Yokohama Water Business Association

#### Foreword

Yokohama's water supply and sewage system was born in the Kannai district, which played host to the foreign community, at the beginning of the Meiji Era. It represented Japan's first water supply and sewage system, and Yokohama consequently became the pioneer in the field of water supply and treatment.

On November 10, 2011, Yokohama entered a collaborative citizens' project with companies, organizations and other city businesses and established the Yokohama Water Business Association. The private sector corporations that make up the Association have high levels of environmental-related technology, and the city has much experience in business administration,, etc., that we have built up over the years. It is our intention to make the best possible use of these traits to help companies located within the city, including small- to medium-sized companies, expand their business affairs overseas.

Economic development in emerging nations in recent years is resulting in the population collecting the metropolitan areas, and the issues concerning insufficient water and improving the worsening quality of ocean and river water are raising expectations for Japan's water supply and sewage technology. The Yokohama Water Business Association will collect together the technological skills of local government and the private sector in order to solve these issues, while at the same time aiming at vitalizing the city's economy by creating business chances.

This booklet has been designed to introduce the wide range of environmental-related technologies and initiatives owned by the companies and organizations that comprise the membership of the Yokohama Water Business Association. It is sure to provide a thorough insight into the superior levels of technology that all members have. I am convinced that the activities of the Yokohama Water Business Association will contribute to solving the water-related problems facing not only developing nations but also all nations of the world, as well as expanding the fields of activities in which all member companies are involved. The city of Yokohama intends to place its full and active support behind the activities of the Yokohama Water Business Association.

March 2012

Mayor of Yokohama: Fumiko Hayashi

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#### **Business Fields of the Yokohama Water Business Association Members**

The business fields in which the Yokohama Water Business Association is involved have been split into four items from the [Hydrologic Circulation] viewpoint and five items from the [Water Business-Related Fields] viewpoint and then <u>compiled into a total of twenty business</u> <u>fields</u> and introduced accordingly within this booklet. Examples of these items are provided below. Combining both hydrologic circulation and water business-related fields together like this enables people to know just how wide a range of fields the members of the Association cover.

1	Fresh Water Generation /	Maintenance of damns, rivers and waterways, transportation of source water, desalinization of sea
	Water use	water, etc.
2	Water Purification /	Maintenance, operation and administration of water purification facilities, water quality control,
2	Water Supply / Water distribution	maintenance and administration of water supply stations, etc.
3	Drain / Treatment /	Maintenance, operation and administration of water conduits, pumping stations and sewage treatment
3	Disaster Prevention	plants, etc.
4	Treated Water Recycling /	Water recycling, power generation with the use of sluge-digestion gas, etc.
4	Use of Energy	water recycling, power generation with the use of sidge-digestion gas, etc.

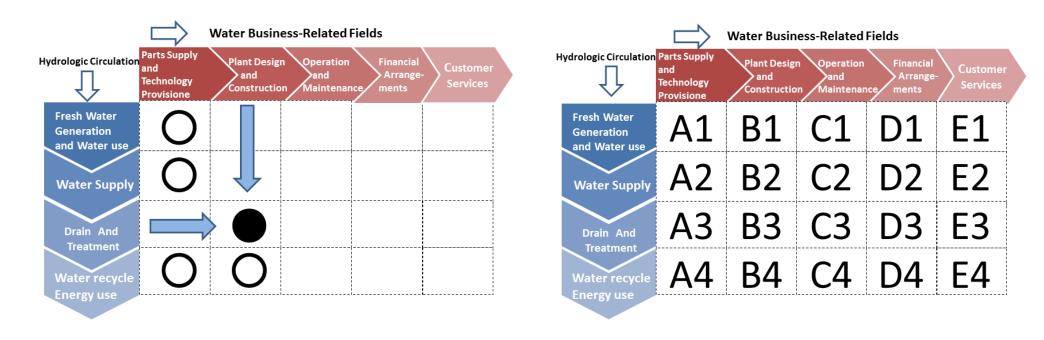
[Examples of the four Hydrologic Circulation Items]

#### [Examples of the five Water Business-Related Field Items]

А	Parts Supply / Technology Provision	Membrane treatment technology, machine technology, electrical technology, etc.
В	Plant Design / Construction	Design and construction of water purification plants, sewage treatment plants, pumping stations, etc.
6	Operation /	Operation and maintenance management of water purification plants, sewage treatment plants,
С	Maintenance Management	pumping stations, etc.
D	Financial Arrangements /	
D	Related Services	Finance, commerce, etc.
E	Customer Services	Reading meters, collection of rates, provision of technical training, etc.

### ■ Reading the Association Table ■

Members involved in a related business are marked with a [○], and members who are especially involved in a related business are marked with a [●].



Page	Member Name	A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	СЗ	C4	D1	D2	DЗ	D4	E1	E2	E3	E4	other
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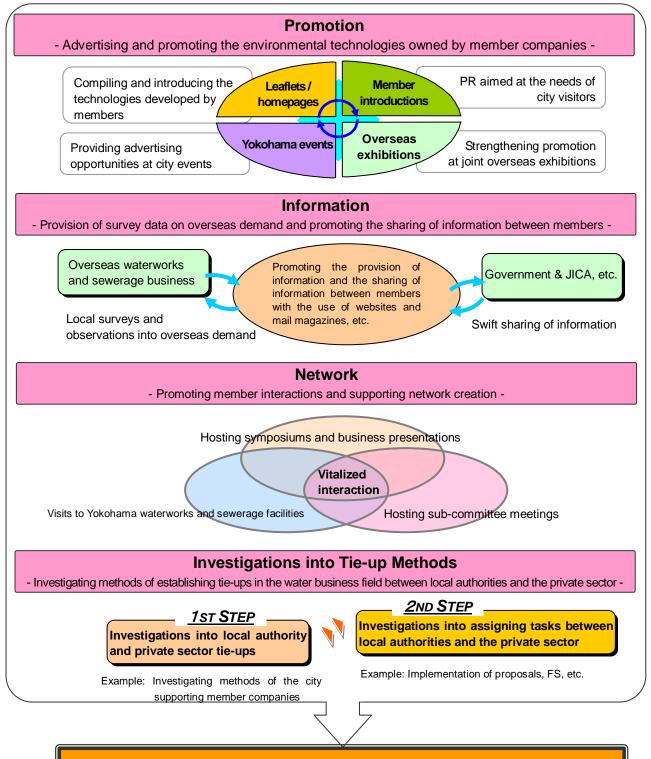
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- 1 Collaborative Project with the Private Sector
- ~ Establishment of the Yokohama Water Business

Association ~

#### **1-1** Association Activities

The Yokohama Water Business Association is a collaborative project between the city and the private sector, and it is involved in promoting the environment-related technology of all members, sharing information between members and other such activities. We are also currently investigating methods of establishing tie-ups between the city and the private sector in the field of water-related business. The aim of these activities is to generate overseas orders for water-business proposals for companies, etc., based in the city.



**Overseas Waterworks and sewerage Orders for Yokohama-based** 

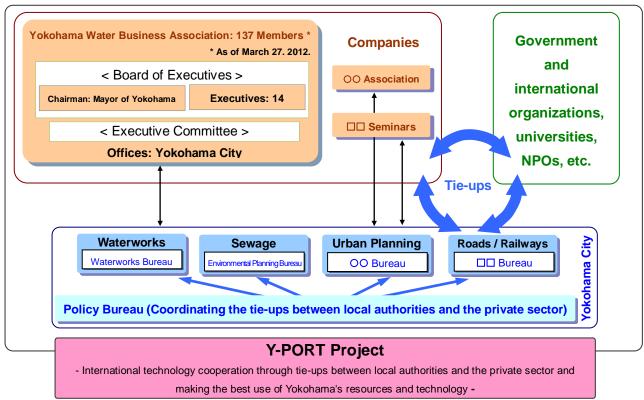
#### 1-2 Establishing the Yokohama Water Business Association

The Yokohama Water Business Association was established in November 2011 as a collaborative project between the city of Yokohama and companies, etc., based within the city. The aim of the Association is to establish tie-ups between the city and the private sector in order to promote and develop water-related business fields overseas.

The Mayor of Yokohama acts as the Association chairman. An executive committee was established to ensure that Association administration runs smoothly, and the members of the board were elected from among committee's members. The board of executives consists of the executive members and a chairman. The city of Yokohama will provide the committee offices.



Nov. 10, 2011: Mayor Hayashi accepting the position of chairman



#### 1-3 Yokohama Growth Strategies and Overseas Business Expansion

Yokohama's four-year mid-term plan (in effect until fiscal year 2013) established the Yokohama Growth Strategies as particularly important to implement, and overseas business expansion has been raised as one of the strategies that must be adopted.

Yokohama's strengths lie in the technological prowess of the companies based in the city, the know-how that the city has built up in maintaining urban infrastructures, its overseas networks, its international contributions and the results it has achieved as an environmental city. The city of Yokohama has established the Y-PORT project (Yokohama Partnership Of Resources and Technologies) as a project to promote international contributions through tie-ups between the local authorities and the private sector in order to make the best possible use of Yokohama's resources and technologies into the future. This main objective of this project is to attain sustainable business by promoting the overseas expansion of integral urban infrastructure packages that include all aspects of the infrastructure, from design and construction through to administration and maintenance management.

# 2 Members of the Yokohama Water Business Association

# 2-1 Plants Supply and Provision of Technology

DEK Corporation	. 16
Intelligence Station Inc	. 17
The Tsurumi-seiki Co.Ltd.	. 18
Aichi tokei denki co.ltd	. 19
KURIMOTO.LTD	. 20
MITSUBISHI ELECTRIC CORPORATION	. 21
NIHON GENRYO Co., Ltd	. 22
SANYU REC CO.,LTD	. 23
TOSHIKOGYO CO.LTD	. 24
AMCON INC	. 25
Asahi Organic Chemicals Industry Co.Ltd	. 26
BL Dynamics Inc	. 27
ISHIGAKI COMPANY.LTD	. 28
Nishihara Environment Co.Ltd	. 29
NIPPON FILCON CO.LTD	. 30
Politech Japan Co.Ltd	. 31
Universal engineering co.ltd	. 32

#### **DEK** Corporation

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We have been in the business of installation and maintenance of water service pipe, and construction and maintenance of filter plant based on welding as our keyword. Taking this opportunity of becoming a member of Yokohama Water Business Association, we, in our attempt for overseas development, would like to propose following two points which will be required by the developing countries.

1) Intake technology of groundwater (in alliance with Asia Corporation)

1-1) This is the system to intake massive volume (10-30K tons/day) of shallow groundwater, having domestic construction results of more than 150 units. The characteristics of system enabled to intake massive volume of water by achieving enlargement of diameter and increase in the area of water collecting holes by inserting porous collecting head into water-bearing layer in a radial fashion. Despite of larger volume intake, the structure was designed to be used for permanent basis with sluggish inlet velocity of groundwater while having no clogging, which will negate the need for maintenance.

1-2) As to the system of taking deeper groundwater, it is possible to intake massive water by adapting the AS screen structure, which makes gauge of disk-shaped water collecting apparatus 1500mm, the domestically largest in gauge size. We have a past record of water collection of 5-7,000 tons/day by this system. This system enables to intake three times of water volume compared to the traditional well due to its characteristics of disk-shaped water collecting apparatus and of having no wall which can be an obstacle for the influent groundwater.

2) Low water power generation micro hydro power plant (in alliance with Mizota Kankyo Gijutu Kenkyuusho, Inc.)

The traditional hydraulic power unit represents two types, e.g. the Pelton type requiring high water-level difference with a drop from great heights and costly system, or the Francis type requiring massive volume of water with large scale of equipments in the river but smaller water-level difference.

The system we are to propose this time is a new type of micro hydro power plant, which is a breakthrough hydro power plant enabling itself to generate the water-level difference if there exists a low water and flow. Compared to the traditional system, it enjoys easier handling, compact structure and simple maintenance. In addition, less than half the cost of traditional unit was achieved, which is JPY5 million per KW. There are four standard models of 0.5KW, 1KW, 3KW and 5KW which can be installed anywhere.

Once installed in the village without electric power in the developing countries where the power transmission network is still poor, this system can significantly contribute to the improvement of living standard.

It is our strong belief that the value of the system shall be further enhanced if it is used for the electric power for the water pumping and distribution by combining 1) and 2) above.

Contact	102 Aioi-cho 6-chome, Naka-k	u, Yokohama	231-0012 Japan										
Unit	(Mr.) Issei Kawaguchi , Director ar	nd General M	lanager										
Tel	045-671-1661												
URL	045-671-1661     E-mail     i.kawaguchi@dek.co.jp       http://www.dek.co.jp												

# Intelligence Station Inc.

# 株式会社 Intelligence Station

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Our company is developing new technologies about water business and renewable energy.

[Sludge water purification system] we introduce here, is radically purify bottom layer sludge water of bays, lakes and dams that causes Red tide or Blue-green algae.

Features:

This system can pump up bottom layer sludge water with less energy consumption.

We can construct a floating purification facility on the site by building necessary existing technologies into this purification system.

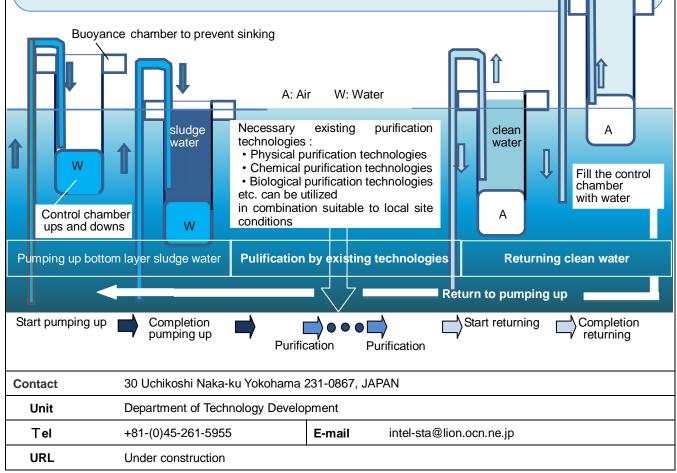
Since it is less energy consumption, it is very economical and it is possible to continue operation.

Because this is an assembly system of existing technologies, it is applicable to various conditions of location or pollution

Because this purification system is devised so that it can use continuously the principle of the siphon and the inverted siphon principle, it can be carried out the following stages in low energy consumption

To pump up bottom layer sludge water / To transfer to each purification equipment sequentially /

To return the purified clean water to the source



The Tsurumi-seiki Co.Ltd.	•	0		
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#### (1) Action to environment

The Tsurumi-Seki Co., Ltd was established as a manufacturer of oceanographic instruments in 1928, and produced navigation instruments for the old Japanese navy. Now many different types of products are used by customers by oceanographic research and observation.

The experiences accumulated by the manufacturing of oceanographic equipment are reflected back to the manufacture of limnological equipment.

(2) Products to monitor water quality

The quality of the water in dams, lakes, and rivers is directly connected to our day-to-day life, so monitoring the quality of water is imperative.

In addition to the manufacture of instruments and systems to monitor the quality of the water in dams, lakes, and rivers we also provide the customers with the installation method to meet the need our limnological instruments are.

<KW-2, Multi-parameter water quality monitor, Turbidity monitor, Salinity consentration Monitor, Dissolved Oxygen monitor, Chlorophyll ,monitor, UV Monitor, Water quality data processor > .

#### Multi-parameter water quality monitor

A rotary cleaning mechanism (brushes and wiper) on the unit removes biofouling .on the sensors whenever measurement is done, so accurate data are stably obtainable. Stainless steel is used for the housing. As an optional extra, we provide Chlorophyll monitor and UV monitor.

Parts Supply / Technology Provision

# Aichi tokei denki co.ltd

# 愛知時計電機株式会社

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Since 1898, Aichi tokei denki co., ltd. is a specialized manufacturer of "Measurement". Our fields is mainly manufacturing and sales of metric and measuring equipment of liquid and gas, spreading to energy saving equipment from automated meter reading system. We are aiming to international expansion by providing below solutions based on our experiences.

1. Contribution to the improving Revenue water

We will decrease Non-revenue water by the stable long-term performance electromagnetic water meter. Also selecting appropriate water meter and monitoring system for water supply network, it will be possible to detect the leakage and stolen water by data analysis.

- Supplying safe and secure water
   Continuous monitoring of terminal water quality will be become possible to supply safe and secure quality water.
- Solution of operational efficiency and Laborsaving.
   Automated meter reading system (wired or wireless) for scattered meters will be possible to improve the operation.
- 4. Replace water meters to smart meter Computerized water meter will be possible to obtain flow rate measurements and some various information not only fare collection, also it will possible to provide the information which need for collective meter reading electricity meter and gas meter.
- 5. Environmental response and disaster prevention

Non-filled with water flow meter can measure the Sewage (including effluent treatment water) in natural flow. Also it provide the abnormal information promptly that the pump operation supervision of abnormal alarming device and real time measuring for the drain flow at the area is risk of landslides.

Contact	Bashamichi West Building 2F, 5-77-2 Onoe-cho, Naka-ku, Yokohama, 231-0015, JAPAN				
Unit	Yokohama Sales Branch				
Tel	+81-(0)45-661-1491	E-mail	yokohamaso@inet1.aichitokei.co.jp		
URL	http://www.aichitokei.co.jp/index.html				

# Kurimoto brand accumulating business results on water infrastructure establishment throughout the world

The development of water infrastructure required for water supply, sewage, agricultural water, etc., is an important and urgent issue for all countries to improve people's living conditions and enhance economic strength. Ductile iron pipe, which boasts excellent basic performance as a pipe, is particularly attracting the attention of Asian countries, which are striving to enhance their national power.

Meanwhile, fiberglass reinforced plastic mortar pipe (FRPM pipe) is also attracting attention in terms of its earthquake resistance and durability.

#### Kurimoto Ductile Iron Pipe

A large amount of our company's piping is exported overseas, and is highly regarded for its high quality and reliability as well as for the rich experience of our company in Japan. Our past business achievements include the development of water infrastructure and piping of various plants.







#### Kurimoto FRPM Pipe

In Japan, our piping is used for public sewers and drain age pipes for landfill areas and airports, which need to be acid-resistant, as well as pipes for agricultural water and wells. In other countries, our product is used for official development assistance (ODA) related businesses.







Contact	1-12-19,Kitahorie, Nishi-ku, C	1-12-19,Kitahorie, Nishi-ku, Osaka 550-8580 JAPAN				
Unit	Department of New Business	Department of New Business Planning, Pipe Devision				
Tel	06-6538-7615	E-mail	y_michiura@kurimoto.co.jp			
URL	http://www.kurimoto.co.jp					

# MITSUBISHI ELECTRIC CORPORATION

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# 三菱電機株式会社

Mitsubishi Electric Corporation's water treatment system using "ozone power"(using the behavior of ozone) provides safe and tasty water.

Waterworks and sewage perform water quality improvement processing, such as removal of foreign objects, disinfection, removal of organic matter, deodorization, and decolorization. Because ozone has a far stronger oxidizing power than chlorine and yet becomes harmless oxygen after the process. Ozonization is a highly efficient, environmentally-friendly water treatment technique.

In Japan and overseas, the use of ozone has been increasingly adopted mainly for the drinking water and sewage treatment, the annual market volume is getting larger. Taking into account the increasing demands of the ozone, Mitsubishi Electric began its ozone system business in China and the North America in 2004, providing systems in more than 30 locations.

