



METAWATER and Ceramic Membrane



October, 2021
METAWATER Co., Ltd.

METAWATER is a leading water engineering company, based in Japan, with unique products and wide range of experiences from product supply, EPC up to O&M service incl. PPP projects.

Net Sales	JPY 133B (ca. US\$ 1.2B FY2021)*
Stock Exchange	First section of the Tokyo Stock Exchange
Capital	JPY 11.9B (ca. US\$ 109M)
# of Employees	3,340*
Location (JPN)	Tokyo (HQ) Total 42 locations
(WW)	Vietnam, Cambodia, Singapore, Netherlands, USA

*As of March 31, 2021. Consolidated.

Ceramic Membrane



Top supplier

More than 200 installations

Ozone Generator



Top supplier

More than 170 installations

High-rate filtration system



Top supplier

More than 50 installations

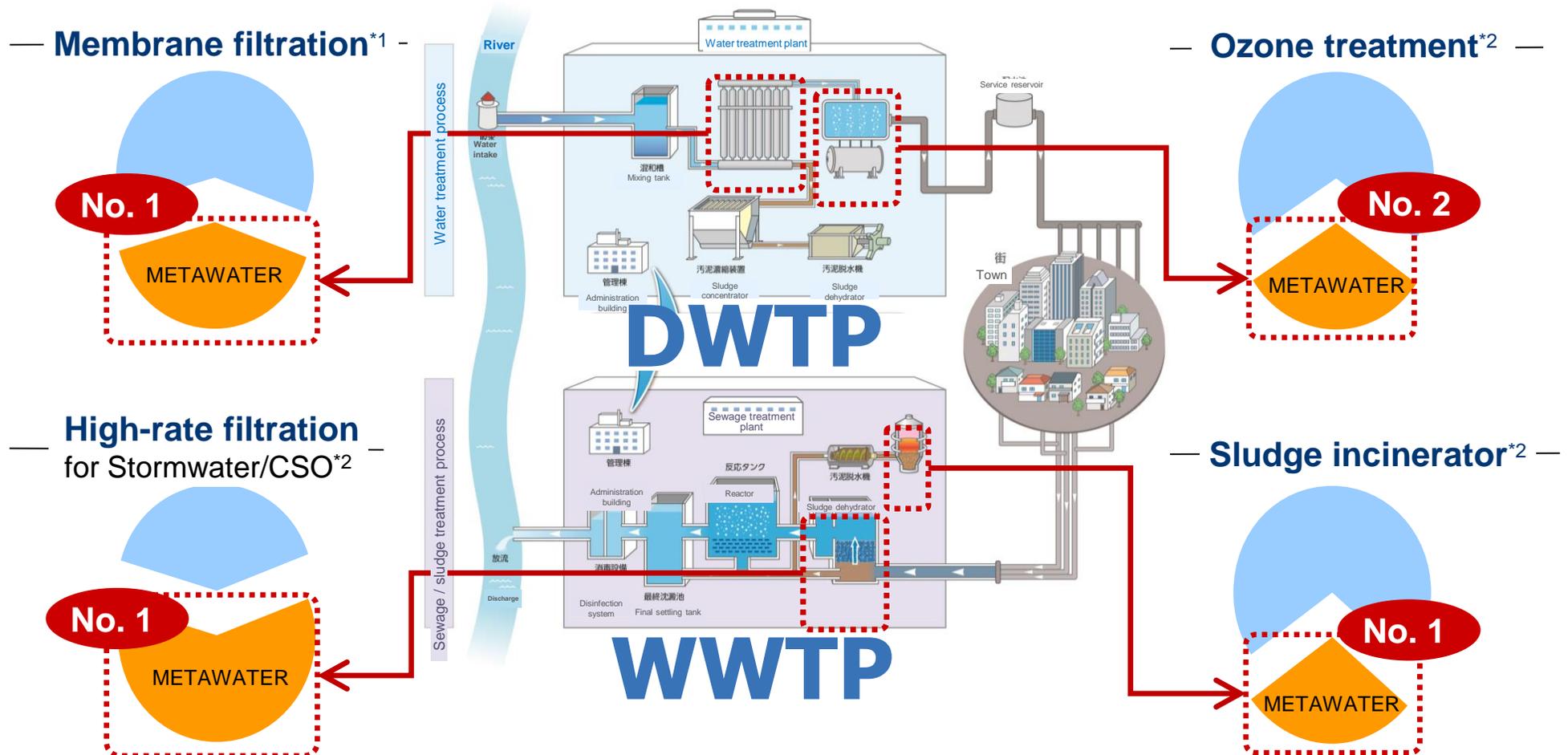
