

資料 9 カタール水インフラセミナー配付資料



أشغال - هيئة الأشغال العامة PUBLIC WORKS AUTHORITY ASHGHAL

3rd Meeting of the PPP Council for Overseas Water Infrastructure

16th February, 2012

هيئة الأشغال العامة
PUBLIC WORKS AUTHORITY

Ashghal Vision and Mission



Our Mission

“Deliver and manage state-of-the-art, sustainable world class buildings and infrastructure that fulfill the Qatar National Vision 2030”

Our Vision

“In 2016 Ashghal will be a dynamic, responsive and customer centric organization that creates shared value for all stakeholders through outsourcing and partnership with the world’s best”



هيئة الأشغال العامة
PUBLIC WORKS AUTHORITY

Gaining an appreciation of our investment portfolio



DRAINAGE

Treatment Plants



Outfalls



Tunnels



ROADS

Expressways



Local Roads



Rail interfaces



ITS



BUILDINGS

Hospitals



Marine & Ports



Schools



هيئة الأشغال العامة
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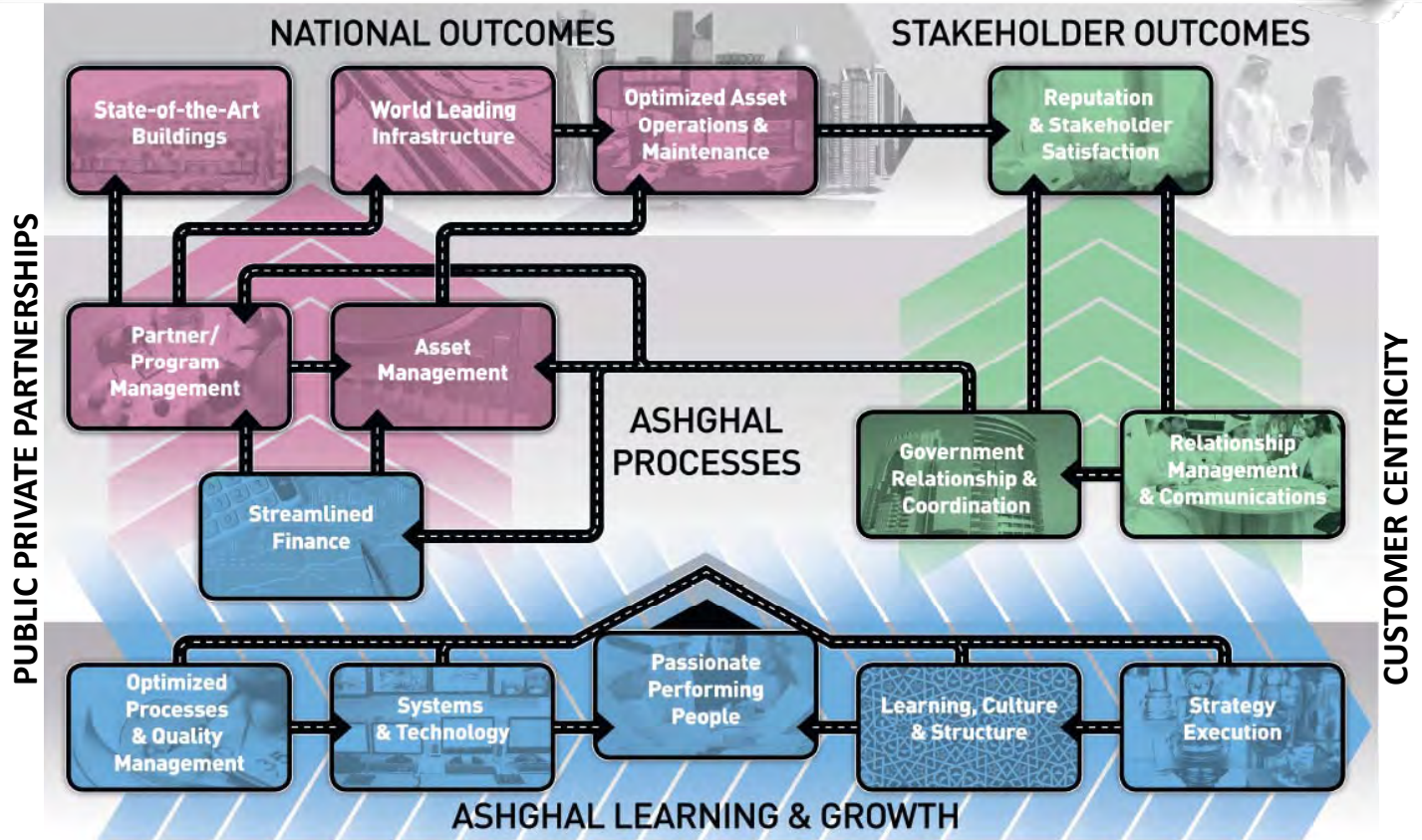
Gaining an appreciation of our investment portfolio



Over US\$ 40 Billion in the next
5 years
Drainage utilities approximetly
US\$ 10 Billion

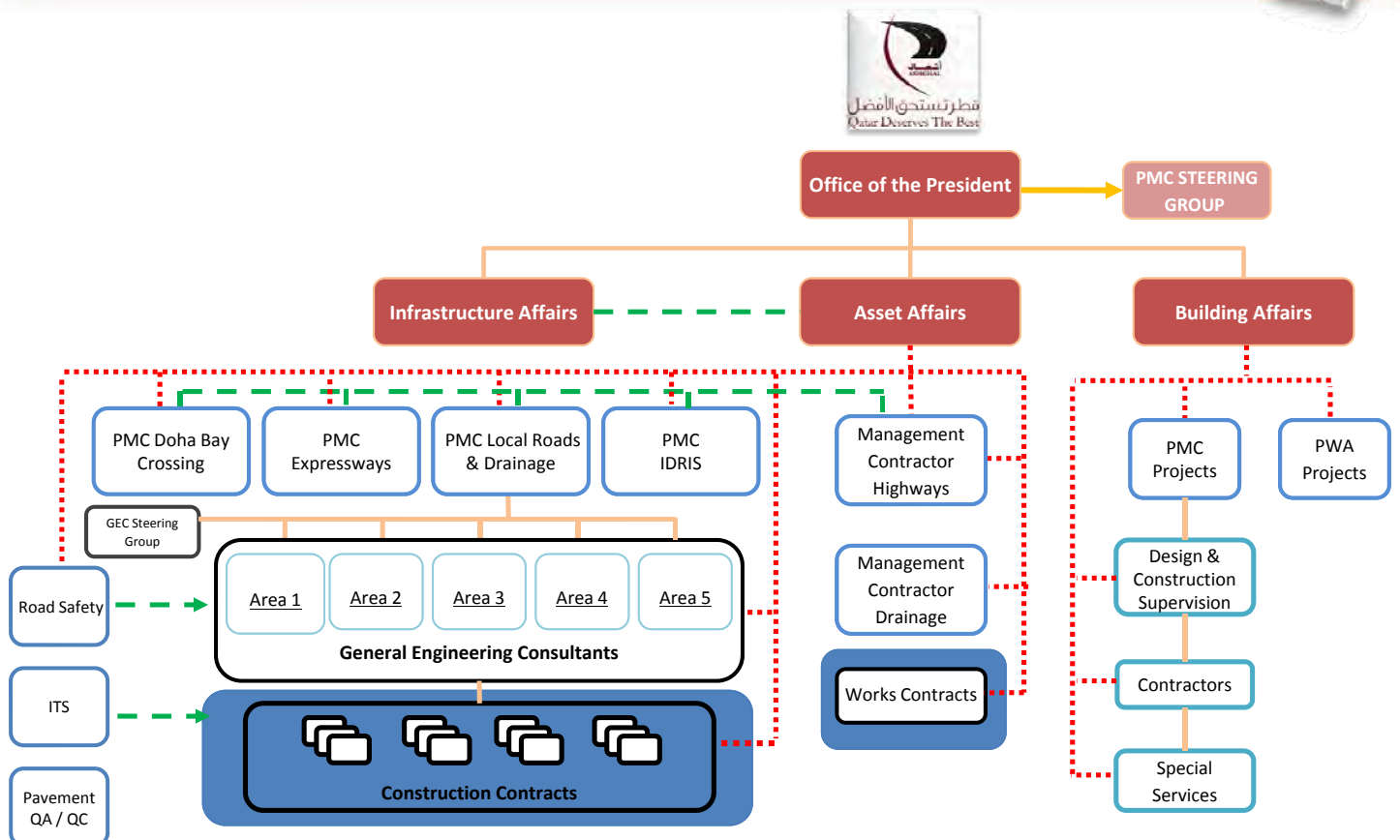
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Our strategy is aimed at delivering on Outcomes



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Our new structure aligns with our outsourcing plan



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Ensuring a 1st class service starts with procurement



... from previous procurement experiences, we learned that our procurement approach invoked the wrong behaviour

Single Stage, Two Envelope

Top Companies submit best methodologies, but poor staff

“Innovation” is not offered / value orientated companies decline

Companies allow for risk by increasing their fee

Attrition between PWA and tenderer when debating quality or scope issues

... A recent example of the scoring criteria for high value engagements

- | | |
|-------------------|-----|
| ▪ Technical Score | 70% |
| ▪ Financial Score | 30% |

... some engagements with complex scope require A TWO STAGE APPROACH

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Further Information on PWA activities on the:

.....and more information on current and forthcoming tenders is provided on the PWA Website:

<http://www.ashghal.gov.qa>

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Thank you

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PUBLIC WORKS AUTHORITY



PPP Council
for
Overseas Water Infrastructure



**Ductile Iron made Ball Type
Flexible Expansion Joint**

TAI-FLEX



Available DN50 ~ DN1800

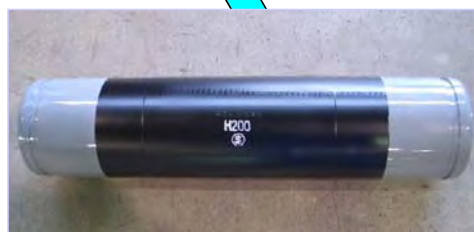
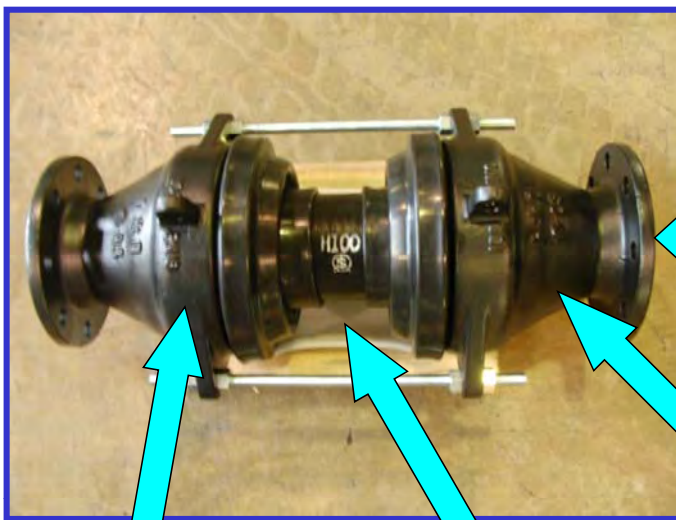


Strong points

- **Non bolt/nut structure**
- **Compact design**
- **Superior anticorrosion**
- **Excellent water tightness**
- **Corresponds to torsion**



