



*High Rate Filtration System

*Advanced Energy Saving Wastewater Treatment System
(Pre-treated Trickling Filter System)

METAWATER



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METAWATER Co., Ltd.
International Sales & Marketing Department
International Business Division



Outline

1. Corporate Overview

2. High Rate Filtration System (HRFS)

- I. Effects of HRFS
- II. Specification
- III. Installation Record
- IV. Storm water Management Technology for Unexpected Heavy Rainfall in Urban Areas

3. Pre-treated Trickling Filter System (PTF)

- I. Background and system flow of PTF
- II. Advantage points of PTF
- III. Installation Record



Corporate Overview



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

Capital	JPY 11.9 Bil. (ca. US\$ 79.9 Mil.)
Stock Market	Prime Market of Tokyo Stock Exchange (Code:9551)
Net Sales	JPY 165.6 Bil. (ca. US\$ 1.1 Bil.)
Employees	3,685 (consolidated)
Location (JPN)	Tokyo (Head Office), Hino Office, Nagoya Office
(Intl.)	Vietnam, Cambodia, Switzerland, Germany, The Netherlands, USA

Ceramic Membrane



Ozone Generator



High Rate Filtration System



PTF System



High Rate Filtration System(HRFS) & Pre-treated Trickling Filter system(PTF)
can contribute to your **Smart Energy, Smart Governance, Smart Economy, and Smart Living** etc...



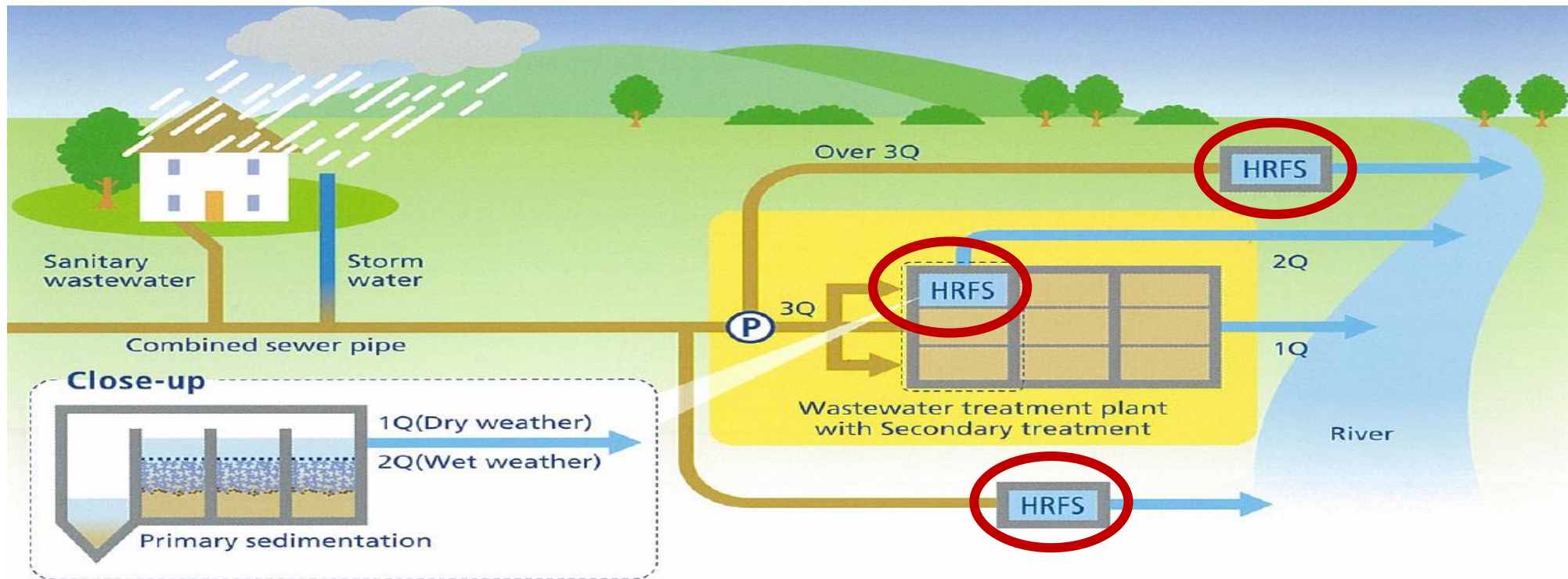


High Rate Filtration System (HRFS)