PFI/BOT Business



Top provider

More than 30 installations

High market share in EPC business in Japan



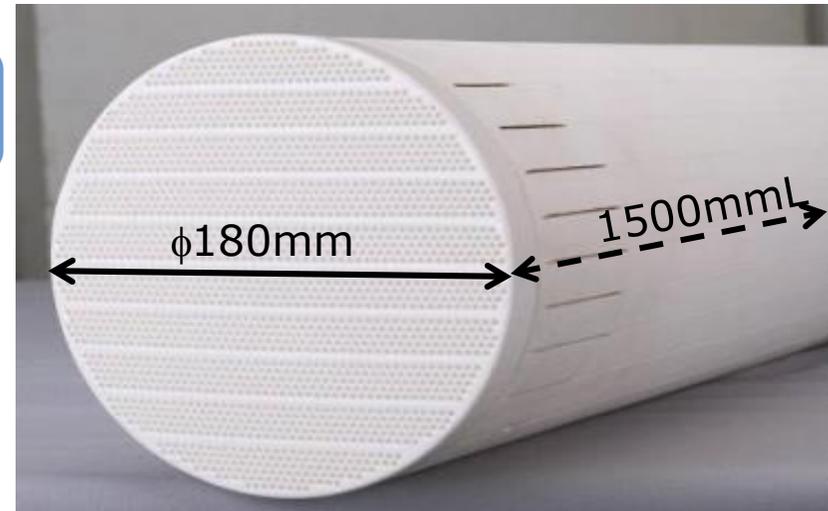
*1: Water volume-based share in drinking water treatment plants using membrane filtration

*2: Share in the number of facilities

Ceramic membrane

Extremely durable, highly reliable

- No membrane breakage
(none in 200 installations since 1998)
- Longevity
(more than 20 years)



Ceramic membrane filtration system

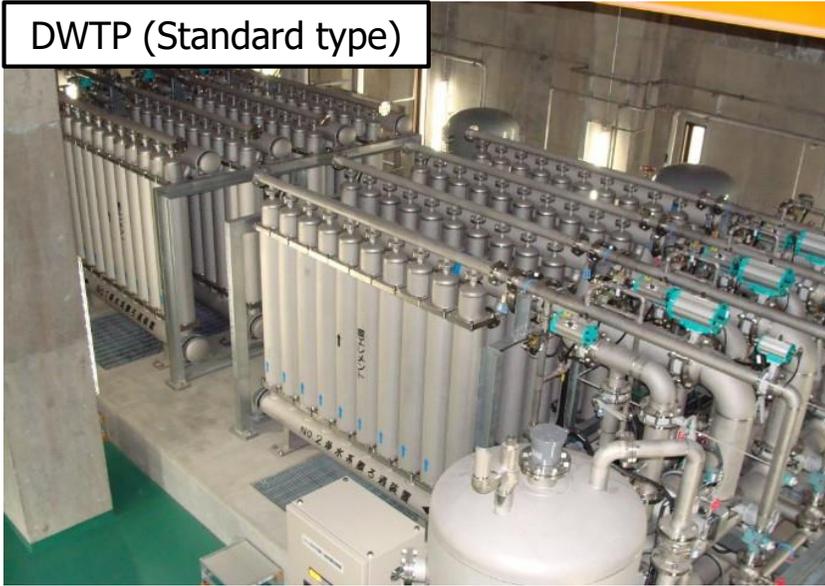


Stable/high water quality
at low running cost

- Consistent operation
(even during high turbid event, such as rainstorm)
- Energy saving
(In some cases 40% less vs. polymeric MF/UF membranes)

Applications of Ceramic Membrane System

DWTP (Standard type)



