu, Philippines started in 2013. In 2015, the project was taken over by Cebu City. A commercial scale plant was completed in May 2017 in Cebu, Philippines with capacity of 50-75 ton per day.



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 Contact: Mr. Keitaro IKEDA [k\\_ikeda@guun.co.jp](mailto:k_ikeda@guun.co.jp)  
 Mr. Toshiaki KITAI [t\\_kitai@guun.co.jp](mailto:t_kitai@guun.co.jp)

HINODE SANGYO Co., Ltd.

Pollution prevention and control,  
Circular economy

## Elbic Series Solutions for Wastewater Treatment

### Target Area

Wastewater treatment

### Technology

The Elbic series are environmentally friendly microbial products for treating wastewater, especially in the food processing industry. Using microorganisms, the Elbic series can consistently reduce BOD to acceptable levels set forth by laws, assure stabilized and efficient wastewater treatment, and make the operation of wastewater treatment plants easier by reducing running costs.



### Sample Projects

The company has supplied seven ElbicNEO System™ (microorganisms with incubator) units in the past.



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 Contact: Ms. Kaori FUJITA [k-fujita@hinodesangyo.com](mailto:k-fujita@hinodesangyo.com)

HINODE SANGYO Co., Ltd.

Pollution prevention and control,  
Circular economy

## Hinode Microbubble Generator (HMB)

### Target Area

Waste water treatment using microorganisms

### Technology

Dispersed-Microbes Process invented by HINODE SANGYO Co., Ltd. is a revolutionary technology that prevents “bulking” of sludge during the waste water treatment process. This process employs a device called Hinode Microbubble Generator (HMB), which generates microbubbles and efficiently dissolves oxygen in the water to enhance the activity of aerobic microorganisms.

### Sample Projects

HMBs have been installed in a food-processing plant and several wastewater treatment plants.



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JTOP Co.,Ltd.

Pollution prevention and control

## On-site Regeneration System of Activated Carbon Filtration Unit

### Target Area

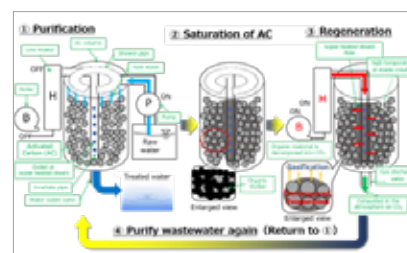
Water purification

### Technology

JTOP Co.,Ltd. has developed an activated carbon filtration system equipped with the automatic regeneration device. During the operation, it regenerates the filtration material (activated carbon) by the injection of superheated steam, without taking out the filtration material from inside the tank. Even if the filtration material is not replaced, wastewater treatment (refractory organic matter treatment, COD treatment, decolorization treatment, etc.) and exhaust gas treatment can be steadily performed without deteriorating operation efficiency.

### Sample Projects

This system has already been sold and delivered in Indonesia, as wastewater recycling equipment which purifies and processes dyed wastewater discharged from textile factories to colorless and odorless water.



Website: [www.jtops.com/en/](http://www.jtops.com/en/)

Contact: Mr. Jiichi NAKAKI [nakaki@jtops.com](mailto:nakaki@jtops.com)

## KAIHO INDUSTRY CO., LTD.

Waste treatment and management,  
Circular economy

# Eco-Friendly ELV Recycling System

### Target Area

Recycling of end-of-life vehicles

### Technology

The company offers a package solution for waste treatment and managing of ELV (end-of-life vehicles), which include recycling equipment, a business management system and training.



### Sample Projects

The system was implemented in 5 countries including Thailand and Kenya. More than 70 foreign trainees were educated in the training center in 10 years.



Website: [www.kaihosangyo.jp/english](http://www.kaihosangyo.jp/english)

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## KANEKA Corporation

Pollution prevention and control,  
Circular economy

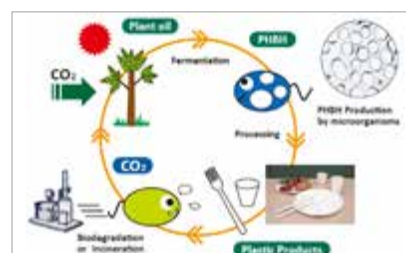
# KANEKA Biodegradable Polymer PHBH™

### Target Area

Marine plastic waste

### Technology

PHBH™ is a novel biopolymer produced with sustainable raw materials. It is produced through Kaneka's unique microbial fermentation process and it can be used in a variety of applications. Kaneka's recent research shows that PHBH™ also has excellent biodegradable property in marine environment, which contributes to the reduction of marine plastic waste.



### Sample Projects

PHBH™ was launched to the market in 2008 and is currently used mainly in France and Germany for fruit & vegetable bags and compostable bags. Yearly sales of PHBH™ reached 1,150 tons in 2018.



Website: [www.kaneka.co.jp/en/](http://www.kaneka.co.jp/en/)

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KAWATOKU CO., LTD.

Pollution prevention and control

## Removing Heavy Metals from Water

### Target Area

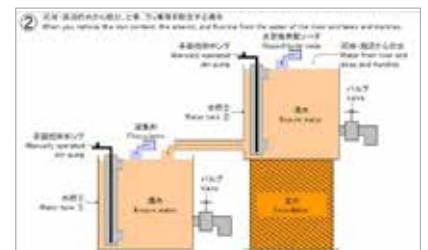
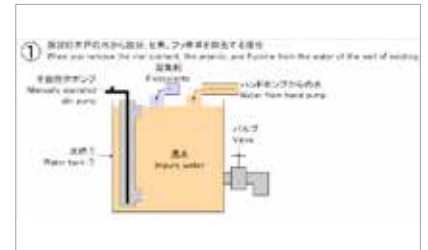
Water treatment

### Technology

The company's flocculating agents can purify turbid water into drinkable water by removing heavy metals, such as iron, arsenic, and fluorine, at low cost. This technology does not require electric power and it can be installed in existing tanks made of any materials. For a small amount of water to be processed, turbid water can be agitated manually by hand. With a manually operated stir pump, it can process up to 5 tons of water in one tank.

### Sample Projects

The company has been working to remove fluorine from well water in Tanzania. In Myanmar, the company's flocculating agents have been used in a medical treatment facility to secure safe water for washing hands.



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KINSEI SANGYO CO., Ltd.

Waste treatment and management

## Waste Incinerator of Gasification System

### Target Area

Municipal solid waste; Industrial waste; Medical waste; Air pollution

### Technology

This product provides an efficient and safe "waste incinerator of gasification system" and can completely detoxify hazardous industrial waste and medical waste to prevent any air pollution. Also, the system produces hot water, hot air, steam and electricity that can be used for various purposes.



### Sample Projects

The company has been selling the KINSEI gasification system since 1980 and sold over 200 units. The product has been delivered in Japan, Korea, China, Taiwan, Thailand, and Indonesia.



Website: [www.kinsei-s.co.jp/english/](http://www.kinsei-s.co.jp/english/)

Contact: Mr. Keiichi KANEKO

kinsei@kinsei-s.co.jp

KITA MACHINERY Co.,Ltd.

*Pollution prevention and control*

## Engineering Design and Construction Method of Sustainable Water Treatment

### Target Area

Water treatment for local people

### Technology

KITA MACHINERY offers the engineering service from design to installation of the water treatment system for industrial use and drinking use. This system is not a packaged product but designed for each site, which makes it possible to optimize piping structure and parameters on site, even in operation. The company also has a design, installation and operating know-how as temporary construction, which can reduce initial cost and it will be more reasonable than other conventional plants.

### Sample Projects

KITA MACHINERY installed the water treatment system for producing drinking water from waterfall (aligned with small hydropower generation plant).



Website: [www.kitakikai.co.jp](http://www.kitakikai.co.jp)

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Ms. Haruka UENISHI

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Meiwa Co., Ltd.

*Circular economy*  
*[Agribusiness Technologies: Production enhancement]*

## Converting Organic Waste into Charcoal

### Target Area

Wet and dry solid biomass waste

### Technology

A biomass carbonization plant converts both wet and dry organic matter into "biochar", a charcoal which can be used as fuel, soil conditioner or fertilizer. Wide range of capacity from 50kg/day to 25t/day. The technology is energy efficient and cost efficient.

### Sample Projects

Since 1999 more than 70 plants have been delivered and 15 of those are overseas including China, Vietnam, Norway, Korea, Taiwan and Thailand.



Website: [meiwa-ind.co.jp/en/](http://meiwa-ind.co.jp/en/)

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[b-so@meida-ind.co.jp](mailto:b-so@meida-ind.co.jp)

Corporation

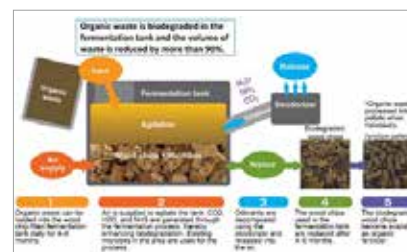
# Mishimax Organic Waste Treatment System

## Target Area

Waste Management

## Technology

Mishimax reduces the volume of wastewater sludge, food waste, and other forms of organic waste by more than 90% in 24 hours, using high-temperature aerobic biodegradation and the heat from evaporation. The organic waste is biodegraded together with the wood chips in the Mishimax fermentation tank. After six months, biodegraded organic waste turns into an organic fertilizer.



## Sample Projects

Fifteen Mishimax units have been sold, and all orders were custom-made. So far, the major clients are local governments (food waste treatment facilities, sludge biodegradation facilities, and compost facilities). In Fukushima Prefecture, Mishimax was used for demonstration experiments to reduce the volume of polluted organic wastes.



Organic waste is biodegraded using wood chips in the Mishimax fermentation tank, and organic fertilizer is produced. The organic fertilizer is processed into pellets when necessary.

Website: [www.mikuniya.jp/mikuniya\\_eng/index.html](http://www.mikuniya.jp/mikuniya_eng/index.html)

Contact: Mr. Makoto TOKUOKA [tokuoka@mikuniya.co.jp](mailto:tokuoka@mikuniya.co.jp)

NEW

Mitsubishi Chemical Aqua Solutions Co., Ltd.

Circular Economy (3R)

# Oil Absorbent DiaFellow™ DM

## Target Area

Wastewater treatment

## Technology

This composite material is a high-performance oil adsorbent that enables the separation of water from oil-containing wastewater, which was previously difficult to treat with conventional treatment processes. Wash wastewater at bus and taxi companies, train vehicle bases or hydroelectric power plants is just filtered by the adsorbent, then filtered water can be reused for washing water at sites. This method can help to reduce water consumption.



## Sample Projects

The wastewater treatment systems utilizing DiaFellow™ DM are installed at over 1,200 sites in Japan as of December 2020.



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NEW

Mitsubishi Chemical Aqua Solutions Co., Ltd.