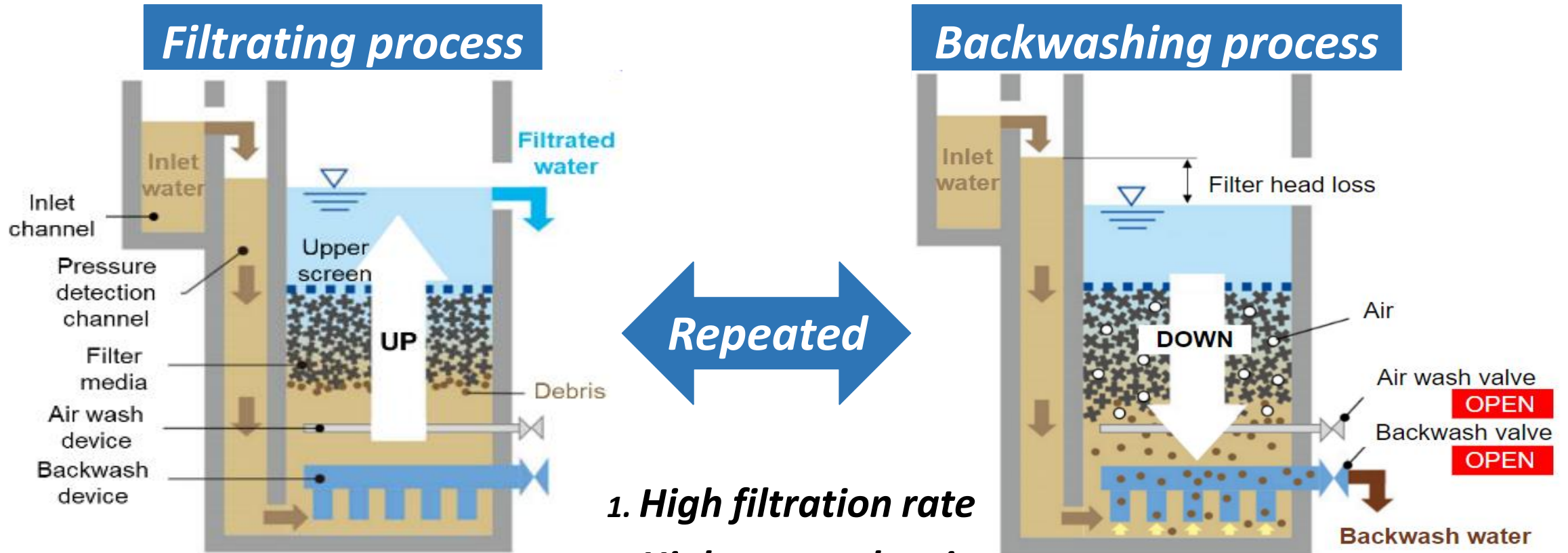
CSO (Combined Sewer Overflow) water quality has to be improved.

- (1) Pollutant load must be reduced
- (2) The number of directly discharge must be reduced
- (3) Debris must be reduced