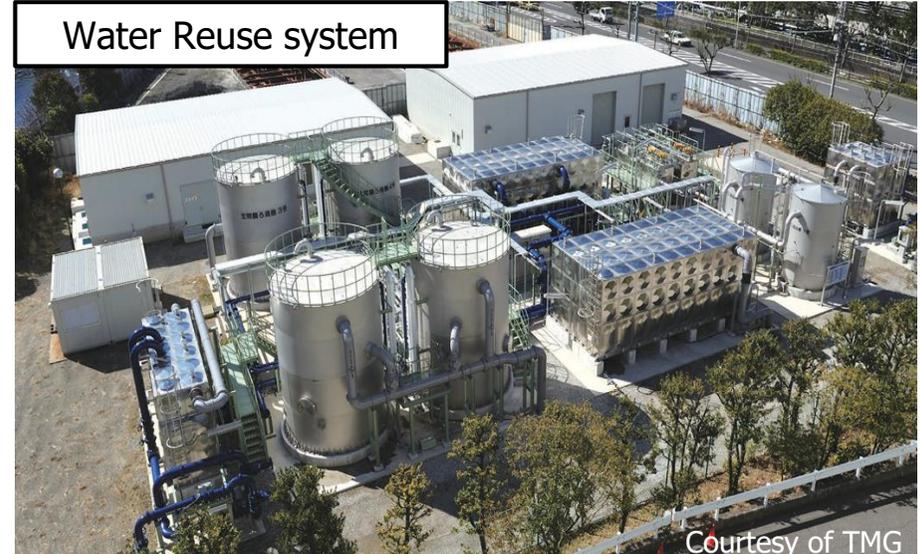
DWTP by CeraMac®



Truck-mounted type



Water Reuse system



Courtesy of TMG

Installation Record of Ceramic membrane in Japan

- **Number of installation : 175 sites***
- **Cumulative capacity : 845,500 m³/day**

As of July. 2021

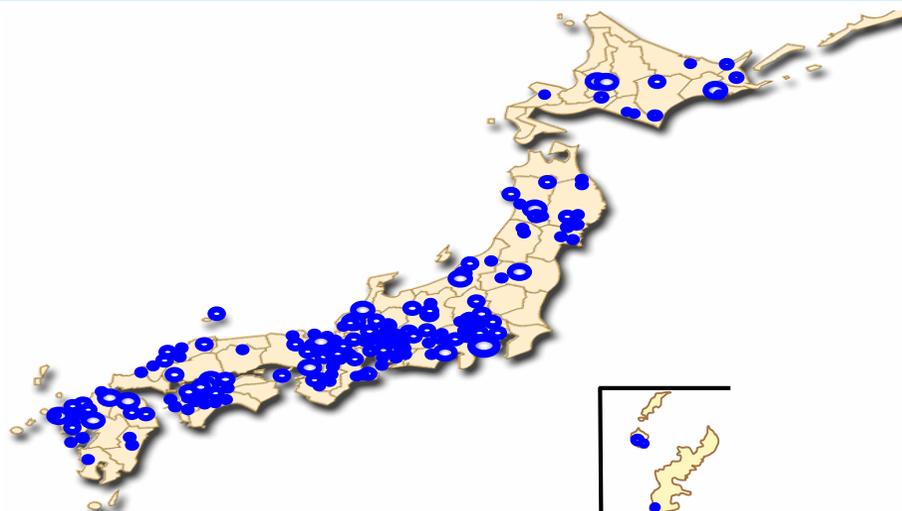
*Including confirmed future plan

First installation

No.	DWTP (Prefecture)	Water Source	Capacity (m ³ /day)	Start up
1	Ubara (Kyoto)	Surface water	425	1998

Large-scale DWTP

No.	DWTP (Prefecture)	Water Source	Capacity (m ³ /day)	Start up
1	Kawai (Kanagawa)	Surface water	172,800	2014
2	Aikoku (Hokkaido)	Surface water	70,500	2023 (Order received)
3	Hinogawa (Fukui)	Surface water	51,900	2011