Appearance





Hanshin-Awaji Earthquake in 1995



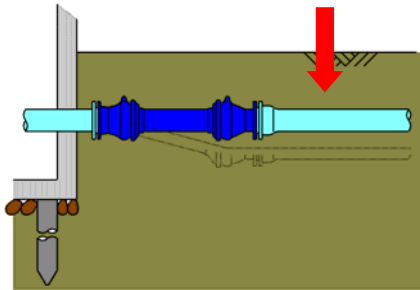
damaged



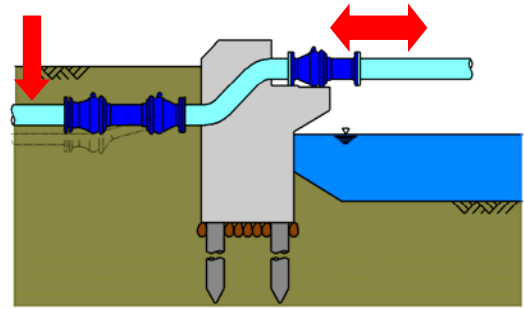


Applications

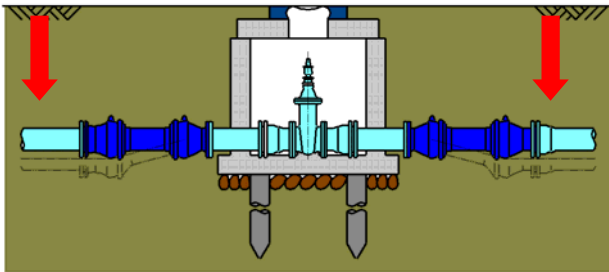
Pipe installation around a structure



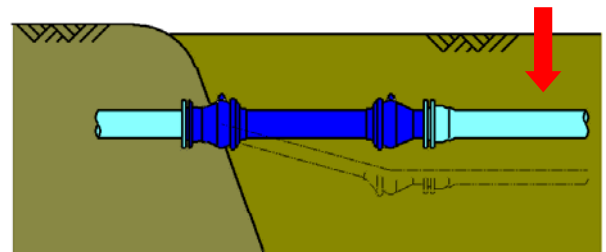
Aqueducts



Around a valve box



Boundary of earth layer



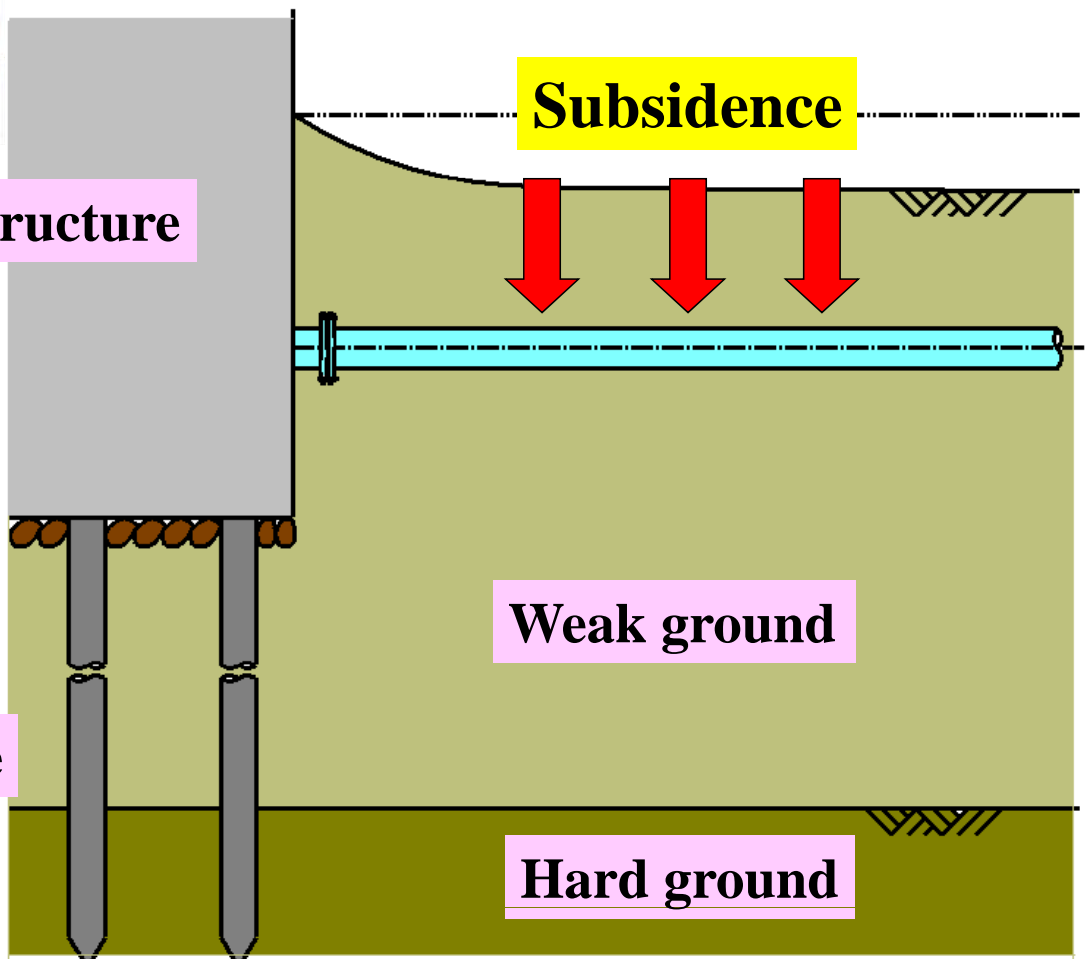
Structure

Subsidence

Weak ground

Pile

Hard ground





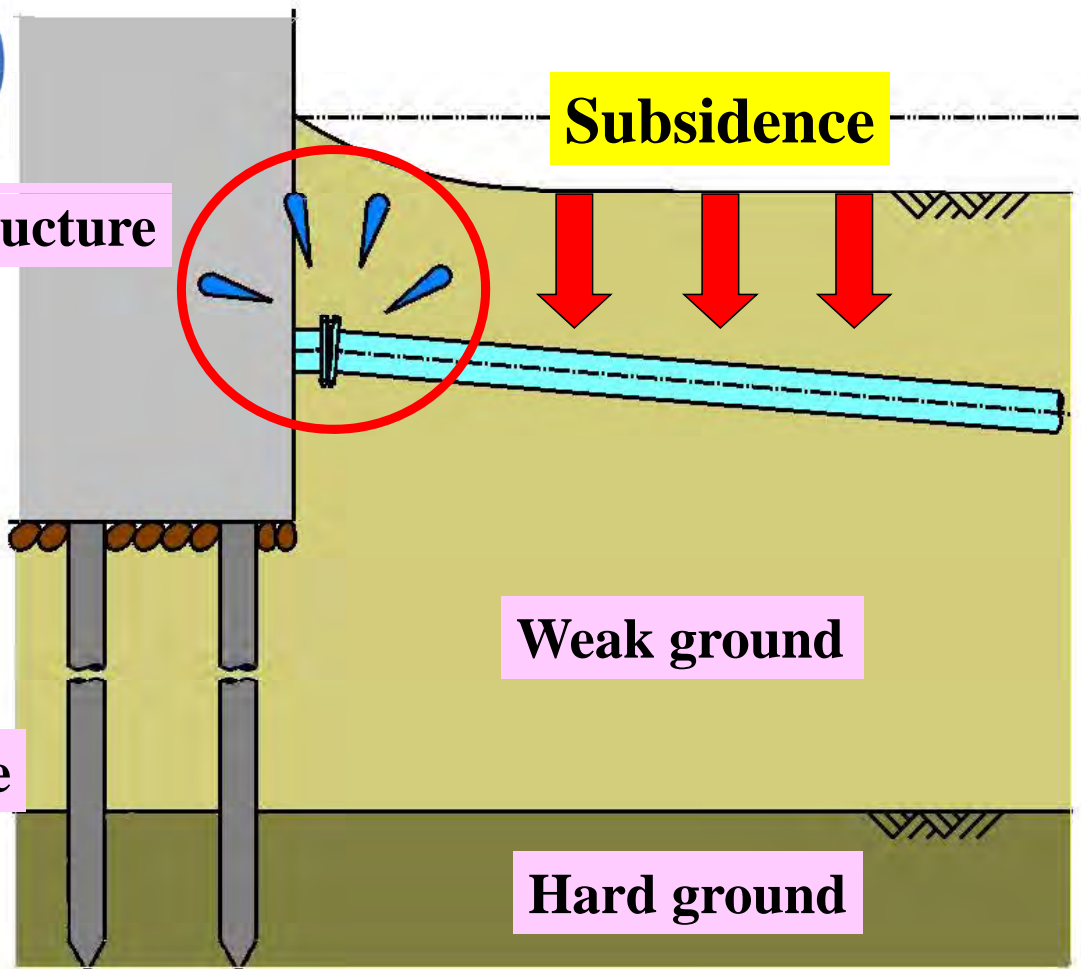
Structure

Subsidence

Pile

Weak ground

Hard ground



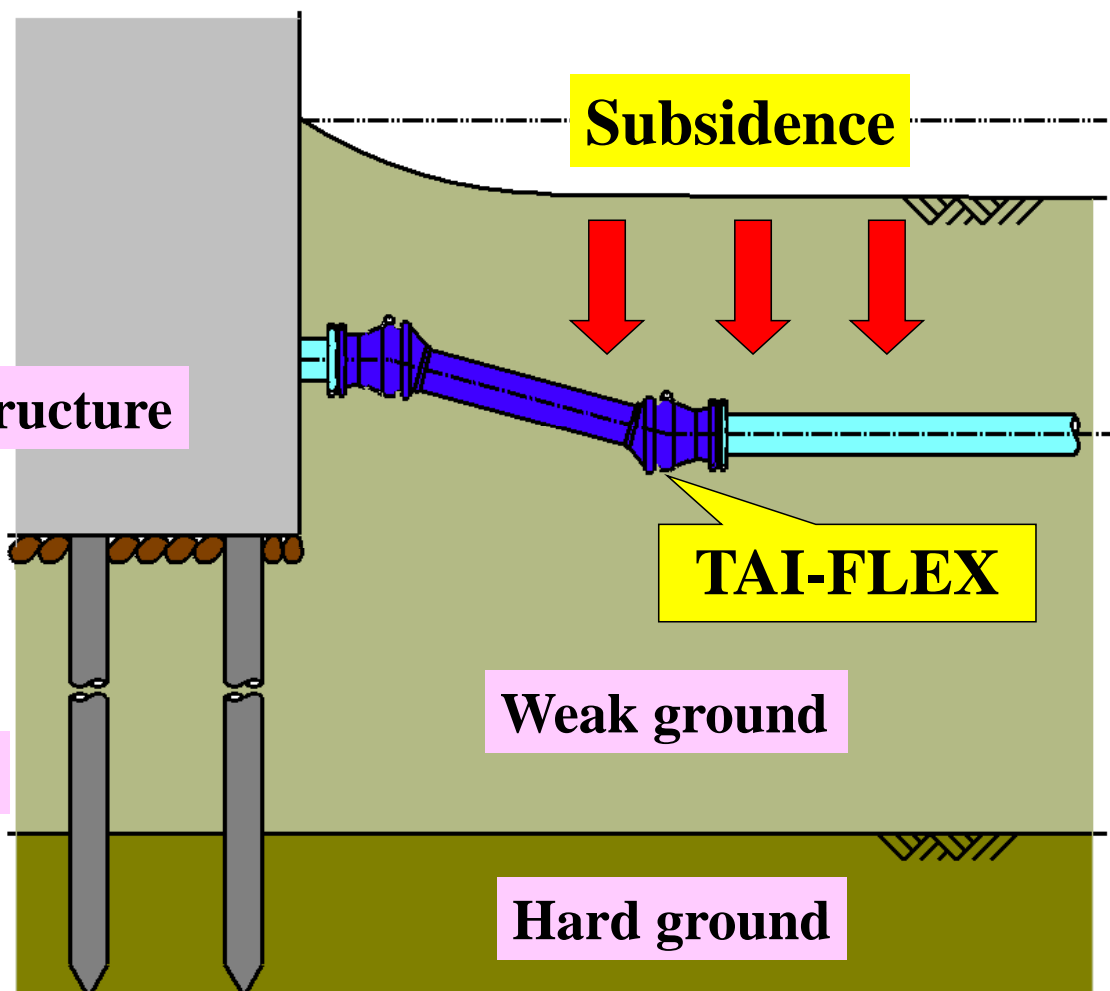
Structure

Subsidence

Pile

Weak ground

Hard ground

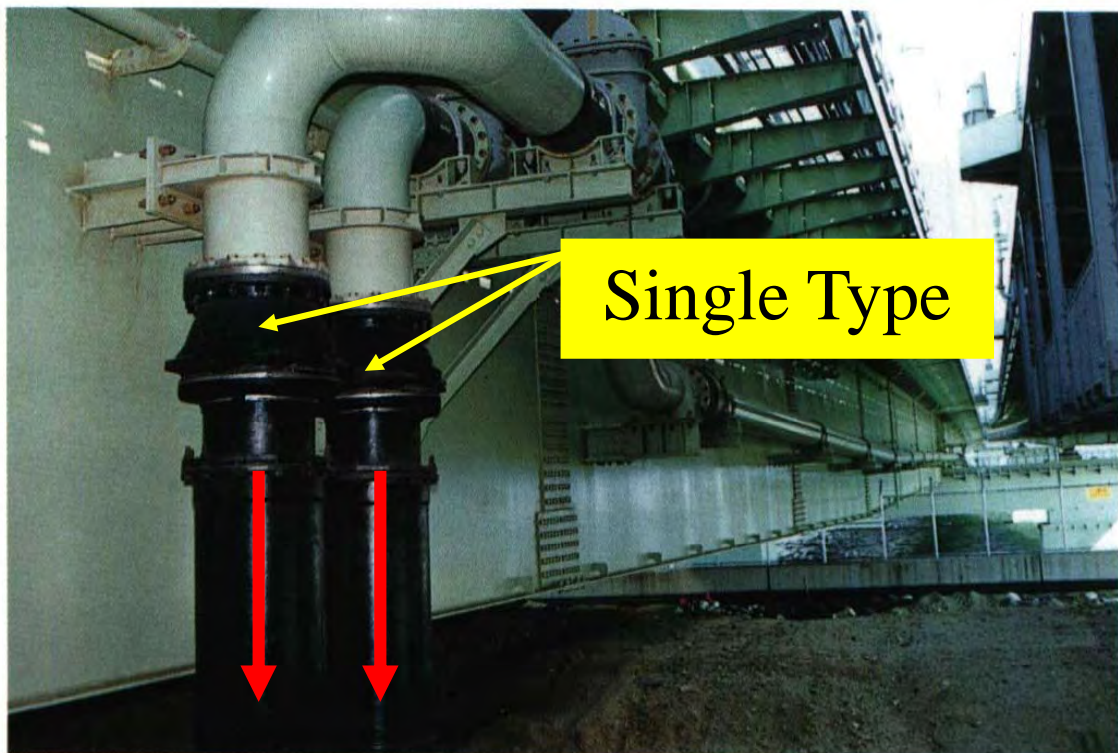


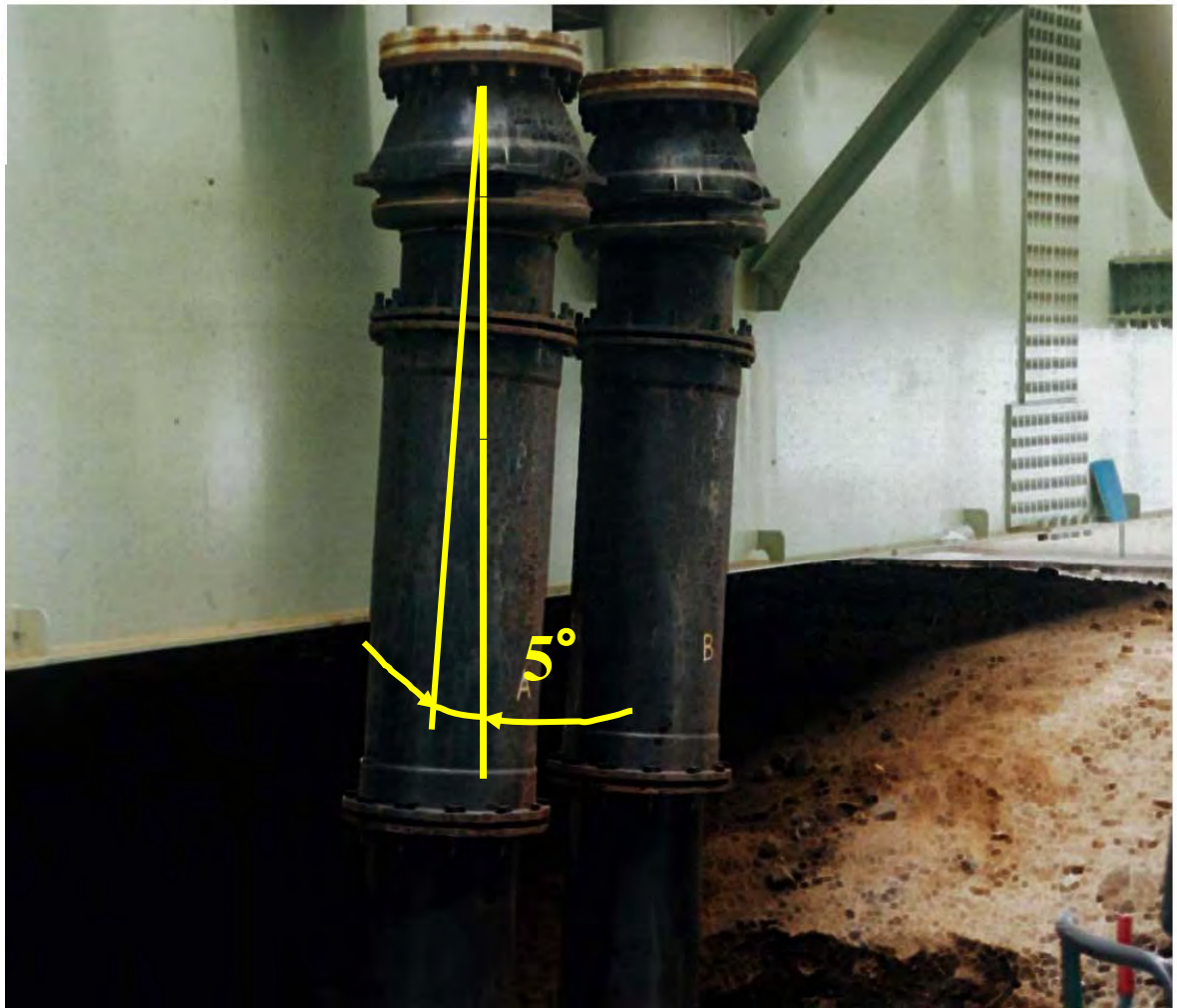


Kansai International Airport -Artificial Island-



DN 400 Single Ball type at Kansai International Airport





DN 1800 TAI-FLEX at Water purification plant





Project in the U.S.