Pollution prevention and control

## Real-time Online Wastewater Monitoring System

### Target Area

Wastewater treatment

### Technology

A sound management of wastewater quality is a vital pollution preventive measure, and the Real-Time Online Wastewater Monitoring System efficiently achieves this through an established remote monitoring technology (WeLLDAS). Its fundamental monitoring parameters include COD, BOD, pH, temperature and the flow rate, which are available real-time for clients to observe through computers and smartphones. In cases of quality disruption, users are notified immediately through communication and data transfer via a local SIM card, which is cost-efficiently installed to reduce operational costs.

### Sample Projects

The Real-time Online Wastewater Monitoring System equipped with WeLLDAS has been introduced to four sites, including the alcohol factory in Myanmar and the wastewater treatment plant in Indonesia. WeLLDAS has been introduced to over 400 sites globally as of December 2020.

Website: [www.mcas.co.jp/en/](http://www.mcas.co.jp/en/)Contact: Mr. Suguru KUDO [kudo.suguru.ma@m-chemical.co.jp](mailto:kudo.suguru.ma@m-chemical.co.jp)

Nihon Genryo Co., Ltd.

Pollution prevention and control

## Eco-friendly Mobile Sand Filtration Device

### Target Area

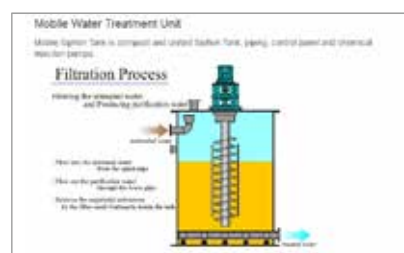
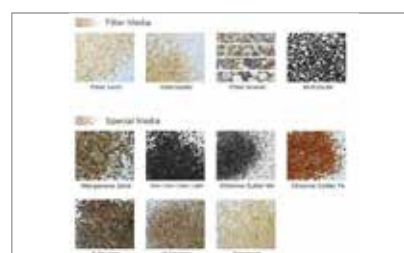
Water purification

### Technology

The MOBILE SIPHON TANK (MST) is a mobile sand filtration device that filters raw water and produces high quality water for drinking and industrial use, or for use under emergency situations. The device does not need any replacement of filters, as the built-in filters media can be used semi-permanently. The company's patented technology called "Siphon Washing Technology" embedded in the tank can create twin vertical and horizontal vortices which cause sand particles to be kneaded to each other through a three-dimensional washing action, thus removing hard sludge layers on the surface of particles.

### Sample Projects

Since its invention in 1997, the Siphon Washing Technology has been exhibited in major foreign exhibitions, such as IFAT in Germany, Aquatech in Nederland, WEFTEC in the USA, and The Big 5 in UAE. Also, the company has delivered and installed 3 MSTs in Vietnam, 6 Truck Mounted MSTs in Laos, and 1 MST and 1 Truck Mounted MST in the Philippines.

Website: [www.genryo.co.jp/en/](http://www.genryo.co.jp/en/)Contact: Mr. Hiroshi EJIMA [ejima@genryo.co.jp](mailto:ejima@genryo.co.jp) / [info@genryo.co.jp](mailto:info@genryo.co.jp)



Nihon Genryo Co., Ltd.

Pollution prevention and control

## Eco-friendly Non-Electric Sand Filtration Device

### Target Area

Water purification

### Technology

The Non-Electric SIPHON TANK (NEST) can be operated manually without need for electricity to filter raw water and produce high quality water for drinking and industrial use, or for use in emergency situations. The built-in filter media can be used semi-permanently, thus filter replacement is not required. The Siphon Washing Technology embedded in the tank creates twin vertical and horizontal vortices that cause sand particles to be kneaded to each other to remove hard sludge layers on the surface of particles.

### Sample Projects

The company conducted a feasibility and demonstration project for installing the NEST in Mozambique in 2013. This project conducted survey investigations in 3 provinces and also conducted pilot demonstrations in 4 locations. The result of the demonstrations shows that the turbidity of lake, river, spring and shallow well waters significantly improved after the treatment by the SIPHON Tank.

Website: [www.genryo.co.jp/en/](http://www.genryo.co.jp/en/) info@genryo.co.jp  
 Contact: Mr. Hiroshi EJIMA ejima@genryo.co.jp/ info@genryo.co.jp



Nihon Genryo Co., Ltd.

Pollution prevention and control

## Eco-friendly Sand Filtration Device

### Target Area

Water purification

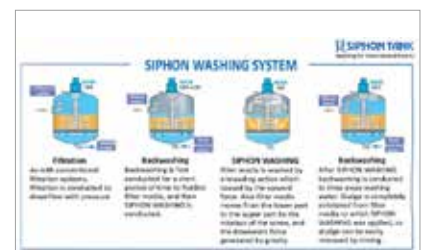
### Technology

The MOBILE SIPHON TANK is a sand filtration device that filters raw water for drinking and industrial use, or for use under emergency situations. The device does not need any replacement of filters as the built-in filters media can be used semi-permanently. The company's patented technology called "Siphon Washing Technology" embedded in the tank can create twin vertical and horizontal vortices that cause sand particles to be kneaded each other through a three-dimensional washing action, thus removing hard sludge layers on the surface of particles.

### Sample Projects

Currently, more than 100 devices with Siphon Washing Technology have been used in the world including Japan, Germany, Korea, Vietnam, Laos, Philippines and Mozambique.

Website: [www.genryo.co.jp/en/](http://www.genryo.co.jp/en/)  
 Contact: Mr. Hiroshi EJIMA ejima@genryo.co.jp/ info@genryo.co.jp



## NIHONHAKKO Co., Ltd.

Waste treatment and management,  
Circular economy

### KID System

Target Area

Waste treatment

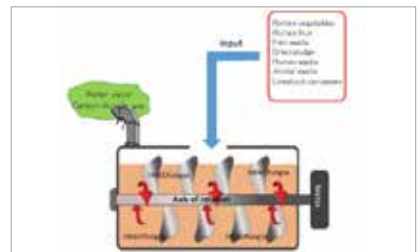
Technology

NIHONHAKKO Co., Ltd. manufactures and sells garbage disposal machines, decomposition machines, microorganisms, and environmental improvement systems. Its latest advancement is KID System, which is a technology that eliminates garbage, food waste, manure/urine/sludge, as well as dried sludge.



Sample Projects

Through the targeted use of microorganisms and stirrers, the system has the unique ability to decompose and remove more than 99 percent of the material. In addition, because no incineration is required, there is no emission of dangerous pollutants like ash or contaminants that can pose a health and safety risk.



Website: [www.nihonhakko.co.jp/](http://www.nihonhakko.co.jp/)

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Mr. Junichiro TSUNEISHI [k-tsuneishi@nihonhakko.co.jp](mailto:k-tsuneishi@nihonhakko.co.jp)

## Nomura Kohsan Co., Ltd.

Pollution prevention and control,  
Waste treatment and management

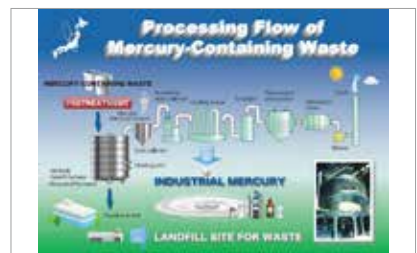
### Mercury Waste Recycling Technology

Target Area

Mercury pollution

Technology

The company has invented an all-inclusive facility that has the capacity to recycle, treat and process a wide variety of mercury waste from fluorescent lamps, batteries, mercury blood pressure devices, and thermometers. Through a roasting process, mercury is heated at 600°C~800°C, until it vaporizes. Afterwards, the mercury vapor flows through a cooling tower and scrubber where it is recovered. Recovered materials (mercury, glass, metallic base, fluorescent powder, etc.) can be recycled into raw materials to be used again for other products.



Sample Projects

Since its establishment in 1973, the company has specialized in treating, processing and recycling mercury waste. The company treated more than 25,000 tons of mercury waste every year between 2011 and 2013 in Japan. The company has also imported and treated uncrushed lamps from the Philippines from 2002 to 2014 and from Taiwan from 2006 to 2014.



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Pollution prevention and control  
[Human Health Technologies: Public Health]

OSMO Co., Ltd.

## Distributed Simple Water Purification Plant System

### Target Area

Water purification

### Technology

The Distributed Simple Water Purification Plant System is a membrane water system that can purify raw water into safe drinking water. The system adopts a low-pressure high-polymer membrane (reverse osmosis membrane/RO membrane), which can remove arsenic viruses, general bacteria, ions, heavy metals and other harmful substances. It can provide 3m<sup>3</sup> - 48m<sup>3</sup> of safe drinking water per hour. It can be easily installed in a small space and requires simple maintenance.



### Sample Projects

The company has installed the system in semiconductor factories, food factories, pharmaceutical factories, and hospitals.

Website: [www.osmo.co.jp/](http://www.osmo.co.jp/)

Contact: Ms. Huayu LIN [lin\\_huayu@osmo.co.jp](mailto:lin_huayu@osmo.co.jp)

Pollution prevention and control  
[Agribusiness Technologies: Production enhancement]

RBC Consultant Co., Ltd.

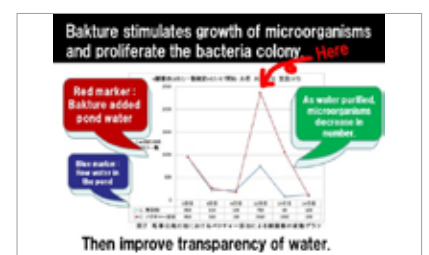
## Water Treatment with Bakture System

### Target Area

Wastewater treatment; Water pollution treatment

### Technology

Water treatment with an activator called "Bakture Powder" can be utilized in multiple applications such as river purification, and wastewater treatment for food industries and commercial facilities. Bakture Powder activates existing microbes and the microscopic food chain can be revived in the water. Environmental pollutants are decomposed without any need of power.



### Sample Projects

The powder was developed in 1993 and became commercialized in 1996. The company has purified more than 200 river and lake locations and about 10 plants for treatment of industrial wastewater in Japan. The company has also disseminated the product to other countries such as Korea, China, Thailand, Laos, USA, Australia, Canada and England.

The Difference of Characteristics				
	Characteristics	Deposition of the harmful substances	Removal of the harmful substances	Condition of treated water
Bakture				
Coagulation Material				
Adsorbent				

Website: [www.rbc-kk.co.jp/](http://www.rbc-kk.co.jp/)

Contact: Ms. Chigusa SUGIYAMA [infokankyo@rbc-kk.co.jp](mailto:infokankyo@rbc-kk.co.jp)

Shinko Tecnos Co., Ltd.

Waste treatment and management,  
Circular economy

## Hydrothermal Treatment Technology

### Target Area

Municipal solid waste; Medical waste; Food waste, household garbage

### Technology

This technology causes hydrolytic reaction of injected material with high temperature and high pressure steam (max 230°C/ 3Mph) inside a reactor. Germ free outputs generated after 30 minutes of treatment can be used as solid fuel, solid fertilizer, and liquid fertilizer or livestock feed. Various types of unused resources (waste) can be treated with this technology in a short-time process (2.5 – 3.5 hours for one process).