#### About Mitsubishi Electric's "Ozonizer"(Electric Ozone System)

Mitsubishi Electric Corporation (TOKYO: 6503) started its domestic ozone systems business in 1968, applying the discharging techniques, and has been providing more than 1,700 units of ozone generators for over 40 years, mainly in the domestic waterworks/sewerage market. With variety of products from low to high capacity, Mitsubishi Electric's ozone generators are lined up to meet the various needs of customers.

Features of Mitsubishi Electric's Ozone System:

-Compact system due to small diameter glass dielectric

-Improved ozone generating capacity per one electrode by Mitsubishi Electric's original technology

-Low power/oxygen consumption due to increased power density created by high precision manufacturing techniques

It would be a great pleasure if we could contribute to your business by using our Ozonizer.

Contact	2-2-1 Minatomirai, Nishi-ku, Yokohama, 220-8118, JAPAN					
Unit	Government & Public Utility Syster	Government & Public Utility Systems Section				
Tel	+81-(0)45-224-2607	E-mail	Tomioka.Takashi@dx.MitsubishiElectric.co.jp			
URL	http://www.mitsubishielectric.co.jp					

NIHON GENRYO Co., Ltd			
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日本原料株式会社	•		
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NIHON GENRYO is specialized in manufacturing filter media for water supply. Our filter media is used by more than 80% of water purification plants in Japan. The filter media is high quality and conforms to JWWA standard. We develop, manufacture and supply high functioned filter sand "0.6 Interceptor", manganese sand and various kinds of special filter media. We have a good supply record to water purification plants, sewerage plants and also industrial water treatment facilities.



Filter Sand ES:0.6mm UC<1.3



New Color Cutter G Remove manganese



**M-Ceramic Remove Manganese** 



0.6 Interceptor High efficient sand

#### Eco-friendly water treatment units

We developed the technology to keep the filter sand always clean and "SIPHON K3 System" applied maintenance management system for filter basin by accumulating the technology of washing and manufacturing filter media. There is no need of recycle work by washing of kneading action at the backwashing process. We propose it as new maintenance management system for filter basin to water purification plants to all over the world.

"SIPHON TANK" including kneading washing function in filter tank is no need of filter media replacement, but also reduces the water amount of backwashing by shortening the backwashing time. It also reduces the operation time of backwashing pump, CO<sub>2</sub> emissions by reducing electricity.

"MOBILE SIPHON TANK" is unit by compact SIPHON TANK and is moved to the site and makes the drinkable water any time when it is needed. This "MOBILE SIPHON TANK" is very active and performed well in order to secure the drinkable water when a disaster occurs and is used for water purification plants for small villages. This "MOBILE SIPHON TANK" also sustainably works due to no replacement of filter media and maintenance free even if the maintenance management is difficult in the rural area and at the disaster.







Siphon Tank

**Mobile Siphon Tank** 

Siphon K3 System

Contact	1-2 Higashida-cho, Kawasaki-ku, Kawasaki-shi, Kanagawa, 210-0005 JAPAN					
Unit	Sale Engineering Service De	Sale Engineering Service Department				
⊤el	+81 (0)44-222-5555	E-mail	saitotank@genryo.co.jp			
URL	http://www.genryo.co.jp					



HP

http://www.sanyu-rec.jp/

Parts Supply / Technology Provision

TOSHIKOGYO CO.LTD				
	٠	0	0	
  都市拡業株式会社		0	0	
	•	0	0	

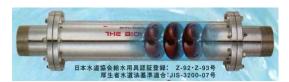
1. Our view on "the urban water circulation"

The urban water circulation which draws from a river and drains to the same one results in the deterioration of the tap water, as we can see in the water system of the lake Biwa. The reason is this : " lack of the function of mineral crystal in the mountains". The natural water circulation receives the favor from it, whereas the urban water circulation is lacking in it. Learning the fact that the nature of Japan, a volcanic country, bears "iwashimizu" which means the spring outpouring from the rocks, it is possible to ameliorate the water and restore the water circulation by installing "the function of mineral crystal" in the urban water circulation. We think the water treatment technology should start from this point of view.

2. Technology to change the urban water circulation

Using artificial mineral crystal instead of natural crystal, we have developed water ameliorating apparatus "THE BIOWATER". Its installation enables to change the physical properties of urban tap water. It increases dissolved gas and minute minerals in the water.

THE BIOWATER  $\Omega$ 



Mechanism of ameliorating water by THE BIOWATER

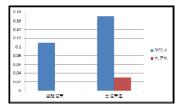


3. Technical proposal for the business of the water infrastructure

The water ameliorated by THE BIOWATER has two big functions:1.Controlling bacteria,2Keeping long time the effect of chlorination .So THE BIOWATER can prevent the water decaying which is the serious problem for the seawater desalination plant. This ameliorated water also makes solid oxidation film in the water pipe. We can say THE BIOWATER is the most suitable measure against the deterioration of the water pipe by the red rust.

Data of controlling bacteria (change after vaccination of e-coli)

Data of concentration of residual chlorine (change 16 hours after samled)



(Analyzed by Kanagawa Prefectural Inst. of Technology)

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# AMCON INC

# アムコン株式会社

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#### World technology of Japanese origin, Innovation to Sludge Dewatering Equipment!

We handle sludge dewatering equipments consistently even in designing, manufacturing and selling in accordance with our mission statement "One-step-advanced amenity and convenience to the society". Moreover, we also provide examination on water and wastewater, maintenance management service for plumbing facilities of apartments and remote monitoring service for buildings. Ever since our company started, we have been seeking our clients' amenity and convenience related to water through these products and services. The sludge dewatering equipment "Volute" that we commercialized in 1991 is the product borne by the idea that we would like operators to use the machine easily on site. At that time, in the domestic sludge-dewatering-equipment market whose mainstream was the introduction of technological know-how from overseas, we feel proud that we brought the innovation to the industry with sludge-dewatering technology of Japanese origin. Ever since we started commercializing 20 years ago, nowadays not only domestic clients but also many overseas clients support us, and the company established subsidiaries also in China, the United States and Europe in recent years to set our sights on closer customer service. Taking advantage of the sludge dewatering technology and experience we had cultivated for years, we will keep making best solutions to our clients.

[Features of Volute Dewatering Press]

- · Capable of dewatering from low to high-concentrated sludge
- Capable of handling oily sludge
- Clog-free construction
- · Low power consumption and low noise level
- Minimum rinsing water consumption

#### [Installation Results]

• Type of industry : Sewage treatment plants, Food processing factories, Chemical factories, Machinery factories, Livestock firms, etc.

- Installed country : 44 countries
- Installed figure : More than 1600 units

#### [Overseas Subsidiaries]

- The United States "AMCON NA, INC."
- China "AMCON (Yixing) Environment Protection Science & Technology Co., Ltd."
- Czech Republic "AMCON Europe s.r.o."

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Tel	+81-(0)45-540-8580	E-mail	volute_overseas@amcon.co.jp	
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Volute Dewatering Press

Asahi	Organic	Chemicals	Industry
Co.Ltd	l.		

旭有機材工業株式会社

# ASAHI**AV**

#### ASAHI AV valves

"ASAHI AV Valves" are plastic valves of the top brand that play an active role throughout the world. Due to their superior corrosion and chemical resistance as well as light weight, our valves are widely utilized as parts that support the foundation of alging application of algonation of algonating algonation of algonation of algonation of algona

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foundation of piping equipment, and have become indispensable elements in water infrastructure and water supply facilities such as water supply and sewerage services, agricultural irrigation facilities, as well as culture fishery facilities, etc.

These products can be selected according to their use from a rich line-up of products with various shapes, materials, sizes, methods of operation, etc., thereby realizing piping designs that are optimum for various types of processes. In particular, for piping that requires a high level of safety and reliability such as a chemical injection line in water treatment processes, "ASAHI AV Valves" are selected whose track records have been acknowledged throughout the world.



ASAHI AV Valves (ball valves)

#### o Making contributions to solving water-related problems through piping technologies

A lot of water-related problems remain unsolved in the world such as securing reliable and safe drinking water and environmental conservation for water resources. Asahi Organic Chemicals will contribute to solving these problems, on the basis of its experience of meeting the requirements of customers up until now, through its piping technologies (flow rate control, concentration control, and chemical mixing, etc.).

Also, since water-related problems in the world may involve different needs according to each region or purpose, specific measures suitable for the needs are required. Asahi Organic Chemicals will form business alliance with companies both in Japan and overseas to launch projects, and will endeavor to solve problems responding to new needs without being confined to restrictions imposed heretofore.

"Examples of proposal for solutions intended for water quality conservation and cost reduction"

• Building of chemical mixing systems that realize precise flow rate control and concentration control in order to reduce chemicals to be used.

• Development of chemicals originating from plants in order to realize reduction of residual sludge in drainage treatment and odor control.



<u>Sludge improvement/deodorizing</u> <u>equipment</u>

Contact	World Trade Center Bldg., 20F, 4-1	World Trade Center Bldg., 20F, 4-1 Hamamatsu-cho 2-chome, Minato-ku, Tokyo 105-6120, Japan			
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URL	http://www.asahi-yukizai.co.jp				

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# BL Dynamics Inc.

# 株式会社 ビーエルダイナミクス

BL Dynamics Inc. (Yokohama, JAPAN) offers various lines of products producing ultrafine bubbles, and has delivered their system, Nano-BL with special aeration, to many plants/factories for waste water treatment and oil-water separation. Our applications have been expanded to include natural water treatment and aqua farming.

#### 1. All working on a Single Power Source 2. No External Air Supply Required.

3. Compact, Portable system, Easy Installation 4. Anti-clogging mechanism.

#### Introduction to Nano-BL

NanoBL takes in air from outside and turn it into ultrafine bubbles with an incorporated special rotary mechanism generating turbulent flows and an agitation and shearing mechanism, all working on a single power source. Being a self-contained portable system, it requires no external air supply equipment such a compressor. NanoBL can be used even in highly contaminated waste fluids almost free from worries about clogging.



NanoBL (BL-3M)

#### Unique characteristics and advantages of ultrafine bubbles:

#### 1.Sustained effects over a wide area

The buoyancy of a bubble is proportional to the volume of air contained in it. Smaller bubbles have less buoyancy. Thus, ultrafine bubbles have minimal buoyancy and are able to survive underwater longer than larger bubbles.

#### 2.Better reactivity (larger contact area between air and liquid)

The increase in the contact area dramatically enhances aerobic bacteria Activities in the liquid and the efficiency of chemical reaction between the supplied gas and liquid ingredients.

#### 3. Promotion of separation by floatation

As bubbles float up to the surface, they catch solids (contaminants) suspended in the liquid and bring them to the surface. ultrafine bubbles can penetrate into small dents of a contaminant and enclose it entirely in a ball of tiny bubbles, making it buoyant.

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URL	http://www.bldynamics.com				

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## 株式会社 石垣

Manufacturer of filtration equipment and sludge dehydrator

ISHIGAKI COMPANY.LTD

We, ISHIGAKI, manufacture and sell the most advanced filtration equipment and sludge dehydrator for water works and sewage treatment plant. Our main products we introduce as below are Installed in many places of Japan and around the world.

#### Waterworks

#### Filter Press "ISD"" (Sludge dehydrator)

Fully Automatic Filter Press "ISD" has its original and unique system "Cloth Traveling", which makes possible to discharge the very thin cake completely. So, it makes possible to dewater the water works sludge without any chemicals and to reuse its filtrate safely. Also "ISD" could operate 24hours without operators due to its high qualified design and robust structure.

Sewage treatment plant

#### Screw Press ISGK (Sludge dehydrator)

As the next-generation of Belt Filter and Centrifuge, Screw Press ISGK series are getting high reputation as Sewage sludge treatment equipment. Most remarkable feature is "low running cost" and "easy maintenance"

ISGK Screw Press is used not only in Japan, worldwide in China, Malaysia, Korea Australia and also Europe

#### IFW (Fiber Media Rapid filtration equipment)

Compared with conventional Sand filters, IFW has 3 to 5 times treating ability in same filtrate quality. Therefore foot print is smaller than Sand filters. As an example IFW is installed at sewage treatment plant for the recycle of treated water. It reused as the plant water. At urban area, IFW is installed for using reused water.

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Tel	+81-3-3274-3518	E-mail	spokes@ishigaki.co.jp	
URL	http:// www.ishigaki.co.jp/			





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# Nishihara Environment Co.Ltd

# 株式会社 西原環境

•	Line	of	Business
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Engineering/ supply of equipment in the field of waterworks and sewage systems, sludge and wastewater treatment facilities mainly in China and the Southeast Asia.

• Deodorization facility for water treatment plants

In China and the Southeast Asia, the percentage of sewered population is increasing year by year along with the building of wastewater treatment plants, however, environmental measures have not yet been fully implemented. Nishihara Environment provides biological deodorization facilities to sewage and wastewater treatment plants through Nishihara Environment Engineering (Shanghai) Co., Ltd./ Nishihara Hong Kong Company, Ltd., our locally-incorporated companies, based on the technologies we have developed in Japan. Major advantages of the biological deodorization facility are as follows: 1) Using biocoal (activated carbon suitable for microorganisms to grow) as its filter media. 2) No need to replace the filter media for a long time. 3) Small footprint. 4) Easy Operation & Maintenance.

[ Biocoal ]



#### [ Example of installation ]



#### [Major installation works]

No.	Installed in	Treated odor (air) volume (m3/h)	Time of construction	Sewage treatment capacity (10,000m3/d)	Client
1	Binhe Watse Water Treatment Plant	37,00	06.01-	30	Shenzhen Water (Group) Co., Ltd.
2	Shenzhen Guangming Sewage Treatment Plant	132,000	08.09-	25	Shenzhen Water Pollution Control Headquarters Office
3	The Shatin Sewage Treatment Works	95,000	08.07-	34	Drainage Services Department, The Government of the Hong Kong Special Administrative Region of the People's Republic of China
4	Shanghai Bailonggang WWTP	28,000	09.01-	120	Shanghai Urban Drainage Co., Ltd.
5	Ningbo Jiangnan Sewage Treatment Plant	97,000	09.07-	40	Ningbo Urban Drainage Co., Ltd.
6	Shenzhen Buji Sewage Plant	96,400	09.05-	20	Shenzhen Water Pollution Control Headquarters Office
7	Wuhan Erlangmiao Waste-water Treatment Plant	108,000	09.09-	24	Wuhan Urban Drainage Development Co. Ltd
8	Hong Kong Stonecutters Island Sewage Treatment Plant	100,000	09.11-	250	Drainage Services Department, The Government of the Hong Kong Special Administrative Region of the People's Republic of China
9	Shenzhen Xili wastewater treatment plant	155,000	09.11-	20	Shenzhen Water (Group) Co., Ltd.
			Total n	umber of units	installed outside Japan: 43 units
Cont	act 〒108-0022	Yokoso Rain	bow Tower 3	BF, 3-20-20, Ka	igan, Minato-ku, Tokyo, Japan
De	ept. Overseas Grou	p			
Те	<b>I.</b> 03-3455-4826		E-mail	kenji_ma	atsuzaki@nishihara.co.jp
HF	http://www.nish	ihara.co.jp			

NIPPON FILCON CO.LTD	0			
	0	0		
ロオコノルコン株式合社	•	0		
日本フイルコン株式会社	0	0		

#### \* Overseas Project for sea water treatment

Well understanding of the local needs allows us to offer the most suitable plan with our maximum performance which contributes to the society is our fundamental approach to our customers.

\* Emergency Supply (Past export record : Nigeria)

Our emergency supply mobile unit can be useful for a pin-pointed local needs.

Two specifications, automatic and manual operation, allow the unit to the local needs.

Over 2,800 units have been supplied to Japanese market mainly using original water from swimming pools.

#### \* Advanced Functional Material / New Product : "ADSEP" series

With "a harmonious balance of adhering and separation" as our R&D motto, we pursue advanced development of functional performance material for future recycle circulation needs.

Our polychelate products has adherence properties for a wide range of targeted items, achieving about 10 times faster process speed than others with less effects by coexistence of ion and remove selected heavy metals disregarding adhere of Ca or Mg that exist in water. Resin type and Fiber type are available.

Contact	2220, Ohmaru, Inagi, Tokyo	2220, Ohmaru, Inagi, Tokyo 206-8577 Japan			
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Tel	+81-(0)42-377-5747	E-mail	k-iguchi@filcon.co.jp		
URL	http://www.filcon-water.jp/				

# Politech Japan Co.Ltd

# 有限会社ポリテックジャパン

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#### 1. View of Our Company in Water Business

The HNS (Hasegawa Nano Science) method is a kind of the living thing film method borne by the activated sludge method. It named at our company.

The comprehensive support in management of the upper and a sewer HNS living thing film is promoted through the technology and the construction method which our company holds.

Taking advantage of know-how, the optimal proposal for the business unit is made a track record as a specialist of lower and drainage regeneration by the living thing film (HNS module film) component and a HNS living thing film construction method.

Thereby < I > Control of generating waste sludge (zero emission of sludge),< II > CO2 reduction, <III > Improvement in water quality, <IV > water quality stable continuous maintenance, <V > Maintenance management simplification,<VI > Increase in efficiency of business management It contributes.

It supports domestic also to realization of the business unit's overseas business deployment from the first.

### 2. Maintenance management of "water factory +HNS living thing film institution"

The infrastructure enterprise has shifted to the time of simplification, cost reduction, and energy saving of maintenance management, and it is becoming important to consider a future business plan by the water factory, a HNS module film, and one.

Taking advantage of water processing technique, a HNS module film, and maintenance management know-how, the optimal solution will be everlastingly offered towards a maintainable water enterprise in the future that it should answer to all the business units' consultation.

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URL	Nothing			

# Universal engineering co.ltd

#### ユニバーサル

# エンジニアリング株式会社

Business Development in China and Asia

#### [1].Spread of Humus Reactor

Pellet humus that is filled the inside of the Humus Reactor creates a species new and useful that can coexist with microorganisms of activated sludge, has been formed from humic acid and fulvic acid, in contact with the activated sludge. In particular, fulvic acid becomes iron and fulvic acid, promotes the occurrence of photosynthetic bacteria which contributes to odor control and advanced treatment of wastewater.

Structure of the Reactor

As shown in Figure Humus Reactor structure of -1 you are carrying a pellet humus in the tank stainless steel a simple structure. Pele humus activated sludge inflow procreation by the microorganisms was useful to contact material needed to create a second attractant.

<sup>②</sup>The effect of plant

Effect in organic wastewater plant

- · Nitrogen removal in wastewater, such as phosphorus
- Reduction of sludge
- Odorless mosquito
- $\cdot$  Reduce the amount of power

#### [2]. Built-in benefits to the (MBR) membrane bio reactor

By installing a combination of solid-liquid separation equipment and humus reactor, to achieve long life of the membrane to prevent fouling and degradation of the membrane.

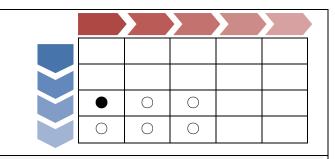
#### [3] Subject to business

①All plant to process organic wastewater is planned a new

②If you want to handle all of the plant carried out in organic wastewater that is currently running, without stopping the sewage inflow remodeling, the update.