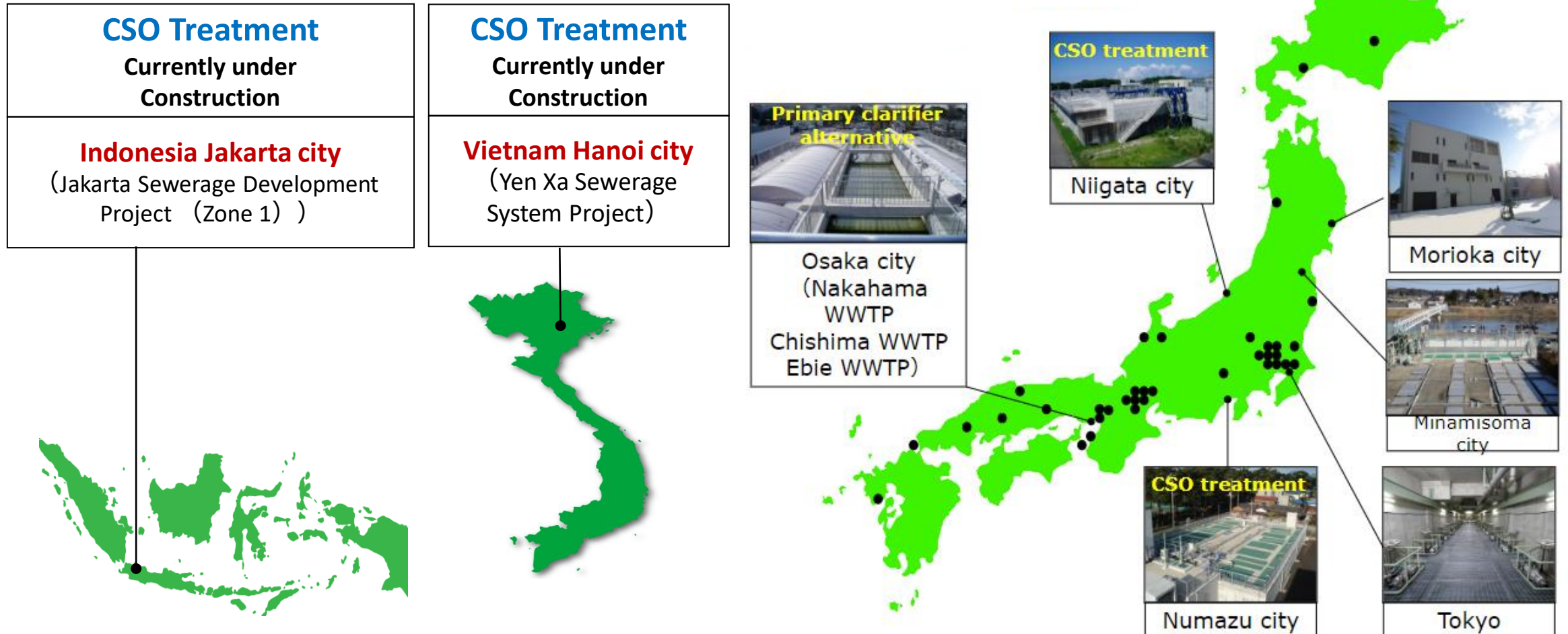
< HRFS design features >

UP FLOW FILTRATION BY FLOATING FILTER MEDIA



57 installations (of which 12 are installed by OEM) as of Oct. 2024

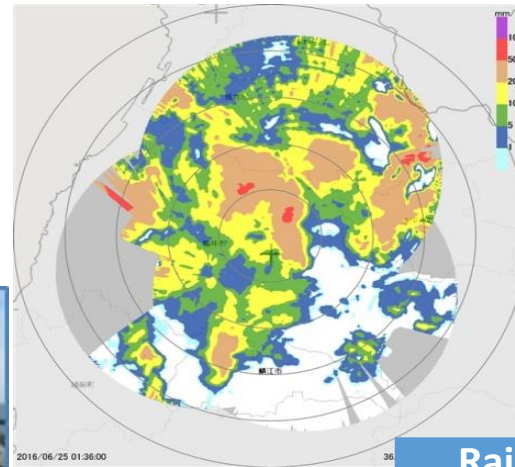
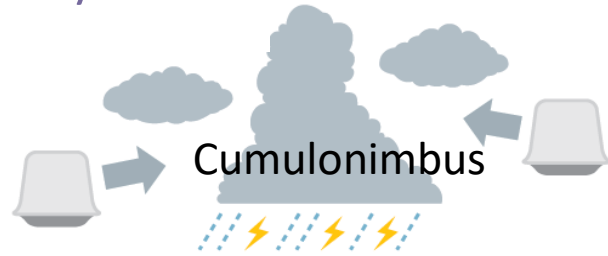
*Including confirmed future plan