### Sample Projects

The hydrothermal treatment machine has been installed in Japan in 2007, China in 2010, Thailand in 2013, Sri Lanka in 2014, and Indonesia in 2016.



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Sion Corporation

Circular economy [Energy Technologies:  
Utilization of unused resources]

## Venous Industrial Processing Technology (Functional Material from Biomass Ash Waste: CircuLite)

### Target Area

Synthesis of functional material from ash waste

### Technology

CircuLite is manufactured by ash components (mainly SiO<sub>2</sub> and Al<sub>2</sub>O<sub>3</sub>) derived from the combustion of biomass resources such as rice husk and bagasse. As CircuLite has the specific porous structure and ion exchange capacity, it has multiple potential applications as environmental purification; adsorbent of pollutants for wastewater and exhaust gas treatment, soil conditioner, etc. The price of CircuLite is competitive to active carbon.



### Sample Projects

The first CircuLite production was implemented by utilizing fly ash in a Japanese thermal power plant for ten years. In overseas, a power station treating rice hull as boiler fuel has continued to produce ash and to synthesize 1,000 ton/year of CircuLite for 6 years. The product is currently exported to Taiwan, Japan, and China.



Website: [www.sion66v.com/](http://www.sion66v.com/)  
Contact: Mr. Shunsuke KUMAGAI sean@sion66v.com



SO-EN CO., LTD.

Pollution prevention and control

## Water Treatment with Carbon Fiber

### Target Area

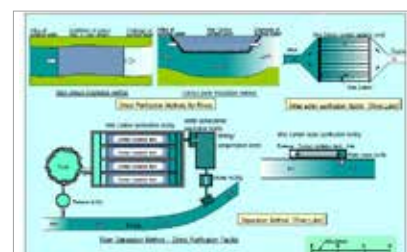
Purification of river, lake, marsh and seawater areas

### Technology

The Mira Carbon Water Purification is a method of purifying water in rivers and lakes using carbon fibers. Carbon fibers have a large surface which microorganisms can live on, resulting in the natural decomposition of contaminants and pollutants in water. The carbon fiber purification method is cost efficient because of low installation costs, easy maintenance and no running costs.

### Sample Projects

This technology was developed in 2000 and commercialized in 2008. The Mira Carbon has been used in more than 300 locations in Japan and more than 20 locations in other countries, such as China, the Republic of Korea and Taiwan.



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STELLA ENVIRONMENT CORPORATION

Waste treatment and management

## Small-Type Medical Waste Incinerator

### Target Area

Medical and industrial waste

### Technology

Stella Environment Corporation's Radiation Gas-Burning Small-Type Medical Waste Incinerator is ideal for areas where the energy supply is not stable or even available. It is highly efficient and compact, featuring a low running cost and easy maintenance.

### Sample Projects

The Incinerator has been installed in several countries including Micronesia, Cambodia and the Democratic Republic of Congo since 2007.



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Mr. Hisatoshi SHIMASE [toshi@stella-sec.jp](mailto:toshi@stella-sec.jp)

Sugawara Industry Co., Ltd.

*Waste treatment and management,  
Circular economy*

## Asphalt Waste Recycling Technology Using Hot Mix Recycled Asphalt Plants

### Target Area

Recycling of asphalt pavement material

### Technology

This is a technology to repair roads at a lower cost and with lower environmental impact than conventional methods. It can reduce the use of new pavement materials by recycling reclaimed asphalt pavement (hereinafter called the "RAP"), which is generated when roads are repaired, to synthesize recycled asphalt mixtures and to use those mixtures again to pave roads. It can reduce the cost by 5% compared to the conventional method and the CO<sub>2</sub> emission reduction to be approximately 7kg-CO<sub>2</sub>/ton-asphalt, although the effect varies depending on the RAP transportation distance.

### Sample Projects

The company has already constructed an asphalt recycling plant in Karawang, West Java Province, Indonesia, and has a track record of selling recycled asphalt mixtures mainly for paving roads to private premises such as industrial parks with a recycling rate of 40% for surface layers and 50% for base layers.

Website: [sugawarakogyo.co.jp](http://sugawarakogyo.co.jp)

Contact: Mr. Wataru SUGAWARA [info@sugawarakogyo.co.jp](mailto:info@sugawarakogyo.co.jp)



TAMADA CORPORATION

*Pollution prevention and control*

## SF Double-Wall Tank

### Target Area

Pollution prevention

### Technology

The company manufactures SF (steel and fiber reinforced plastic) double-wall tank, which is an underground tank for storing liquid fuel and chemical products. It is designed for installation at gas stations and other facilities that store hazardous materials. Utilizing proprietary technology, this double-wall structure is comprised of a primary steel tank and a secondary FRP tank.

### Sample Projects

A number of countries, including Japan, require SF double-wall tanks as a part of their environmental conservation regulations. The technology has been shared in China, Thailand, Malaysia and Vietnam.

Website: [www.tamada.co.jp/english/](http://www.tamada.co.jp/english/)

Contact: Mr. Takamitsu AKAIKE [takamitsu\\_akaie@tamada.co.jp](mailto:takamitsu_akaie@tamada.co.jp)  
[info-overseas@tamada.co.jp](mailto:info-overseas@tamada.co.jp)



NEW

TBM Co., Ltd. (Times Bridge Management)

Circular Economy (3R)

## LIMEX: Alternate Plastic and Paper Material

### Target Area

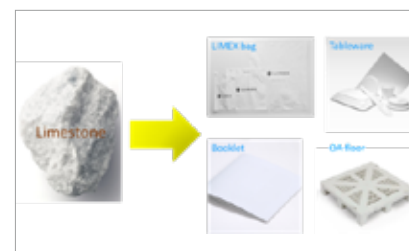
Conservation of wood resources

### Technology

LIMEX is a new material that can be alternative to plastic and paper. It mainly consists of limestone ( $\text{CaCO}_3$ ), which can be procured all over the world. Manufacturing process of LIMEX requires less oil/water, and reduces CO<sub>2</sub> emission compared to paper or conventional petroleum-derived plastic. Chemical and physical properties of LIMEX is compatible or superior to general paper/plastic.

### Sample Projects

More than 5,300 companies/organizations have introduced LIMEX products in Japan, with the technology being applied to products such as bags, business cards, menu tables, booklets. Manufacturing of LIMEX products is expanding not only in Japan but also in China, Vietnam, etc.



Website: [tb-m.com/en/limex/](http://tb-m.com/en/limex/)

Contact: Ms. Sae ISHIHARA [s-ishihara@tb-m.com](mailto:s-ishihara@tb-m.com)

## TECHNO TAKATSUKI CO., LTD.

*Pollution prevention and control  
[Energy Technologies: Energy saving and energy storage]*

## Linear Diaphragm Air Pump

### Target Area

Wastewater treatment

### Technology

Linear diaphragm air pumps are designed for aeration of residential and small commercial wastewater treatment systems. The technology, called the HIBLOW air pump, provides air for households and compact wastewater treatment systems in an effort to activate aerobic bacteria, which in turn can reduce organic matter contained in wastewater.

### Sample Projects

Since 1972, more than 15 million units have been sold all over the world including 870,000 in North America & Latin America, 380,000 in Europe & The near and Middle East and 150,000 in Asia & Oceania.



Website: [www.hiblow-eu.com](http://www.hiblow-eu.com)

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TESNA Energy Co., Ltd.

Waste treatment and management

# Compact Waste Incinerator

Target Area

Medical and industrial waste

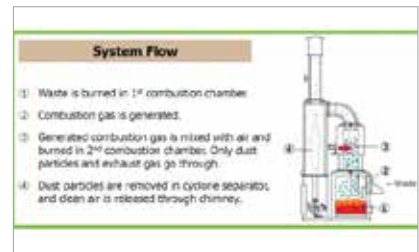
Technology

It is a compact and dependable waste incinerator designed for the safe and efficient disposal of medical waste, industrial waste, municipal solid waste and wood chips. It is easy to operate and requires low fuel consumption.



Sample Projects

More than 50 units were installed in Japan. 5 units in Sierra Leone, 1 unit in Pakistan, 1 unit in South Korea.



Website: [www.tesnaenergy.co.jp/](http://www.tesnaenergy.co.jp/)

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Toyokosho Co., LTD.

Pollution prevention and control  
[Human Health Technologies: Public health]

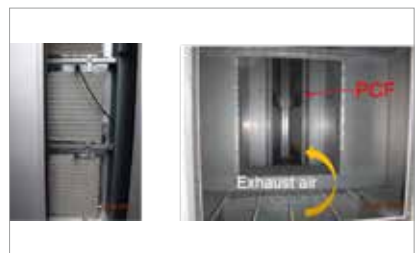
# Photocatalytic Deodorization System: “PCF® Hybrid”

Target Area

Deodorization by photocatalytic reaction

Technology

PCF® Hybrid is a purification system for exhaust air with malodor or nasty smell. It has been proved to remove 92% of Acetaldehyde (stimulating greenery smell), 93.5% of Methyl Mercaptan (rotten onion smell) and 94% of Toluene (gasoline smell). As the deodorization effect occurs through UV irradiation to photocatalytic filters, less additional costs of expendables are necessary whereas filters utilizing activated carbon or other deodorants need to be purchased to refill.



Sample Projects

440 sets of products have already been installed to 206 sites in Japan. Shopping malls, schools, laboratories, resort hotels, processing food plants, and school canteens use our products. In addition, the company has a plan to export products to Vietnam, China and Taiwan.



Website: [www.toyokosho.co.jp](http://www.toyokosho.co.jp)

Contact: Mr. Hironori MIYAGAWA [h-miyagawa@toyokosho.co.jp](mailto:h-miyagawa@toyokosho.co.jp)



## Tsukishima Kankyo Engineering Ltd.

Waste treatment and management

# Waste Liquid Incineration System

### Target Area

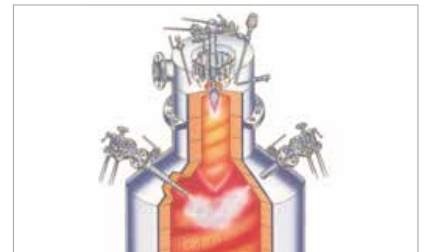
Waste treatment

### Technology

Tsukishima Kankyo Engineering's Waste Liquid Incineration System, also known as Submerged Combustion System treats various liquid forms of waste through incineration. The technology can treat liquid waste discharged from a wide spectrum of production processes pertaining to petrochemical, fine chemical, pharmaceutical, agrochemical, pulp and other industries without secondary pollution.

### Sample Projects

Approximately 400 units of Waste Liquid Incineration System have been supplied in various countries since 1973.



Website: [www.tske.co.jp/english/](http://www.tske.co.jp/english/)

Contact: Mr. Hidefumi TOYOTAKE [toyotake@tske.co.jp](mailto:toyotake@tske.co.jp)

Waste treatment and management  
[Agribusiness Technologies: Production enhancement]

## Well Create Co., Ltd.

# Community-based Food Waste Composting System

### Target Area

Food Waste

### Technology

Well Create provides an effective solution to food waste, by constructing a community-based composting system. The composting center equipped with food waste recycling facility operated by Well Create collects food wastes and produces compost in a composting machine. Then the compost is used for cultivation of rice and vegetables in neighboring farmlands.