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Unit						
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URL	http://www.universal-e.co.jp					

# Humus Reactor structure of FIG. -1 (China Patent Application Publication No. 101913711)



# 2-2 Plant Design and Construction

Shimizu Corporation	34
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Taisei Corporation	
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Shimizu Corporation	0		
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   清水建設株式会社	0		
│/月小娃設休払云社	0		

Shimizu Corporation has an extensive experience in constructing water supply, sewerage and related facilities in Asian and African countries. Our experience includes turnkey contracts composed of facility construction and equipment procurement/installation.

Major experiences of water infrastructure projects are as follows:

[Lao PDR / The Project for the Vientiane Water Supply Development]

Source of Fund: Japanese Grand Aid

Contract Period: October 2006 - March 2009

The objectives of the project are to mitigate water shortages in Vientiane and to establish adequate water transmission and distribution systems by expanding the existing Kaolieo Water Treatment Plant by additional 40,000m3/day as well as by improving the existing Chinaimo Water Treatment Plant and transmission/distribution system.

[Malaysia / Sewage Treatment Plant Project(Phase1 Package1)]

Source of Fund: Japanese Yen Loan

Contract Period: January 2004 - March 2008

Shimizu completed construction work on a major sewerage infrastructure project for the Malaysian Government, which was a part of Malaysia's National Sewage System Improvement Scheme. The project was divided into three zones with Shimizu appointed to undertake the Zone 1 works, in and around the capital city, Kuala Lumpur. These works included the construction of four sewage treatment plants and a centralized sludge treatment facility, along with a total of 5.4 kilometers of sewer tunnels constructed using shield-tunneling technology and a network of 17.3 kilometers of wastewater piping constructed using pipe-jacking and open-cut methods.

[Malaysia / Pahang-Selangor Raw Water Transfer Project, Lot 1-1, Water Transfer Tunnel and Related Works]

Source of Fund: Japanese Yen Loan

Contract Period: June 2008 - May 2014

This project is to construct the largest underground water transfer tunnel in Southeast Asia. With a diameter of 5 meters and an overall length of some 45 km, when completed it will also be the sixth largest such structure in the world. Scheduled for completion in 2014, the project will transfer 1,890 million liters of raw water daily from Pahang State to Selangor in order to cope with the increase of future water demands of Malaysia's capital city, Kuala Lumpur.

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URL	http:// www.shimz.co.jp/					

AKIRA Co.Ltd.		0	0	0	
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昱 株式会社					
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#### Our mission:

Proposing a new comfortable relationship between people and environment and deliver it with advanced technology and abundant know-how of ours.

We, AKIRA Co., Ltd. as an engineering and construction company, provide the society with systems and technologies for a better people-friendly environment to live sticking to our basic philosophy "Contribute to the society with technology related to water and air".

Not only the water and air we engage in but also electrical installations such as substations, power distribution facilities, private power generation facilities, and centralized monitoring systems that monitor and control over several unmanned installations remotely. We also are highly motivated to develop environmentally-friendly energies such as solar, wind and water powers to build a new social infrastructure of the 21<sup>st</sup> century.

#### What we do:

-Engineering and construction of facilities related to water and air such as;

Air conditioning, water supply and drainage system, water treatment plant

-Engineering and construction of facilities related to environmentally-friendly energies such as;

Solar power, wind power, water power and cogeneration power

#### -Engineering and construction of other industrial facilities such as;

Security system, logistic system

#### -Engineering and construction of information and telecommunications system such as;

Network system configuration (LAN/WAN)

-Providing after-sales support and total solution services such as;

Operation and maintenance and safety checks of delivered products, equipment and facilities of water supply and sewage system

Contact Information:						
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URL	http://www.akira.agns.co.jp/company/index.html *available only in Japanese					

# Azbil Corporation アズビル株式会社 Azbil group provides safe and comfort Products. Systems and Services together with solution

Azbil group provides safe and comfort Products, Systems and Services together with solution oriented technologies based on advanced knowledge and experiences in industrial plants, commercial buildings and water/gas distribution infrastructure in society.

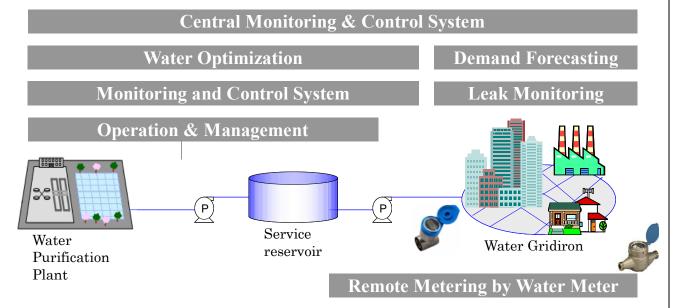
#### Azbil Corporation (as the leader of azbil group) delivers ;

Monitoring & Control System, Control Valves, Sensors, Commissioning and Maintenance Services

- •Commissioning and Maintenance Services of Electrical and Machinery equipment
- Commissioning and Maintenance Services of Electrical Facility and HVAC\* equipment for administration/office building
- System Operation and Management, 24 hour Remote Monitoring Services
  - \* Heating, Ventilation and Air Conditioning

#### Azbil Kimmon Co., Ltd. delivers ;

- •Water meters and Meter Reading Services
- Construction and Maintenance Services



Azbil Group's global network, 25 affiliates, 2 branches. 1 representative office (as of April 2012) continues growing for better services to customers.

Address	1-12-2, Kawana, Fujisawa-shi, Kanagawa 251-8522, Japan			
Contact	2 <sup>nd</sup> Sales Department, Sales Headquarters, AAC			
Phone	+81-(0)466-52-7049	E-mail	y.itaya.qt@azbil.com	
URL	http://www.azbil.com/			

Maezawa Industries.Inc.				
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前澤工業株式会社	0	0		
刖倖丄未你八云征				

#### I. About Maezawa Industries

Since the establishment of the company in 1937, Maezawa Industries has been engaged in marketing & sales and manufacturing of valve, water treatment equipment as a professional equipment manufacturer over 70 years. Maezawa has extended a reach of the product and been trusted by many users with good reputation. We have started the business as a manufacturer of waterworks valves, developing a new field of business in "Water and environment" such as water and waste water treatment, soil treatment, industrial drainage treatment and Biomass. Maezawa has been expanding business and will keep stepping forward in order to render a service to make people's life happier and ecological.

#### **II. Water Business**

#### 1) Valve Business

Maezawa Valves can be found at every corner of the country for various applications such as Jetport, Lo-TM for control of flow and gate, Flow Balance and diaphragm valve for excellent automatic high pressure reduction, hydrant systems for reliable fire controls. Air Valves to release air from pipelines to tp prevent from being damaged by water hammers. Maezawa will keep leading the waterworks valve market.

#### 2) Environmental Business.

Maezawa Industries is also engaged in environmental business in Japan. Maezawa covers the business seamlessly from design, manufacturing and installation of water treatment equipments and has been actively engaged in PFI and O&M business. Maezawa expands the water treatment business mainly by Hybrid Membrane treatment system in overseas. The Hybrid PTFE membrane system with the combination of adsorption effect of powdered activated carbon and the membrane separation technology facilitates the removal of dissolved fractions that cannot be removed by conventional membrane separation systems. The system can remove not only suspended matter but also organic matter, dissolved manganese and ammonia nitrogen allowing advanced water treatment. The PTFE membrane used in the system is composed of hollow fiber typed precision filter (MF) that has a great advantage in it's high-strength, inhibited susceptibility to chemical damage and the longer life. It is durable to the strong acid cleaning which was not applicable to the conventional type of filter membranes.

Maezawa Industry has an in-house Water Analysis Center in Saitama Plant. It plays a central role in the R&D department. The AWC has a distinguished technology in the measurement and analysis of disinfectants and disinfection byproducts such as trihalomethane, organic substance such as agrichemical substance and pathogenic microorganism such as Cryptosporidium.

Contact	5-11 Nakacho, Kawaguchi ci	5-11 Nakacho, Kawaguchi city Saitama 3328556, JAPAN		
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Tel	+8148-253-0907	E-mail	masanori_tohyama@maezawa.co.jp	
HP	http://www.maezawa.co.jp			

Nihon Suido Consultants Co.Ltd.					
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  株式会社 日水コン		0	0	0	
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#### Overwiew

# Nihon Suido Consultants Co., Ltd.

Nihon Suido Consultants Co., Ltd. (NSC) is one of the leading professional consulting firms in Japan, specializing in the water sector including water supply, wastewater engineering, sewerage, drainage and sanitation. The firm's related fields of work also include water resources development, river engineering, water quality analysis, water pollution control and environmental research.

NSC has steadily increased its professional resources and capabilities since its establishment in 1959. NSC now enjoys the reputation of being a world renowned consulting firm in terms of its engineering know-how and highly qualified professional staff of about 700. The company undertakes and completes about 3,000 projects every year.

The firm's overseas services have expanded considerably in the last decades rendering technical services, under bilateral and multilateral aid programs, to Sri Lanka, Korea, Malaysia, Indonesia, China, Laos, Vietnam, Cambodia, Thailand, India, Kenya, Egypt, Ethiopia, Sudan, South Africa, Colombia, Honduras, Trinidad & Tobago, Brazil, Dominican Republic, Guatemala, Bolivia and many other parts of Asia, Africa, Eastern Europe, and Latin America. Through these projects, NSC has accumulated valuable expertise in planning, design and construction supervision, as well as operation and management of water and wastewater systems. NSC is duly registered with the Japan International Cooperation Agency (JICA), Japan Bank for International Cooperation (JBIC: former OECF), World Bank Group (IBRD and IDA), and the Asian Development Bank (ADB).

NSC has been registered for ISO 9001 and ISO 14000 since 1999 and 2001 respectively. Its quality of works is guaranteed.

Overseas Offices

Representative Office:

INDONESIA Jakarta, KOREA Seoul, VIETNAM Hanoi

Project Office:

VIETNAM Ho Chi Minh, VIETNAM Binh Duong, , INDIA Goa, INDIA Guwahati THAILAND Bangkok, SRI LANKA Colombo, SRILANKA Kandy, PAKISTAN Abbottabad

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Unit	Nihon Suido Consultants Co., Ltd. Overseas Services Department		
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URL	http://www.nissuicon.co.jp/english/idx.html		



NSS System Co. Ltd. was founded in January 2002. Since then, the company has been contributing to the development of various social infrastructures in the environmental field and in the water supply and sewerage systems for domestic and industrial use. To cope with the increasing sophistication and diversification of water service business in recent years, the company as an expert in the field has accumulated a significant amount of technical know-how to date. To be more precise, as a "water service consultant" its service includes the planning of aqueous environment, basic planning of water service projects, and the planning, construction and management for various water-related facilities.

For the future, the company will expand the consulting business for the renewal and management of facilities in the field of water supply and sewerage systems and for overseas water infrastructure projects.

Our company has been involved mainly in consulting business for the social infrastructure development of water service. In particular, regarding the pipeline network development of water utilities, there is lots of know-how available that the company developed and accumulated in the past, enabling it to implement the service efficiently and quickly.

Though we are interested in doing business overseas, we have no track record with such an organization as JICA, making it difficult for us to carry out overseas business at the present time. To overcome this situation, we will establish a new in-house system and start the overseas business step by step.

Initially, we will start with the collection of related information available both domestically and internationally, and then participate in water service business in various fields. After that, we will join "Yokohama Water Business Association " where we like to exchange opinions among members, with the hope that it will help achieving our goal as soon as possible.

The water service business involving water supply and sewerage systems has been regarded as a public property so far. Considering a variety of the recent movements of its overseas development under the cooperation between the public and private sectors, we would like to participate actively in various activities such as "Joint public-private ventures", "Overseas development platform" and "Various activities among private enterprises". In doing so, we would like to contribute to solving the problems concerning the urban environment and water supply and sewerage systems in foreign countries by fully using our company's technical know-how and experience. To that end, it is important for us to further improve the company's capacity building in terms of the corporate reliability and technical capability.

Today, the cooperation between the public and private sectors and the movement of forming consortiums are a common practice. Therefore, it is necessary to establish the corporate system capable of coping with social changes both within and outside Japan. While renewing and reshuffling the existing system, we will establish a new corporate system by introducing a variety of new concepts.

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Tel	+81-(0)3-3292-8441	E-mail	namino@mail.nsys.jp		
URL	In preparation				

# ORIGINAL ENGINEERINGCONSULTANTS Co.LTD.

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# オリジナル設計株式会社

#### Our water businesses have long-term histories

Original Engineering Consultants Co., Ltd (OEC) founded in 1962 has reached 50 years this year. At that time, It was needed to construct water supply systems and sewerage facilities in the metropolitan area as soon as possible. Since then, various kinds of environmental issues have become serious in the wake of remarkable industrialization and socio-economic development. Under this social background, OEC has been dedicating itself to environmental improvement and preservation by providing consulting services of more than 20,000 water and wastewater projects in a half century.

OEC launched its overseas projects in Republic of Korea, conducting design and construction supervision of three urban sewage treatment plants financed by Overseas Economic Cooperation Fund(OECF) in 1980. Since then, we have been contributing to the solution of water environmental problems through over 70 projects including water and sewege treatment, water resources development, management and supervision of waste disposal, environmental impact assessment in 14 developing countries such as Philippine, Singapore, Vietnam, Kiribati and others. In particular, we propose optimal solutions for local water utilities by taking account consideration operational and economical features as well as historical changes of treatment methods that were found out from our abundant experiences and achievements accumulated in both Japan and overseas.

#### New overseas water businesses

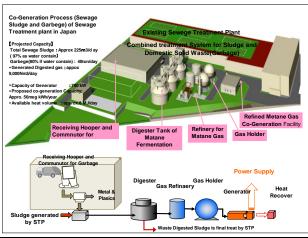
Further water business opportunities are expected because a new concept PPP, has been getting attractive. This implies that a conventional business style of EPC has been changed to a new style centered on investment. We think that the existence of the consultant, who can meet needs of clients and is not bound by donor's intention, is especially vital when promoting the water business in foreign countries. The services of overseas water business we can offer are as follows;

- >PPP support of industrial residents wastewater treatment
- ➤Feasibility Study of BOP business

➤Water and sewerage, storm water drainage treatment Facilities, Feasibility Study of river purification facility

- >Environmental assessment, survey, analysis
- >Customization of Software of asset management services
- Design of digestion gas power plant by mixing activated sludge and food waste
- $\succ$ Consulting for using of hydro, wind solar and biomass

≻Non-destructive investigation of elastic radar



Contact	Glass City Motoyoyogi Bldg,30-13	Glass City Motoyoyogi Bldg,30-13,Motoyoyogi-chou,Shibuya-ku,Tokyo,151-0062,JAPAN		
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Tel	+81-(0)3-6757-8804	E-mail	oec-kgjigyo_a-ML@oec-solution.co.jp	
URL	http://www.oec-solution.co.jp/			

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# SUMITOMO MITSUI CONSTRUCTION CO.LTD.

### 三井住友建設株式会社

[Introduction to Our Company's Technology]

#### - Aluminum alloy roofing method

The aluminum alloy roofing method is for building roofs of facilities such as PC tanks for water supply, by exploiting characteristics of aluminum alloy such as light weight, high strength and high durability. This method has outstanding maintainability and work efficiency, and it enables reduction of life cycle costs, including administrative and maintenance costs, and shortening of construction periods.

Structurally, aluminum alloy panels are attached to framework materials made of special H-section steel or tubes using high-strength aluminum alloy, and the framework materials are constructed in a truss form, so it is possible to build a variety of shapes including domes, flats and pyramids.

Furthermore, aluminum alloy is extremely lightweight, and thus in addition to later installation on existing structures with no roof, it is also advantageous for renewal work such as replacing deteriorated reinforced concrete roofs.

Aluminum alloy roofs come in a dome roof type and cover type, and the latter comes in various subtypes such as movable, fixed and building. According to the Aluminum Alloy Roofing Association\*, there is a track record of building 95 dome roofs and 441 covers as of March 2011.

#### - The "water wrapping method" for renewal without water suspension

We have developed a "water wrapping method" to enable dome renewal with no need for water suspension during the construction period when dismantling a deteriorated RC dome roof and replacing it with an aluminum alloy roof.

This method was used for the first time in Japan to renew the Higashi-Ikoma distribution reservoir dome in Ikoma City, Nara Prefecture.

\* Aluminum Alloy Roofing Association

This association was established in August 2002 to investigate, research,

develop and disseminate technology relating to aluminum alloy roofs. At present, 23 companies are members including 14 general contractors, 6 manufacturers, and 3 subcontractors.

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HP	http:// www.smcon.co.jp/			

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Dome Roof



Cover (movable type)



Water wrapping method

Plant Design / Construction

Dubai

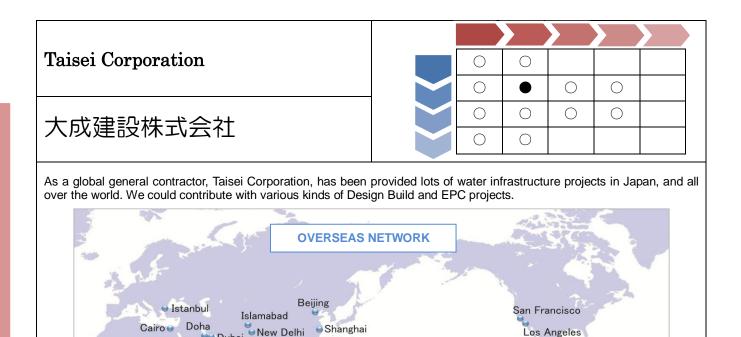
Colombo 👄

Bangkok

Kuala Lumpur

Hanoi (

Abu Dhabi



Taipei

Ho Chi Minh

Manila

Jakarta

# List of Major Overseas Experience of Water Infrastructure Projects

\varTheta Guam

	Project Name	Location	Employer					
Shuweihat Water Transmission Scheme		Abu Dhabi, United Arab Emirates	Abu Dhabi Water & Electricity Authority (ADWEA)					
Thang Long North-Van Tri Urban Infrastructure Development Project - CP-1 Works: Water Purification Plant		Hanoi, Vietnam	Hanoi People's Committee, Hanoi Urban Development Major Projects Management Unit.					
Thang Long North-Van Tri Urban Infrastructure Development Project – CP-3 Works: Wastewater Treatment Plant		Hanoi, Vietnam	Hanoi People's Committee, Hanoi Urban Development Major Projects Management Unit.					
Greater Kandy Water Supply Project		Kandy, Sri Lanka	National Water Supply & Drainage Board					
Regional Plant No. 4 Expansion to 14 MGD		Chino, CA, U.S.A	Inland Empire Utilities Agency					
Sewage Treatment Plant Project (Phase2: Package 2)		Penang, Perlis and Kedah, Malaysia	Sewerage Services Department, Ministry of Energy, Water and Communications					
	ent of the Water Supply System for and Huaquillas	Arenillas and Huaquillas, Ecuador	La Empresa Municipal Regional de Agua Potable de Arenillas y Huaquillas (EMRAPAH)					
Lancaster Water Reclamation Plant Stage Five Plant Expansion		Los Angeles , CA, USA	County Sanitation District No.14 of Los Angeles County					
ontact	MM Park Building, 6-3, Minatomi	rai 3-Chome, Nishi-Ku, Yokoha	ama 220-0012, Kanagawa Pref., Jaj					
Jnit	Marketing & Business Development Dept., (Civil Engineering), Yokohama Branch Office							
Tel	+81-(0)45-227-5950	E-mail arikawa@ce	.taisei.co.jp					
JRL	http://www.taisei.co.jp/							

# Tokyo Engineering Consultants Co.Ltd (*TEC*).

# 株式会社 東京設計事務所

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### Initiative on Overseas development for Water Infrastructures of TEC

TEC has been working for overseas projects since its foundation in 1959. Overseas activities of TEC cover countries in all over the world, Asia Pacific, Middle East, Russia and Eastern Europe, Africa and Latin America and thus TEC is rich in achievements and experiences in overseas projects. By making the use of these achievements and experiences, TEC is actively promoting its advance in overseas projects further from now on as before.