Storm water Management Technology for Unexpected Heavy Rainfall in Urban Areas

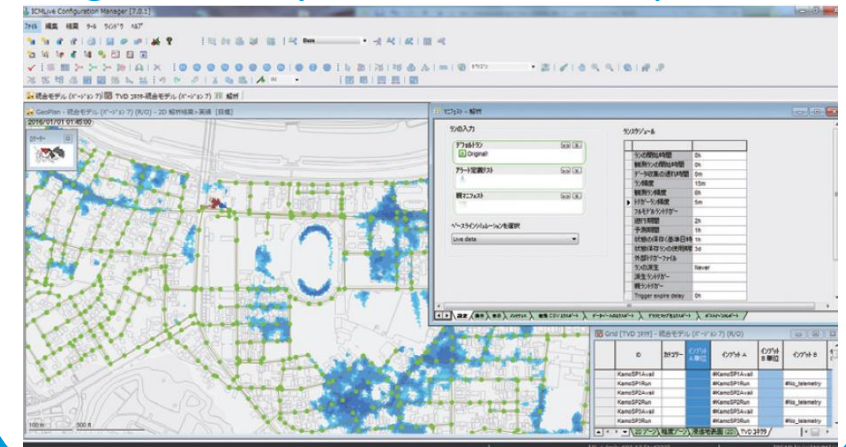
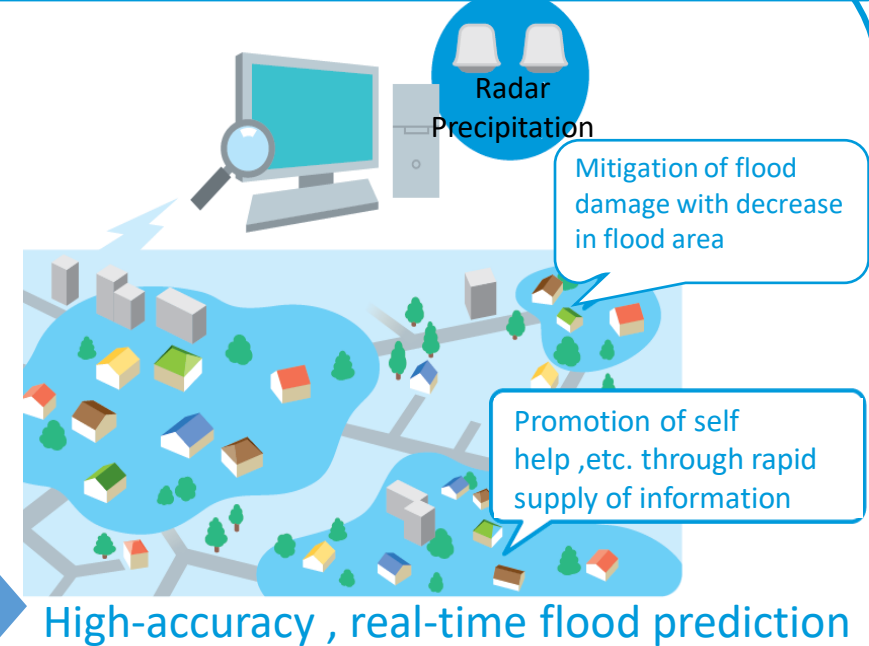
① Urban area radar system

Early cumulonimbus detection



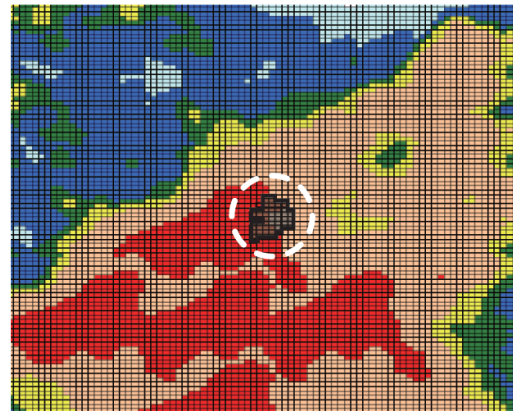
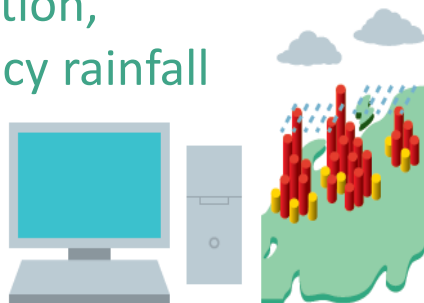
Rainfall information including prediction