### Sample Projects

Well Create has been operating the composting center in Kitakyushu city since 2015. It produces 80 tons of compost per year and supplies the compost to local farmers.

Other than the one in Kitakyushu, 588 composting machines had been sold until 2018.



Website: [www.well-c.co.jp/](http://www.well-c.co.jp/)

Contact: Mr. Takaki MATSUO [tm@fun-c.jp](mailto:tm@fun-c.jp)

# Agribusiness Technologies

- » **Food value chain\***  
(e.g. processing and quality control of food and drinks)
- » **Production enhancement**  
(e.g. soil conditioner)
- » **Adaptation to climate change**  
(e.g. drip irrigation system)
- » **Water resource management**  
(e.g. desalination, fresh water storage)

\*Processing, transportation, preservation or quality control of acceptable, except for real foods and drinks (beverages).

Adaptation to climate change  
[Energy Technologies: Energy saving and energy storage]

AGC Inc.

## High durability film "F-CLEAN™" for greenhouse

### Target Area

Agriculture

### Technology

This product "F-CLEAN™" is a highly durable film for use in greenhouses which allows users to grow high-quality and high value-added crops, within a variety of applications. The film has a low surface tension, allowing dirt to get washed away more readily by rain and snow. Also, there are different types of F-CLEAN™ films for different applications.



### Sample Projects

Since 1985, 4,000 ha of "F-CLEAN™" has been sold in total. Projects widely vary in size, from 300 m<sup>2</sup> to 200,000 m<sup>2</sup>. The film has been installed in more than 20 countries including Guatemala, Russia and Egypt.



Website: [www.agc.com/en/](http://www.agc.com/en/)

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[yuichiro-ogata@agc.com](mailto:yuichiro-ogata@agc.com)

Food value chain  
[Human Health Technologies: Public health]

ef-initials Co., Ltd.

## Multilayer Nanotechnology Coatings

### Target Area

Temperature controlled supply chain

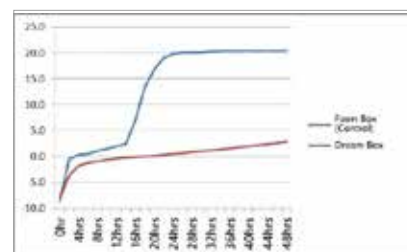
### Technology

Ef-initials Co., Ltd. applied their technology in industrial coatings to create the "Dream Box", which is a low-cost and environmentally friendly transportation box with multilayer nanotechnology coating inside to keep food or medicine cool, fresh and contaminant-free.



### Sample Projects

One of the technologies featured in Dream Box, the ethylene gas control system, was commercialized by a logistic company in Korea. In addition, a Japanese company has applied the technology of Dream Box to develop a photocatalytic antimold film.



Website: N/A

Contact: Mr. Katsuhisa Max SHIMIZU

[ef.initials.jp@gmail.com](mailto:ef.initials.jp@gmail.com)



FUMIN Co., Ltd.

*Production enhancement*

## "MR-X" Agricultural Materials for Environmental Protection

### Target Area

Agriculture

### Technology

MR-X is a ph.2.7 solution extracted from minerals. It activates the phosphoric acid, and enables plants to increase its absorption while reducing crop disease. Consequently, less agricultural chemicals and phosphate fertilizers will be used, leading to improved quality and yields. Moreover, it will solve the widespread ground water contamination, which is caused by excessive usage of less-effective phosphate fertilizers, nitrogen fertilizers, herbicides and agricultural chemicals.

### Sample Projects

4,000 liters of MR-X have been sold to ZEN-NOH Niigata, 150 liters to ZEN-NOH Yamagata, and 1,000 liters to ZEN-NOH Fukushima in 2018.



Website: [www.fumin.jp/index\\_en.html](http://www.fumin.jp/index_en.html)

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Japan Conservation Engineers & Co., Ltd.

*Production enhancement,  
Adaptation to climate change*

## Plant Growth Biostimulant: Fulvic Acid Extract "Fujimin"

### Target Area

Plant stimulation and soil conditioning

### Technology

Fujimin is the enriched fulvic acid extract made from organic substances. Since fulvic acid exists only in trace amounts in natural conditions, the company has developed a mass production method. Fujimin can promote activation of photosynthesis, soil agglomeration, buffering of soil pH, desalination of soil and other functions derived from its chelating effect. As the product is a concentrated solution, it should be normally diluted with water by 500 times when using.

### Sample Projects

2,000L of Fujimin were used for the farmland in the People's Republic of China. For the greening purpose, 100L was used both in Bhutan and Taiwan. From 2019, the company has been participating in JICA's disseminating survey in Paraguay where 2,300L of Fujimin has been applied for the farmland.



Website: [www.jce.co.jp/en/](http://www.jce.co.jp/en/)

Contact: Dr. Takashi SHIMIZUTANI [t-shimizutani@jce.co.jp](mailto:t-shimizutani@jce.co.jp)



KAWASAKI KIKO CO., LTD.

*Production enhancement*

## Tea Ingredients Analyzer

### Target Area

Tea leaf analysis for quality improvement

### Technology

Tea Ingredients Analyzer utilizing near-infrared spectroscopy which can simultaneously measure main tea components in one minute. Anyone can easily measure tea ingredients by simply using a dedicated grinder and setting a powdered sample in the analyzer. Overseas sales price reaches 5.0-5.5 million JPY. Periodic accuracy adjustment (calibration) is required once every several years to maintain the measurement accuracy.

### Sample Projects

More than 10 units of model GTN-C7 for roasting green tea have been successfully introduced in China and Taiwan market. In addition, products have been introduced in Sri Lanka where the company was adopted to JICA Verification Survey project.



Website: [www.kawasaki-kiko.co.jp/en/index.html](http://www.kawasaki-kiko.co.jp/en/index.html)

Contact: Mr. Hiroya SHIMURA      h-shimu@kawasaki-kiko.co.jp

KIHARA WORKS CO., Ltd.

*Food value chain*

## Food Dehydrator with DDS (Dual Drying System)

### Target Area

Drying of food and agricultural products

### Technology

KIHARA's Dual Drying System features double temperature control in both dry-bulb and wet-bulb to keep the identical humidity inside the dehydrating unit. This product has been shown to reduce fuel consumption by 70% compared to the conventional dehydrating technology, in drying shiitake mushroom. Simple button operation allows full-automation to produce the best quality of dried foods regardless of the operator's knowledge and experience.

### Sample Projects

The SM / F / FS series of food dryers have been sold over 2,000 units in 10 years. Overseas product introduction results within 10 years are in Russia, Thailand, Sri Lanka, Indonesia, Korea, China, Lao PDR, and Vietnam.



Website: [www.kiharaworks.com/about/about\\_en.html](http://www.kiharaworks.com/about/about_en.html)

Contact: Mr. Toshimasa KIHARA      toshimasa-kihara@kiharaworks.com

## MARS Company

Food value chain

# Unique Refrigerating Machines with Supercooling Technology for High-Quality Food Preservation “Kuraban”

### Target Area

Cold chain

### Technology

“Kuraban” has a great advantage in refrigeration technology which enables us to keep fishery and agricultural products fresh in for a long time. By applying a special electric field in the refrigerator using N-Te-Fe system, it is possible to carry out refrigeration storage for a long period without freezing food even under freezing point, as well as performing antibacterial and oxidation control.

### Sample Projects

The product operates in various places such as hotels, restaurants and meat shops in various countries which include Japan and four other countries.



Website: [www.mars-company.jp/](http://www.mars-company.jp/)

Contact: Mr. Masaki OHNO (CEO)

[contact\\_us@mars-company.jp](mailto:contact_us@mars-company.jp)

## MARS Company

Food value chain

# Special Ice Maker from Salty Water for Fish Preservation: “sea snow”

### Target Area

Cold chain

### Technology

The “sea snow” produces snow-like ice from seawater or salty water. It enables to keep fishery products very fresh by storing products refrigerated at -1 degree with 1% salt concentration, which is almost identical to that of the fluid inside fish bodies. Also, it helps to prevent scratches and damage to the fish’s body during delivery. Moreover, it has an advantage in water conservation by using seawater instead of tap water so that it will contribute to reducing running costs.

### Sample Projects

It has already been used in South Korea to maintain the freshness of common dolphinfish, which is difficult to maintain freshness especially in fishing boats and fishing ports.



Website: [www.mars-company.jp/](http://www.mars-company.jp/)

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Mebiol Inc.

Production enhancement,  
Adaptation to climate change

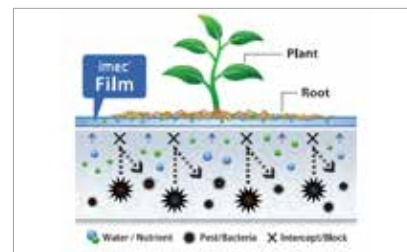
## Sustainable Agriculture through Film Farming

### Target Area

Agriculture

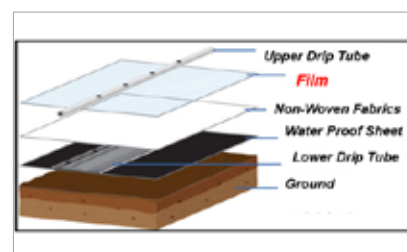
### Technology

“Imec” is a film made of hydrogel for growing vegetables with less water. Using this method, agriculture can be done virtually anywhere -- even on desert land or concrete. The film eliminates soil contamination that can negatively impact crop productivity and quality.



### Sample Projects

Imec was introduced for the first time in Japan in 2008. Over 330,000m<sup>2</sup> of Imec is being used and is still expanding. Imec is allowing people to produce high-quality tomatoes in difficult environments such as areas devastated by Tsunami in Japan, in the suburbs of Shanghai where concerns of soil contamination exist, and in the Dubai desert areas.



Website: [www.mebiol.co.jp/en/](http://www.mebiol.co.jp/en/)

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Meiwa Co., Ltd.

Production enhancement,  
Adaptation to climate change

## Soil conditioner: Biochar for Drought-vulnerable Agriculture

### Target Area

Drought-vulnerable agriculture

### Technology

Drought Hero is a specially treated biochar which is produced through patented carbonization technology of Meiwa Co., Ltd. It helps to make dryland agriculture more resilient to water deficiency by increasing soil moisture content and nutrient holding capacity, supporting better root growth.



### Sample Projects

The sales of Drought Hero are approximately 100 units (30,000kg) per year, and sales of Wood chip biochar are over 20 units (6,000kg) per year. Drought Hero is certified by the Ministry of Agriculture, Forestry and Fisheries of Government of Japan, and it has also won several awards by a local government for its innovative and sustainable nature.



Website: [meiwa-ind.co.jp/en/](http://meiwa-ind.co.jp/en/)

Contact: Ms. Kurebito SOBODA [b-so@meiwa-ind.co.jp](mailto:b-so@meiwa-ind.co.jp)

Nippon Basic Co., Ltd.