Based on various project experiences in less developed countries through Japanese ODA projects, *TEC* plans to identify and formulate effective projects in compliance with the local needs and to propose appropriate scope of work and implementation scheme for these projects.

In the procurement of consulting services, *TEC* provides extensive services by utilizing professional expertise in water and wastewater fields, such as project finding and formulation, survey, planning, design, construction supervision, capacity building of local staff, and is ready for dealing with diverse needs in less developed countries.

*TEC* has a fundamental client-oriented tradition to realize close and responsible minds for cooping with client needs. Based on this tradition, *TEC* plans to provide services in good quality conforming to local realities in possible cooperation with other consultants, foreign consultants acquainted with local situations, research institutions, and its partner companies.

#### ■Consulting Service Fields■

①Survey, Planning, Design and Construction Supervision in Water Supply Field

- Water Treatment Plant
- Water Transmission and Distribution System
- Rehabilitation of Water Supply System

2 Survey, Planning, Design and Construction Supervision in Sewerage Field

- Sewage Treatment Plant
- Sludge Treatment Plant
- Rehabilitation of Sewerage System

3 Survey, Planning, Design and Construction Supervision in Environmental Field

- Water Quality Management Plan
- Clean Development Mechanism Project
- Storm Water Discharge Control Plan
- Sanitation Improvement Plan, Etc.



Phum Prek Water Treatment



Agra Sewage Treatment Plant

Contact	〒100-0013	00-0013 3-7-1 Kasumigaseki, Chiyoda-ku, Tokyo					
Water su	Water supply Division						
TEL No.	. 03-3580-2751	E-mail	kinya_kataishi@tokyoengicon.co.jp				
HP	http://www.tokyc	http://www.tokyoengicon.co.jp					

Plant Design / Construction

Asia Kyodo-Sekkei Consultant					
Asia Ryouo Berkei Consultant					
Co.Ltd					
株式会社アジア共同設計コンサルタ		0	0	0	
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#### Introduction

ASIA KYODO-SEKKEI CONSULTANT CO., LTD (AKC) was founded in 1968 and will celebrate forty- fourth (44<sup>th</sup>) Anniversary of the foundation in 2012.

Social, Economic and Environmental circumstances are changing and several issues such as global environmental issue and issue on natural resources come to the stage that the life of human being is threatened. We are playing an important role in the construction industries aiming to establish and maintain firm basis of safe and reliable society. In domestic market, survey, investigation, planning and design services are providing to the NEXCO (former Japan Highway Public Corporation (JH)), Ministry of Land, Infrastructure and Tourism and local governments. In addition to the services natural disaster prevention and maintenance of the infrastructures such as bridges, highways, tunnels etc. using our know-How of the advanced measuring instruments and systems are another key elements of our services. In International market, we are providing our services in the Public Works for improvement of infrastructures in Asia, Africa and Middle East countries.

We are contributing and will contribute to the improvement of social capitals in the creation of Human Capital of not only the city of Yokohama but also other cities and governments both in domestic and international markets.

#### Challenges for Water Business using New Energy in the International Market

Movement of the usage of Natural Energy (Sustainable Energy) and of its application to the regional development is activating in the recent years. We will propose optimized system considering the characteristics of the region from the Environmental, geological, economical and socio-cultural aspects. We are willing to support to the relevant authorities and companies involving in the Water Business from the field of source of power taking best suitable source of energy to fit the specific area into account. Development and improvement of water supply and sewage system in the developing countries often show the difficulties on surrounding infrastructures such as poor conditions of supply of power including transmission line. We can propose the best source of power, which is suitable for the specific region. Usage of sustainable energy will contribute to the reduction of carbon dioxide (CO2) and consequently to the prevention of global earth warming.

We will pursue the business both in domestic and international markets with the hope that Water produced by the Yokohama Water Business will be provided in the world as environmental friendly "Eco Water".

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HP	http://www.aec-in	jp/				

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# Daiki Ataka Engineering Co.Ltd.

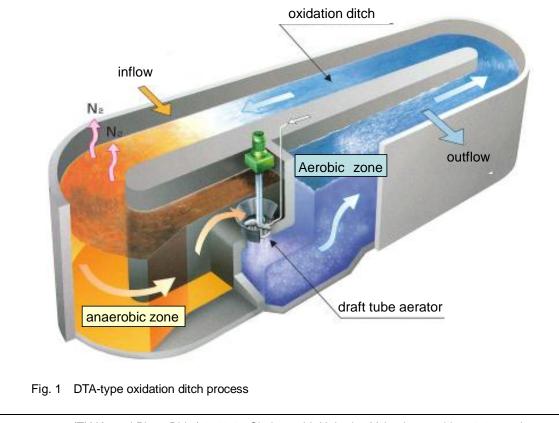
## アタカ大機株式会社

### International activities of Daiki Ataka Engineering for sewage improvement

Activities for sewage improvement in rural areas in China

In China, intensified sewage improvement activities are now implemented under the 12th five-year plan. The coverage of the sewage system has increased and construction of required sewage treatment plants has completed in most urban areas. It is expected that demands for sewage facilities will increase in rural areas in the future, leading to active construction of sewage treatment plants in these areas. We propose the adoption of the DTA-type oxidation ditch process in sewage treatment plants in rural areas.

It has the following three excellent features: ① able to provide high-quality treated water stably, ② low in energy consumption, and ③ easy to maintain.



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URL	http://www.atk-dk.co.jp					

# KAJIMA CORPORATION

### 鹿島建設株式会社

# Kajima's Overseas Experiences in Water-Related Infrastructure Projects

#### 1. Overseas Activities and Future Plan

Kajima has heavily been involved in the infrastructure construction in the water sector, especially ODA projects, such as construction of dams in Indonesia and Sri Lanka, sewage treatment plants in Singapore and Malaysia, and flood control facilities in Sri Lanka and Philippines.

Kajima will commit itself to contribute integrated development and management of water resources, water recycling system in urban area developments and industrial zones, and developments of water supply and sewerage system with attention to local social and environmental characteristics.

#### 2. Construction of three Sewage Treatment Plants and one Sludge Treatment Facility In Malaysia

This is a national project of Malaysian Government partly supported by the JBIC Loan. The Damansara, The Sunggala, The Kuala Sawah Sewage Treatment Plants and Sg.Udang Sludge Treatment Facility were constructed by Kajima.



Damansara STP Daily Average(Q): 25,000 m<sup>3</sup>/d



Sunggala STP Daily Average(Q): 15,000 m³/d





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Kuala Sawah STP Daily Average(Q): 59,000 m<sup>3</sup>/d



Sg.Udang CSTF Daily Average(Q): 250 m<sup>3</sup>/d

Contact	5-11, Akasaka 6-chome, Minato-k	5-11, Akasaka 6-chome, Minato-ku, Tokyo 107-8348, JAPAN					
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Tel	+81-(0)3-5544-0818	E-mail	ayo@kajima.com				
URL	http://www.kajima.co.jp/welcome-j.html						

# 株式会社 開発技術コンサルタント

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Our company was established as a construction consultant in 1967. We are specialized in many types of business such as the Design for Construction of Waterworks, the Sewer, the Road & Traffic etc. for 44 years. Furthermore such as Geological Survey, Surveys, the Design of Construction Management and also as Compensation Consultancy.

Particularly, we got many results on the Design of the Pipeline in the Water and Sewage Construction Works in the Local Government within the Tokyo Metropolitan areas including Yokohama City Council.

As overseas business, we have performed the acceptance of the investigating group of Viet Nam Hanoi City, the training of the investigating delegation of the Department of Transportation, Indonesia as trainee acceptance business under Contract by JICA Yokohama International Center.

In addition, we despatch the Engineer of our Company to Viet Nam Hanoi City as JICA Senior Volunteer and continue the technical cooperation to the Southeast Asian countries in cooperation with the Office of International Policy Urban Management and Planning Bureau, Yokohama City Council and CITYNET.

In relation to the Yokohama Water Business Association, our company is sure that with the help of business deployment, the future of the Association can be performed in the field of the Pipeline Design of Water Works, Sewer, etc. and construction supervision and management which have been engaged for many years.



JR Totsuka Station Area Redevelopment Project Department of Transportation, Indonesia Investigating Delegation on site inspection



The Viet Nam Hanoi city technology training by JICA Senior Volunteer

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⊤el	+81-(0)45-260-8360	E-mail	hd-office@kaihatsu-gijyutsu.co.jp				
URL	http://						

KIDOH CONSTRUCTION		0		
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機動建設工業株式会社		•		
機動建設上業 株式会社				

### 1. Direction of overseas deployment

Direction of overseas deployment of our company is developing correctly the special technique of micro tunneling, such as a long distance, sharp curvilinear construction, etc. established by domestic business deployment over 60 years or more as a specialist of micro tunneling, overseas including Southeast Asia. It is the intention of putting experience which especially conquered many difficult construction conditions using micro tunneling technology in sewer pipeline construction to pipeline construction of the overseas water project.



2. The technology of our company capable to overseas deployment

①High-level micro tunneling technology

Long distance and curvilinear, Very deep position, Super-large caliber pipe, Submarine micro tunneling technology

②Box culvert micro tunnneling technology applicable to an underpass or utility tunnels3. Performance and the program of overseas deployment

(1) The local subsidiary (Taiwan Kidoh Engineering CO.,LTD) was established in Taiwan in 2006.

②In Taiwan, Vietnam, Thailand, and Hong Kong, construction of a sewer and electric power pipeline micro tunneling construction was performed (30 or more affairs).

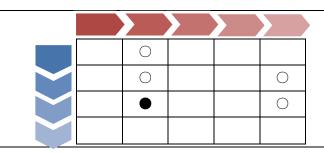
③The micro tunneling technical seminar was held to the government and the commune in Vietnam or Taiwan.

(4) Deployment is planned still more broadly and on a large scale by guidance and a hookup of JICA, MLIT, a commune, etc.

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# Kohsetsu Consultants Co.Ltd

# 株式会社 コーセツコンサルタント



The positive technique that was lined in the history of 50 years

(1) The essence of the city function to revive more than time

The city is valid. I change to the demand of the times consistently. In other words, I react to society, economy, a political flow sensitively. In particular, the activity in this city is comfortable anytime and the maintenance of the water and sewage institution, update are very important business a life-related institution done lively.

(2) The abundant results that I cultivated as a Hama kid, the rich technical staff

We piled up many results since the establishment of a business mainly led by the sewer institution which was public accommodation in Yokohama-shi for 50 years in 1963. The results and the know-how accumulated so far enabled the flexible and precise correspondence to the social infrastructure maintenance project that high business to need the injection of a great variety of technical areas, complexity, advancement advanced from the result by the single technique to. In addition, I prepare not only the engineer of the field of engineering works but also a water and sewage plant engineer, the authorized architect and enable all business to be concerned with straight flowing water. The Heisei era begins and concentrates power on the engineering works designs such as a road, the river, and the basics of surveying or geological survey investigation duties prepare the staff again, too, and a plan, an enforcement design of the river erosion control reaches it as a synthesis consultant at the present.

(3) I will participate in the business opportunity in foreign countries with all of you to a weapon by the experience of this challenge 50 years to the field of overseas water business in future. It is the overseas first challenge, but will open up a course by technology. Thanking you in advance.

#### <main duties contents>

The sewer, the basics of the waterworks institution (pipe, a final sewage disposal plant, water purification plant, pumping station), enforcement design

The sewer, waterworks, a river, the investigation into road installations, plan drafting, authorization book making Various basic investigations duties such as surveying duties, a quality of soil investigation

Person of ordering support, worker dispatch duties (multiplication, construction control)

The plan of other institutions about engineering works and design



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URL	http://www.kosetsu.co.jp				

OKUMURA CORPORATION	0		
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株式会社 奥村組	٠		

#### 1 Overseas marketing strategy for water infrastructure business

Since our founding in 1907, we have constructed water related construction works including water infrastructure development such as dams, waterways, filtration plants, sewage disposal.

In addition we have carried out new construction work and repair work of pipe lines connecting these projects In the future based on the experiences for the design and the construction technology cultivated by constructing these works, we will develop the overseas water business for pipeline projects which is required for the experiences (especially pipelines underground)

#### 2 OKUMURA's characteristics

- We can make a technical proposal to resolve these problems for design and construction regarding water infrastructure. That is supported by 100 years experiences as general contractor
- (2) We have the exceptional design and construction capability of shield tunneling method which can construct pipelines under conditions of any diameter ,linear, depth, ground.

Notes) shield tunneling method :a method of tunneling by using a shield, called shield tunneling

#### $\boldsymbol{3}$ . Overseas office

(1) Taiwan branch

Set up in 2001. We have designed and constructed Taipei, Kaohsiug MRT (between stations: shield tunneling method station unit :open-cut method)

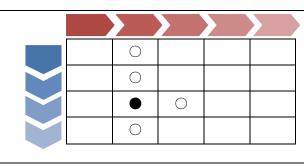
(2) Singapore office

Set up in 2009 we are aiming at making a successful bid for the design and construct of public works.

Contact	60 Nihonodori,asahiseimei yokoh	amabiru Na	aka-ku,Yokohama, 231-0021,JAPAN
Unit	· · ·		
Tel	+81-(0)45-662-1361	E-mail	keisuke.okita@okumuragumi.jp
URL	http://www.okumuragumi.co.jp	- -	

# PENTA-OCEAN CONSTRUCTION CO.LTD.

## 五洋建設株式会社



"i-Ash" : Recycle Method of Sewage Sludge Incineration Ash

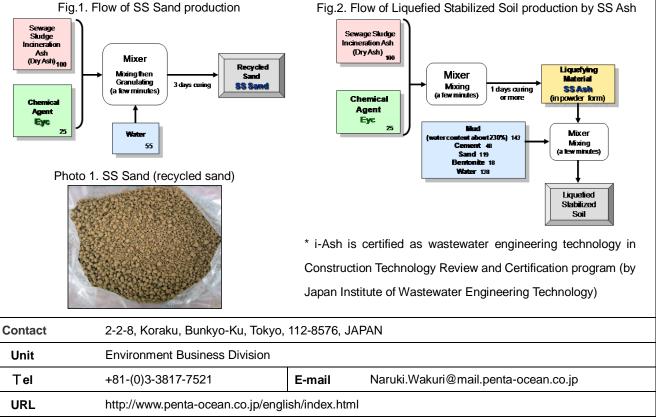
"i-Ash" is a technical method for recycling sewage sludge incineration ash. This method enables sewage sludge incineration ash to be utilized as construction material by adding and mixing chemical agent for immobilizing soluble toxic heavy metals at normal temperature.

Utilizing ashes as construction material is in these ways

- "SS Sand": Utilizing sewage sludge incineration ash as recycled sand by mixing chemical agent (called "Eyc") and 1) water in granulator. (Fig.1.)(Photo 1.)
- 2) "SS Ash" : Utilizing sewage sludge incineration ash as liquidation powder medium for Liquefied Soil Stabilization Method (LSS Method) by mixing chemical agent (Eyc). (Fig.2.)
- "SPS Ash": Utilizing sewage sludge incineration ash as stabilizing material for soft ground soil or soil contaminated 3) by toxic heavy metals by mixing chemical agent (called "Eps") and paper sludge ash.

Agent Eyc is made for treating sewage sludge incineration ash, and Eps is made for treating mixture of sewage sludge incineration ash and paper sludge ash.

Penta-Ocean is now investigating the feasibility of i-Ash method by cooperating with local self-governing bodies



MITSUBISHI HEAVY INDUSTRIES						
ENVIRONMENTAL & CHEMICAL						
ENGINEERING CO.LTD. (MHIEC)						
三菱重工環境・化学		$\bigcirc$		0	0	0
エンジニアリング株式会社		0	$\bigcirc$	$\bigcirc$	0	$\bigcirc$

We, MHIEC, concentrate all our efforts to mobilize our worldwide experience, cutting-edge technologies, extensive know-hows and wide range products to make the best contribution toward the future of the society as well as global environment by providing integrated engineering services from business planning to after-sales activities throughout the life-cycle of plant facilities and systems. Our research and development, being pursued in close collaboration with Mitsubishi Heavy Industries., Ltd (MHI), is fully devoted to create and improve our technologies, products and services.

#### **Our Major Products**

 Environmental protection Plants: Municipal Solid Waste(MSW)-to-Energy Plant, Waste Recycling Plant, Vacuum-Sealed MSW Conveyance System, MSW Transship System, Ash Melting Furnace, Minute Sand Separator for Sewage Sludge, Crusher, MENES-N(Electrolysis Denitrification System), Industrial Waste-to -Energy Plant, Sewage Sludge Incineration Plant, Sewage Sludge Carbonization Plant, Sewage Sludge Dryer, Biomass Gasification & Carbonization Plant, Food Waste Fermentation Gas Producing System

Power Plant Related Facility: Flue Gas Desulfurization Plant, MGPS(Electrochlorination System)

#### Water Solution

Our contribution is also remarkable in the field of water solution, especially in engineering services for Sewage Sludge Incineration Plant, Sewage Sludge Carbonization Plant, and Sewage Sludge dryer.

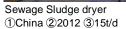
- ★ We have built more than 30 Sewage Sludge Incineration Plants in Japan and in overseas countries since 1984.
- ★ In 1992, the biggest Sewage Sludge Incineration Plant (300T/d) was completed for Bureau of Sewerage Tokyo Metropolitan Government, Japan.
- ★ In 2007, the biggest Sewage Sludge Fluidized-bed Circulating Incineration Plant (200T/d) was completed for Yokohama City.
- ★ In 2007, the largest Sewage Sludge Carbonization (300T/d) Plant in the world was completed in Tokyo.
- ★ In 2009, we were given the contract for the Sewage Sludge Incineration Plant in Chengdu, China.
  - In 2012, the first Sewage Sludge dryer for China was completed.

\* 1 delivery destination 2 Start of operation year 3 Sludge treatment capacity



Sewage Sludge Incineration Plant ①City of Yokohama(Japan)②2007③200t/d

Sewage Sludge Carbonization Plant ()Bio Fuel Co.,Inc /Tokyo(Japan) (2)2007(3)300t/d



<u>MHIEC Grope</u> : We have 21 branch offices, group affiliates and subsidiaries in Japan. We also promote our global strategy and operations, fully utilizing MHI's world wide network. In February 2012, our new local subsidiary "MHIECC" started its operation in Beijing, China.

Contact	Yokohama Blueavenue BLDG, 4	Yokohama Blueavenue BLDG, 4-2, Minatomirai 4-chome, Nishi-ku, Yokohama, 220-0012, Japan				
Unit	Plant Business Department of Plant	Plant Business Department of Plant Engineering Division				
Tel	+81-(0)45-227-1286	+81-(0)45-227-1286 E-mail shigeru.kuwabara@mjk.mhi.co.jp				
URL	http://www.mhiec.co.jp/en/index.html					

# MITSUBISHI KAKOKI KAISHA.LTD.

### 三菱化工機株式会社

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#### OUR OVERSEAS BUSINESS DEVELOPMENT PLAN

We, Mitsubishi Kakoki Kaisha, are challenging to expand engineering, procurement and construction business in the field of water purification, sewage and industrial wastewater treatment plants in new emerging countries in Asia.