Project in Hong Kong





Ductile Iron made Ball Type Flexible Expansion Joint

TAI-FLEX



Available DN50 ~ DN1800



Thank you for sharing your time with TAISEI KIKO.
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URL : [http : // www.aiseikiko.com](http://www.aiseikiko.com)

E-mail : operations-dep@aiseikiko.com



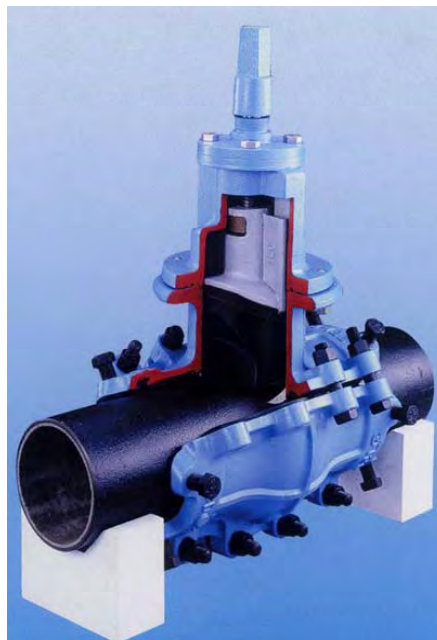
PPP Council
for
Overseas Water Infrastructure



Pioneer of Line Stopper

Under Pressure Valve Insertion Method

YANO-STOPPER





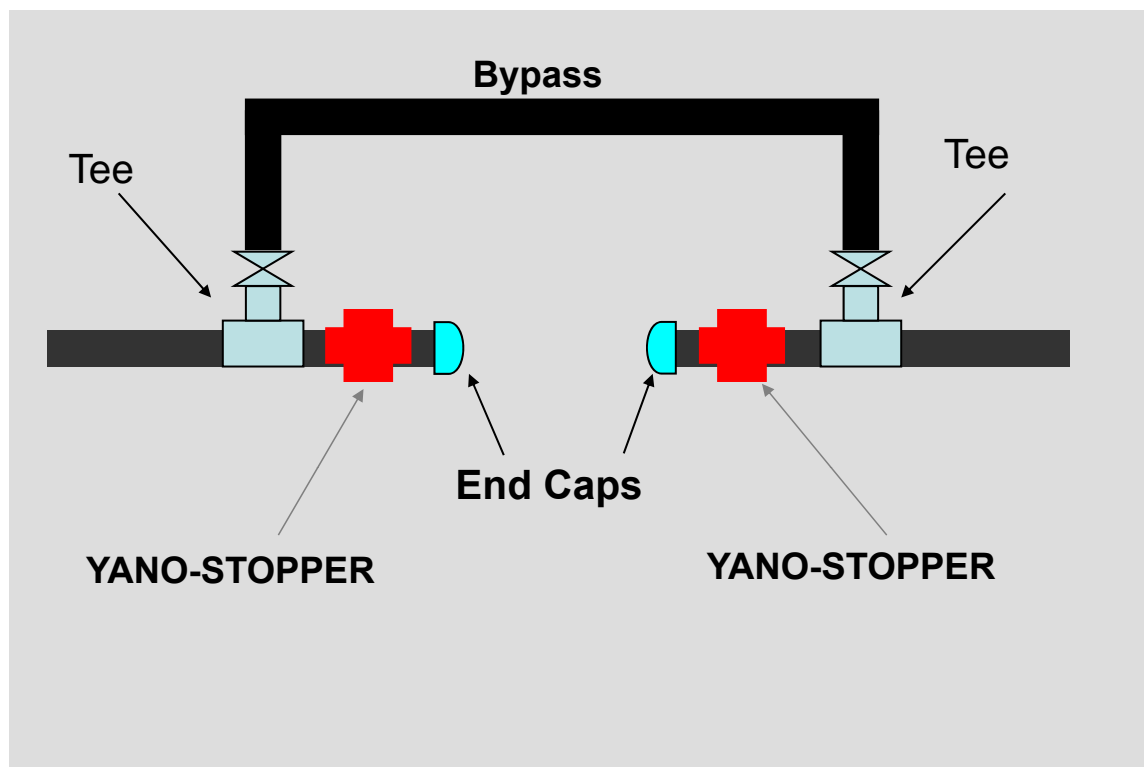
Application of YANO-STOPPER

YANO-STOPPER is installed under pressure to

- Establish new network
- Minimize water flow suspension area
- Prepare for emergency shut-off

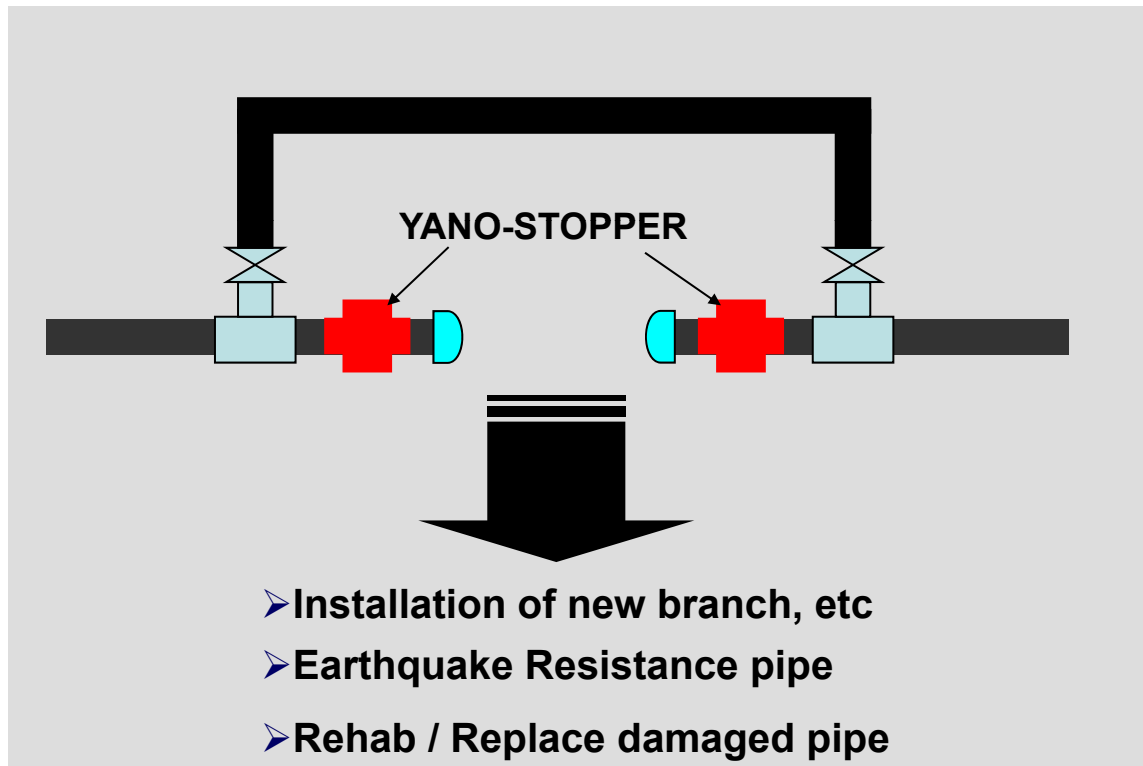


Application of YANO-STOPPER





Application of YANO-STOPPER



Merit

- Safe and easy installation
- Plug replacement to blind flange
- Relatively small excavation ditch
- Minimum stress on pipe
- No coupon left behind



Installation Time

INSTALLATION TIME AND NUMBERS OF WORKER

PIPE SIZE	80mm	100mm	150mm	200mm	250mm
TIME	60min	60min	90min	120min	180min
WORKERS	2	2	2	3	3

PIPE SIZE	300mm	400mm	500mm	600mm
TIME	180min	200min	300min	360min
WORKERS	3	3	4	4



Job References

- Over **165,000** installations since **1973**
- Work experience in
 - Egypt
 - France
 - Germany
 - Iraq
 - Russia
 - Singapore
 - United Kingdom
 - United States



First Installation
1973 ~1987
City of Kyoto
(Exhibited in Sanda)



Applicable Pipes

- YANO-STOPPER is designed to cater for Ductile Iron pipe, Steel pipe, PVC pipe as well as ACP pipe. Available from $\phi 75 \sim \phi 600$.

Availability

Kinds of pipe		Size
DCIP	Metric size	$\phi 75 \sim \phi 600$
	Inch size	3" - 12"
Steel		$\phi 75 \sim \phi 300$
ACP		$\phi 75 \sim \phi 300$
PVC		$\phi 75 \sim \phi 200$

※Based on JIS standard pipe.



Monday, May 19 2003
Gazette Online: www.southtynesidetoday.co.uk

UNIQUE ORDER CREATES NEW JOBS



TAPPING MARKET ... from left, Stuart Atchison, Daniel Wilson, project manager Paul Douthwaite and John Kettle.

WORK FLOODS IN FOR EXPORT FIRM

By GAYLE TOMLINSON
Industry reporter

A SOUTH Tyneside company is set to create up to 20 jobs after securing specialist equipment from Japan which is in demand by water and gas boards across the UK.

Utility Technology Services (UTS), which is based on Farrow's Bode Industrial Estate and has a factory at the Port of Tyne, is expanding after investing more than £500,000 on equipment which is unique in Europe.

The company makes pipes for water and gas boards up and down the country, including North West Water, Tranco and Thames Water.

It also has a service arm which fits the pipes and responds to emergencies.

Owner Shaun Sadler said he will be hiring and retraining up to 20 more staff to deal with a new device called an inline valve which is made needed for the water and gas industries.

It is made by Japanese company Taisei Kiko Ltd, which has granted exclusive rights to UTS for the island after eight years.

The device helps utilities to fix pipes without needing to turn customers' supply off.

Mr Sadler said he expects business to take off when the new valve arrives.

"There is no other company to compete which has it."

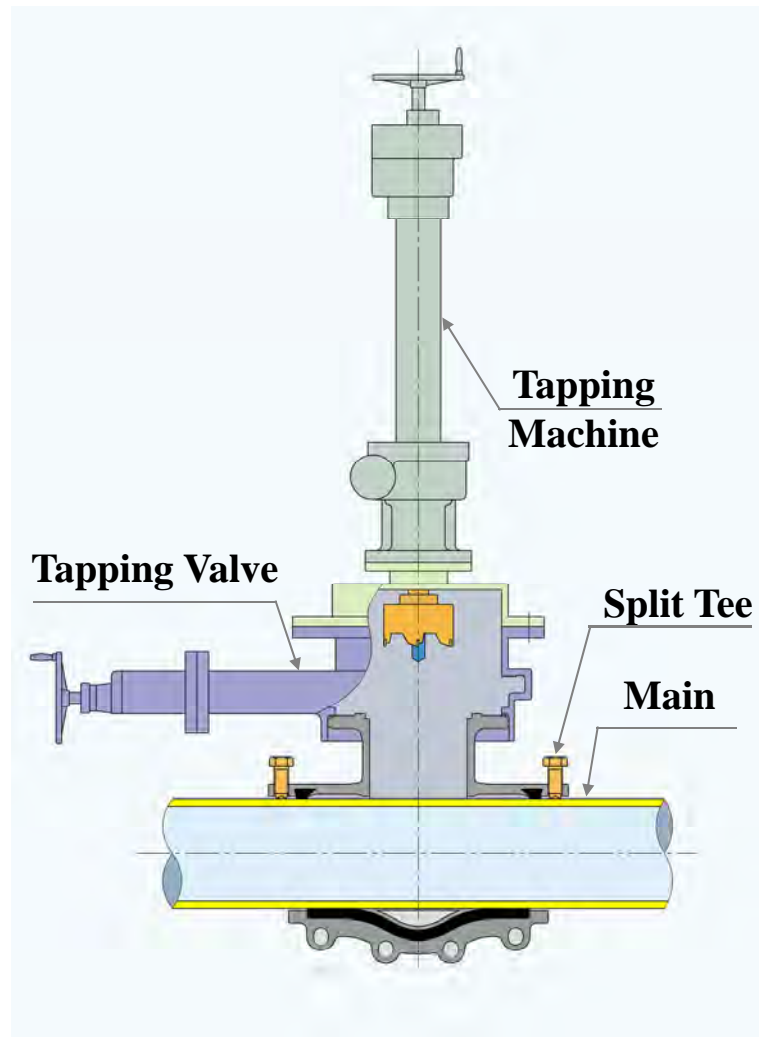
"We are expecting growth to really take off. We have done test marketing in the UK and overseas, waste it, but the problem is getting quality people into the business so we can start training them."

Mr Sadler said UTS will be hiring staff to use the valve in the field and it is expected to be in use in three months' time. Training will take about six weeks.