Water resource management

# Desalination of Seawater for Drinking

## Target Area

Water purification; Lack of water

## Technology

The Desaliclean D9000 can produce 500 liters of clean drinking water per hour from seawater or brackish water by use of a gasoline engine. An electrical motor-driven Desaliclean is also available. Its dry weight is 120 kg. It measures W 550 x D 1,500 x H 780 mm. It can be carried by 2 persons, or can be moved by rolling on its casters.

## Sample Projects

The Desaliclean has been used in Japan and Bangladesh. A new business is underway in Nigeria.



Website: nipponbasic.ecnet.jp/en/

Contact: Mr. Yuichi KATSUURA      nipponbasic@ceres.ocn.ne.jp

Nippon Biodiesel Fuel Co., Ltd. (NBF)

Production enhancement  
[Energy Technologies: Renewable energy]

# Rural Energy Supply with Jatropha

## Target Area

Poor energy access; Lack of liquid fuel

## Technology

The package of technology includes cultivation of energy crops (Jatropha) and fuel production. Jatropha fuel can be a substitute for fossil fuels across multiple applications, such as agricultural machinery and maize mills. The model provides local residents with not only improved access to affordable energy, but also an opportunity to become producers of energy.

## Sample Projects

Through the sales of Jatropha seeds and saplings to a major Japanese petroleum company and machinery manufacturers, Nippon Biodiesel Co., Ltd. has achieved revenues of about US\$0.8 million. The company has been supplying fuel in Japan for 2 diesel generators at local shops in rural villages, and also for 20 maize mills. A Mozambican mobile phone network operator has also been supplied fuel to conduct combustion tests.



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Contact: Mr. Makoto GODA      Makoto\_Goda@nbf-web.com  
Ms. Misaki SEKI      seki@nbf-web.com



Production enhancement,  
[Environmental Technologies: Circular economy]

OOHASHI CO., LTD.

## Durable Construction Temporary Road Mats Made of Recycled Polyethylene for Agricultural Roads and Working Platforms

Target Area

Road material for agriculture and air operation

Technology

The company collects low-density polyethylene covering from discarded electric cables and reproduce as high-density polyethylene plates. It is called Repy Board® and has excellent mechanical properties. Repy Board® offers ideal solutions to construct temporary roads to support the traffic of vehicles and farmer’s access to the markets in rural areas. Temporal helipad, HELIBOARD® can be organized by the combination of Repy Boards® in a couple of hours.

Sample Projects

4,000 m<sup>2</sup> of Repy Board® has been installed in Thailand and Vietnam. 5 units of HELIBOARD® have been supplied to the Ministry of Land, Infrastructure, Transportation and Tourism (MLIT) in Japan.



Website: [www.oohasi.co.jp/en/index.html](http://www.oohasi.co.jp/en/index.html)  
Contact: Dr. Takeo SHIONO                      shiono@oohasi.co.jp

**NEW**

O's&Tec Co.,Ltd.

Food value chain

## High Voltage Generator to Maintain Freshness "Wi-Free"

Target Area

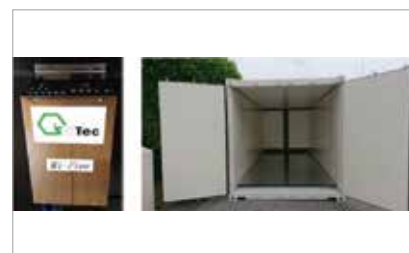
Food storage

Technology

"Wi-Free" helps to prevent rotting and maintain freshness of the products through applying electrostatic field at a low temperature range (10 °C to -10 °C). It contributes to stabilize the supply of food, produces high quality frozen food products, and allows for a longer storage period. This technology can operate in general refer containers of 20ft or 40ft.

Sample Projects

The products were installed to containers owned by a marine transportation company in Vietnam. 20 units were installed to railway containers of Japan Freight Railway South-Kanto Logistics Company by using subsidies from the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) for low temperature transportation, in 2018.



Website: [www.ostec.co.jp/vn/](http://www.ostec.co.jp/vn/)  
Contact: Mr. Kouichi OMURA                      k.omura@ostec.co.jp  
                    Mr. Ryu SHIOURA                              r.shioura@ostec.co.jp

Water resource management  
[Human Health Technologies: Public health]

Sanso Electric Co., Ltd.

# Water Treatment Facility: "Desalion"

### Target Area

Water Treatment

### Technology

Desalion is the desalination apparatus based on RO (Reverse Osmosis) method, which treats sea water to produce clean and drinkable water. The concepts of Desalion meet the guideline of small water supply system by WHO. Desalion is a movable equipment, has high durability and can supply highly reliable drinking water.

### Sample Projects

Sanso Electric has sold the equipment to Hyogo Prefecture in 2019 already, and it is expected to sell one unit each in Vietnam and the Philippines.



Website: [www.sanso-elec.co.jp/en/](http://www.sanso-elec.co.jp/en/)  
Contact: Ms. Kumiko HORIBE      k-horibe@sanso-elec.co.jp

**NEW**

Shinmei Co., Ltd.

Food value chain, Production enhancement

# Food Traceability Technology Utilizing QR Code, RFID IC Tag and Printer

### Target Area

Food value chain

### Technology

SINMEI's direct thermal printer provides automation and labor saving of printing, labels, and package work. In addition to printers, SHINMEI can also provide traceability systems by printing ID on items such as QR code and IC tag, which enable the tracking of an item's production sequence, quantity of stock, purchased destination, and customers. It helps not only to improve the safety, quality and reliability of food/raw materials, but also to reduce costs and waste.

### Sample Projects

Shinmei delivered its printers to a total of 4,000 users, and the traceability system has been introduced in several Japanese businesses.



Website: [www.co-shinmei.com/en/](http://www.co-shinmei.com/en/)  
Contact: Mr. Manabu KAYAMA      manabu.kayama@co-shinmei.com

TAIKI SANGYO CO., LTD.

Food value chain

## Electric Food Dryer

### Target Area

Drying of food and agricultural products

### Technology

The company's electric dryer has many advantages compared to a dryer using kerosene or gas as a heat source; less CO2 emission, low running cost, less regular maintenance and much fewer failures than a dryer using oil. The company can provide a dryer with throughputs exceeding 100 kg/batch. Even if a power outage occurs, the original control algorithm automatically restores the same program just as before.

### Sample Projects

Electric dryers have been sold in ASEAN countries, Sri Lanka and the USA. In Sudan, with the support of JICA, the company has supplied more than 20 units to preserve surplus harvested onion. Members of a local women's union got to be able to produce and sell dried onion products by themselves.



Website: [www.taikisangyo.co.jp/english/](http://www.taikisangyo.co.jp/english/)

Contact: Mr. Soichiro YASUHARA [yasuhara@taikisangyo.co.jp](mailto:yasuhara@taikisangyo.co.jp)

Takino Filter Inc.

Adaptation to climate change

## Production Enhancement: Takino Filter Growing Mats

### Target Area

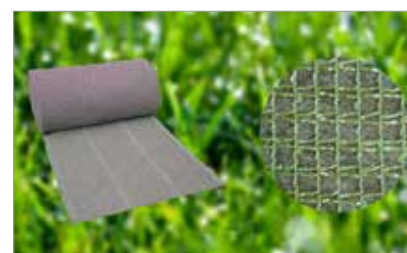
Agriculture

### Technology

Greening mats called Takino Filter prevent soil erosion for civil engineering projects aiming to repair and green the bare slopes that are found in public works projects handling natural disasters, resource development and infrastructure maintenance. The mats improve the soil environment which is highly correlated with plant growth while simultaneously preventing soil erosion. This protects the soil and achieves lasting greening.

### Sample Projects

Takino Filter was sold in the Philippines (6,600m<sup>2</sup>), Honduras (2,600m<sup>2</sup>) and Taiwan (1,250m<sup>2</sup>). It has also been applied to the foot of the mountain for environmental remediation, in Indonesia.



Website: [www.takino.co.jp](http://www.takino.co.jp)

Contact: Mr. Kenji FUJII [fujii@takino.co.jp](mailto:fujii@takino.co.jp)

## TERAL INC.

Water resource management

# DC Solar Pump System

### Target Area

Water pump for unelectrified areas

### Technology

TERAL INC. has developed the solar pump which directly utilizes Direct Current (DC) power generated by the solar panel without any intermediate conversion into Alternating Current (AC). The pump offers a built-in automatic control function and protection device. It has incompatible features due to low cost and high durability, as well as simplicity of construction work owing to the direct utilization of DC power. Our technology can be used in rural area with low costs.

### Sample Projects

TERAL INC. installed two solar pump units in Senegal and conducted operation test. From 2019, this system will be installed to 16 sites in Senegal for further verification survey.



Website: [www.teral.co.jp](http://www.teral.co.jp)

Contact: Mr. Shigemi MINAGOME [minagome00@teral.co.jp](mailto:minagome00@teral.co.jp)

## TOHATSU CORPORATION

Water resource management

# Electronically Controlled 4 Stroke Fuel Injection Systems

(Model: VF53AS)

### Target Area

Firefighting

### Technology

Tohatsu Corporation's portable fire pump has been developed as a quick & first responder for building and brush fire. The superior portability & light weight can maximize the work efficiency. In addition, compared to standard pumps, CO emission is lowered by 43%, and HC and NOx emissions are lowered by 90%.

### Sample Projects

The production started in 2006 and several thousand units were delivered to national fire agencies globally including Japan, China, Russia, Thailand, Singapore, Indonesia, Pakistan, Turkey and others.



Website: [www.tohatsu.co.jp/en/tabid/299/Default.aspx](http://www.tohatsu.co.jp/en/tabid/299/Default.aspx)

Contact: Mr. Genki TAMURA [bousaiex@tohatsu.co.jp](mailto:bousaiex@tohatsu.co.jp)



TOTETSU MFG. CO., LTD.

Water resource management

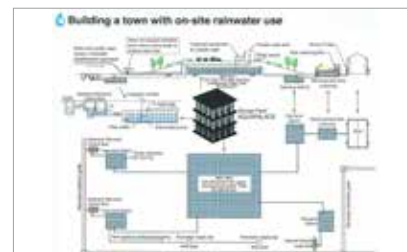
## Rainwater Harvesting and Underground Storage

### Target Area

Rainwater storage; Water purification

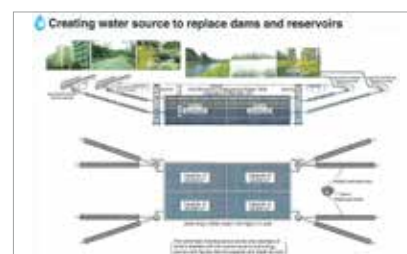
### Technology

The system, equipped with a waterproof underground tank that is made of plastic units and waterproof sheet, removes 99.5% contaminants and has excellent resistance to earth pressure and earthquake.



### Sample Projects

The company has installed 100 underground tank units in the last 3 years, and 30 purification system units in the last 2 years. This system is valued as a reliable technology in Japan.