③ Fast runoff analysis system



② Short-term rainfall prediction model

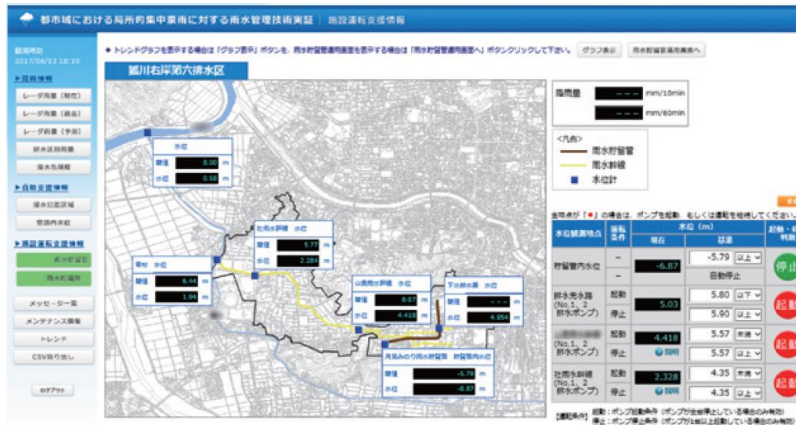
High-resolution, high-accuracy rainfall prediction by minute



Storm water Management Technology for Unexpected Heavy Rainfall in Urban Areas

Delivery System

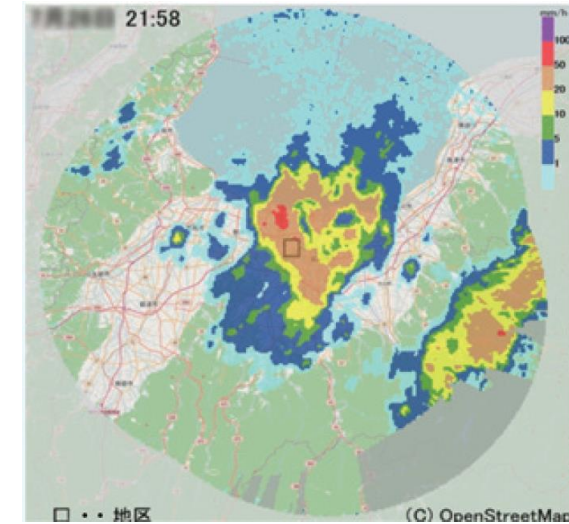
Pump operation management display



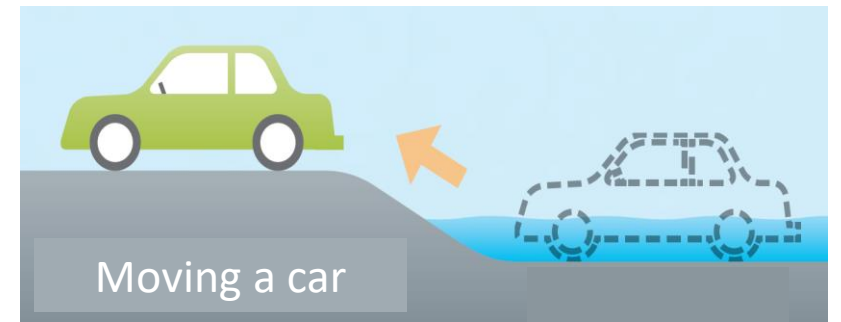
Delivery of detailed rainfall and flood prediction



Rader rainfall display



Expected benefits





Pre-treated Trickling Filter System (PTF)