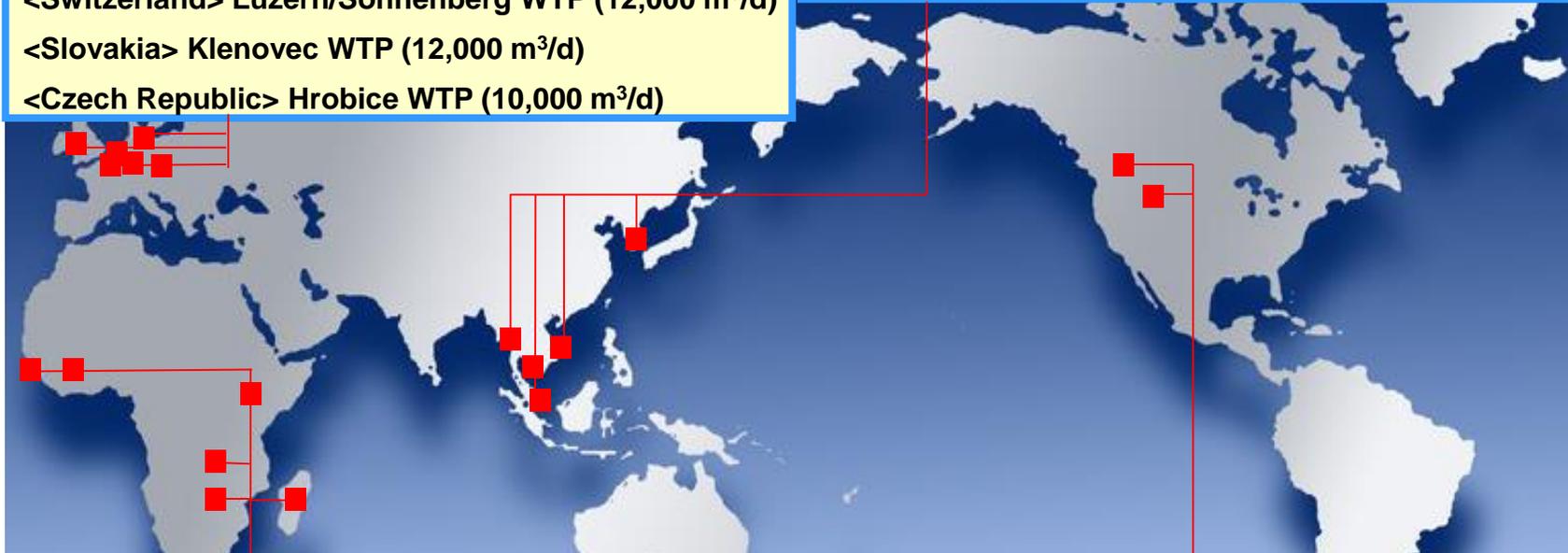
Global installation map

Europe

- <Norway > Vanvikan WTP (900 m³/d)
- <Netherlands> Andijk WTP (120,000 m³/d)
Wierden WTP (1,700 m³/d)
Industrial application × 7
- <UK> South West water WTP (96,000 m³/d)
- <Switzerland> Luzern/Sonnenberg WTP (12,000 m³/d)
- <Slovakia> Klenovec WTP (12,000 m³/d)
- <Czech Republic> Hrobice WTP (10,000 m³/d)

Asia

- <Singapore> Choa Chu Kang WTP (180,000 m³/d)
- <Korea> Yeoncho WTP (16,800 m³/d)
- <Vietnam> Simplified Ceramic Membrane (50 m³/d)
- <Cambodia> Mobile Ceramic Membrane × 1 (75 m³/d)
- <Myanmar> Mobile Ceramic Membrane × 10 (75 m³/d)



Africa

- <Cameroon> Camwater/ several WTP (17,140 m³/d)
- <Malawi, Kenya, Togo, Lesotho, Cote d'Ivoire, Madagascar>
Mobile Ceramic Membrane × 14 (40~225 m³/d)

North America

- <Colorado, USA>
Parker WTP (37,900 m³/d)
- <Montana, USA>
Butte-Silver Bow WTP (26,400 m³/d)

Choa Chu Kang Waterworks (Singapore)

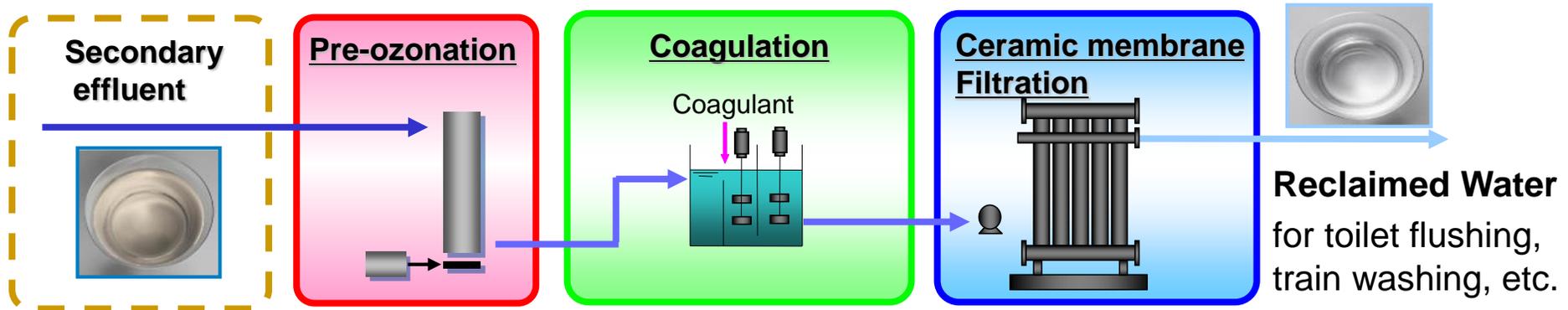
- **World's largest ceramic membrane water plant**
- **Adopted the CeraMac[®] process developed by PWNT**

- Customer: PUB (Public Utility Board)
- Treatment capacity: 180,000 m³/day
- Raw water: Kranji reservoir, Pandan reservoir and Tengeh reservoir
- Start of operation: 2019



Water Reuse System (Japan)

- Combining ozonizer and ceramic membrane technology produces excellent reclaimed water
- Space-saving design, easy operation and maintenance



- Customer: Tokyo Metropolitan Government
- Treatment capacity: 7,000 m³/day
- Start of operation: 2010



Courtesy of TMG

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Thank you for your attention

Please feel free to contact us at:

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Continue, to make it sustainable.