Website: [www.totetu.com/](http://www.totetu.com/)  
 Contact: Mr. Seiichiro TAKAI

[seiichiro.takai@totetu.com](mailto:seiichiro.takai@totetu.com)

Tottori Resource Recycling Inc.

Production enhancement  
 [Environmental Technologies: Circular Economy]

## Porous System

### Target Area

Cultivation in arid areas; Lack of water

### Technology

The Porous System is a sustainable economic product made from wasted glass bottles and used rubber tires. This system has many pores through which water seeps out directly, and very slowly supplies water to plants by rendering water control very precise and effective. PorousAlpha results in retaining significant water content in soil.



### Sample Projects

The effect of porous layers for water preservation in soil has been evaluated by Tottori University Arid Research Center in Japan. This system has already been implemented successfully by the "Institut Supérieur d'Enseignement Technologique (ISET)" in Mauritania. In 2017, the company established a local subsidiary to promote PorousAlpha and completed several projects.



Website: [www.t-rrl.jp/en/overview/](http://www.t-rrl.jp/en/overview/)  
 Contact: Ms. Maki SAWADA

[maki.sawada@t-rrl.jp](mailto:maki.sawada@t-rrl.jp)

Adaptation to climate change  
 [Environmental Technologies: Circular Economy]

Tromso Co., Ltd.

## Rice Husk Briquette Machine

### Target Area

Lack of fuel; Deforestation

### Technology

The rice husk briquette machine can produce useful fuels by using often-underutilized rice husks. The machine grinds and compresses rice husks with heat producing solid briquette fuels without using any binders or adhesives. The rice husk briquettes can be used as substitutes for firewood or charcoal, which contributes to forest preservation.

### Sample Projects

The machine can produce 120kg of solid briquette per hour (approximately 1 ton in 8 hours). Tromso has manufactured rice husk briquette machines since 2007 and already sold more than 70 machines since establishment. 15 machines have also been exported to Tanzania, Nigeria, China, and Vietnam.



Website: [tromso.co.jp/en/](http://tromso.co.jp/en/)

Contact: Mr. Masaaki UESUGI

[info@tromso.co.jp](mailto:info@tromso.co.jp)

Y's Global Vision, Inc.

Water resource management  
 [Human Health Technologies: Public health]

## Compact-Sized Desalination Device

### Target Area

Desalination

### Technology

A compact-sized desalination device called MYZ Series™ that is lightweight, small and portable for use on construction sites and cramped remote areas. It's also ideal for emergency situations.

### Sample Projects

Exported to Vietnam, Laos, Thailand, the Philippines, Papua New Guinea, Sri Lanka, Indonesia and South Africa. More than 40 units in total.



Website: [ysgv.jp/en/corporation-product/op/](http://ysgv.jp/en/corporation-product/op/)

Contact: Mr. Yoshifumi YANASE

[info@ysgv.jp](mailto:info@ysgv.jp)

# Human Health Technologies\*

\*exclude pharmaceuticals, highly invasive medical devices for the human bodies, and folk remedies, etc.

## » **Public health**

(e.g. drinking water supply, prevention of infection, toilets)

## » **Monitoring and diagnostic equipment**

(e.g. simple equipment for health monitoring in remote areas)

## AffordSENS Corporation

Public health

# Vitalgram®-Patch Type Wearable Multi-Vital Sensing Technology for Health Monitoring

## Target Area

Vital sensing for health monitoring

## Technology

Vitalgram® is a microsensor to measure vital parameters concurrently. Once it is tied on the chest, it will continue sensing electrocardiogram (ECG/EKG), heart rate, respiration rate, core body temperature, and inner temperature as well as the body's motion and posture. Moreover, it can also monitor ambient temperature, humidity, and atmospheric pressure. The product can be efficiently applied to health monitoring and emergency prevention for the elderly and operators engaged in high workload.

## Sample Projects

Vitalgram® has been sold about 400 sets for 5 years. For the monitoring purpose, automobile manufacturers used the product for the evaluation of fatigue and drowsiness of the driver. Home appliance manufacturers evaluated the comfortableness of subjects by utilizing the product.



Website: [en.affordsens.com/](http://en.affordsens.com/)

Contact: Dr. Kohei HIGUCHI [k-higuchi@affordsens.com](mailto:k-higuchi@affordsens.com)

NEW

## KANAZAWA INDUSTRY CO., LTD / AGC Inc.

Public health

[Agribusiness Technologies: Food value chain]

# Electrolyzed Water Generator Incorporated with Ion Exchange Membrane

## Target Area

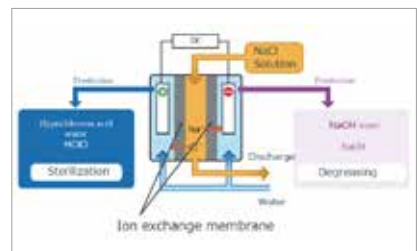
Disinfectant (hypochlorous acid solution)

## Technology

An electrolyzed water generator equipped with an ion exchange membrane was introduced in collaboration by Kanazawa Industry and AGC. The special membrane produces acidic electrolyzed water with bactericidal hypochlorous through electrolysis of aqueous salt solutions. The membrane, developed by AGC, is effective in electrolysis with its cation-filtering permeability and is composed of highly enduring, chemical-resistant fluorinated resins. Kanazawa Industry's water generator produces both salt-free acid and alkaline electrolyzed water that remove unwanted substances through emulsification, suited for implementation in food processing factories.

## Sample Projects

The sales of the equipment in Japanese domestic market and international market are 1.4 billion JPY and 100 million JPY, respectively. The number of sales is 2,300 for domestic and 600 for international in 2016.



Website: [www.agc.com/en/index.html](http://www.agc.com/en/index.html)

Contact: Dr. Masaaki OKABE [masaaki.okabe@agc.com](mailto:masaaki.okabe@agc.com)



NEW

## ARKRAY Japan

Monitoring and diagnostic equipment

## ARKRAY Japan: Blood Biochemical Analyzer "The Lab 004"

Target Area

Diagnostic equipment

Technology

"The Lab 004" is a blood testing device that screens kidney and liver functions of HIV and/or Diabetes patients, for the purpose of monitoring potential side-effects from treatment drugs. Notably, its operational simplicity enables remote usage in Mobile Clinics, especially in areas where electricity is unstable as the device is powered by a mobile battery or the AC adaptor. Moreover, its dry biochemistry technology is well suited for environments with water shortages and/or absence of drainage systems, shaping the device highly versatile and portable.

Sample Projects

The device has just been launched in February 2020, and its performance evaluations are planned in primary healthcare facilities in several sub-Saharan African countries.



Website: [www.arkray.co.jp/english/index.html](http://www.arkray.co.jp/english/index.html)

Contact: Mr. Hironobu YOSHINAGA [afinquiry@arkray.co.jp](mailto:afinquiry@arkray.co.jp) [AGB-inquiry@arkray.co.jp](mailto:AGB-inquiry@arkray.co.jp)

NEW

## Fujita Corporation

Public health

## Container Unit "Quick &amp; Easy Hospital" with Remote Supervision IT System

Target Area

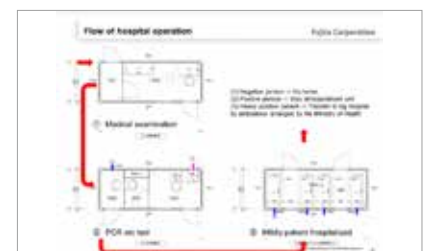
Construction of a packaged medical unit

Technology

With the rapid increase in demand for hospitalization units, Fujita Corporation has introduced a "One-package service" medical unit built of 20ft containers, providing a highly accessible and a mobile alternative to the conventional isolation wards. The unit is equipped with high quality Japanese design which prioritize durability, simplicity and availability, thus well suited for usage in developing countries. In addition, the remote supervising IT system (CONNET) is installed to manage constructions and is accessible from any WiFi-equipped environment through smart phones and tablets.

Sample Projects

The medical unit has been introduced in Mombasa, Kenya, and planned to expand in several other areas. The IT System "CONNET" has been introduced to countless construction sites with over total 1,000 users in total.



Website: [www.fujita.com/](http://www.fujita.com/)

Contact: Mr. Kyoichi NAGASE [kyoichi.nagase@fujita.co.jp](mailto:kyoichi.nagase@fujita.co.jp)

Lequio Power Technology Corp. and  
Okinawa Medical Device Co., Ltd.

Public health

## Portable Ultrasound Scanner: US-304 series and fST series

### Target Area

Diagnosis and health monitoring in remote areas

### Technology

The companies provide portable ultrasound scanner with high resolution, simple function, and affordable price. This device and planned cloud learning services can contribute to promoting universal health coverage directly. Synchronized movie of probe handwork and ultrasound tomography "SyncView" will make it easier to check if you are scanning the correct position with the correct angle.

### Sample Projects

About 500 devices were sold both in Japan and overseas. During the JICA's demonstration project in Sudan from 2015 to 2018, it was confirmed that midwives are capable to carry out ultrasound screening in antenatal care sufficiently, after simple training.



Website: [www.lequipower.com](http://www.lequipower.com)

Contact: Ms. Naomi TAKARA      [takara@lequipower.com](mailto:takara@lequipower.com)

Public health

[Environmental Technologies: Pollution prevention and control]

## MARUSYO SANGYO CO.,LTD.

## Antimicrobial Coating: Inviroshield M5

### Target Area

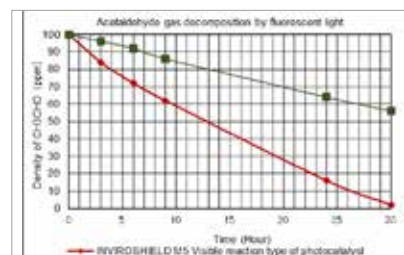
Bio-decontamination by photocatalytic reaction

### Technology

'Inviroshield M5' is a photocatalyst coating to eliminate pathogenic microorganisms and help to reduce infections in hospitals. This facilitates a decrease in ALOS (average length of stay), which will not only reduce medical expenditure but also increase the treatment availability to deprived patients in developing countries, ensure healthy lives and promote wellness for all. The coating agents can be systematically coated by using conventional spray guns and air compressors.

### Sample Projects

In India, central government hospitals and municipality hospitals adopted this bio-decontamination technology for 5 years. The results were significant in the process of reduction of Infant Mortality rate in the Safdarjung hospital (Central Government Hospital). Currently, this technology is also being adopted in AIIMS (All India Institute of Medical Sciences).



Website: [marusyosangyo.jp/en/](http://marusyosangyo.jp/en/)

Contact: Mr. Takayuki YOSHIKAWA      [yoshikawa@marusyosangyo.jp](mailto:yoshikawa@marusyosangyo.jp)

NEW

Nanatsubaki Inc. (Matsuzawa kawaraten Group)

Public health

## Electrodeless Germicidal Lamp: "SVI (Super Virus Inactivity) Light"

### Target Area

Disinfection of bacteria/virus

### Technology

The product can instantly sterilize air, water and the surface of objects by irradiating various bacteria and viruses with ultraviolet C (UV-C) light derived from the electrodeless discharge. When it comes to disinfecting water, a small amount of ozone is generated to dissolve into water, which also has a bactericidal/antiviral effect. This lamp can be easily attached to existing equipment such as pipes of air conditioners.