What's the PTF including developing background

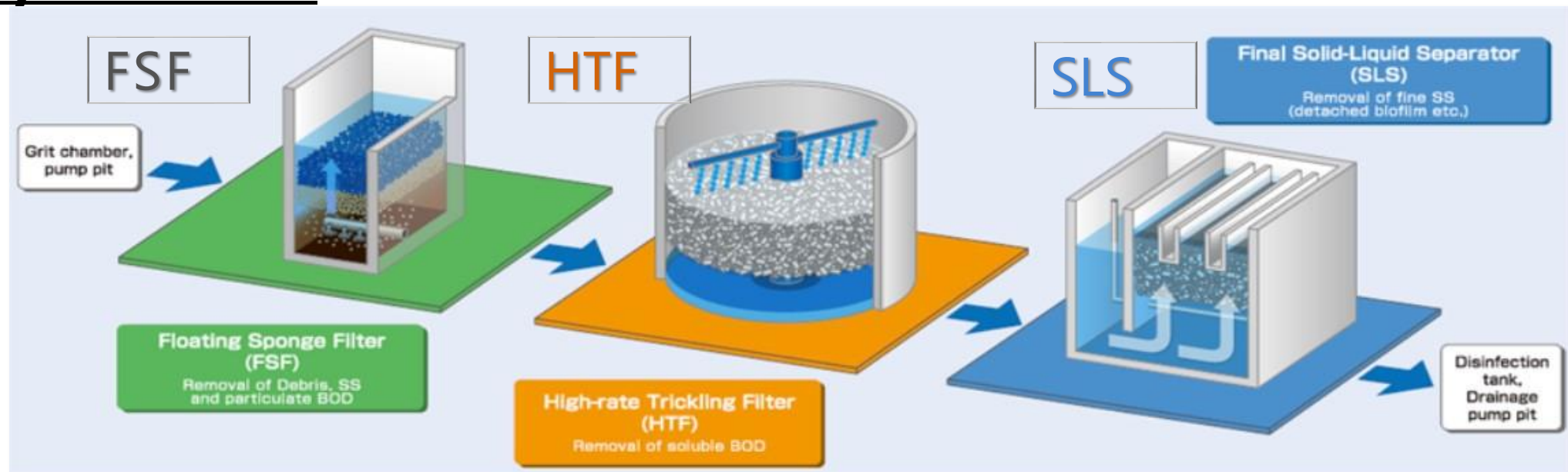
■ Pre-treated Trickling Filter System : PTF

The main concepts are **saving energy, space,** and **easy maintenance.**



This is the **first technology** that acquired the “**Overseas Use Technology Verification**” conducted by the Japan Sewage Works Agency **in 2014.**

■ System Flow



Advantage points of PTF

1

Provides Good and Stable Treated Water Quality



Whole system removal ratio

SS **90 %**, BOD **90 %**

2

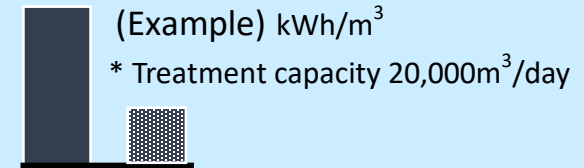
Improved adaptability to a wide range of water volumes, and high adaptability to the expanding deployment

- It is also possible to reduce design costs when introducing this system in other districts by diverting the standardized systems.

3

Low power consumption by energy conservation

- **75 % reduction** compared to the conventional activated sludge process (CAS)



4

Compact Footprint: Highly efficient processing

- **1/2** the installation area compared to the conventional activated sludge process (20,000 m³/day)

5

The system configuration uses the differential head, which reduces the operational burden.