#### ■OUR WATER BUSINESS

- 1. We have accumulated abundant experiences and knowhow about water treatment plants through the construction of many water purification, sewage and industrial wastewater treatment plants in Japan and overseas.
- 2. Our originally developed equipment for sewage and industrial wastewater treatment are as follows:
  - a. Ultra-high speed sedimentation system -Spiral separator- (1/10 of foot print to conventional sedimentation unit)
  - b. Energy saving and high efficiency screw press c. Low pressure drop biological deodorization unit
  - d. UASB anaerobic wastewater treatment process e. Deep bed sand filter for oily wastewater treatment
- 3. We contribute to the conservation and improvement in global environment with our leading and cutting -edge technology.
  - a. High efficiency anaerobic sludge digestion process with thermal hydrolysis (reducing sludge generation by 40% and
    - increasing biogas generation by 20%) b. Mitsubishi Sludge Derived Fuel Production System
  - c. Membrane bioreactor d. River water purification system with high purity oxygen

#### ■OVERSEAS SUPPLY RECORDS OF WATER TREATMENT PLANT

The followings are typical examples of our experiences.

- a. Sewage and sludge treatment plants for Jurong Sewage Works, Singapore
- b. Sewage and sludge treatment plants for Daegu and Jeonju, Korea
- c. Water purification plant for Yantala Waterworks, Niamey, Niger
- d. Supply water and wastewater treatment plant for MM2100 Industrial Park, Indonesia
- e. Wastewater treatment plant for synthetic rubber production plant, Indonesia
- f. Water treatment plant for Baoshan Iron & Steel Co., Ltd., China
- g. Wastewater treatment plant with Deep Shaft process for chemical plant , Taiwan
- h. Wastewater treatment plant with UASB process for sugar plant, Thailand

■OVERSEAS BASE FOR OUR WATER TREATMENT AND CHEMICAL PLANT BUSINESS

- a. Name of company: MKK Asia Co., Ltd. b. Location: Bangkok, Thailand
- c. Major business: Engineering, procurement and construction business for chemical and water treatment plant
- e. Experiences in water treatment: Wastewater treatment plant for sugar plant, etc.

Contact	1-2 Miyamae-cho, Kawasaki-ku, I	1-2 Miyamae-cho, Kawasaki-ku, Kawasaki 210-0012 Japan		
Unit	Environmental Sales Department	Environmental Sales Department		
Tel	+81-(0)44-246-7236	E-mail	h.akaishi@kakoki.co.jp	
URL	http:// www.kakoki.co.jp/			

# Nikken Civil Engineering Consultants Co.Ltd

日建コンサルタンツ株式会社

### Company Profile

NIKKEN CIVIL ENGINEERING CO., LTD., as a general construction in the Kanto area, was established in 1964. The Company, having its technological root in ground survey as its foundation, has been expanding its businesses in the field of civil works consulting services such as rivers, water supply and sewage, road etc as well as survey works and has accumulated a number of proven track records.

Currently, in addition to the hardware technology so far develop since its inception, the Company's activities span over provision of the know-how in software technology.

Now, we are confident that the Company is capable of broadly contributing to overall business support to the industries.

We, Nikken Civil Engineering Co., Ltd. are willing to extend our excellent technologies both in hard as well as soft ware fields thus accumulated since long time and coupled with flexible design concept, wish to serve for the growth of everybody in the society.

#### (1) Code of Conduct

① Keep in mind always that what we design will be broadly used by every citizens and therefore we must pay full attention to the cost effectiveness, high quality, users friendliness as well as safety. And in order to achieve the design meeting the field-specific requirements, we must visit the field repeatedly and incorporate what are really needed together with the desired functions thereof.

2 Make the eco-friendly advices through proposing construction methods with low impact to the environment and introducing leading edge technology.

Also, pay due attention to likely occurrence of earthquakes and disasters, and create secured and reliable living conditions.

3 Exert most advanced engineering and IT technologies, and develop in-time and precise work method.

Also, prepare documentation easily understandable to the clients and establish work relation whenever required, and thus endeavor to become reliable partner to the clients.

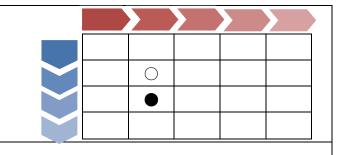
#### (2) Our desire to develop businesses overseas

We are confident to serve for the development of overseas businesses in the area of plan and design of water supply and sewage of which technologies have been accumulated within us for a long time.

From now onward, with kind cooperation of the member firms in the Association, we would like to ensure we play our role in business management on a firm ground.

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Unit	Sales and Marketing		
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URL	http://www.nikken-c.co.jp/		





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# **TOA** Corporation

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## 東亜建設工業株式会社

## Developing our Water Business based on our extensive Ocean Civil Engineering Experience 1. Our International Water Business Policy

TOA Corporation has been developing its international businesses in 47 countries for almost a half-century since starting dredging works in Singapore in 1964. Based on business skills cultivated in the International Construction Market, we are going to promote water businesses for not only civil projects, but architectural projects as well.

In particular, we are going to continue ODA/Yen-Loan-Financed Projects and, at the same time, PPP/PSP Projects aligning with Government Organizations/Other Private Companies who have O&M Business knowledge and experience. Target areas for our water business are South-East Asia (Vietnam, Indonesia, Cambodia, Myanmar etc.), the Middle-East, Africa, the Caribbean and Pacific countries.

### 2. Our Experience in the International Water Business

Indonesia : The Project for Water Supply in Gunungkidul Regency of Yogyakarta Special Territory (ODA)

Indonesia : Denpasar Sewerage Development Project (ODA, Sewage System Installation by Jacking Method/Open Trench)

Indonesia : Yogyakarta Sewage Treatment Plant (ODA, Sewage Treatment Plant/Pipe Installation)

Vietnam : Ho Chi Minh City Water Environment Improvement Project (ODA, Sewage Treatment Plant/Pipe Installation)

Niger : Extension of Yantara Water Treatment Plant (ODA)

The above are given as an example. TOA Corporation has extensive experience on many other projects including ODA/Yen Loan Financed Projects.

### 3. Our Strengths

Toa Corporation provides a variety of services in relation to Water Infrastructure Projects in the International Market drawing from Technical Skills cultivated from our experience in Ocean Civil Engineering, Regional Knowledge in many countries and proven Project Management skills and experience from many EPC projects.

■Technical Skills : Sewage System (Jacking Method, Concrete/New Materials, Environmental Technology),

Soil Improvement (CDM Method、 PVD Method), Pile Driving (RC Pile, PC Pile、 Steel Pile) etc.

Please check our website: http://www.toa-const.co.jp/techno/

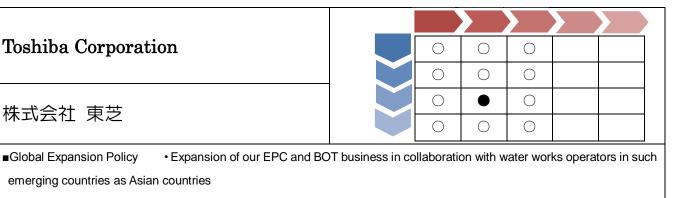
■Regional Knowledge : Experience for a half-century in 47 countries

■Project Management Skills and Experience : Engineering Skills and Construction Know-How for EPC Contracts

### 4. Our International Business Hub (Branch Office)

Singapore • Vietnam (Hanoi · Ho Chi Min) • Indonesia (Jakarta) • UAE (Dubai) We have established a network of regional offices able to respond quickly and effectively to customer's demands from each Business Hub.

Contact	Shinjuku Park Tower 31F, 3-7-1 Nishi-Shinjuku, Shinjuku-Ku, Tokyo 163-1031, Japan			
Unit	Business Department of International Division			
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URL	http://www.toa-const.co.jp (Jpn.) http://www.toa-const.co.jp/eng/ (Eng.)			



- Our Strength ①Water treatment technology and engineering technique recognized by 40years' experience and Achievements ②Achievements of O&M of water treatment business in Japan ③Use of global net work and ability of comprehensive proposal including the other social infrastructure systems like power and traffic systems
  - Power transmission and distribution system (Superior in reliability, safety and energy saving)
  - Monitoring control system (Superior in reliability, flexibility and fast response)
  - Instrumental system (Extensive lineup of instrument to measure water quality like instrumental sensors, electromagnetic flow meters)
  - Water treatment equipment (Non-aeration wastewater treatment system, ozone generator system, UV reactor system)
- O&M (Commission to third party, and other O&M achievements)

Overseas Subsidiaries & Affiliates (Related to Water Treatment Business)

- (1) China (Guangzhou) Company Name : Guangzhou Toshiba Baiyun Control System Engineering Co., Ltd.
- Core Business : Engineering, manufacturing ,construction and maintenance of electrical and instrumental equipment , and monitoring control system for water and wastewater treatment plant
- Major Achievements : More than 100 achievements, especially for wastewater treatment plant

②Indonesia (Jakarta) • Company Name : P.T. ENVITECH PERKASA • Core Business :EPC services for municipal and industrial water treatment plant • Major Achievements : More than 200 achievements, especially in the following fields
 ① Water treatment system for industry (Including organic and inorganic wastewater treatment, and methane gas recovery)
 ②Water treatment system for power plants (Including wastewater treatment and desalination (RO))
 Water treatment system for municipality

③Viet Nam (Ho Chi Minh) • Company Name : Toshiba Clean Development Service (Vietnam) Co., Ltd.

- Core Business : CDM business of heat and power supply generated by using biogas and engineering service for water treatment system
- Major Achievements : VietMa-Project, TruongThinh-PJ

Contact I	nformation	〒105-8001	3001 1-1, Shibaura 1-Chome, Minato-Ku, Tokyo, Japan		
Department Name         Water & Environmental Systems Overseas Sales Dept.					
Tel	+81-3-3457-4187		E-mail	Eiichi.yokoyama@toshiba.co.jp	
HP	http://www.toshiba.co.jp/product/soc-ind_j.htm				

### TOUSIN KIKAKUSEKKEI CORPORATION

# 株式会社 東伸企画設計

The deployment business showing of

international water business and future approach in us.

### (1) The deployment business showing of international water business in us.

Our business which makes the main business the plan of the water supply and sewarage Unit (mainly the sawer culvert), a detailed design and construction control. In late years, we seize the needs which reinforcing, repairing, reforming and renewing infrastructures(stock management). For example, earthquake resistance and life extension measures for pipes (of course we also serve our field of expertise). We'll strive for expansion of business field through this approach.

Our business style of international water business is receives the temporary stuff dispatch request from our customers (major company consultants), and carries out operating coopration on the actual spot. We have the business showing engaged the environment improvement project of 3 nations (Thailand, Malaysia, Republic of Costa Rica) until now.

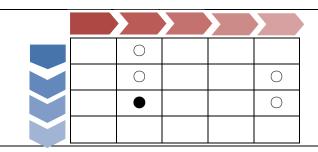
Near by B.P trunk shield in Kuala Lumpur



Investigation of existing MH in San Jose



Countries name		Project name Ter			
Thailand	Samut_Prakarn Waste water	nut_Prakarn Waste water Management project. (Befor hand.) 19			
Malaysia	Malaysia Sewerage Complet	e Equipment	Project.(Pantai trunk sewer Etc.)	2000/10~2001/1	
Republic of Costa Rica		Metroporitan San Jose Environment Inprovement Project. (Extention trunk sewer Design) 2012/11~2013/2			
(2) Future app	roach of the international	l water busi	ness in us.		
The	international contributions pro	omotion proje	ct by the public private partnershi	p of the	
"Yokoha	ma water business Association	n" is owr posi	tion. It alternates, information shar	ring is carried	
out to a r	nember, and we are attended	to receive th	e international water business item	•	
Contact 2-	-5–15 Relax Build Ougi-cho, N	aka-ku,Yokoha	na, 231–0027,JAPAN		
Unit Tousin kikakusekkei Company Business Division					
<b>Tel</b> +8	1-(0)45-662-2633	E-mail	eigyou@tou-sin.co.jp		
URL htt	cp://www.tou-sin.co.jp	•			



Automotive Engineering	Sorvicos				
Co.Ltd	Dervices		0		
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株式会社エー・イー・エス			•		

We are an engineering company who can provide the industrial manufacturing engineering not only automotive engineering but also environmental preservative technology. Our root is the Automotive Plant Division of Chiyoda Corporation who is the leading company in plant engineering field. Based on our vast experiences in automotive manufacturing engineering and project management capability, we are executing and challenging in the various fields of engineering and technology such as small hydropower generation, solar cell power plant, logistics simulation, construction equipment and train manufacturing, etc.

#### (1) Our Policy for Oversee Water Business

We will contribute to the development of Yokohama Water Business in following core fields mainly in Asia;

- 1) Project Management for Oversee Projects
- 2) Basic Engineering for Small Hydropower Generation
- 3) Trans-Plant support business from Japan to foreign countries

#### (2) Our Strength

#### Management Capability for Oversee Projects

We are fully capable for execution of project management on engineering, procurement, construction and launching activities in full Turn-key projects or partial scope of work projects. We have hundreds of project experiences in more than 30 countries since 1986 in which we started our business as Automotive Plant Division in Chiyoda Corporation. There are our branches in Thailand, India and China, and high and productive engineering services are provided by our local engineers. Our local engineering resources make possible the smooth and competitive success in the engineering, procurement, construction and launching of equipment and facilities.

#### Basic Engineering Capability for Small Hydropower Generation

We support the basic planning, waterpower basic design and the procurement of generation facilities of the small hydroelectric generation facilities which makes good use of the pressure reducing valve of the waterworks, the maintenance & discharge of the dam water, sewerage treatment facilities and the irrigation canal water heads.

#### Trans-Plant support Capability from Japan to foreign countries

We can provide the Trans-Plant support services In various industrial fields for Japanese companies from Japan to foreign countries, mainly to Thailand, India and Chine. We are specialized in interface support & coordination between Manufacturing Equipment and Building/Utilities, and in local procurement and installation works.

Contact	6-145 Hanasaki-cho, Nishi-ku, Yokohama, 222-0022, JAPAN		
Unit	Project Division		
Tel	+81-(0)45-326-2734 <b>E-mail</b> morinobu-hanawa@aesjp.com		
URL	http://www.aesjp.com		

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# Eight-Japan Engineering**Consultants Inc.**

# 株式会社エイト日本技術開発

Business Principles of EJEC for Overseas Water Infrastructure Work

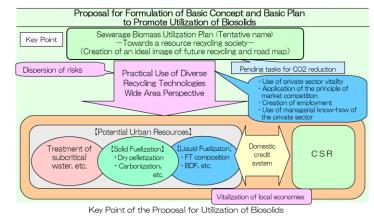
(1) Basic Principles for Overseas Water Infrastructure Work

For more than 40 years, EJEC has been providing a consultation service (studies, planning, design, work supervision and other) concerning infrastructure development in developing countries. In the water infrastructure development sector, EJEC has been involved in many water supply facility development projects, particularly the development of groundwater and other water sources, of the JICA and other clients. One such typical project was the JICA's technical cooperation project in Sierra Leone to change the water purification system (introduction of a slow filtration process) in local cities, to enact an ordinance concerning the establishment of a management body and to develop a water tariff as well as a water charge collection system. As part of the project, EJEC invented new methods relating to the technical and managerial aspects of water supply facility development.

(2) Policies for Future Overseas Businesses

Having built on our past experience of studying the feasibility of water supply, sewerage and waste utilization systems,

planning and design of infrastructure development and management of a series of the construction work for various facilities, EJEC has identified a number of desirable recycling or re-use technologies of the future from the viewpoint of effectively utilizing not only energy and resources but also bio-solids, taking the desirable future for local public bodies and the available amount of resources into consideration. Moreover, EJEC is examining the optimal geographical distribution of facilities while earnestly supporting the formulation of a basic concept and a basic plan for biomass utilization in the sewerage business (see diagram).



EJEC offers a one-stop service from initial conceptual planning to the proposal of a concrete business scheme, possibly incorporating multiple projects, from the viewpoint of waste recycling as well as the mitigation of global warming based on the optimal geographical distribution of facilities. EJEC also offers a design and work supervision service to convert (dehydrated) sewage sludge to solid fuel at a pelletization and drying plant.

EJEC group companies are collectively promoting renewable energy businesses overseas and are hoping to propose ways to use the energy contained in sewage sludge in an earth-friendly and sustainable manner and to reduce CO<sub>2</sub> emission for the prevention of global warming, capitalizing on their own past achievements and experience.

EJEC has long been exercising its leadership in various activities through the Japan Society of Civil Engineers and other organizations. These activities include the study and analysis of natural disasters in Japan and abroad, disaster prevention and mitigation measures and the formulation of business continuity plans (BCP). We at EJEC are confident that we can contribute to the management of water supply and sewerage facilities and the conservation of their asset value. EJEC is anticipating collaboration and the sharing of information on technologies, business schemes and other relevant issues with members of the Yokohama Water Business Association to jointly expand business opportunities in the coming years.

Contact	6 <sup>th</sup> Floor, Yokohama Daiei Building, 2-1 Hon-cho, Naka-ku, Yokohama, 231-0005, Japan				
Unit	Yokohama Branch, Tokyo Regional Office, Eight-Japan Engineering Consultants Inc.				
Tel	+81-(0)45-651-4175	E-mail	sbh-03@ej-hds.co.jp		
HP	http://www.ejec.ej-hds.co.jp/				



From sewage plants, 2.2 million tons of sludge are discharged per year, and most of the sludge are incinerated and disposed by landfill. For most contractors, securing of disposal sites and reduction of sludge disposal costs were the problems. Mitsubishi Nagasaki Machinery's Methasaurs is a new sludge reduction technology, combining hydrothermal processing technology and thermophilic digestion technology, with the following eight features, to comply with the contractors' needs.

- 1. Collects methane gas from sewage sludge at high speed and high efficiency.
- 2. Reduces amount of final dehyderated sludge to 1/5, in comparison with the amount of ordinarily dehyderated sludge.
- 3. Final dehyderated sludge can be used as fuel as they are.
- 4. Final dehyderated sludge can be used as high grade fertilizer as they are.
- 5. Fossil fuel not required as the plant uses collected methane gas for operating heat source.
- 6. Plant installation can be made on a small footprint.
- 7. Easy plant operation and management.
- 8. Plant operating rate is high.

Contact	1-2-1 FUKAHORI-MACHI,NAGA	1-2-1 FUKAHORI-MACHI,NAGASAKI CITY,JAPAN				
Unit	ENVIRONMENTAL PLANT DEP	ENVIRONMENTAL PLANT DEPARTMENT				
Tel	095-871-6102	095-871-6102 E-mail webmaster@mnm.co.jp				
URL	http://www.mnm.co.jp/					

# 2-3 Operation and Maintenance Management

JGC Corporation	. 62
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Osumi Co.Ltd,	. 67
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YOHO CO.LTD.	. 74
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JGC Corporation		0	•	0	
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日揮株式会社		0	0	0	
口评怀认为社		0	0	0	

With its wide-ranging engineering technologies and project management expertise accumulated through numerous successfully-executed plant construction projects in Japan and worldwide, JGC has been investing in water projects in Japan and overseas. JGC works to address increasingly severe water shortages that have grown into a global problem.