### Sample Projects

UV-C electrodeless lamps have been installed in Philippines and Brunei, and the number of sales has been increasing.



Website: [en.7tsubaki.com/](http://en.7tsubaki.com/)  
 Contact: Mr. Takahiro MATSUZAWA [info@yane119.net](mailto:info@yane119.net)

Microtech Inc.

Public health

## Drinking Water Quality Analysis Technology

### Target Area

Analysis of water quality

### Technology

This technology performs monitoring of water quality to make sure that drinking water treatment systems work properly. It measures and analyzes turbidity, color and residual chlorine contained in potable water. The technology is especially used to monitor fiber membrane technologies as it can detect fiber break leakages that conventional detection methods overlook, and also can find pathogens, such as cryptosporidium. By digitally displaying the processed liquid state in membrane filtration processes, it can contribute to better yields and savings on utilities.

### Sample Projects

The technology has proven to be effective since 2004. Over 1,000 units are currently operational at public drinking water treatment plants all over Japan.



Website: [www.microtech.st/english/](http://www.microtech.st/english/)  
 Contact: To be assigned [itpo.tokyo@unido.org](mailto:itpo.tokyo@unido.org) (UNIDO ITPO Tokyo temporarily receives an inquiry)

## Mitsubishi Chemical Aqua Solutions Co., Ltd.

Public health  
 [Environmental Technologies: Pollution prevention and control]

# On-Site Water Treatment System

### Target Area

Water purification

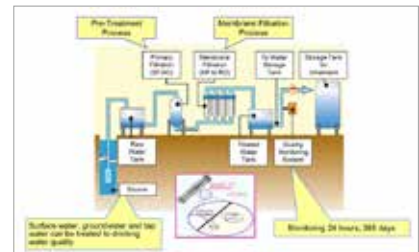
### Technology

The company's small-scale, on-site water treatment and supply system utilizes existing water resources and treats the water into drinking water which meets drinking water quality standards. This water treatment system combines a pre-treatment process and membrane separation technology, to remove contaminants such as viruses, bacteria, anti-chlorine protozoa, iron, manganese and arsenic.



### Sample Projects

As of April 2019, more than 1,250 water treatment systems has been installed in Japan and a few pilot systems in Kenya and Vietnam had been operated.



Website: [www.mcas.co.jp/en/](http://www.mcas.co.jp/en/)

Contact: Mr. Suguru KUDO [kudo.suguru.ma@m-chemical.co.jp](mailto:kudo.suguru.ma@m-chemical.co.jp)

## NascNano Technology Co., Ltd.

Public health  
 [Environmental Technologies: Pollution prevention and control]

# Multifunctional Nano-coating Technology

### Target Area

Bacterial infections in public areas

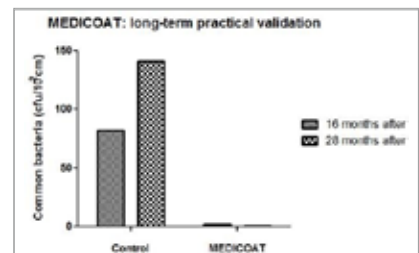
### Technology

The company's nano-coating technology called "MEDICAL NANO COAT" provides round-the-clock antimicrobial coverage without need for daily maintenance. MEDICAL NANO COAT provides a preventive solution for combating Hospital Acquired Infections (HAI) and transmission of communicable diseases in public areas. The MEDICAL NANO COAT consists of two coating solutions. By simply applying the solutions to target surfaces with a clean cloth and then with a spray gun, antibacterial protection can be provided.



### Sample Projects

Since 2010, this technology has been introduced in various locations in Japan, such as the Tokyo and Kansai International Airports, municipal emergency medical treatment centers, city halls, subway transit systems and food processing plants.



Website: [nasc-nano.com/](http://nasc-nano.com/)

Contact: Ms. Ihoko TADA [medi@medi-coat.com](mailto:medi@medi-coat.com)



NEW

NEW STANDARD'S Co., Ltd.

Public health  
[Agribusiness Technologies: Water resource management]

## AWG (Atmospheric Water Generator) with Ultra-efficient Condensation System "Sarastear®"

### Target Area

Drinking water supply

### Technology

"Sarastear®" offers a practical solution to areas with insufficient water purification facilities, with its water-producing server that revolutionarily condenses and filters moisture in the surrounding air to produce clean drinking water. Moisture collection occurs through a strict filtration, which is then condensed, stored and subsequently transformed into drinkable water through a virus-removing five-filter system and deep ultraviolet LED. This water server filters the stored water every three hours to ensure the constant supply of fresh and clean water.



### Sample Projects

The sales of "Sarastear®" officially began in Japan in 2018. Since then, over 300 units of Sarastear-neo20 (Home & Office Series) have been installed globally to countries including Nigeria, Kenya, Cote d'Ivoire, Malaysia, Singapore, Thailand, India and China.



Website: [www.sarastear.com/en/](http://www.sarastear.com/en/)

Contact: Mr. Kenichi TAKAHASHI [info@newstandards.jp](mailto:info@newstandards.jp)

Public health  
[Environmental Technologies: Pollution prevention and control]

Nippon Basic Co., Ltd.

## Bicycle-Powered Water Purifying Equipment

### Target Area

Water purification; Lack of water

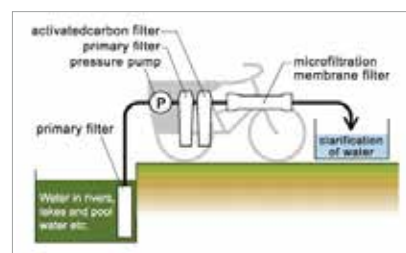
### Technology

This technology can make clean drinking water from raw water, such as water obtained from rivers, lakes and swimming pools, without need for electrical power. A unit made up of a microfiltration membrane, a hybrid carbon filter and a primary filter is fixed at the rear seat of a custom-made stationary bicycle, allowing users to produce clean water by just working the bicycle pedals. The technology can produce 5 liters of water per minute.



### Sample Projects

The company's water purifying bicycle has been sold to condominiums, old age care homes, laboratories and municipal offices in Japan, and also in Bangladesh, Indonesia, Myanmar, the Philippines, China, Thailand and India.



Website: [nipponbasic.ecnet.jp/en/](http://nipponbasic.ecnet.jp/en/)

Contact: Mr. Yuichi KATSUURA [nipponbasic@ceres.ocn.ne.jp](mailto:nipponbasic@ceres.ocn.ne.jp)

## Old Faithful Japan Co., Ltd.

### Clean Move

Target Area

Water contamination from cleaning materials

Technology

Clean Move is an all-natural and multiple-purpose detergent for washing and cleaning a variety of objects such as tableware, clothing, buildings, cars, baby's diapers, baby bottles, etc. It is also cost effective and easy to manufacture.



Sample Projects

The technical transfer costs 15 million yen, which includes the cost for the three-day hands-on training conducted in Japan, one manufacturing machine and a complete set of equipment necessary for the production.



Website: [of-j.com/index.html](http://of-j.com/index.html)  
 Contact: Mr. Fumiya INOUE [f-inoue@kyj.biglobe.ne.jp](mailto:f-inoue@kyj.biglobe.ne.jp)

**NEW**

## Saraya Co., Ltd.

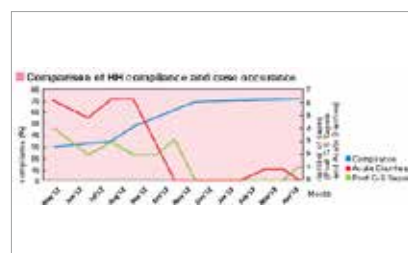
### Anti-Viral Alcohol-Based Hand Rub and Improvement of Hygiene Environment through Infection Prevention and Control by Hygiene Instructors

Target Area

Disinfectant (alcohol) and hygiene instruction

Technology

Alsoft V is an alcohol-based hand sanitizer which is highly effective against a wide range of microorganisms such as general bacteria, fungi and also non-enveloped viruses that are generally deemed alcohol-resistant. The product is proven to be effective against Ebola and the corona virus, and also meets the requirements of WHO's recommended prescription, shaping it well suited for developing countries. In order to maximize awareness on hand hygiene in the medical field, hygiene instructors will also be introduced to provide local consulting services.



Sample Projects

The high efficacy (>99.99%) of Alsoft V against enveloped and non-enveloped viruses was proven in Germany. Alsoft V was the flagship product of Saraya Co. Ltd's 2010 sales, and the hygiene instructors have been trained since 1989.



Website: [worldwide.saraya.com/](http://worldwide.saraya.com/)  
 Contact: Ms. Tamaro Stephanie NAKAMURA [nakamuratamaro@global.saraya.com](mailto:nakamuratamaro@global.saraya.com)

NEW

Sion Corporation

Public health  
 [Environmental Technologies: Circular  
 Economy (3R)]

## Anti-Virus/Microbe Porous Material and Applied Equipment

### Target Area

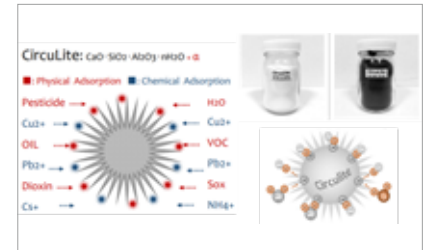
Antibacterial functional material

### Technology

The company has developed the inorganic composite called 'CircuLite' utilizing biomass ash waste. CircuLite is a powdered material that owns the two main functions, a broad range of pore size distribution and ion exchange capacity. It can change chemical characteristics by replacing exchangeable ionic charge with Alkali metal. For example, 'CircuLite-Zn' is synthesized by replacing it with zinc ion that has antibacterial and antiviral effects. In addition, CircuLite-Zn has been applied for the hygiene improvement, by kneading it in a filter material like no-woven fabric.

### Sample Projects

Masks made from non-woven fabrics with CircuLite-Zn have been produced and sold in Taiwan. Sion Corporation is planning to utilize this technology for air purification devices.



Website: [www.sion66v.com](http://www.sion66v.com)

Contact: Shunsuke KUMAGAI

[sean@sion66v.com](mailto:sean@sion66v.com)

Solar Wind Technology inc., KANKYO BUNKA  
 KENKYUSHO Co., Ltd., and Aga Material Co., Ltd.