- **Fully automated system** in which the processes are naturally processed by using the water head difference.
- **No need for skilled personnel** (operators)

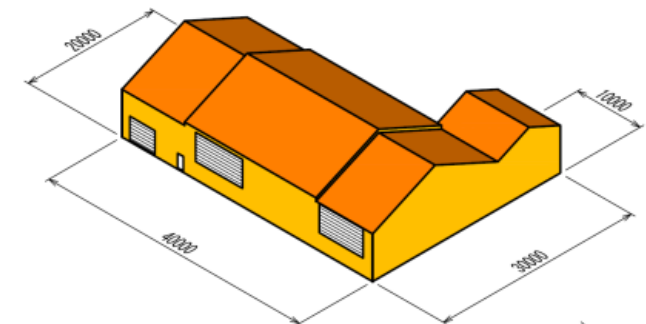
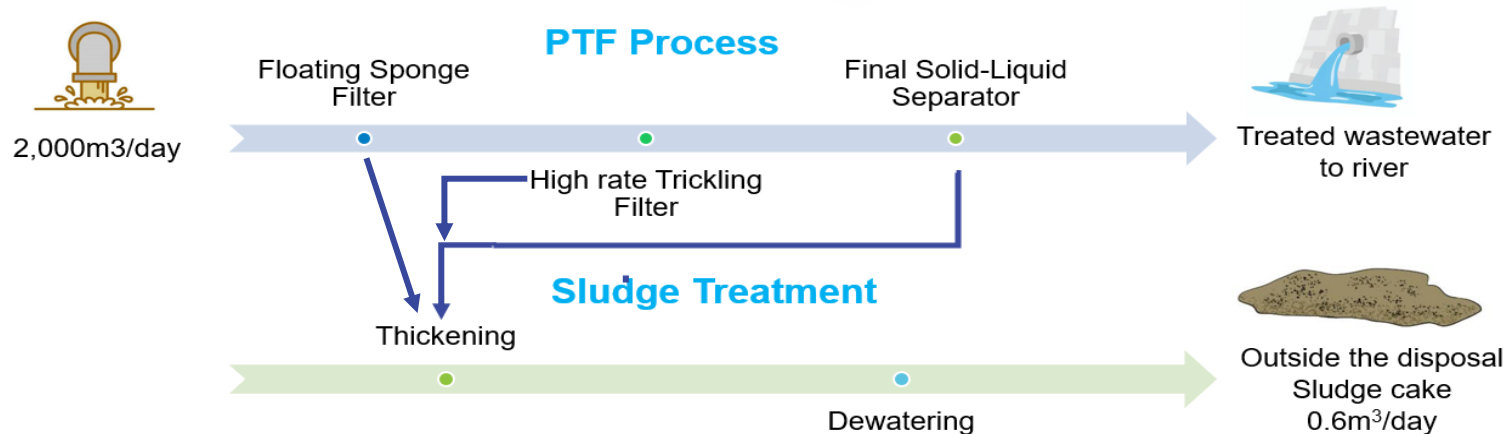
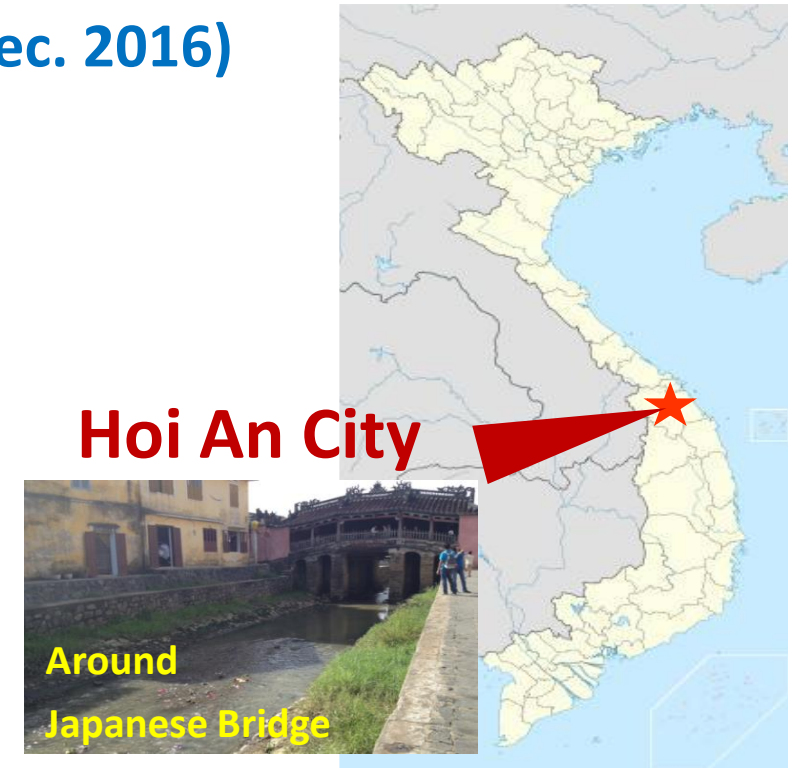
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Highly flexible facility layout