# Major Achievements

### Sea Water Desalination

As an owner of the below plants, JGC has executed the business operations:

Project Name	Plant Location	Capacity (m3/d)
Taweelah A2 IWPP	United Arab Emirates	227,000
Taweelah B IWPP	United Arab Emirates	764,000
Rabigh IWSPP	Saudi Arabia	192,000
Tianjin Dagang Desalination	China	100,000

### Feasibility Study for Water Business in Saudi Arabia

City of Yokohama and JGC have performed a technical survey for water and waste water infrastructure in the cities of Buraydah and Unaizah in Saudi Arabia. We have been proposing original solutions to solve issues known to the Saudi Arabian government and citizens.

### Feasibility Study for Smart Community in India

JGC has proposed infrastructure development from the viewpoints of water, energy and transportation, with a balance of centralized and distributed systems, for an industrial city in Maharashtra, India.

### <u>Investment</u>

JGC has been expanding its water business as a shareholder of Swing Corporation (Japan) and TRILITY (Australia).

The MOU between City of Yokohama and JGC has been in effect since 2010 for international technical cooperation to contribute to the global community in terms of environmental program, urban infrastructure upgrading, etc.

Contact	2-3-1, Minato Mirai, Nishi-ku, Yokohama 220-6001, Japan					
Dept	Power & Water Business Department					
TEL	81-45-682-8909 <b>E-mail</b> watabe.ryo@jgc.co.jp					
HP	http://www.jgc.co.jp/					

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# Eurofins Nihon Kankyo K.K.

# ユーロフィン日本環境株式会社

Eurofins Nihon Kankyo K.K. provides various types of environmental survey and testing. through contribution of relief and safety of drinking water as Designated institution of running water quality tests (under Article 20 of the Waterworks Law) with almost 40 years achievements of Concentration measurement and certification. We support your water business by a high technique and abundant experience

Laboratory, located at Kanazawa-ward of city of Yokohama, provides testing through leading-edge technique, such as Specified measurement and certification (MLAP), ISO/IEC 17025 (Laboratory Accreditation), Registered conformity assessment body of the Ministry of Health, Labour and Welfare about food testing.



# Environmental impact Assessment(EIA) (Environment assessment, EA)

We provide you every kind of EIA report from field survey to posteriori survey. Also we provide surrounding testing of EIA and a prediction method

#### Environmental impact Assessment at oversea projects

We carry out supporting business operators such as examinations of environmental research, predictive evaluations natural environments and environmental conservation measures in the overseas business. Also we provide suggesting cooperation with the local analysis organization about an investigation and an analysis prediction technique.

#### $\blacksquare Social and environmental dimensions in global cooperation$

We participate for projects such as the social and environmental dimensions of infrastructure facilities, the implement support of the environmental assessment in the preliminary survey stage, the environmental management plan development in the details design stage, the environmental management in the construction stage as a professional of social and environmental dimensions.

Please refer to the following website for the details.

http://www.n-kankyo.com/english/moreinfo/assessment/index.html#a1

Access	〒236-0003	2-1-13 Sachiura Kanazawa-ku Yokohama-Shi,Kanagawa					
division	division name Yokohama ASM Group of Laboratory						
Tel	045-78	30-3848	E-mail	info-yokohama@n-kankyo.com			
HP	http://v	www.eurofins.co.jp/					

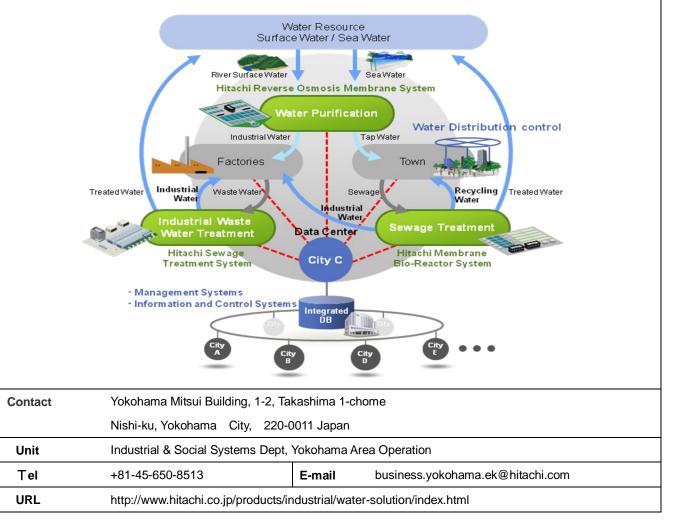
Hitachi .Ltd.	0	0	0	
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株式会社 日立製作所	0	0	0	

#### Approach and development of Hitachi water business

Hitachi Group has broadly supplied customers inside and outside of Japan with water related products, systems and services for a century. They have coverd water conservation, water supply and sewage, flood control, water utilization, water reuse and sewage treatment. Hitachi Group established "Water Environment Solutions Division". The division leads water-related companies and sectors belonging to Hitachi Group. This division works on mapping out the strategies and plans for our global water business.

Proposal of new solution

Hitachi Group regards water environment business as one of the most important "Social Innovation Businesses". Hitachi promotes "Intelligent Water System " which contributes to an optimal water cycle right now. Employing "Intelligent Water System " shown below, the highly efficient operation and the reduction of environmental burden should be realized. Limited water resources will be utilized more effectively in urban area.



# KOKUSAI KOGYO CO.,LTD.

# 国際航業株式会社

#### [About KOKUSAI KOGYO CO., LTD (KKC)]

KKC has been supporting to design national land infrastructure by using cutting-edge measurement technology to capture a broad range of geospatial information. KKC provides solutions to support various administrative operations using GIS (Geographic Information System) for roads, sewage, water supply, urban planning and taxation of fixed assets and other infrastructure management.

#### [Water Supply / Sewage Management]

KKC can suggest the best methods for maintaining and management water supply / sewage facilities, provide operation management tools including mapping systems and build appropriate databases.

#### Water Supply Management

- Improve the efficiency and sophistication of operations by centrally managing facilities data and design drawings.
- Support developing accurate construction plans, leak prevention measures.
- Run simulations of optimum water-pipe network design based on pipe network analysis.



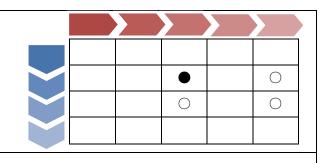
#### Sewage Management

- Support to tally sewage pipes and create plans for updating and expanding them.
- Support developing plans for extending the useful lifespan of sewage pipes and carry out efficient and management operations to prevent accidents and minimize lifecycle costs.
- Manage sewage service applications using a sewage service register map.
- Survey and evaluate fixed properties in order to ensure the proper maintenance and operation of facilities into the future.

#### [Water Business in Overseas]

KKC has been developing consulting operations all around the world since 1960's. Especially KKC extends many of achievements on ground water development and water environmental improvement to construct a relationship with local government and other water agencies. By merging consulting experiences, latest geospatial information technology and administrative management know-how, KKC expands water business fields corresponding rapid growth of demand in international water infrastructure development.

Contact	17 Nihon-Odori Naka-ku, Yokohama, Japan 231-0021					
Unit	Kokusai Kogyo Co., Ltd. Kanagawa Branch					
TEL	045-212-1796 E-mail Info-kanagawa@kkc.co.jp					
URL	http://www.kk-grp.jp/english/index.html					



### Kono construction Ltd

## 河野建設株式会社

# $\langle\!\!\!\langle ext{Because people, towns, and earth are rich in resources } \cdot \cdot \cdot \rangle\!\!\!\rangle$

#### We are a small company.

This time, our company has become a member of this water business Association.

Up to now, our company has been specialized domestic water business in various aspects including disasters, but we are presently seeking to expand and develop in the overseas water business as well, accumulated on our experience as expert.

### Technology that our company has cultivated Yokohama City for many years:

Our work extends for nearly half a century in the construction of waterworks and drainage works.

We always put forth our greatest effort and strive towards the safety of our workers and constructions.

We seek to hold up to our slogan of always improving our customer satisfaction.

We bear in mind custom mode works -not ready made- in responding case by case to each construction job.

Yokohama citizens never give a second thought to the fact that delicious water is supplied when they tune on the tap and that it flows through the drainage when finished.

However, when they see images of underdeveloped overseas systems, they are prompted to think about their own water system and the fact that it is brought about by the effort of various related organizations which always maintain, promote, and renew the systems.

# pipe rehabilitation



# trunk line watershed manhole

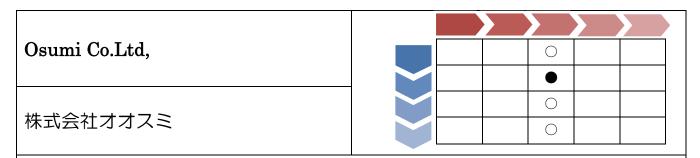


# water reproduction center

 $\bigcirc$ 



Contact	Contact 2-47-27 Hiyoshihon-cho, Kouhoku-ku,Yokohama, 223-0062,JAPAN					
Unit The	The general affairs section					
Tel	+81-(0)45-563-5005	E-mail	kouno.k.k@nifty.com			
URL	http://kounokk.jimdo.com/					



Osumi Co.,Ltd <u>contributes to new Environmental structure</u> by <u>applying consulting techniques</u> based on ascertaining purpose and requirement, of which are <u>criterion standards of analysis and investigation knowledge</u> gathered over 40 years experience.

We conduct environmental measurement certification businesses mainly, also analysis, consulting, and investigation businesses are conducted with our mission always in our mind.

#### «To keep providing people living on the earth with "security" and "safety" from an environmental point of view. »

Our businesses made inroads into foreign markets, supporting governmental environmental agencies of the countries, direct and train foreign engineers, aiding environment assessment, and more. We also have experience in water businesses in South America, Africa, and more developing countries by providing "Identifying actual statement of village community water supply and hygiene", "Development of water and hygiene systems", "Hygiene inspections" to name a few.

Engineering services provided most often:

#### 1. Analysis:

Water quality, Soil, Drinking Water, Industrial waste, Displaced soil at construction (Soil waste), and more Toxic substances analysis, Asbestos during construction, <u>Poly Chlorinated Biphenyl</u> contained in insulating oils and sealing materials, Quality control, Material characterization, Contamination cause identification, Examination and study on demand.

#### 2. Measurement:

Soot and smoke / Exhaust gas, Occupational environment, Asbestos, Dioxins, Offensive odor / Stink, Noise/Vibration, Radiation, Indoor air quality.

#### 3. Investigation:

Environmental assessment, Living environment impact, Atmospheric pollution, Water pollution, Soil pollution, Nature environment.

#### 4. Planning / Consulting:

Soil / Groundwater pollution countermeasure, Asbestos countermeasure, <u>International Organization for Standardization</u> (ISO) 14000 series support, <u>Global warming countermeasure</u> (<u>energy-saving strategy</u>), Environmental manager (Total environmental management service), Your labo (Total analysis engineering service using scanning electron microscope etc.)

#### 5. Industrial chemicals sale etc.:

Water treatment chemical / Deodorant etc., Oil removal material, Wastewater treatment facility maintenance.

With the aim of our mission "Providing security and safety", and in conjunction with Yokohama Water Business Associations' activity, we will search various opportunities as well as tackle to lead into business development with the best of our ability.

Contact	20-17 Gokanme cho, Seya I	20-17 Gokanme cho, Seya ku, Yokohama shi, Kanagawa ken, 246-0008,Japan				
Unit	Head Engineering Departme	Head Engineering Department, Environmental Investigation Group				
Tel	+81-(0)45-924-1050	E-mail	a.hoshi@o-smi.co.jp			
URL	http://www.o-smi.co.jp	http://www.o-smi.co.jp				



# パシフィックコンサルタンツ株式会社

#### Future Scope in Water Business and Experiences in PPP Management of PACIFIC CONSULTANTS CO., LTD

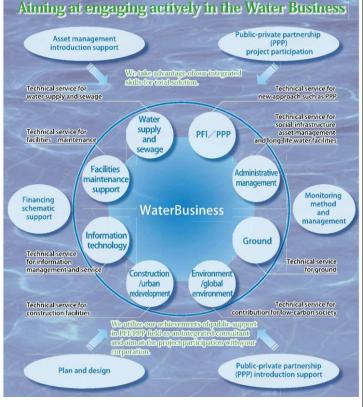
#### (1) Future Scope in Water Business Fields

Pacific Consultants delivers multidisciplinary and comprehensive professional services to solve the integrated problems which each water utilities are facing. We have a wide range of experiences and knowledge since there are so many professionals in not only Water and Sanitation fields but also the other various fields such as Planning and Urban Design, Land and Community Development, Environmental and Energy Technological, PFI/PPP, Information Technology and so on.

In the fields of Water Business, we are aiming at playing a role in linking the 'value chain' from planning to operation & maintenance, and at creating a new market. This means not only consulting services which we have provided but project operation (ex. As a private partner) will be included in our scope.

#### (2) Experiences in PPP Management Fields

Pacific Consultants is a frontier consultant company



Activity in the Water

in the fields of PFI/PPP management in Japan, and has a wide range of experiences and knowledge. Especially in Water and Sanitation, we have provided a number of services such as PPP fusibility study, project scheme study, and concessionaire selection support as a public adviser in rehabilitation or building the facilities. There are over 30 work experiences in Water and Sanitation fields, and the following three projects are the remarkable ones.

- (1) (Water Supply) Rehabilitation of Waste Water Disposal Plant (PFI), Okubo Water Treatment / Saitama / 2002-2004
- 2 (Water Supply) Building of Kakitsubata Water Treatment (DBO) / Matsuyama / 2004-2005
- З (Sanitation) Building and Operation of Biomass Energy Utilizing Plant (PFI) / Kurobe / 2007-2008

Contact	1-7-5, Sekido, Tama-shi, Tokyo, 206-8550, Japan					
Unit	Project Development Department,	Project Development Department, Water Business Group				
Tel	042-372-7513	042-372-7513 <b>E-mail</b> water_business@ss.pacific.co.jp				
HP	http://www.pacific.co.jp/e/index.html					

# SEKISUI CHEMICAL CO.LTD.

### 積水化学工業株式会社

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#### Comprehensive support of water and sewerage pipe asset management

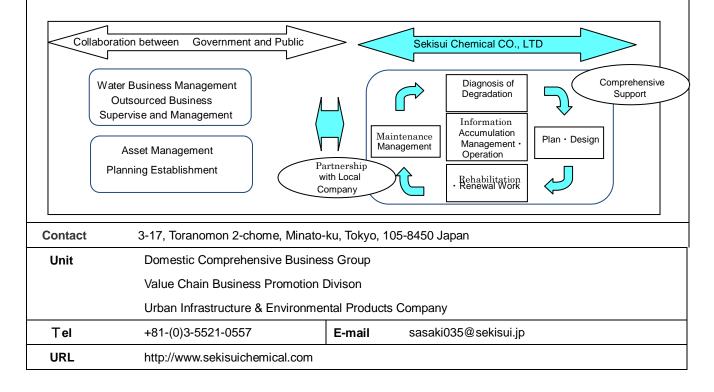
#### (1) Initiative of Sekisui

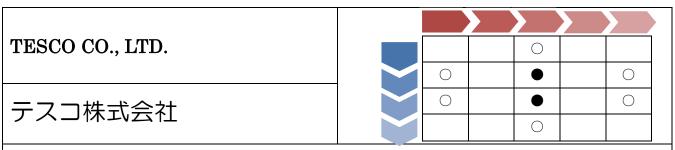
We promote the comprehensive support of the water and sewerage pipe asset management through technology and Construction method that Sekisui owns. Leveraging the actual proved performance and know-how as the specialist of pipe material and pipe rehabilitation and through the partnership with government and private party, we will propose the optimum models.

By doing so, we will contribute to <u>1. Building the pipe without accident • water leakage</u>, <u>2. Building pipe that is</u> anti-earthquake, <u>3. Improving water quality 4. Optimizing business management</u>. We will support your company domestic and global business realization.

(2) Operation • Maintenance Management 「Water Treatment Plant + Sewer System」

Infrastructure business is shifting to the time of maintenance and control and it is becoming important to consider the business plan with the set of water treatment plant and pipe. In order for us to provide our solution to all sorts of requests from business customers, we concluded partnership with Swing Corporation that is No.1 Japanese Integrated Water Business Providing Company. With the accumulation of both companies' know-how associated with water treatment technology, pipe rehabilitation technology, maintenance and management operation, we will provide optimum solution toward 100 years sustainable Water Business Management.





#### Summary

TESCO's major businesses are to operate and maintain approximately 90 sites of municipal water / waste water treatment facilities and municipal waste solid incinerators in Japan.

TESCO is expanding these businesses to overseas such as South East Asian countries .

#### Features

-Accumulated know-how and technology for operation and maintenance of water / waste water treatment facilities since corporate establishment in 1970

- Acquired ISO 9001:2008 and ISO14001:2004 certification
- •TESCO 1,637 engineers posses 7,624 technical qualifications in total, including 2 first class electric works specialists, 5 Professional Engineers, and 6 first class waterworks facility management engineers, etc.
- •More than 5 years overseas experience of O & M business in water/waste water treatment
- •TESCO is reaching the stage which enables us to join overseas BOT businesses in water treatment.

#### Explanation

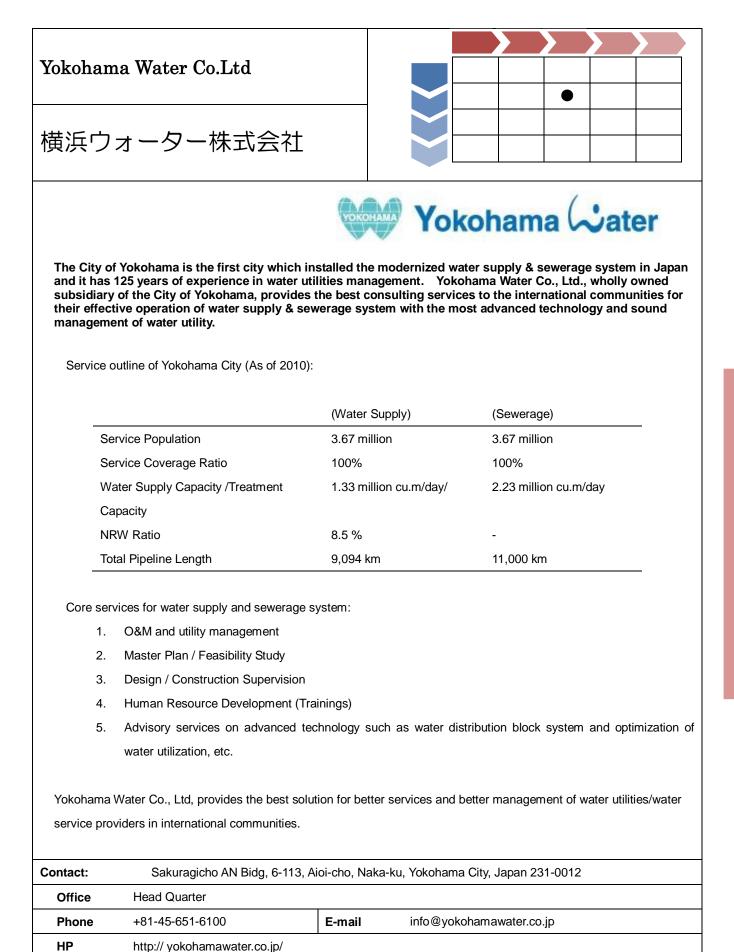
Approximately 45 sites of municipal water / waste water treatment facilities and about 45 sites of municipal waste solid incinerators in Japan are operated and maintained by TESCO. Water treatment facilities (capacity: 534,200m<sup>3</sup>/day Max.) on our sites consist of coagulating sedimentation system, coagulating sedimentation plus advanced sewage treatment system, etc. and waste water treatment facilities (capacity: 372,000m<sup>3</sup>/day Max.) includes activated sludge treatment, oxidation ditch process and so on. MWS incinerators (capacity: 531t/day Max.) that we operate are the stoker type, fluid bed type, gasification fusion type, carbonizing furnace type incinerators, and so forth.