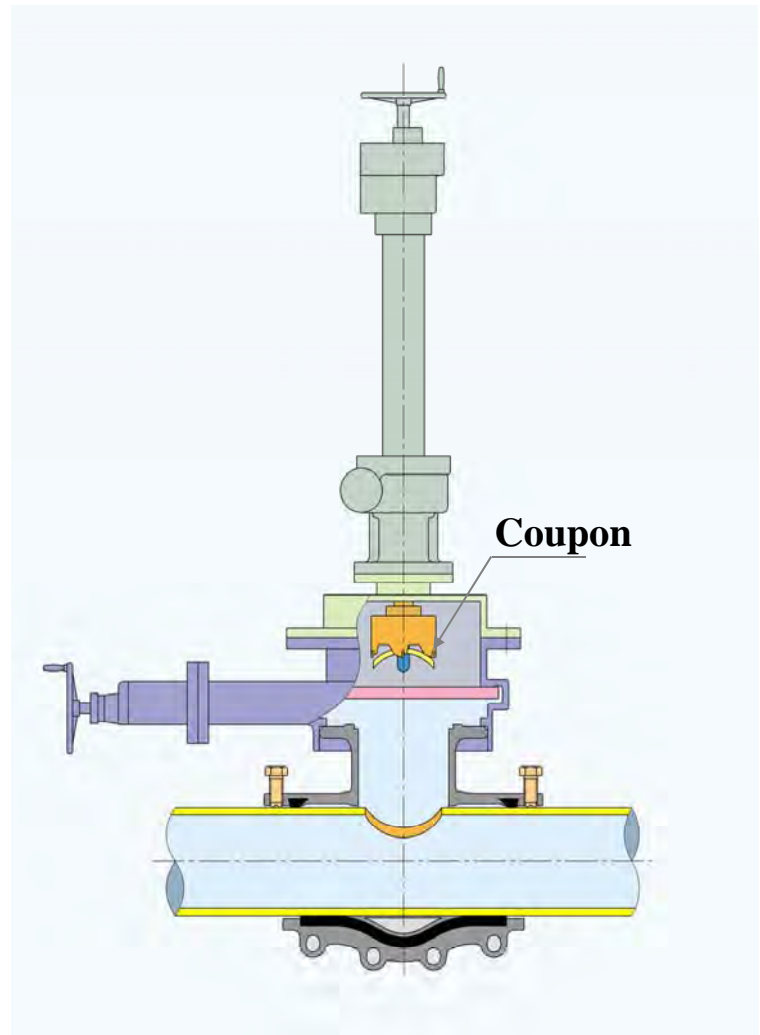
Procedure

① Tapping



Procedure

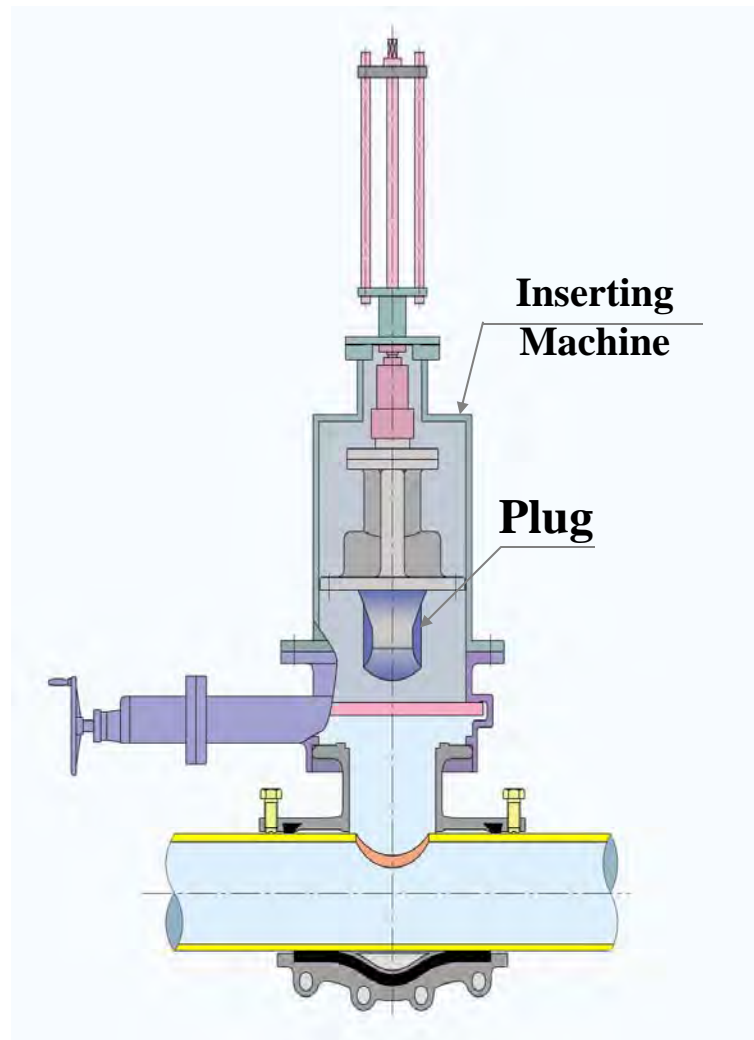
② Completion of Tapping





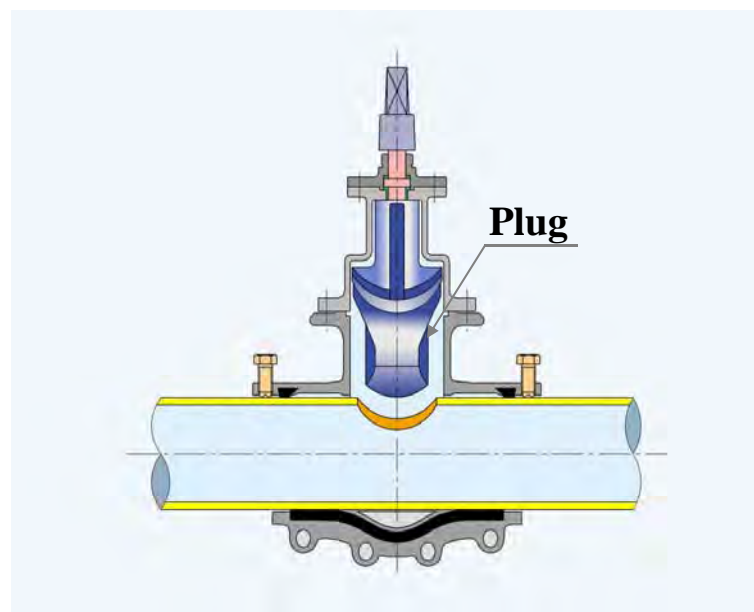
Procedure

③ Inserting Plug



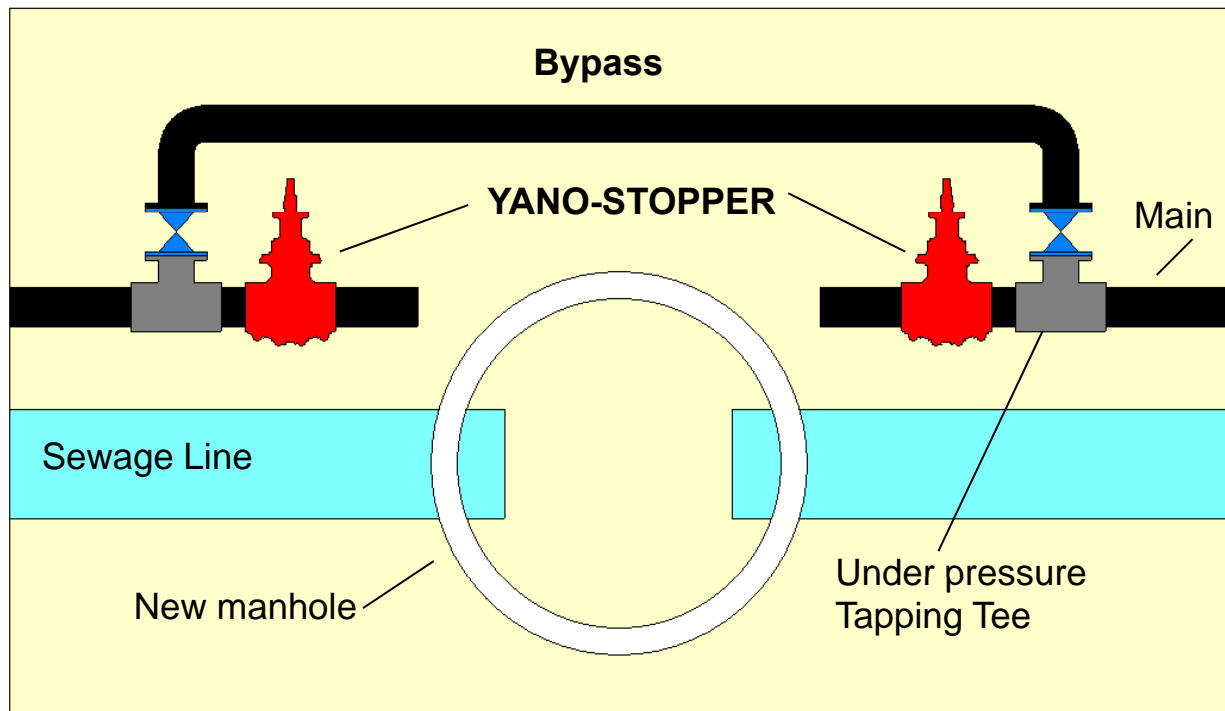
Procedure

④ Completion

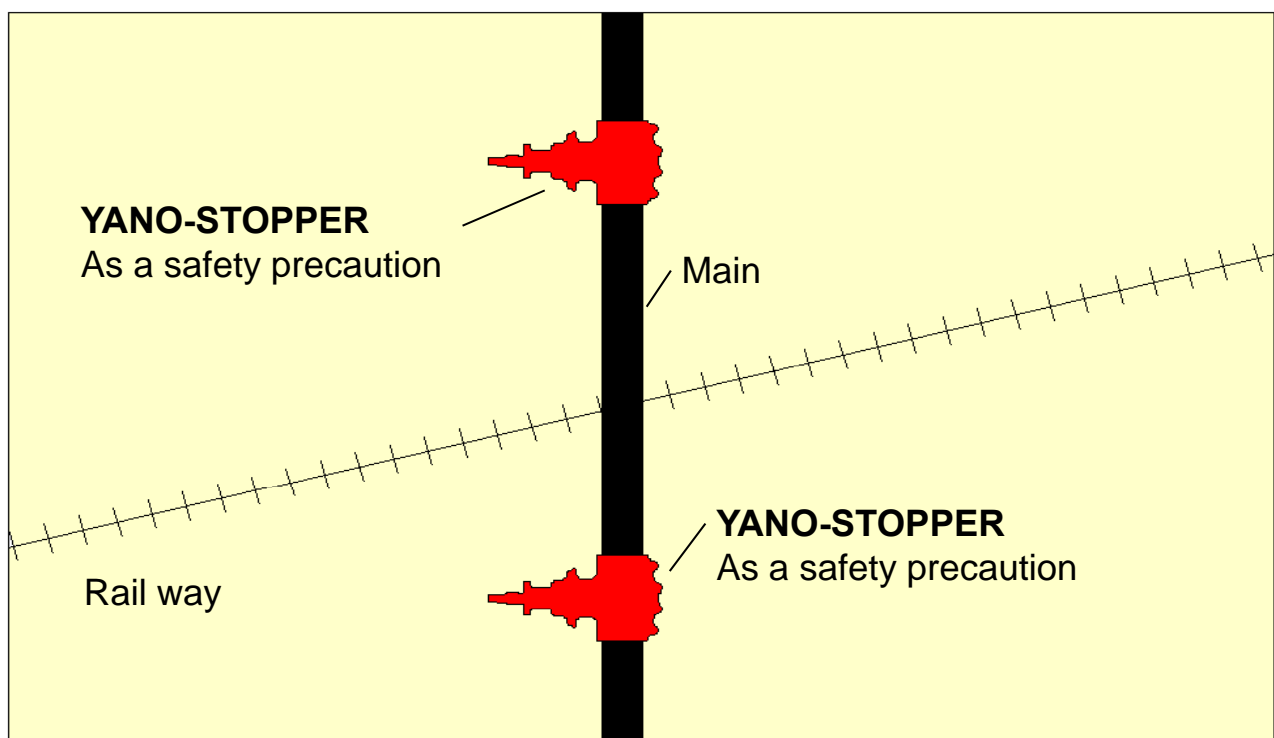




Example 1 Bypassing under pressure



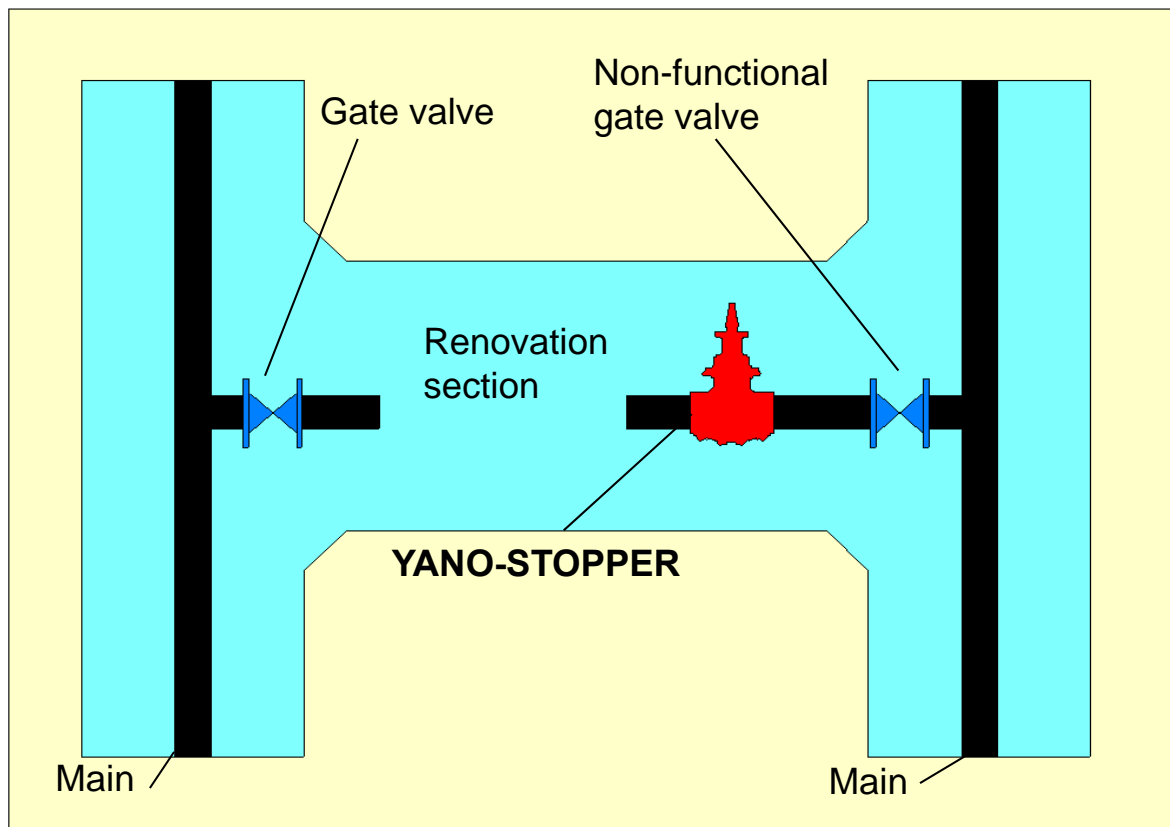
Example 2 As a safety precaution





Example 3

Substitute for non-functional gate valve



Example 4

Minimizing suspension area

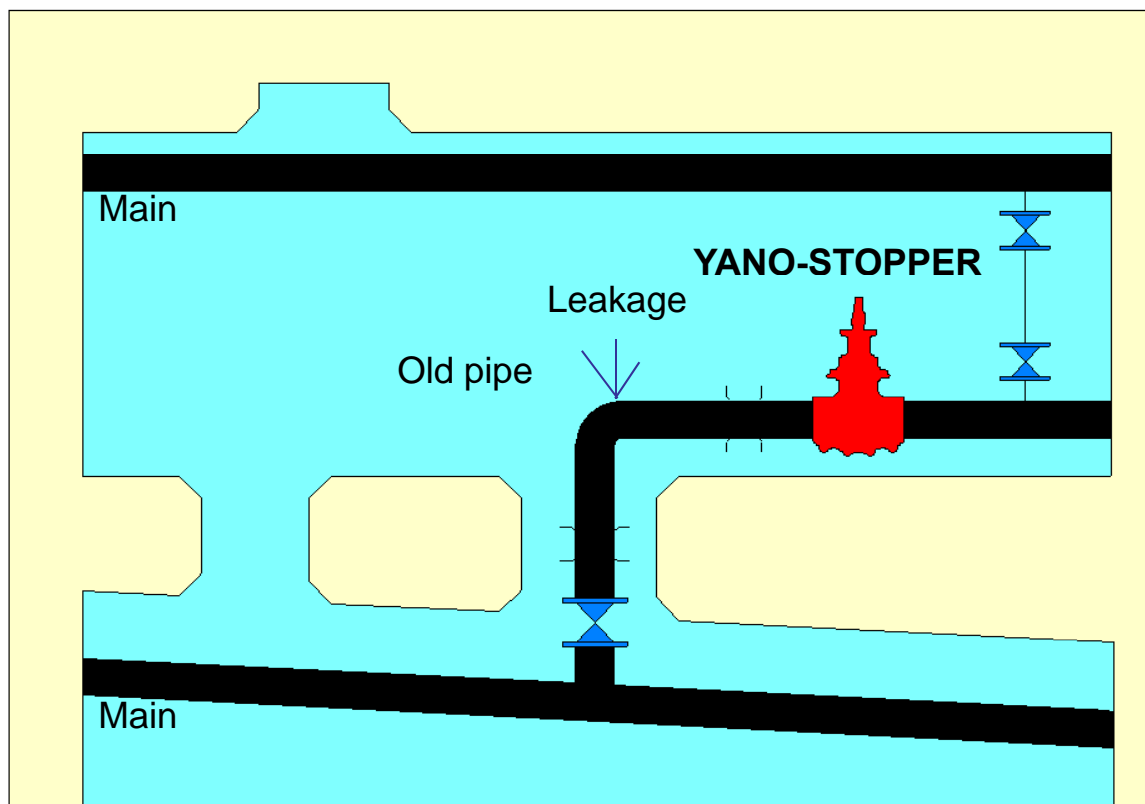




Photo from site



YANO-STOPPER



Available $\phi 20 \sim \phi 600$



Thank you for sharing your time with TAISEI KIKO.
For more information,

URL : [http : // www.aiseikiko.com](http://www.aiseikiko.com)

E-mail : operations-dep@aiseikiko.com



Approaches for reducing Non-Revenue Water rate

February 2012

azbil Group
Yamatake Corporation
Kimmon Manufacturing Co, Ltd



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Company Introduction

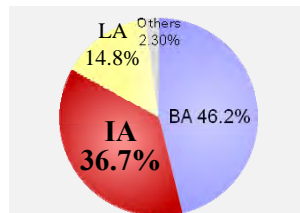
History “Over 100 years”