- Adaptable to the surrounding environment
- PTF can be covered outdoors or inside a building (optional)

Adoption determination of ODA grant for Hoi An City(Dec. 2016)

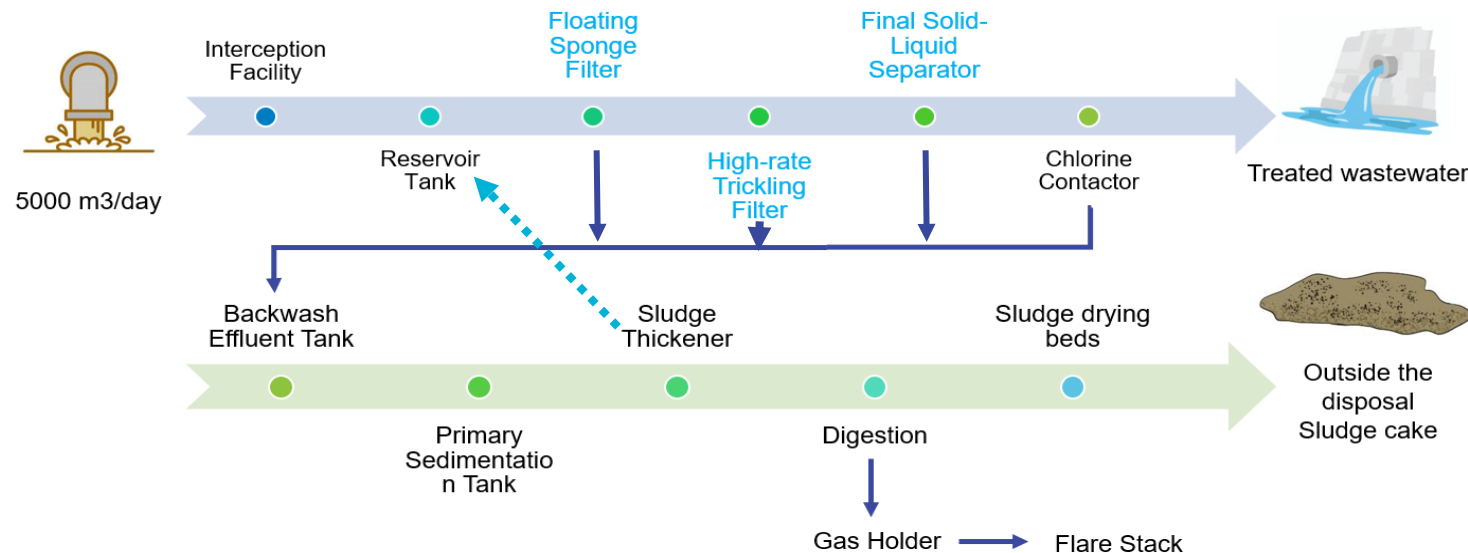
Project name	The Project for Water Quality Improvement for Japanese Bridge Area in Hoi An City
Overview of the project	Construction of new wastewater treatment plant of 2,000m ³ /day Existing waterway repairing (1.6km) Unit trial operation (Instruction of O&M)
Schedule	< Terms of work > Construction work : 18 months Instruction of O&M after equipment delivery : 6 months



The Project for Sewerage System Development in Phnom Penh

Adoption determination of ODA grant for DPWT PPCA(Nov. 2019)

Project name	Project for Sewerage System Development in Phnom Penh
Overview of the project	Construction of new wastewater treatment plant of 5,000m ³ /day New water conveyance pipe (1.9km)
Schedule	< Terms of work > Construction work : 31.5 months



Thank you for your attention.

METAWATER

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