We implement comprehensive waste water treatment facility (capacity: 12,000m<sup>3</sup>/day Max.) O&M business for 4 years at the Amata Nakorn Industrial Estate, the biggest industrial area including more than 600 factories in Thailand. Furthermore, we scheme not only O&M but also the business expansion to BOT of water treatment and water recycle plant operated now in Amata City Industrial Estate in Thailand.





Contact	34, SHINANOMACHI, SHINJYUKU-KU, TOKYO, 160-0016, JAPAN			
Unit	Overseas Department Deputy General Manager, Yasumasa Sato			
Tel	+81-(0)3-3355-3826 <b>E-mail</b> Yasumasa-satou@tesco-inc.jp			
URL	http://www.tesco-inc.jp			



Swing Corporation	0	0	0	0	0	
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水ing株式会社	0	0	•	0	0	
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# Japanese top-class comprehensive water solution company

In 1931, Swing Corporation made history with the first installation of domestically produced pressure rapid filtration equipment for municipal water system in Japan. Since then, we have been a pioneer for more than 80 years in the field of water supply and sewage systems. Our track records are approximately 500 operational worksites nationwide, 30% of domestic market share of design & construction (D&C), and 470 international D&C projects. Swing Corporation is Japanese top-class comprehensive water solution company employing approximately 2,000 operators and 500 D&C engineers. Furthermore, we have formed a business alliance with Sekisui Chemical Co., Ltd., and we provide one stop solution for the needs from water treatment to pipe network as well as design, construction, operation, maintenance and management.

#### Representative track records

Site	Project abstract	Business scope		
Ho Chi Minh city, Vietnam	SWTP 141ML/day	D & C		
Kranji, Singapore	SWTP 75ML/day	D & C		
Kinshasa city, Congo	MWTP 30ML/day	D & C		
Shikoku-chuo city,	DWTP(63.5ML/day) &	O & M		
Ehime pref.	90 facilities(from intake to distribution)			
Toyo-oka city,	DWTP 30ML/day	D & C		
Hyogo pref.	(submerged membrane filtration)			
Kurobe city,	Biomass energy recycling facilities	DCFO&M		
Toyama pref.	PFI(BTO)			

Legend: D=design C=construction O=operation M=maintenance F=finance

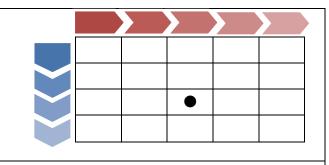
### International business policy

The greatest strength of Swing Corporation consists in know-how with over 80 years of experiences supported by an enormous number of domestic and international customers. Making the most of our cutting-edge know-how, we globally provide tailor optimum solutions for our clientele. Furthermore, we are expanding our scope of business activities with the global network of our shareholders, MITSUBISHI Corporation, JGC Corporation and EBARA Corporation.

Contact	7-18 Konan 1-chome, Minato-ku, Tokyo, 108-8470, JAPAN		
Unit	Project Sales & Planning Division, Project Sales Dept.		
Tel	+81-3-6830-9027	E-mail webmaster@swing-w.com	
URL	http://www.swing-w.com/en/index.html		

# FUJI ENVIRONMENT CO.LTD

# 株式会社不二環境サービス



"Fuji Environment Service Co., LTD., our goal is the creation of a rich environment"

#### 1. Our basic policy

Our company was founded in 1971. Since its founding our company, our goal is the creation of a rich environment. And, we are as a group of engineering and maintenance in the water business, we have built a trust and results. We are for the future, for the earth, will continue to contribute to society as contributing to environmental conservation company in the future.

#### 2.As a company involved in the operation and maintenance of environmental facilities

Our company thinks that the role of the company engaged in an environmental plant is creating the solution of various problems which surround global environment, such as "the prolongation of life and extension of life-span of apparatus", "reduction of energy consumed", and "control of waste discharge. "We are, in order to meet the needs of our customers, is to devote to the development of technical experts, we have produced a number of specialists.

Moreover, CSR, such as execution of the continuous improvement of EMS based on the environmental plan of ISO 14001 (the 2002 attestation acquisition) and activity for the contribution and environmental preservation to the area and society, is also tackled positively. And, we are recognized as responsible for social responsibility by these activities is directly linked to gain the trust of stakeholders, enhance the value of the company.



#### 3. For deployment to overseas water business

Our know-how has and will continue to contribute actively to the Council. Moreover, our company thinks that becoming the mother's body of a hub wants to concern itself positively towards good relation of the basis of recognition that a Association participant flexible and firm relation is indispensable, and participating companies.

Contact	14-1, Ogawa-cho, Yokosuka-shi, Kanagawa-ken 238-0004, JAPAN			
Unit	Operation Department			
Tel	+81-46-820-2400	E-mail	t-kataoka@fuji-kankyo-s.co.jp	
URL	http:// www.fuji-kankyo-s.co.jp/			

YOHO CO.LTD.	
株式会社陽報	

#### Work contend of YOHO

Yoho presents general maintenance duties around a building public accommodation. By trust and the results that I cultivated for 30 years, I make an Effort for the construction of the maintenance service aiming at convenience, safety, cost reduction. More recently, under the theme of the symbiosis with the community, I contribute to social positioning of the maintenance business and raise a corporate value by performing CSR activity such as local contribution, environmental conservation, the contribution to society positively. These are our missions.

#### To subject of maintenance management business and correspondence.

I hold more problems including the "cost reduction" "curtailment of the life cycle cost by the extension of life" "consideration of environment such as the reduction of energy consumption and the waste" "construction of the reproduction type model such as the use of the processing water" in the recent maintenance duties.

We perform the following in order to cope with these problems.

- (1) To compensate for laborsaving of operation, human resources are distributed properly.
- (2) PDCA of check and maintenance is optimized.
- (3) Quality of check and maintenance is raised and they are reflected on a plan.
- (4) By performing environmental preservation added value is created and advertized."

These practice enable offer of service to a customer.

#### Concern of overseas water business.

YOHO CO., LTD.

From empirical rules of these maintenances business, we recognize that a package of high technology of JAPAN and the driving management is the present problem in the foreign countries water business.

Furthermore, in addition to the cut end from such technical economic side I am famed for expectation in creation and development of new business such as "the grasp of the business needs of beneficiary country and the matching with awareness of the issues and sense of crisis peculiar JAPAN."

Contact 1-4-1 Onoe-cho, Naka-ku, Yokohama ,231-0015 JAPAN						
Unit	Sales Department Project Planni	Sales Department Project Planning and Development Division				
Tel	+81-(0)45-222-7740 E-mail s-arai@yoho-engineering.co.jp					
URL	http://www.yoho-engineering.co.jp					

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CHIYODA (	CORPORATION
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# 千代田化工建設株式会社

(1) Environmental Technology

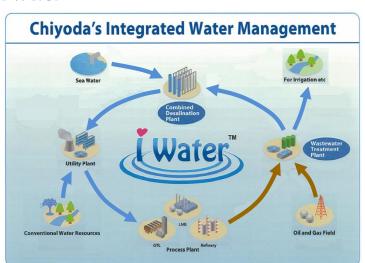
The interest in issues surrounding the preservation of the global environment, such as global warming due to greenhouse gases, is on the increase.

Aiming to achieve harmony between energy and environment, Chiyoda has been offering environmental preservation technologies since its foundation.

In addition to offering licensed technologies, Chiyoda has been active in developing its own technologies in the fields of air pollution control and water purification, and has delivered these technologies to various clients as environmental pollution control technologies.

Counting in this spirit, Chiyoda is developing new technologies and improving existing technologies.

(2) Water Management - Water System



Chiyoda developed a next-generation water recycling system and business operations as a solution to cope with the increasingly severe water shortages, and offers a system that recycles industrial wastewater and produced water into

[ Water<sup>™</sup> (industrial water)

- 1. An optimum solution that integrates process engineering, utility engineering, and wastewater treatment engineering
- 2. New technologies using water treatment membranes, such as MBR (Membrane Bioreactor) and RO (Reverse Osmosis)
- 3. Response to requirement for varuable resources recovery and ZLD (Zero Liquid Discharge)

Contact	4-6-2, Minatomirai, Nishi-ku, Y	4-6-2, Minatomirai, Nishi-ku, Yokohama 220-8765, Japan			
Unit	Water Management Proje	Water Management Project Section			
Tel	(81-45)225-4895	E-mail takehiro.sato@ykh.chiyoda.co.jp			
URL	http://www.chiyoda-corp	http://www.chiyoda-corp.com/company/en/profile/index.html			

# 2-4 Financial Arrangement and Related Services

ITOCHU Corporation	77
HINODE Sangyo CO.,Ltd.	78
Sumitomo Mitsui Banking Corporation	79
The Bank of Yokohama.Ltd.	80
EJ Business Partners Co.Ltd.(EJBP)	81

ITOCHU Corporation						
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#### Our Role in Water Business

ITOCHU provides a wide range of services related to water infrastructure. These include our traditional functions in exporting and construction contracting and, more recently, operation and maintenance services.

When advancing specific projects around the world, we are able to leverage our global network and operational expertise to provide the most appropriate solutions to match the particular legal and industry conditions in the host country.

#### Our Experiences

Over the past 30 years, we have accrued extensive experience in trading and construction contracting for desalination plants in the Middle East, notably Saudi Arabia. More recently, through investment participation in specific projects, we are expanding our role in long-term enterprise management and operation and maintenance of water facilities. For example, we are now engaged in the operation and maintenance of an industrial waste water treatment plant in China, and we are also involved in the construction, operation and maintenance of a desalination plant in Australia that has been developed as a Public Private Partnership (PPP). The Australia project was launched during the difficult financial period following the Lehman Shock, and the credibility of ITOCHU and our consortium partners was critical to our success in securing funding. By regularly dispatching staff to our enterprise companies, we contribute to project management and oversight and constantly improve our expertise and know-how.

### Our Goal

From construction and operation of full concession water systems in Asia to water utility management and water recycling projects in developed countries, we are aiming for a broad scope of participation in the water sector.

At ITOCHU, working closely with our domestic and worldwide partners and with authorities and companies in host countries, we apply our deep experience in project development and management toward the realization and success of specific water projects. In so doing, we are able to help maintain and improve the supply of water, a basic requirement in our lives.

Contact 5-1, Kita-Aoyama 2-chome, Minato-ku, Tokyo 107-8077, Japan						
Unit	Water & Environment Proje	Water & Environment Project Section, Plant Project Department				
Tel	03-3497-3120 E-mail <u>higashiyama-e@itochu.co.jp</u>					
URL	http://www.itochu.co.jp/en/					

# HINODE Sangyo CO.,Ltd.

# 日之出産業株式会社

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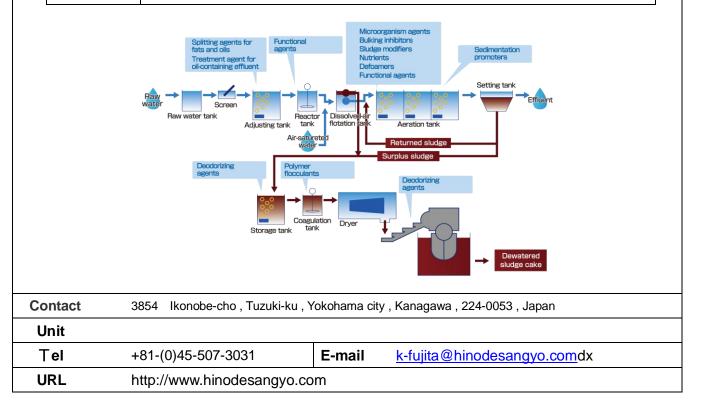
Since 1976, we have addressed environmental issues through water treatment. In the context of the preservation of limited water resources, the role of advanced water-treatment technology has gained importance. With regard to effluent treatment, we expect a growing demand for our Elbic agents, which include microorganism-based agents, in environmental-cleanup procedures, and many of our experiments and our technical expertise are directed towards developing and refining these agents. We also provide technology and services that are suited to customer requirements, including design and construction of effluent-treatment facilities for various types of effluents, after-sales services, and analysis.

### Main Products

### Microorganism-based agents for environmental cleanup "Elbic" BZ, BZ-O

## Treatment agent for oil-containing effluent Elbic youtry1 Polymer floccula t "Elbic Settler

	Production and sales of agents for effluent treatment
<b>Discription</b>	Planning, design, and construction of effluent-treatment facilities
of business	Maintenance of effluent-treatment facilities
	Water-quality analysis, microorganism analysis



# Sumitomo Mitsui Banking Corporation

### 

# 株式会社三井住友銀行

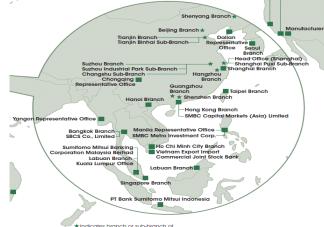
In order to promote one of the growth industries, water business, Sumitomo Mitsui Banking Corporation (SMBC) has launched a special team called "Growing Industry Cluster Project Team\*" on July 2010. SMBC specialists of water businesses are able to provide bankable project's ideas/proposals for clients in a variety of ways based on all the resources of SMBC. We aim to provide the best advice / solutions such as bankable financial schemes and also support PPP projects by utilizing SMBC products and services.

Our global network will be also useful for clients and consortiums of Japanese companies to support their activities outside Japan. We are actively supporting businesses in Asia as well as Middle Eastern countries where active movement can be seen. In addition we are covering projects all over the world.

We are expecting to support you based on SMBC's creditworthy achievements / performances / experiences that we have accumulated from various projects. For instance, we can support you in terms of;

- ① Market research and Initial Feasibility Study
- 2 Provision of various ideas/proposals on projects in cooperation with public institutions
- ③ Tailor-made financial schemes clients' projects / businesses
- ④ Support clients to implement/develop projects inside/outside Japan
- ⑤ Support to form a consortium, and etc
- 6

Please feel free to contact us at contact information at below. We are looking forward to doing business with you.



★Indicates branch or sub-branch of Sumitomo Mitsui Banking Corporation (China) Lim

\* "Growing Industry Cluster Project Team" has merged with another team and renewed the name to "Growth Industry Cluster Department" since April 2012.

Contact	2-3, Otemachi 1-chome, Chiyoda-ku, Tokyo 100-0004, JAPAN					
Unit	Growth Industry Cluster Departme	Growth Industry Cluster Department				
Tel	+81-(0)3-4333-8389	E-mail amekura_yoshiaki@yk.smbc.co.jp				
	+81-(0)3-4333-6301	+81-(0)3-4333-6301 watanabe_tomofumi@vr.smbc.co.jp				
URL	http://www.smbc.co.jp/					

The Bank of Yokohama.Ltd.	0	
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# We are contributing to development of region by finance as regional bank

## **Response to diversity of needs of finance**

We are implementing project finance which is nonrecourse loan and PFI matter etc respond to business characteristic and needs of customer company in a situation that needs toward finance of company is diversified

<Measure track record toward PFI business in Yokohama City>

- Yokohama improvement ground plant maintenance enterprise
- Yokohama municipal science frontier high school maintenance enterprise
- Yokohama fire-extinguishing gas power generation equipment maintenance enterprise
- Yokohama Kawai water purification plant re-maintenance enterprise
- The Seya-ku, Yokohama-shi synthesis government building and a FUTATSUBASHI park improvement project
- The public-benefit institution maintenance enterprise accompanying the second sort of 1st area urban redevelopment project of the Yokohama Totsuka Station west entrance

## Measure toward strengthening of growth base of regional economy

We are willing to implement not only supplying funds stably by building Loan fund and Investment partnership 「Growth support fund」 but also supporting via several kinds function service which this bank group provide as opposed to the customer company which tackles an enterprise in the field future growth, such as environment, energy, medical treatment, and care, is expected to be in order to contribute to the area and to grow up with the area

## **Foreign-operations support**

We are providing financial service in a spot as opposed to the customer who develops business in China which will establish the "Shanghai branch" to China and Shanghai in November, Heisei 21, and where economic growth continues

Moreover, in the Asian area, establishment of the Bangkok liaison office is scheduled for April, Heisei 24, and also offer of the local financial service which utilized the business tie-up with alien banks, such as the Bank of East Asia and Bangkok Bank Public, is tackled.

Contact	3-1-1, Minatomirai, Nishi-ku,Yokoha	3-1-1, Minatomirai, Nishi-ku,Yokohama, 220-8611, JAPAN			
Unit	Business Promotion Department	Business Promotion Department			
	Structured finance group	Structured finance group			
Tel	+81-(0)45-225-1111	E-mail	takashi_sawai@hamagin.co.jp		
URL	http://www.boy.co.jp/				

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Cost

saving

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Ο

# EJ Business Partners Co.Ltd.(EJBP)

# 株式会社 EJ ビジネス・パートナーズ

## **Our Aiming Project and Solution on Water Business**

### ♦Our Solution

We, EJBP, are developing our activities of "Project by our investment" focusing on environment/energy field based on the technology of E • J Group with 50 years experience on consulting services for infrastructures. We have already been conducting some renewable energy projects in south east Asia as BOT(Build-Own-Transfer) scheme.

Our Solution : Project Development, Feasibility Study, Finance, Project Management etc.

## ♦ Our Aiming Project

We are now expanding our business to the water sector. We create the merit of reduction of initial cost and operational cost by our owning project implementation instead of the client.

### **1** Water Recycling Project

Purpose : Cost saving of tap and sewage water by waste water recycle and/or groundwater

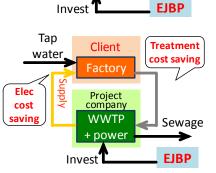
purification with membrane system

Client : Factory, Hotel, Hospital, Welfare facility etc.