1906 Yamatake Shokai
1952 Yamatake Honeywell
1998 Yamatake
2012 azbil

Net Sales /Employees

- Sales
2010 Million US\$ 2641
- Number of Employees
8215

Business ratio (FY2011)



azbil

**Building
Automation**

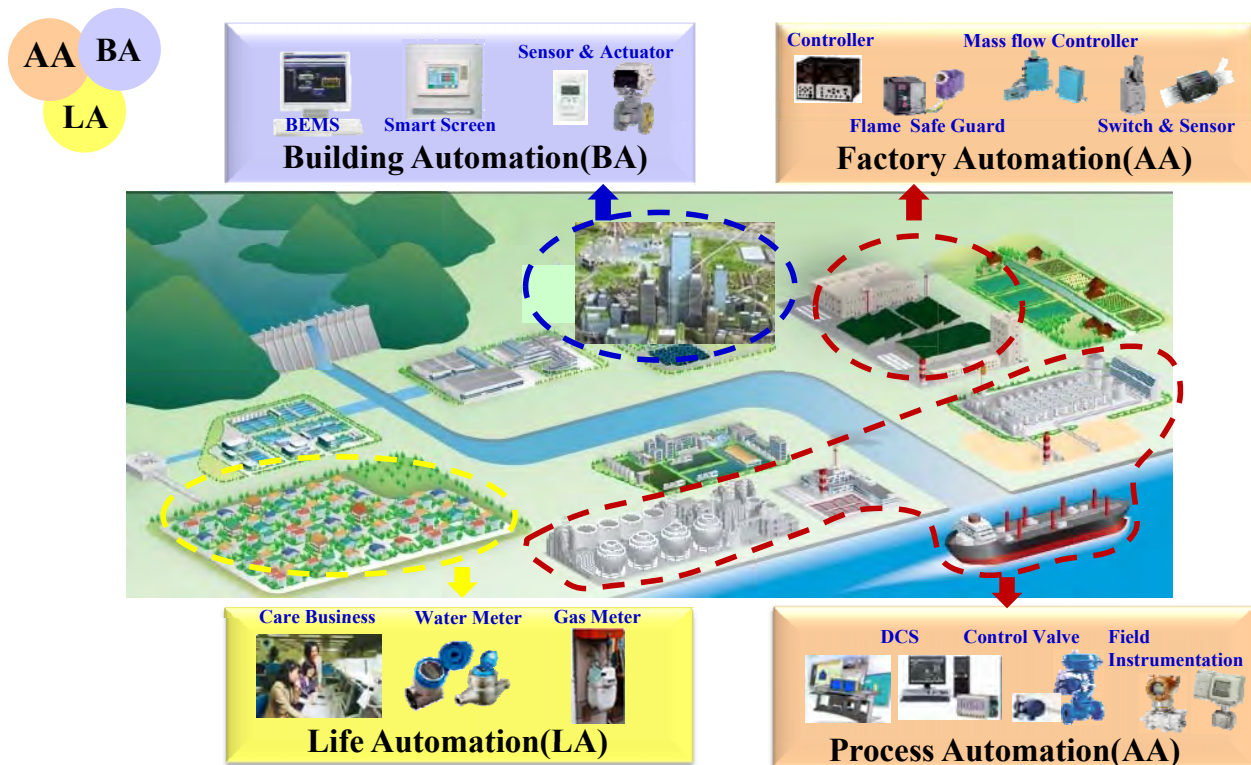
**Industrial
Automation**

**Life
Automation**

From **A** to **Z**

azbil (Automation•Zone•Builder) represents our philosophy of realizing safety, comfort and fulfillment in people's lives, and contributing to global environmental preservation through “**human-centered automation**”

azbil business field

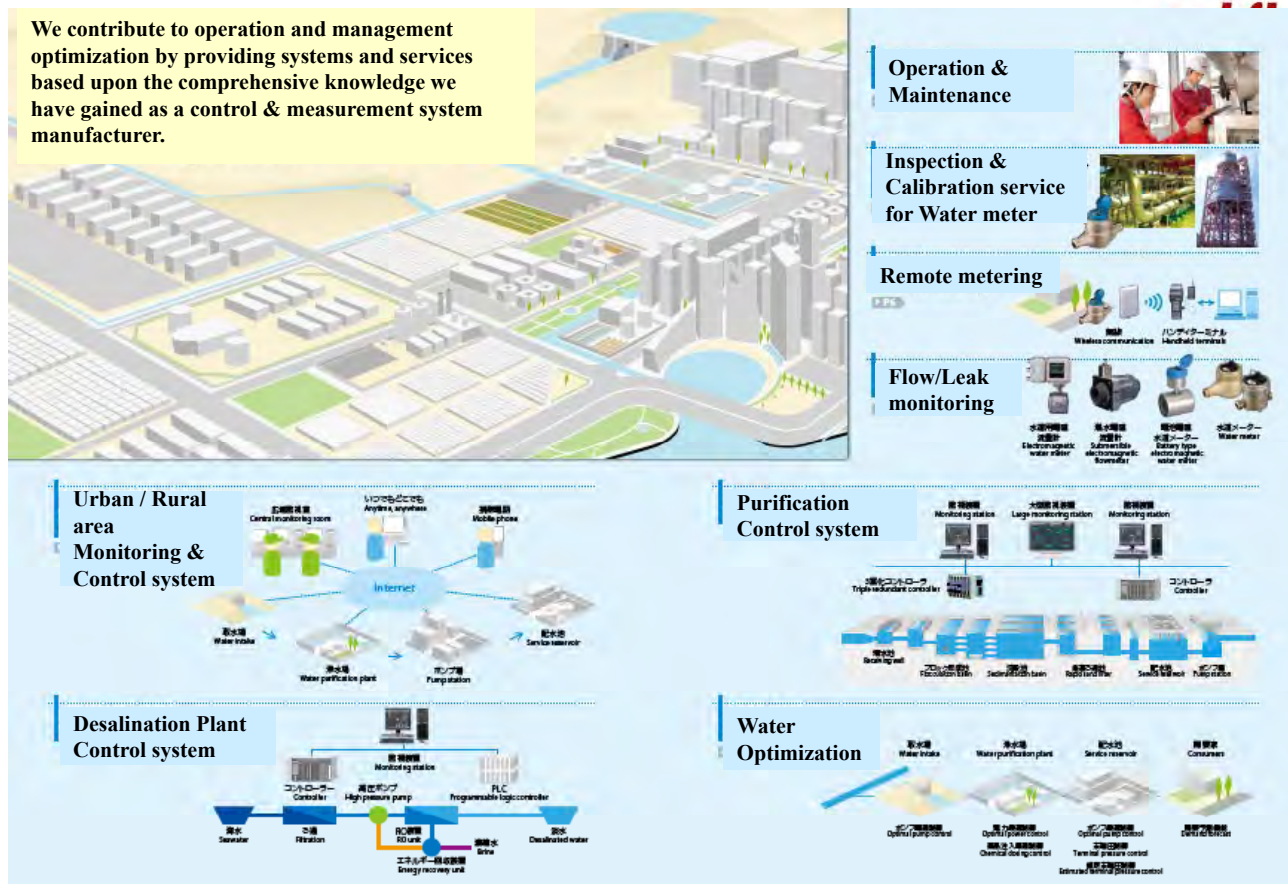


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3

azbil Water solution

We contribute to operation and management optimization by providing systems and services based upon the comprehensive knowledge we have gained as a control & measurement system manufacturer.



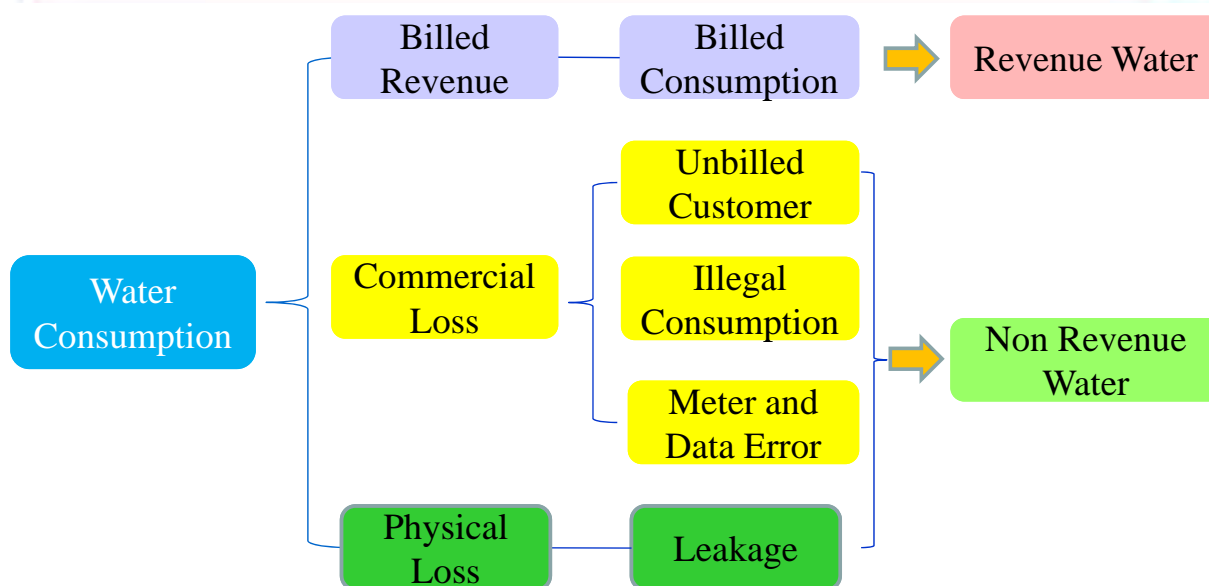
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Contents

- Definition of Non water revenue
- Cause of NRW
- Solution for minimizing NRW
- Out line of Automatic Meter Reading & Inspection system
- Key facts for reducing NRW
- Case study
- Conclusion

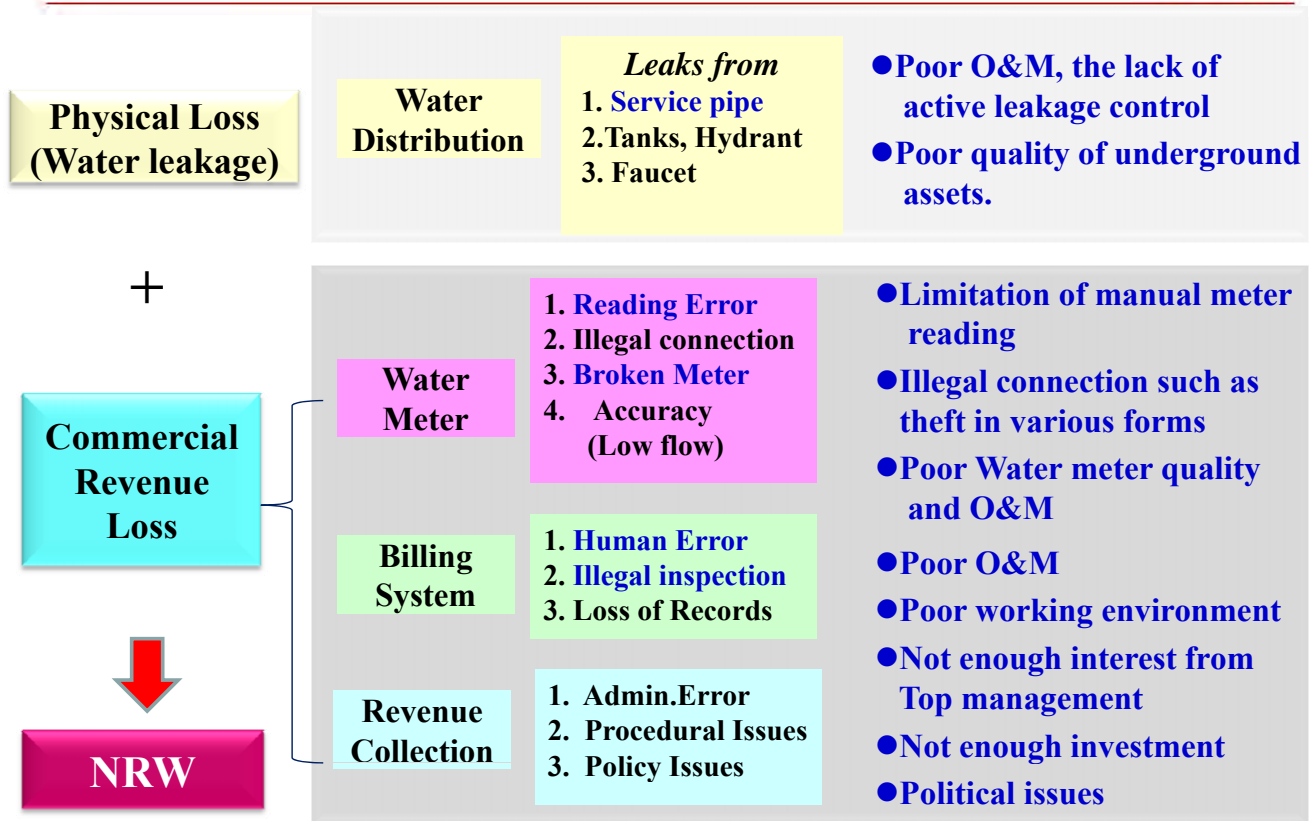
Definition of Non-Revenue Water (NRW)



Japan is the lowest NRW country all over the world
NRW 3.7% Tokyo Metropolitan Waterworks Bureau

Cause of NRW

azbil



Source : IICA presentation

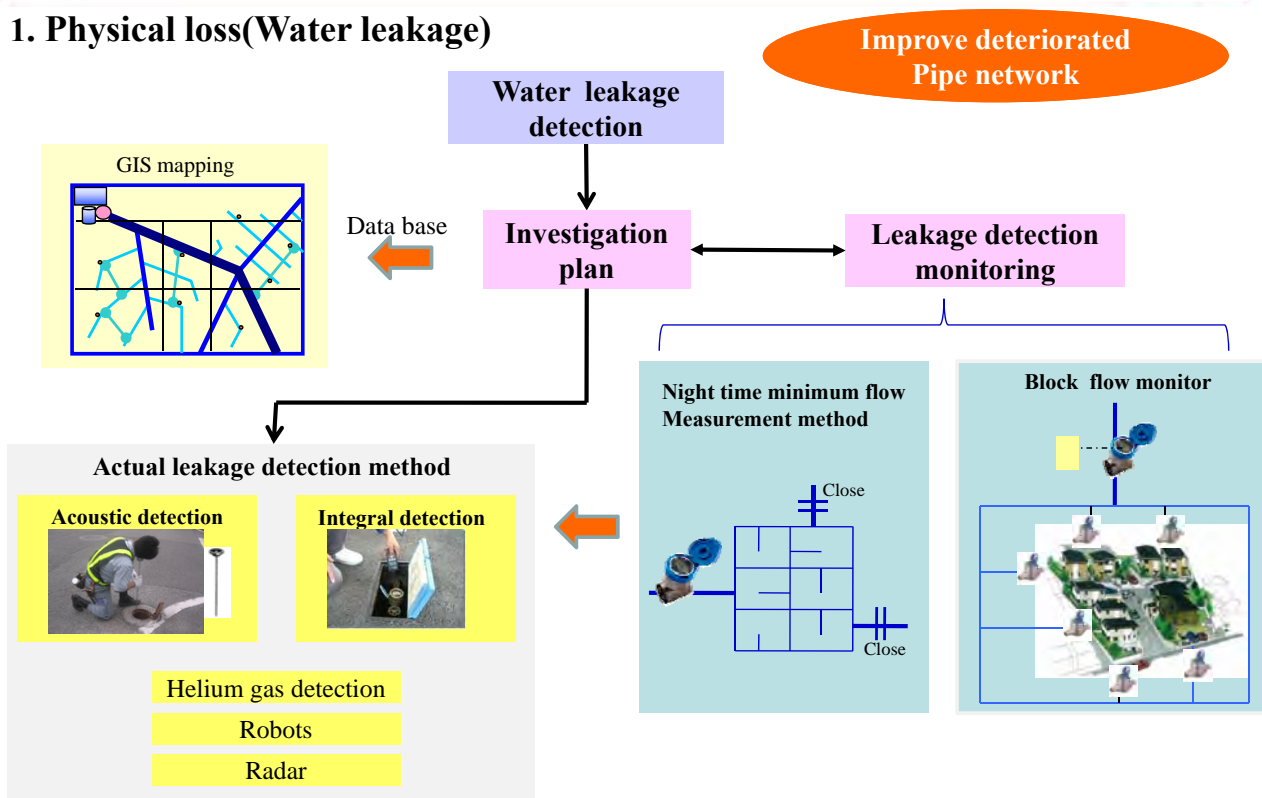
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Solution for minimizing NRW