Public health

## JIATX: Long-lasting Disinfectant Manufactured from Hypochlorous Acid Solution Disinfection by hypochlorous acid

### Target Area

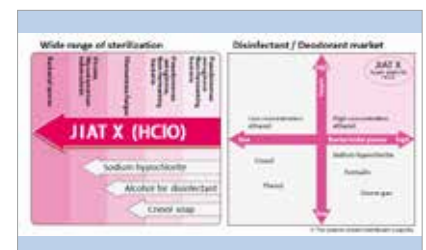
Disinfectant (hypochlorous acid solution)

### Technology

JIAT X is an anti-bacterial and deodorant solution that supersedes alcohol, and perfectly harmless to humans and animals. The product uses a special method that enables the manufacture of the product just by utilizing sodium hypochlorite (NaClO). They offer excellent functionality at a reasonable price compared to other competitive products. They can also offer a concentrate (around 600ppm of available chlorine) to be diluted when using.

### Sample Projects

The number of monthly sales in spray bottles exceeded 10,000. Moreover, the potential market of JIAT X is widely spreading to places where an unspecified number of people gather, such as public transportation, hospitals, schools, and many other facilities.



Website: [product.solarwindtech.jp/](http://product.solarwindtech.jp/)

Contact: Mr. Tatsuhiko NAKAZAWA [hikari@solarwindtech.jp](mailto:hikari@solarwindtech.jp)

NEW

Techno Medica Co., Ltd.

Monitoring and diagnostic equipment  
[Agribusiness Technologies: Production enhancement]

## Portable Electrolyte Analyser: STAX-5 inspire

### Target Area

Diagnosis and health monitoring

### Technology

STAX-5 is a Point-of-Care Testing analyzer for in vitro diagnostic use by health care professionals. It enables us to examine  $cNa^+$ ,  $cK^+$ ,  $cCl^-$ ,  $cCa^{2+}$ ,  $cMg^{2+}$ , pH,  $pCO_2$  (partial pressure of  $CO_2$ ), Hct (hematocrit) easily and rapidly by using the disposal sensor card with only 10 microliters of blood. Besides medical use, it can also be used for the measurement and quality control of fertilizer concentration in hydroponics in the agricultural field.

### Sample Projects

STAX-5 is the 4th generation of the company's electrolyte analyzer that has been marketed in 2014. In developing nations, the product is exported to Afghanistan, Bangladesh, Egypt, India, Nepal and Pakistan through sales agents.

Website: [www.technomedica.co.jp/t01/EnglishPage/index.html](http://www.technomedica.co.jp/t01/EnglishPage/index.html)

Contact: Mr. Eiichi GOTO Overseas@technomedica.co.jp

NEW

Terios-Tec Co., Ltd., and Parks Co., Ltd

Public health

## Hypochlorous Acid Solution Manufacturing Equipment (Patented Technology: Buffer Method)

### Target Area

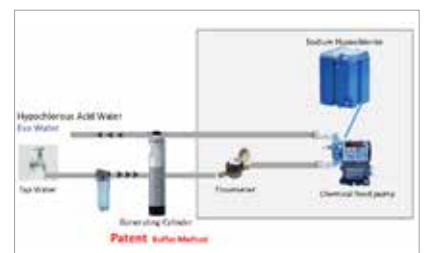
Disinfectant (hypochlorous acid solution)

### Technology

In response to the increasing demand of safe disinfectants, "Eva Water", the hypochlorous acid (HOCL)-based sanitizer, was developed to provide a harmless, user-friendly and cost-efficient solution in improving hygiene management globally. In generating the hypochlorous acid water, "Eva Water" is equipped with a pH buffer which facilitates ion-exchange reactions. To increase practicality, users can choose "Eva Pot", equipped with identical functionality but smaller in size. With the presence of raw material water, "Eva Water" could be generated unlimitedly, in terms of quantity or location.

### Sample Projects

"Eva Water" has been used in nursing homes, schools, banks and many other facilities within Japan, and its five manufacturing plants including subcontract factories are all located domestically.

Website: [www.teriostec.jp/](http://www.teriostec.jp/)

Contact: Mr. Yasuo OGATA y-ogata@teriostec.jp



NEW

Tokyo Boeki Medysis Inc.

Monitoring and diagnostic equipment

## Fully Automated Clinical Analyser "BIOLIS 30i"

### Target Area

Diagnostic equipment

### Technology

BIOLIS 30i is an open system, compact benchtop design, fully automated analyser for Clinical-Chemistry (e.g.: HbA1c), Immuno-Assay (e.g.: CRP), Drugs (TDM and DOA) and Coagulation (e.g.: D Dimer). The reaction cuvettes are semi-disposable (reusable). The Ion Selective Electrode (ISE) for Na<sup>+</sup>, Ca<sup>+</sup> and Cl<sup>-</sup> is available as an option. The throughput is 270 tests/hour (with ISE 450 tests/hour). It is suitable for routine operation in small-size hospital labs and back-up operation in middle-size hospital labs.

### Sample Projects

As of December 2020, more than 800 units are sold to hospitals mainly in Russia, USA and ASEAN countries. The company is interested in expanding sales to Sub-Saharan countries.



Website: [www.tb-medisys.co.jp/english/](http://www.tb-medisys.co.jp/english/)

Contact: Mr. Yasushi ONO                      ono-y@tokyo-boeki.co.jp

NEW

Tromso Co., Ltd.

Public health

[Environmental Technologies: Circular Economy (3R)]

## Water Purifier "Welvina" Series

### Target Area

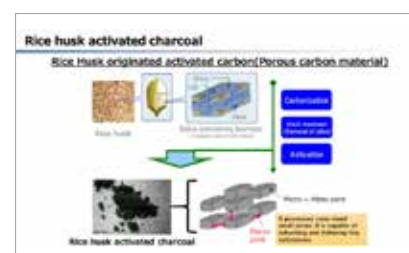
Water purification

### Technology

"Welvina" is a water purifying device, equipped with a charcoal filter composed of rice husk, instead of the conventional coconut shell, to maximize its performance in removing water impurities. In comparison to its coconut shell counterparts, "Welvina" excels in porousness, resulting in a higher rate of eliminating water impurities. Most notably, the device produces more silica components in filtrated water, which are proven to enhance support and self-recovery of the immune system, as well as to provide minerals to skin, hair and body when consumed.

### Sample Projects

As of July 2020, 30,000 units of "Welvina" are being planned for implementation in Soc Trang province of Vietnam, between 2020 and 2024. In Japan, approximately 2,500 units have been sold as of the same date.



Website: [tromso.co.jp/en/](http://tromso.co.jp/en/)

Contact: Mr. Yuichi YANAKA                      y\_yanaka@tromso.co.jp

NEW

TSP TAIYO INC.

*Public health, Monitoring and diagnostic equipment*

## Mobile Inspection System with Solar Modules

### Target Area

Testing facility for non-electrified areas

### Technology

Due to the COVID-19 outbreak, the global demand for PCR (polymerase chain reaction) testing facilities has risen significantly despite of their arduous implementation procedures. TSP TAIYO INC. provides a solution: testing facilities equipped with solar panels and battery units, which can operate in developing countries under electricity shortages. Moreover, specimens are collected through transparent panels in individual booths, hence minimizing the risk of infection and the cost for heavy personal protective equipment. The facility also increases mobility of medical services, increasing daily tests for 100-200.

### Sample Projects

As of September 2020, TSP TAIYO INC's testing facility was installed in Miyagi and the Metropolitan Tokyo area of Japan for sample collection and storage.



Website: [www.tsp-taiyo.co.jp/eng/](http://www.tsp-taiyo.co.jp/eng/)

Contact: Mr. Takayuki NISHI

[nishi@tsp-taiyo.co.jp](mailto:nishi@tsp-taiyo.co.jp)

## Yamaha Motor Co., Ltd.

*Public health  
[Environmental Technologies: Pollution prevention and control]*

## Clean Water Supply System for Rural Areas

### Target Area

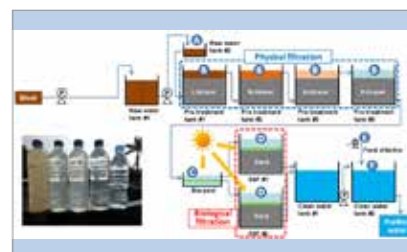
Water, Sanitation and Hygiene (WASH)

### Technology

Yamaha's Clean Water Supply System is a water purification facility using slow sand filtration intended to provide rural residents with clean drinking water. As most rural areas are not yet connected to an electrical grid, a solar photovoltaic system is available within the same package to provide the power source. This system significantly contributes to sanitation and health conditions.

### Sample Projects

The system has been operated since 2003. To date, 16 units have been installed in Indonesia and other ASEAN nations, and 27 units in Senegal, Madagascar and other African countries. In Ethiopia, the company installed 1 facility in the project organized by UNIDO.



Website: [global.yamaha-motor.com/business/omdo/products/ycw/](http://global.yamaha-motor.com/business/omdo/products/ycw/)

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YIELD Co., Ltd.

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## Utility TiO<sub>2</sub> catalyst: Photocatalyst Titanystar

### Target Area

Water treatment

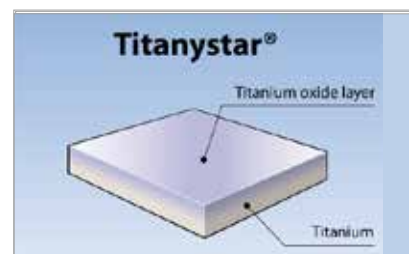
### Technology

Yield Co., Ltd. has the technology to clean undrinkable water to make safe drinking water through the use of a photocatalyst. The photocatalyst found in Japan has excellent purification abilities to decompose and remove most harmful substances simply by receiving ultraviolet rays. Disinfectant for water such as chlorine and ozone becomes unnecessary, and chemical-free and clean drinking water can be provided.

### Sample Projects

Number of sales in Japan reaches to a cumulative total about 30,000 pieces or more since the year 2000.

For overseas, a cumulative total of about 2,000 pieces have been sold to France, UK, Russia, New Zealand, Singapore, Malaysia, India and Taiwan since the year 2004.



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Website: [www.yield-kyoto.com/en/](http://www.yield-kyoto.com/en/)

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## Energy Technologies

- Renewable energy (e.g. solar, wind, geothermal, small hydro, biomass)
- Energy saving and energy storage (e.g. co-generation, storage batteries, energy saving)
- Utilization of unused resources (e.g. high-efficiency and low-emission fossil fuel utilization)

## Environmental Technologies

- Pollution prevention and control (e.g. pollution prevention of air, water and soil)
- Waste treatment and management (e.g. industrial and municipal waste treatment)
- Circular economy (e.g. 3R (reduce, reuse, recycle) related technologies)

## Agribusiness Technologies

- Food value chain\*<sup>1</sup> (e.g. processing and quality control of food and drinks)
- Production enhancement (e.g. soil conditioner)
- Adaptation to climate change (e.g. drip irrigation system)
- Water resource management (e.g. desalination, fresh water storage)

## Human Health Technologies\*<sup>2</sup>

- Public health (e.g. drinking water supply, prevention of infection, toilets)
- Monitoring and diagnostic equipment (e.g. simple equipment for health monitoring in remote areas)

\*1: Processing, transportation, preservation or quality control of acceptable, except for real foods and drinks (beverages).

\*2: It excludes pharmaceuticals, highly invasive medical devices for the human bodies, and folk remedies, etc.

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