Solution : To bear the initial cost and to provide safe and lower priced water than the current price

### ②Waste water treatment and energy recovery/utilize project

Purpose : 1)Cost saving of waste water treatment by installation of appropriate technology or efficiency improvement on existing facility 2)Cost saving of energy by biogas recovery and power generation such as methane fermentation facility



Client

Factory

Project company

Water Recycle Sewage

Cost

saving

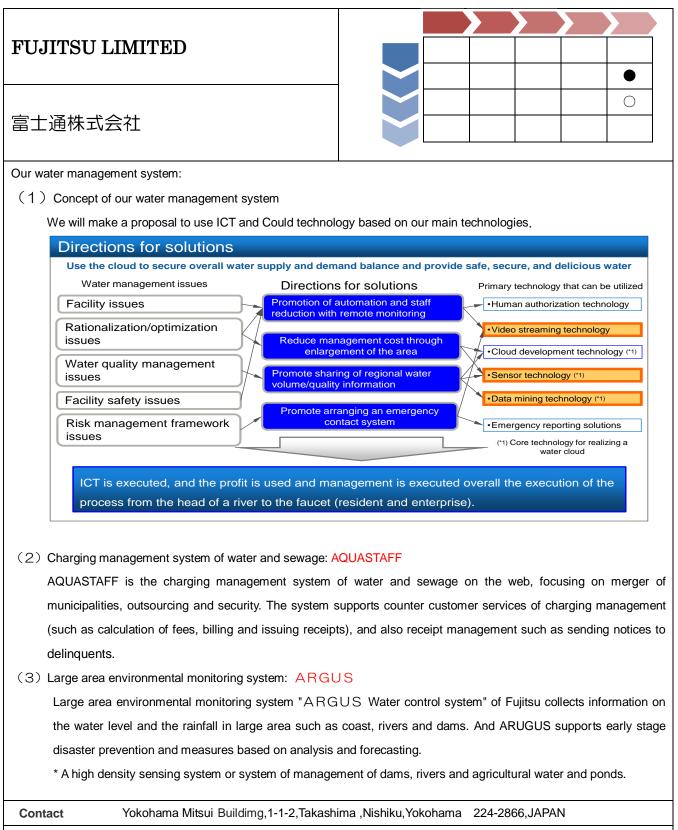
Client : Processing/production factory of food, beverage (brewery etc), milk product etc

Solution: To bear the initial cost and to provide lower priced energy than the current price

Contact	33-11, Honcho 5-chome, Nakano-ku, Tokyo, 164-0012, JAPAN			
Unit	Project Development Department			
Tel	+81-(0)3-6382-6222 <b>E-mail</b> inquiry-ejbp@ej-hds.co.jp			
URL	http://www.ejbp.ej-hds.co.jp/			

# 2-5 Customer Services

FUJITSU LIMITED	83
OUGIYA Corporation	



Contact	Yokohama Mitsui Buildimg,1-1-2,Takashima ,Nishiku,Yokohama 224-2866,JAPAN					
Unit	Kanagawa branch office					
Tel	+81-(0)45-224-2866	E-mail	kanagawakoukyo-ycity@ml.css.fujitsu.com			
URL	http://jp.fujitsu.com/					

OUGIYA Corporation			
扇矢工事株式会社			•

#### Our activities with respect to drainage water treatment

In the increasing domestic industrial waste, the amount of sludge in particular is high and capacity for final disposal facilities could be full within several years. As a result, costs for disposal are increasing and thus business entities are encountering higher burden of costs for disposal.

In order to reduce burden of disposal costs and preserve local environment, we offer Bioreactor System. Using our unique environmental conditioning products, Bioreactor System can cultivate soil bacteria which live under the traditional activated sludge process in the natural soil environment. While Bioreactor System promotes the growth of soil bacteria to perform their functions in the soil, it discourages the growth of putrefactive bacteria and escherichia coli and further tries to reduce sludge.

Bioreactor System has been well received mainly in the livestock industry and dairy industry.

#### Features of Bioreactor System

- 1. Bioreactor System is cost effective compared to traditional system because it only requires small remodeling of the existing facilities.
- 2. Bioreactor System reduces sludge and controls odor emitted by the premises.
- 3. Treated water has a deodorizing effect. Using treated water to eliminate odor at the premises will preserve a favorable environment in surrounding area. Also the biosolids can be dried and used as fertilizer. In this instance, you can save cost to dispose of industrial waste.

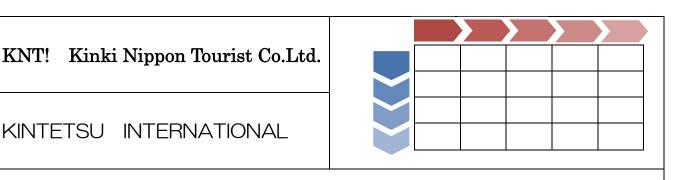
#### Future prospects

As a future work we propose actively our cost effective, easily-controlled Bioreactor System for improving capacity of small-to-mid-sized drainage water treatment facilities in developing countries.

Contact	6-7-15, Higashiterao, Tsurumi-ku, Yokohama, 230-0077 Japan			
Unit	Eco Solutions Div.			
Tel	+81 (0)45-583-2421	E-mail k_miyoshi@ougiyakouji.co.jp		
URL	http://www.ougiyakouji.co.jp			

# 2-6 Miscellaneous and Groups

KNT! Kinki Nippon Tourist Co.Ltd	86
WATERTECHNICAL SERVICECO.LTD.	87
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Kinki Nippon Tourist Services:

- 1. We conduct, arrange, and provide planning for water-issue-related field trips to foreign countries by members of the Yokohama Water Business Association. Our service includes content coordination and negotiation for both host and visitor.
- 2. We provide consulting services and cost estimates for travel to water-related international Associations; international forums; international research Associations; and trade fairs, etc. by members of the Yokohama Water Business Association. We also arrange tours and provide reference materials and mediation services for all related travel.
- 3. We provide consultation, planning, and the arrangement of "meet and greet" events and activities that facilitate better communication between members of the Yokohama Water Business Association and others.

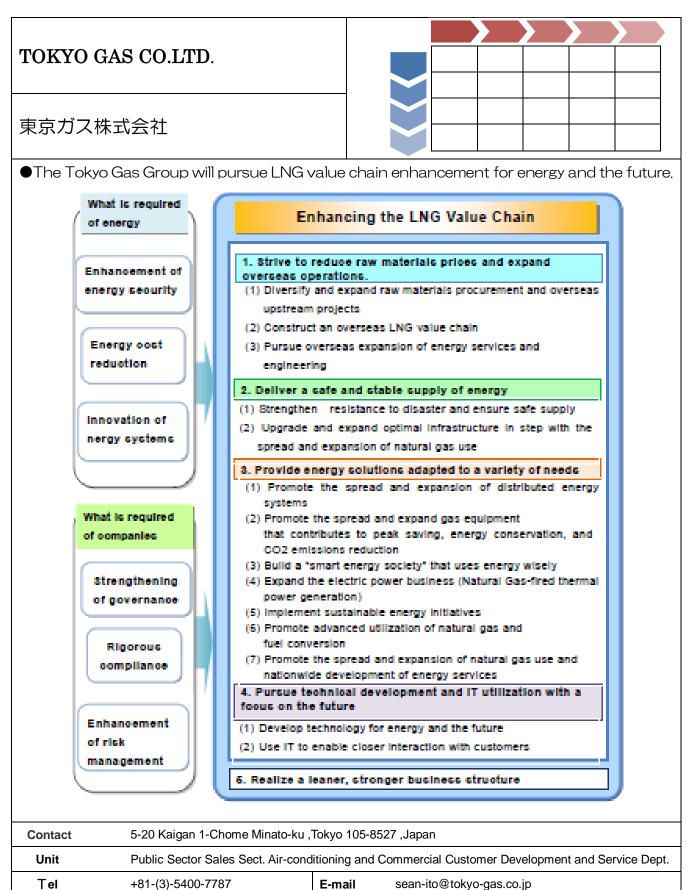
Please feel free to contact us concerning opportunities to help facilitate social activities for member companies and company travel. Our sales representatives look forward to the opportunity to visit your company and propose plans that will help to actualize your ideas.

We look forward to serving you in the near future.

Ritsuko Deguchi Contact personnel, Assistant Manager Yokohama Branch, Kinki Nippon Tourist Co., Ltd.

Contact:	〒220-0004	Nisso Dai-3 Bldg. 2F, Kitasaiwai 2-5-15, Nishi-ku, Yokohama City			
Department:	Yokohan	na Branch			
Phone:	045-287	-4580	E-mail:	deguchi911099@mb.knt.co.jp	
Homepage:	http://ww	/w.knt.co.jp/			

# WATERTECHNICAL SERVICECO.LTD. 水道テクニカルサービス株式会社 Through the leakage surveying, we support the water service pipe line. (1) Based on much experience and techniques. Since our company established, we support the water service using the technology which based on the much experience and technique. The leakage surveying is the lowest level work but regardless of domestic or not, we think it is important work which is in charge of the no income water countermeasure in management of the water business. By the co-operation with the membership of the Yokohama City Water Business Association, we will aim at the construction of administration of an effective the water service pipe line system. As for the leakage surveying, please leave it us. (2) Fusion of disciplined experience and new technology. [Water Leakage Monitoring System] Using water leakage monitoring system which fuses together detective technique of skillful engineer and fixed monitoring unit for water distribution network (L-sign), we will aim for efficient and effective reduction of the no income water. 0109.16 .... fusion surveying and pinpoiting monitoring unit /L-sign installation patroi Every three month patrol Conducted four times a year surveying and pinpointing surveying and pinpointing leakage repair removal 〒241-0821 1-45-87-3F, Futamatagawa, Asahi-ku, Yokohama-city Kanagawa Contact Section Sales Section



URL

http://www.tokyo-gas.co.jp/

# NISSIN CORPORATION

# 株式会社 日新

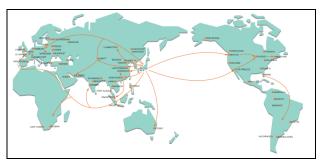
• Our Program for International Development

We are providing our customers abroad and at home with logistics services of high quality as a total logistics company with our global networks including 104 offices in Japan and 119 offices & operation sites in 23 countries. We have been handling wide range of projects including water business, besides dismantling, packing, storing, transporting and installing equipments for water treatment related systems for a long time. We hereby ask for your approach to our home page as below for further details of our company.

•A Distinctive Feature of Nissin Corporation

As the pioneer, having established our subsidiary companies in BRIC's countries much earier than others, we have been providing safe and reliable logistics services locally, as well as global logistics services to/from all over the world with full use of our global networks. Since we had a pleasure of handling exhibition goods for Chinese Exhibition held in Tokyo and Osaka in 1955, the very first Exhibition China had ever held in foreign country, we started to develop our business operations in China. The followings are the countries where we have our own subsidiaries and the expansion of the water related business is expected.

Established in	Our Own Subsidiary Company
1987	Thailand
1998	U.A.E.
1999	India
2000	Mexico
2005	Russia



We have our representative office in Myanmar and Nepal in addition to the above subsidiaries.

Our Past performance of water related projects.:



http://www.nissin-tw.co.jp/

HP

PASCO CORPORATION	
株式合社パフコ	
株式会社パスコ 	

## PASCO's Water Supply and Sewerage Management Service (1) PASCO's Main business

PASCO CORPORATION was established as an aerial surveying company in 1953. Since its foundation, PASCO has collected enormous amounts of data by aerial survey, and expanded the business activities ranging from geospatial data collection to data integration and analysis with engineering and system technologies. For public and private sectors, PASCO provides solutions utilizing value added infrastructural basic information (spatial information) collected with highly advanced vehicle-borne, airborne and spaceborne sensors. In the business operation aspect, PASCO provides spatial information solutions to support administrative operation and public facilities development, management, and planning & designing for local governments; and for private companies, the company supports strategic plans, market analysis, highly efficient and optimized operation, and Business Contingency Planning (BCP).

### (2) PASCO's water supply and sewerage management service in international business

The infrastructural development and maintenance issues, such as: stable supply of water and electricity,

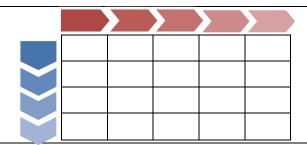
shortage of housing, waste disposal and traffic jams etc., are alarming in the developing countries. PASCO provides solutions for developing the latest 3D 空間情報 収集技術 spatial infrastructural basic data, for managing and operating social infrastructural system. In the international water works business market, PASCO is focusing on Smart Community Business: responding to solve inefficient water and energy management combining multi technologies environmental technology and IT in cross-sectoral approach, such as road 空間情報・リリューション management and maintenance, water resource Flow of PASCO's spatial information services smart grid, and business support (asset

management) with high precision digital spatial information.

Contact information Yokohama Branch, S		na Branch, Sales Depart	ment, Eastern Japan Division	
Add. 223-1 Yamashita-cho, Yokohama City, 231-0023, Japan				
Tel	045-222-6350	E-mail	oostao8152@pasco.co.jp	
HP	www.pasco.co.jp			

# Mizuho Research Institute Ltd.

# みずほ総合研究所株式会社



As the research arm of the Mizuho Financial Group, Mizuho Research Institute Ltd. (MHRI) possesses both depth and breadth of experience in the use of private-sector initiatives in the waterworks and sewerage systems of Japan. In addition to its achievements as advisors in projects such as the Kanamachi Water Purification Plant Energy Generation PFI (Private Finance Initiative) Model Project of the Tokyo Metropolitan Government (Japan's first PFI project) and the Southern Sludge Treatment & Recycling Center (Yokohama) of the Yokohama municipal government, MHRI also acts as advisor in feasibility studies and selection of operators in PFI and PPP (Public Private Partnerships) in a wide range of waterworks and sewerage systems of Japan.

MHRI's achievements in PFI & PPP projects

Outsourcing Entity	Name of Project
Bureau of Waterworks, Tokyo Metropolitan	Asagiri Water Purification Plant, Misono Water Purification Plant
Government	Energy Generation Project
Bureau of Sewerage, Tokyo Metropolitan	Tokyo Metropolitan Government Morigasaki Water Reclamation
Government	Center Energy Generation Project
Bureau of Sewerage, Tokyo Metropolitan	Eastern Area Sludge Plant Carbonization Project
Government	
Waterworks Bureau, Chiba Prefectural	Hokuso Water Purification Plant – Renewal of Water Reclamation
Government	Facilities
Waterworks Bureau, Okazaki municipal	Otogawa Water Purification Plant Renewal Project
government	

In addition to the projects listed above, MHRI also possesses rich experience and achievements, playing key roles in the formulation of management plans for waterworks and sewerage service providers and strategic plans for their utilization of quasi-government subsidiaries and the examination of privatization and introduction of concessions (in the case of Kasai City, Hyogo Prefecture).

Along with the recent focus of attention upon overseas PPP projects as potential growth areas, there has been a rise of interest among domestic waterworks and sewerage service providers to participate in overseas waterworks businesses by utilizing their management knowhow and technologies. In the actual engagement in overseas projects, there is the need for overseas information on the local country/area, methods and business schemes for participation, financing methods and risk minimization measures. MHRI also provides water supply and sewerage service providers and their quasi-government subsidiaries with various forms of support to engage in overseas projects.

Our mission is to contribute to the improvement of waterworks and sewerage services on the basis of our knowledge and experience accumulated through our research & consulting achievements in the introduction of PFI & PPP in waterworks and sewerage projects both within Japan and overseas.

Contact	2-1, Uchisaiwaicho, 1-chome Ch	2-1, Uchisaiwaicho, 1-chome Chiyoda-ku, Tokyo100-0011		
Unit	PPP Business Promotion Group	PPP Business Promotion Group, Project Research Department, Business Promotion Division		
Tel	+81-(0)3-3591-8746	E-mail	ken.bid@mizuho-ri.co.jp	
URL	http://www.mizuho-ri.co.jp/			

# yokohama civil engineering consultant association 一般社団法人 横浜市建設コンサルタント協会

To the group which goes from the industrial group in the city into the foreign countries

#### (1) Role as the industrial group of the city construction consultant

Our association is an industrial group of the engineering works design that it is intended, "I plan healthy development and improvement of the construction consulting business and contribute to the development of the community widely and cope in the emergency such as disasters immediately", and was established. It is a characteristic that a member of association has many members who were good at 18 companies particularly water and sewage connection.

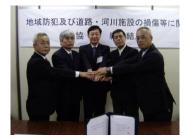
I concluded an agreement about a disaster agreement or the local crime prevention, institution injury with plural stations, and the association which made much of the contribution to society to the area such as the emergency procedure at the time of the disaster or the report to the engineering works office of the road injury point was active until now.

In addition, the member of association carries out continuous technical study and I carry out the technical presentation and spot visit party hosted by an association and plan skill up.

#### (2) Expectation to the company activity in foreign countries

However, I am affected by the public works project reduction these days, and the business condition of the member company just turns worse. The member company expects that the technology that I cultivated in Yokohama-shi particularly the design technology in the field of water and sewage is kept alive abroad and is connected to creation of new business opportunity so far. I will think that an association can contribute to the activity development in the foreign countries of the member of association as contact to water business business in foreign countries or a control position in future.





The 5th technology assembly in November, 2011

Crime prevention agreement conclusion in September, 2009

Contact	Contact 3-32-13 tsuruya-cho, kanagawa-ku, Yokohama, 221-0835, JAPAN			
Unit	yokohama civil engineering consultant association			
Tel	+81-(0)45-323-0136	E-mail	ta-sugahara@kosetsu.co.jp	
URL	http://www.yokohama-shicon.com			

## YOKOHAMA CHAMBER OF COMMERCE AND INDUSTRY

## 横浜商工会議所

#### About YCCI

The Yokohama Chamber of Commerce and Industry (YCCI) is a non-profit, non-partisan organization operated under a special government law called the Chambers of Commerce and Industry Act. This organization has been providing various activities and advocacy for member firms to promote regional economy and social welfare in Yokohama-City since its foundation as a comprehensive local economic organization in 1880.

- Every Japanese Chamber of Commerce and Industry (including YCCI) has four major characteristics.
- 1) Public : nonprofit/nonpolitical organizations aimed widely at business promotion and public welfare.
- 2) Regional : regional organizations closely related to their coverage areas.
- 3) Comprehensive : application is open to any scale or any field of business firms or individuals.
- 4) International : promoting private economic partnerships through close links to a worldwide network of CCI.

#### Major Activities

- O Advocacy towards national / local governments
- Research on the future of Yokohama
- International economic partnerships and research for business opportunities
- O Branch and departmental activities
  - to develop and reinvigorate local business dynamism
- $\bigcirc\,$  Promotion of tourist areas & industries in the Yokohama area
- O IT support for SMEs (small and medium sized enterprises)

- O Business consultations & finances
- O Membership circles for communications
- O Human resources development
  - · lecture and training programs
  - proficiency tests
- O Fringe benefits for members
  - mutual aid & insurance

#### Support for International businesses

In this tide of advancing business globalization, YCCI, with its collaborative associations, supports SMEs in expanding their operations overseas, aiming at the internationalization of member firms in helping them to take the power of rising countries growth into their business operations.

As part of these activities, YCCI attends "Yokohama Water Business Association" to promote the international water business and seeking the development of the business firms based in the Yokohama-City area.

Contact	8F Industry & Trade Center Bldg. 2 Yamasita-cho, Naka-ku, Yokohama, 231-8524, JAPAN		
Unit	Economic Policy Division		
⊤el	+81-(0)45-671-7434	E-mail	seisaku@yokohama-cci.or.jp
URL	http://www.yokohama-cci.or.jp		

## Further details on the Yokohama Water Business Association are available on our website

→→ http://www.city.yokohama.lg.jp/kankyo/gesui/ywbc/index-en.html

Yokohama Water Business Association

Search

#### ■ Office ■

Yokohama Environmental Planning Bureau, Sewerage Planning and Coordination Department, Sewerage Project Promotion Division Tel: +81-(0)45-671-2941 Fax: +81-(0)45-664-0571

Yokohama Waterworks Bureau, Business Promotion Department, International Operation Division Tel: +81-(0)045-633-0161 Fax: +81-(0)045-681-6572