azbil

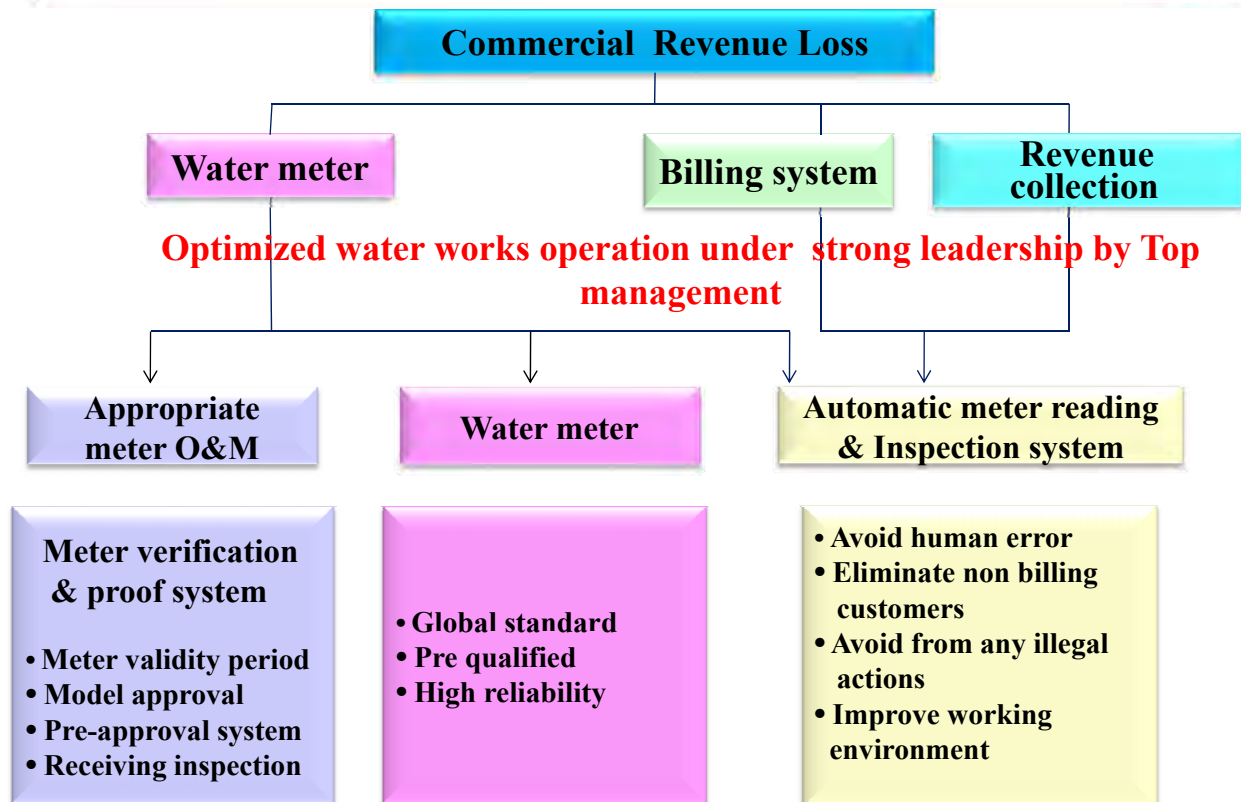
1. Physical loss(Water leakage)



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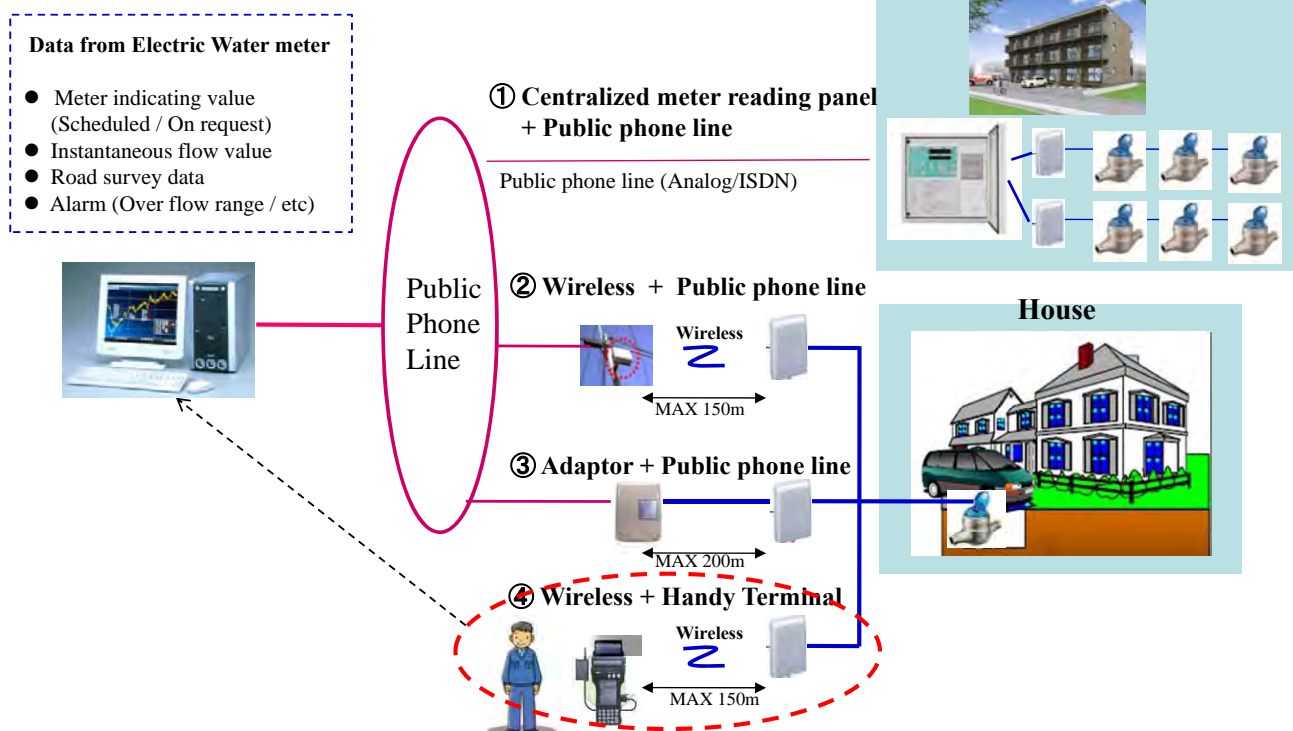
8

2. Commercial revenue loss



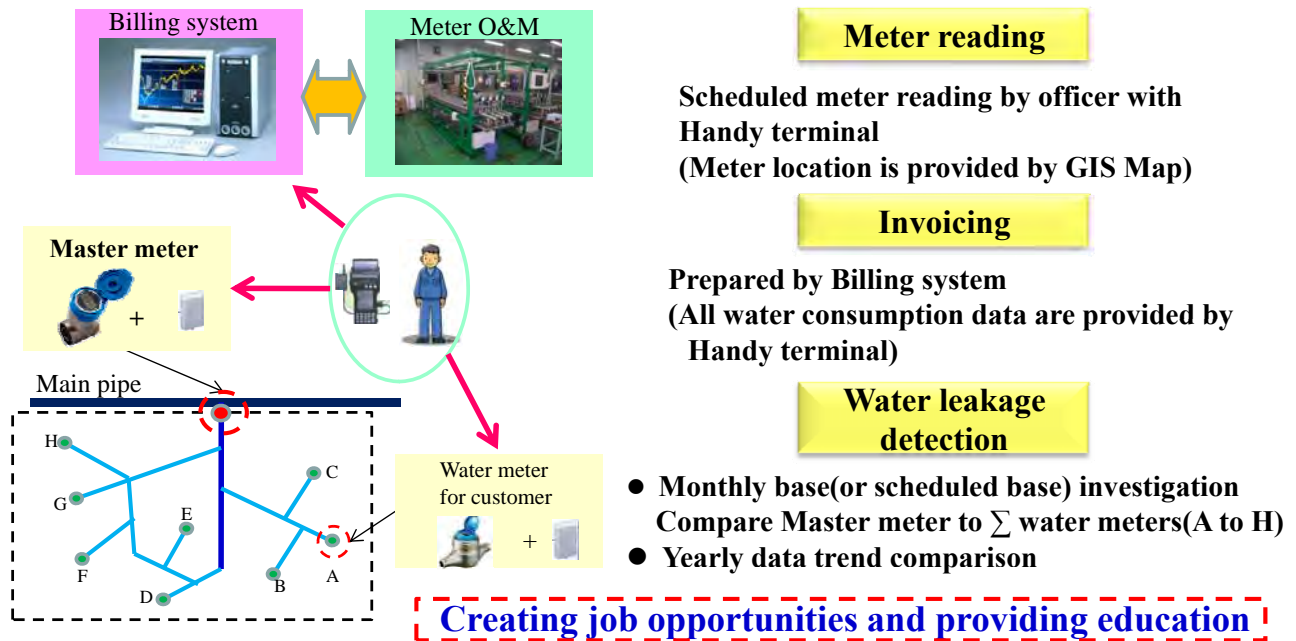
Out line of Automatic Meter Reading & Billing system

Automatic Meter Reading

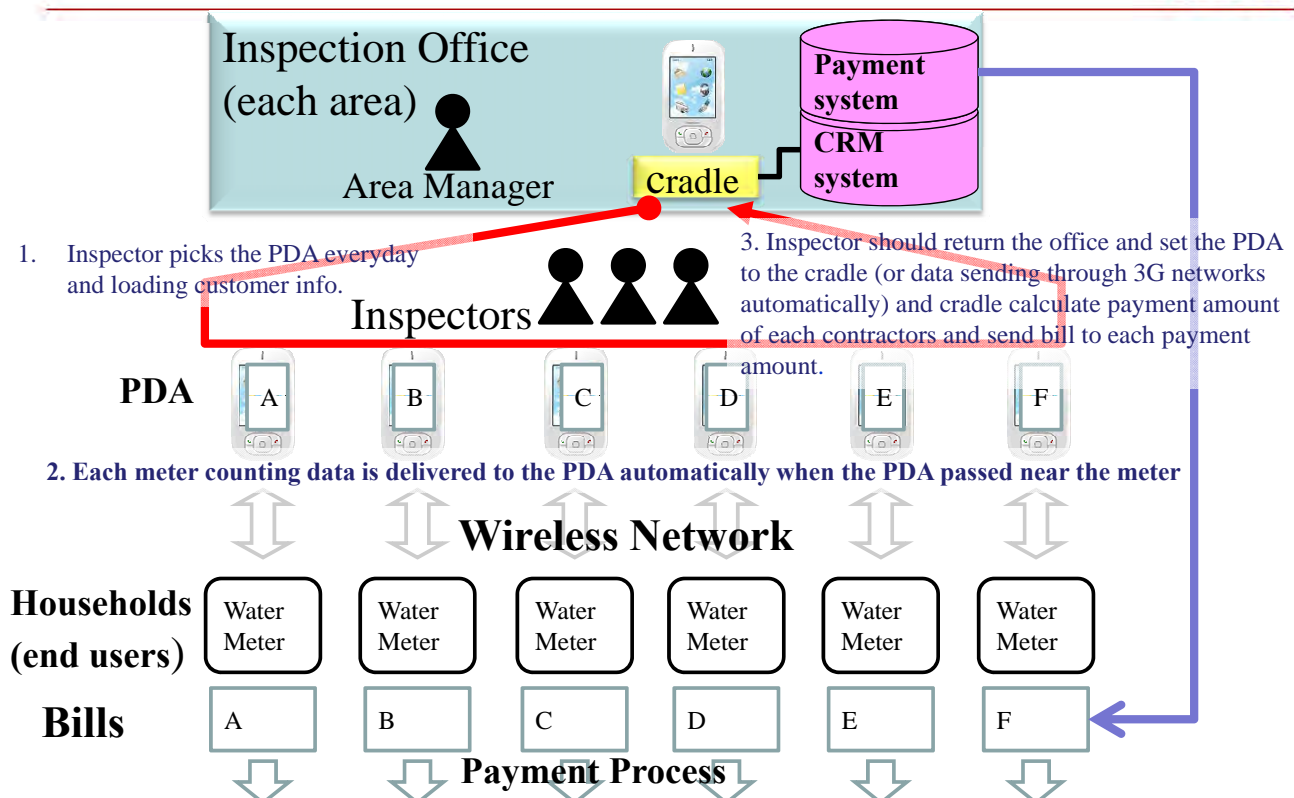


Conclusion

- Install Automatic Meter Reading system with block monitoring method and Automatic Inspection system in order to minimize Non-Revenue Water rate



Overview of Automatic Inspection System





Sustainable Watertreatment Technology

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1

History of Swing Corporation

- 1912 Inokuchi Type Machinery Office founded by Issei Hatakeyama
- 1920 EBARA Corporation established
- 1956 EBARA-INFILCO established with INFILCO Inc(USA)
- 1994 EBARA-INFILCO was merged into EBARA Corporation
- 2009 All EBARA's water related business unit integrated to Ebara Engineering Service (EES)
- 2010 Mitsubishi and JGC joined EES
- 2011 EES has a new name Swing Corporation as of April 1

Organization Restructuring
for **21 Century**

Pump Manufacturing **One century(100years)**

Water Treatment **Half century(55years)**

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2


Aiming at further expansion in the global water business market



Global Network,
Finance,
Business Management

Global procurement,
Project Management

State-of-the art
technologies for
water/wastewater
treatment and O&M works

 Mitsubishi Corporation

33.3%



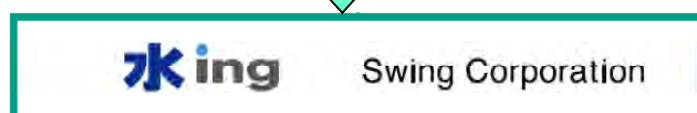
33.3%



33.3%



As of April 1, 2011



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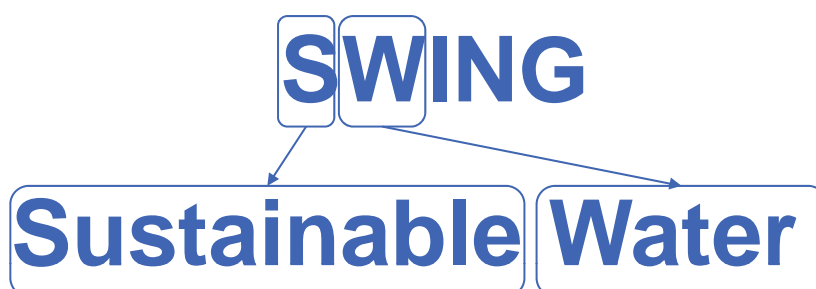


What is Swing Corporation?



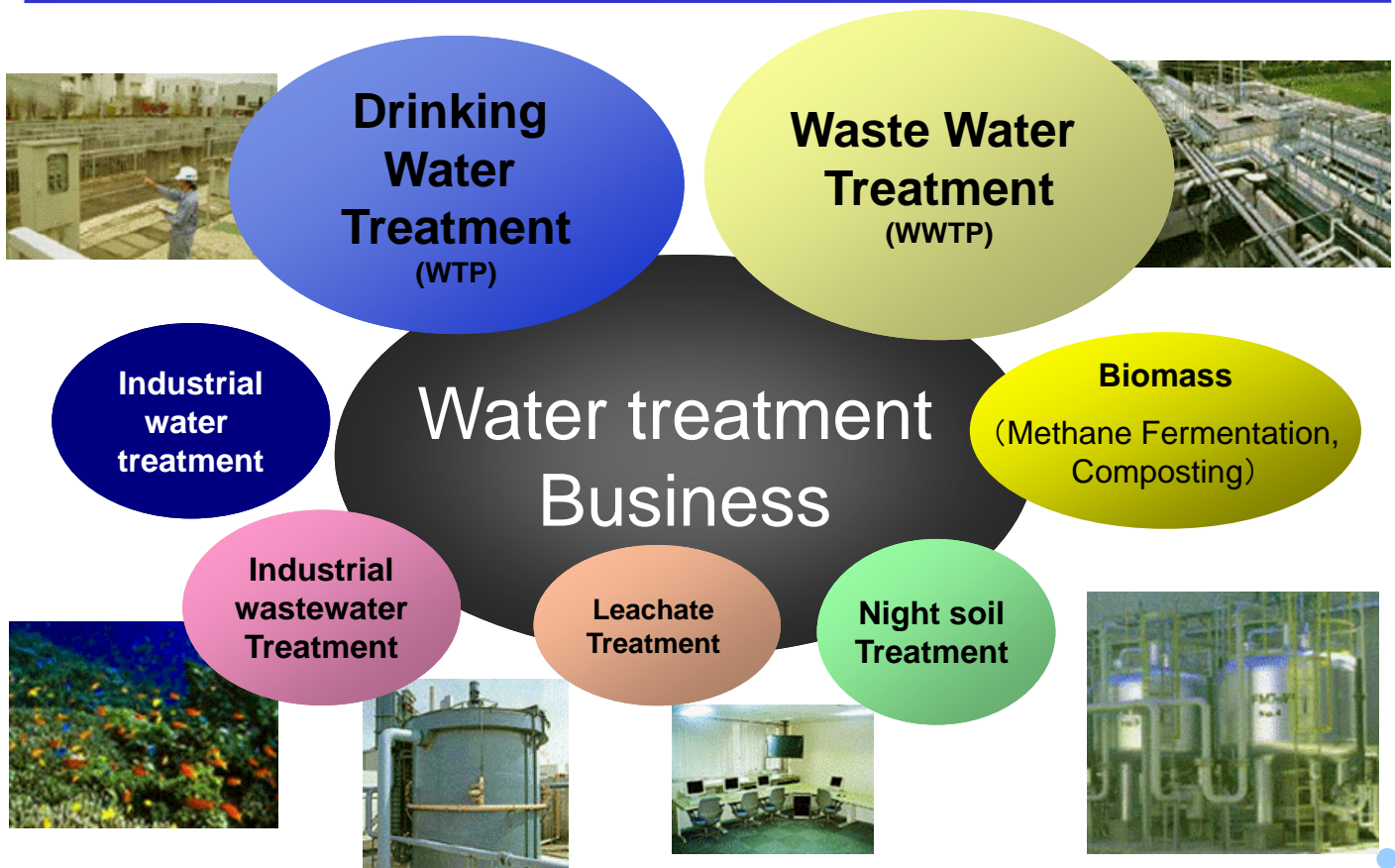
Our logo **Watering** is made up of the Japanese character for “water” “水”(pronounced “sui” in Japanese) and “ing” from English as an indicator of the progressive tense. Also, “Swing” contains meanings of “Sustainable Water”.

We are proud of our leading-edge water and environment technologies, developed in Japan over many decades. Under our motto “Produce, Refine and Manage Water”, we aim to integrate diverse technologies to provide our clients with complete solution.



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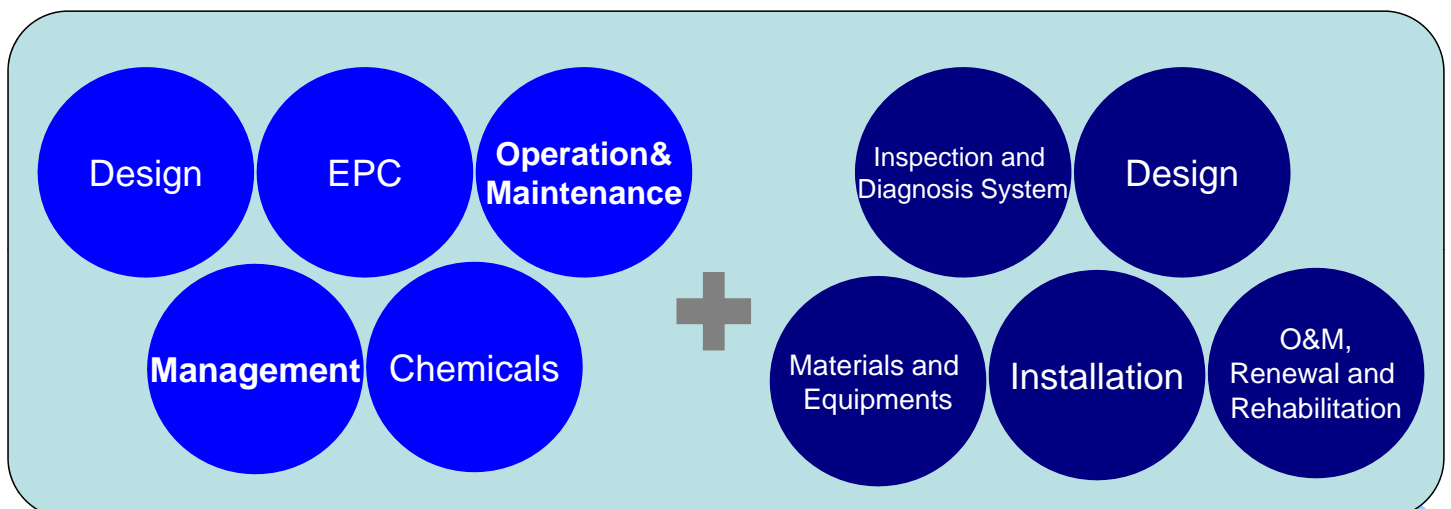
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5

Swing + SEKISUI

From water treatment to pipe network operation, maintenance and management, we provide integrated business support for your business needs.

king + **SEKISUI**



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6

Swing has 9 branches in Japan and 6 strategic subsidiaries in Asia and Middle East



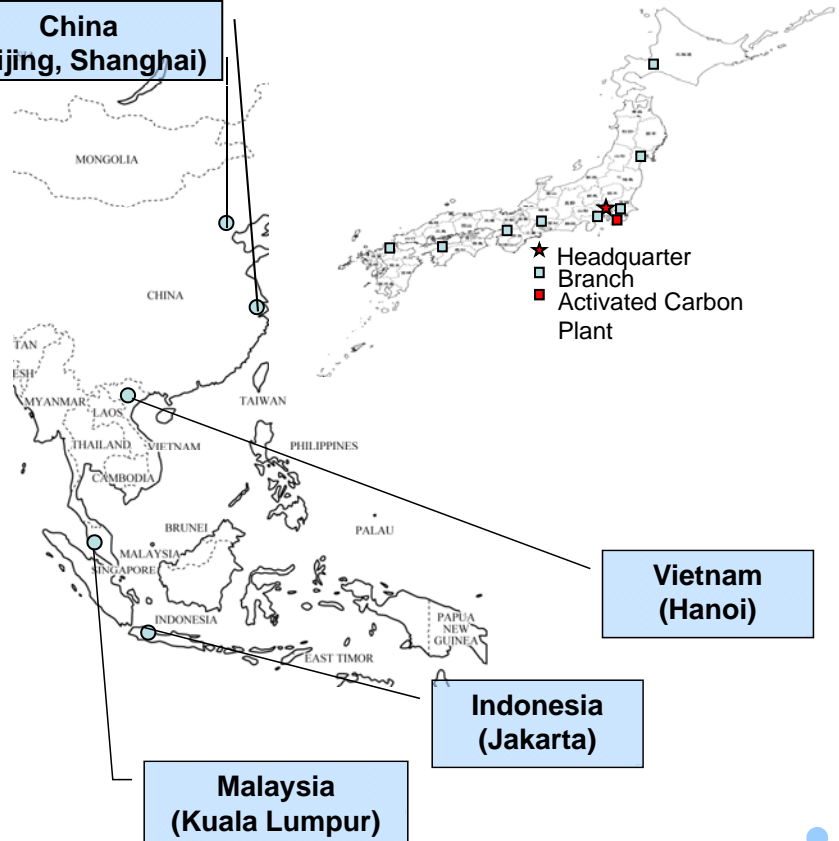
**Saudi Arabia
(Riyadh)**

2012 Spring Open

**Swing Corp. Saudi Arabia Branch:
in charge of Middle East Area**



**China
(Beijing, Shanghai)**



**Vietnam
(Hanoi)**

**Indonesia
(Jakarta)**

**Malaysia
(Kuala Lumpur)**

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7

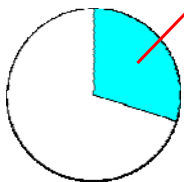
Swing has abundant experience both in EPC and O&M works



**EPC Business
for public DWTP & WWTP**

**Domestic Market
Share : 30%**

No.1 share in Japan



**O&M Business
for public DWTP & WWTP**

More than 450 facilities operated in Japan

for WTP

**67 plants
currently
under operation**

for WWTP

**186 plants
currently
under operation**

Septic/ Night soil

**60 plants
currently
under operation**

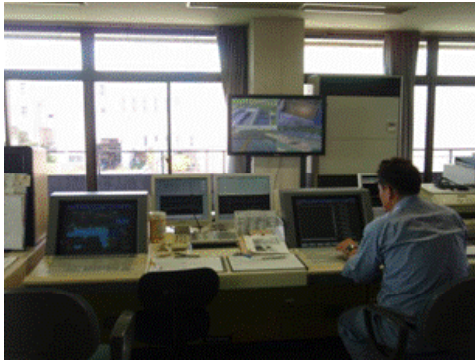
Landfill wastewater

**50 plants
currently
under operation**

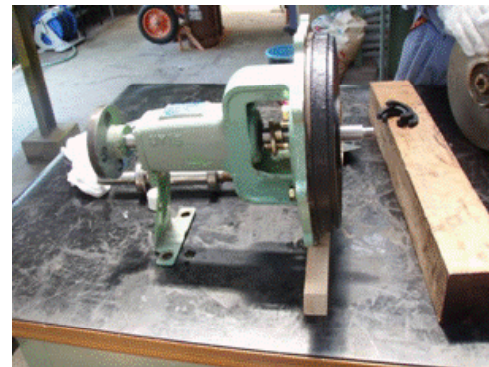
Miscellaneous

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8



- Skilled Operators and Engineers
 - Operator: over 2,000
 - Process/Construction Engineer: 500
 - Well developed training programme
- Abundant experience in EPC and O&M
 - Accumulated know-how and network
 - Well developed emergency operation (flood, earthquake)



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9

R&D Center



What we do are;

- Water quality analysis
- Lab-scale test
- Commissioning assistance etc.



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10



Ariake sewage treatment plant
(Tokyo, 300,000 m³/day, 1994)

Advanced treatment :
Biofilm filtration (BIOPAC) and ozone

Morigasaki sewage treatment plant
(Tokyo, 1,5400,000 m³/day, 1966)



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11



Landfill Leachate treatment
(Tokyo, Total 20,500 m³/d, 1979, 1986, 2000)

Process:

Nitrification/Denitrification (BIOERG)

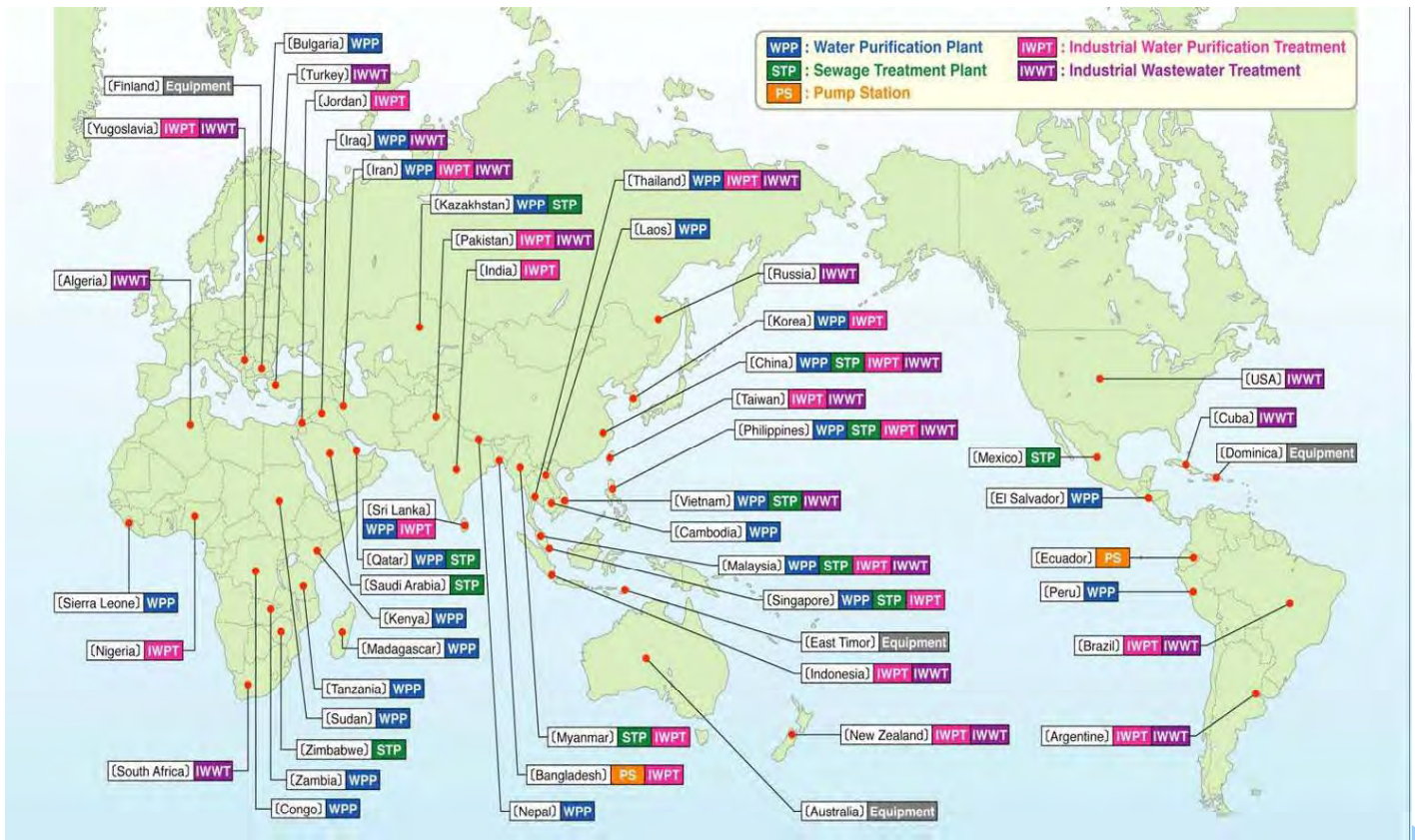
Fenton Reaction

Adverse moving bed activated carbon tower



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12



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13

水ing experience in Asia



WTP & WWTP in Kazakhstan
(100,000 m³/d & 135,000 m³/d)



WWTP in China
(260,000 m³/d)



WWTP in Singapore
75,000 m³/d



WWTP in Malaysia
(59,000 m³/d)



WTP in Vietnam
(50,000 m³/d)



WTP in Sri Lanka
(5,000 m³/d)



WWTP in Vietnam
(141,000 m³/d)

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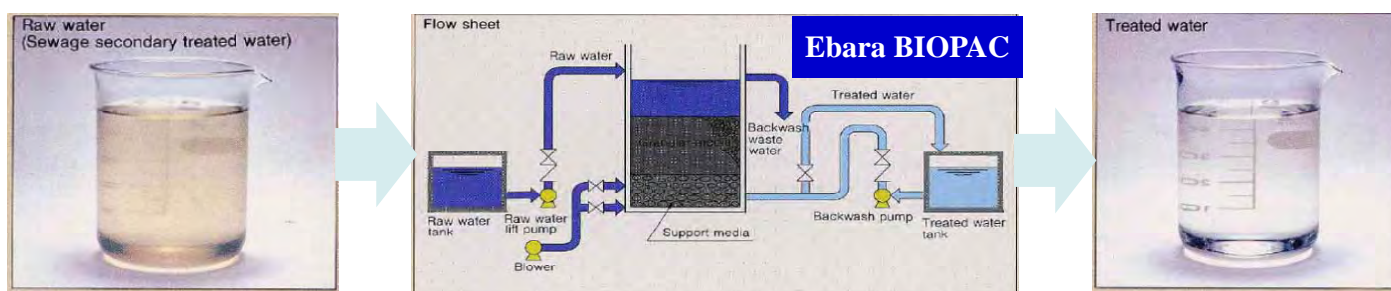
14

Introduction of 水ing (SWING) Sustainable Water Technology

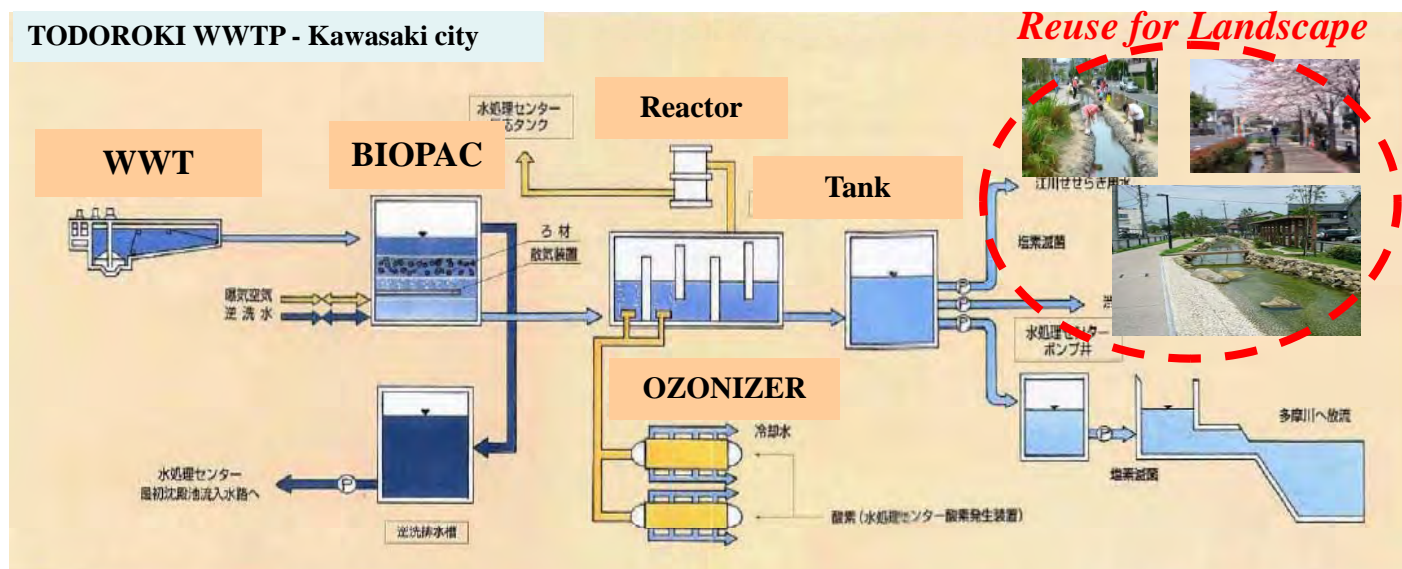
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Water Reuse for Municipal Waste Water



TODOROKI WWTP - Kawasaki city



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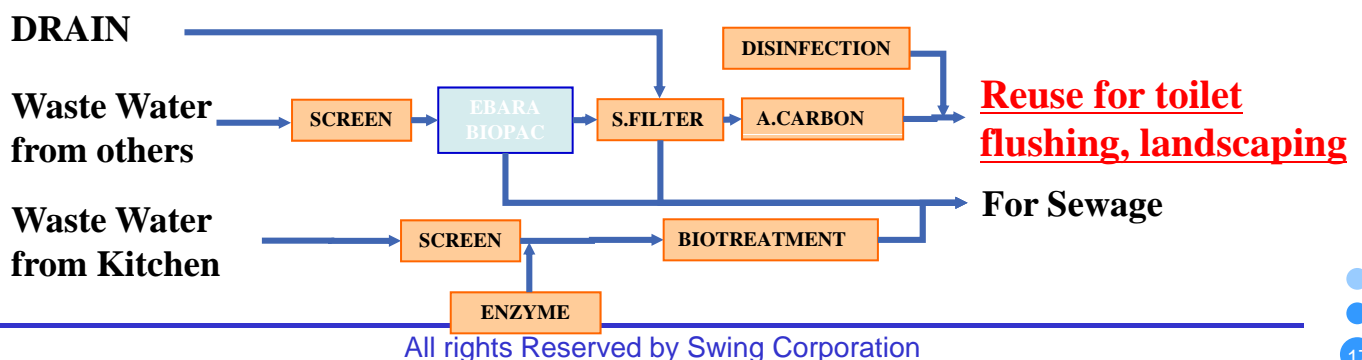
16

Roppongi Hills

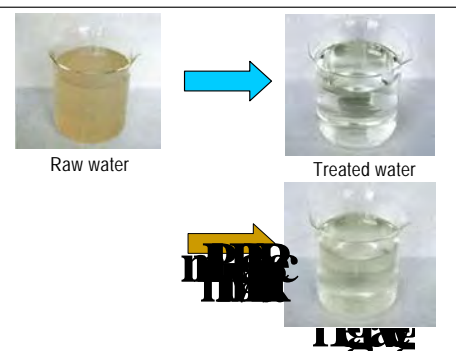
Yebisu Garden Place

Treated Water ; 1,050m³/d

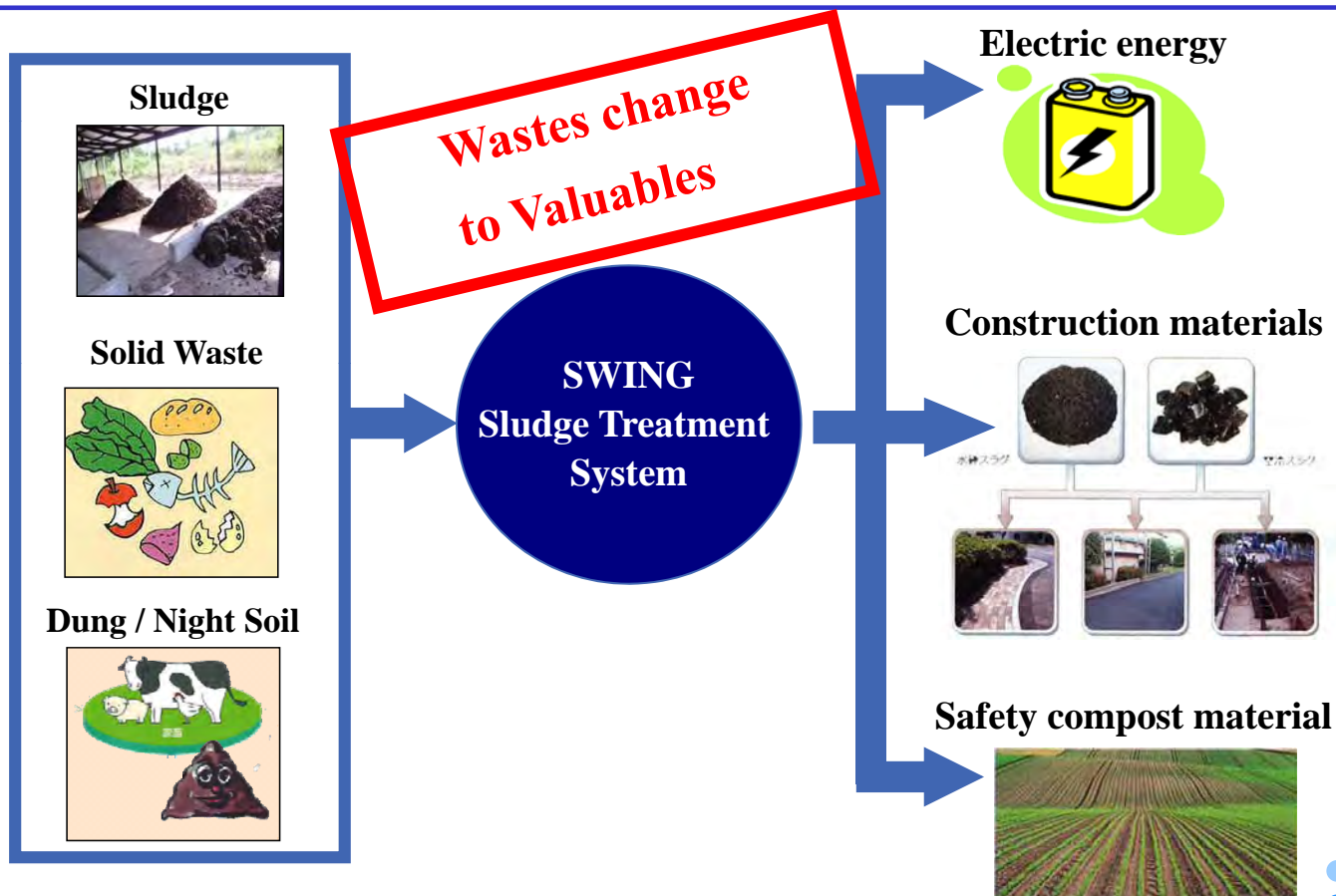
Treated Water ; 1,051m³/d



MBR SYSTEM



No.	Application	Capacity (m ³ /day)	Raw water			Treated water		Completion
1	Food service	150	BOD=	400	mg/L	< 10	mg/L	1999
			SS=	200	mg/L	< 15	mg/L	
2	Restaurant	67	BOD=	703	mg/L	< 10	mg/L	1999
			SS=	250	mg/L	< 10	mg/L	
3	River Purification	27	BOD=	70	mg/L	< 2	mg/L	1999
			SS=	17	mg/L	< 2	mg/L	
4	Chemical	150	BOD=	1,500	mg/L	< 20	mg/L	2000
			SS=	32	mg/L	< 10	mg/L	
5	Food industry	82	BOD=	740	mg/L	< 20	mg/L	2001
			SS=	210	mg/L	< 40	mg/L	
6	Sewage	312	BOD=	200	mg/L	< 5	mg/L	2001
			SS=	200	mg/L	< 5	mg/L	
7	Restaurant	82	BOD=	244	mg/L	< 10	mg/L	2001
			SS=	200	mg/L	< 10	mg/L	
8	Beverage	40	BOD=	1,100	mg/L	< 30	mg/L	2003
			SS=	200	mg/L	< 64	mg/L	
9	Food industry	10	BOD=	4,000	mg/L	< 20	mg/L	2005
			SS=	800	mg/L	< 30	mg/L	
10	Pharmaceutical	16	BOD=	470	mg/L	< 30	mg/L	2008
			SS=	80	mg/L	< 40	mg/L	

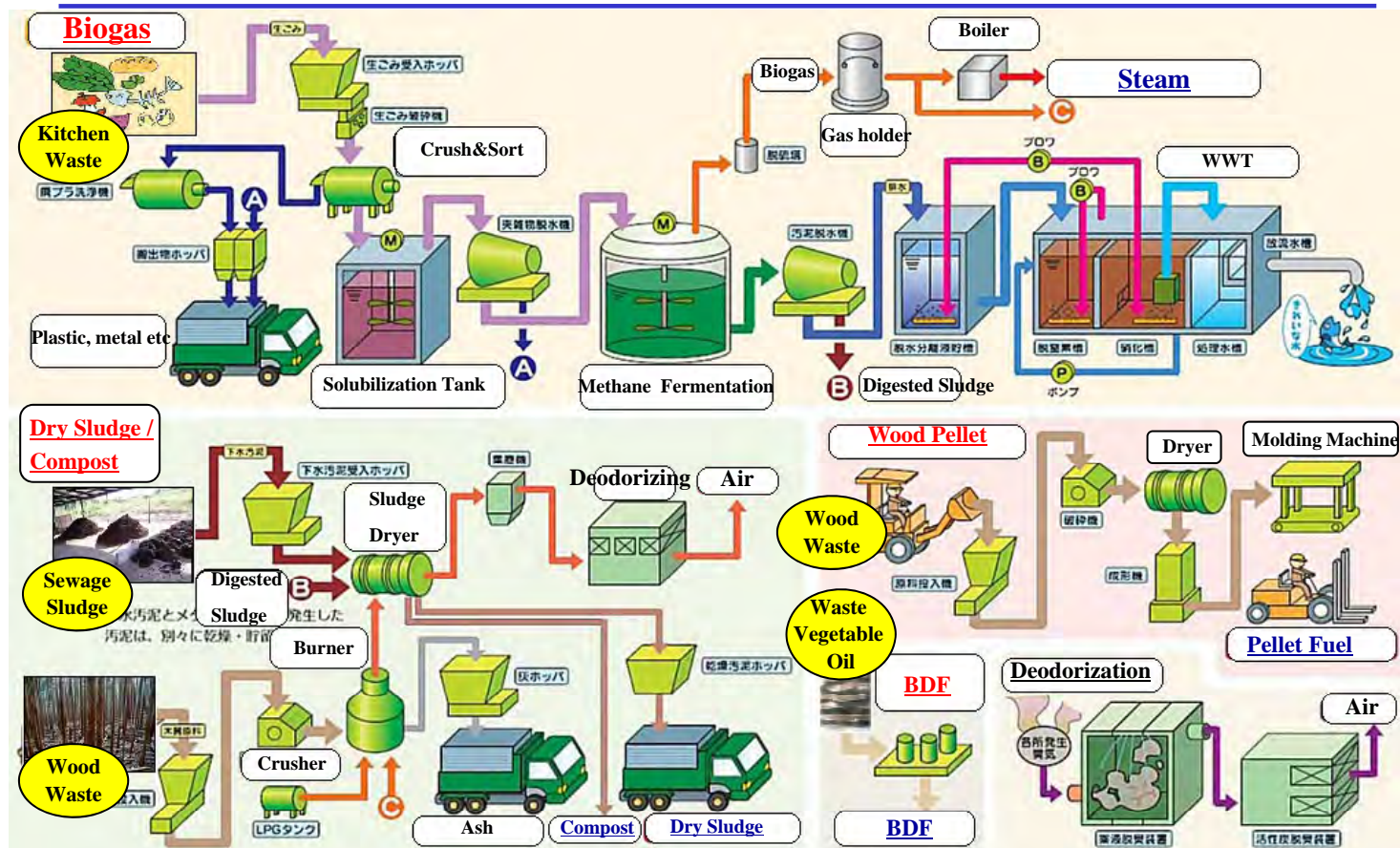


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SWING Sludge Treatment System

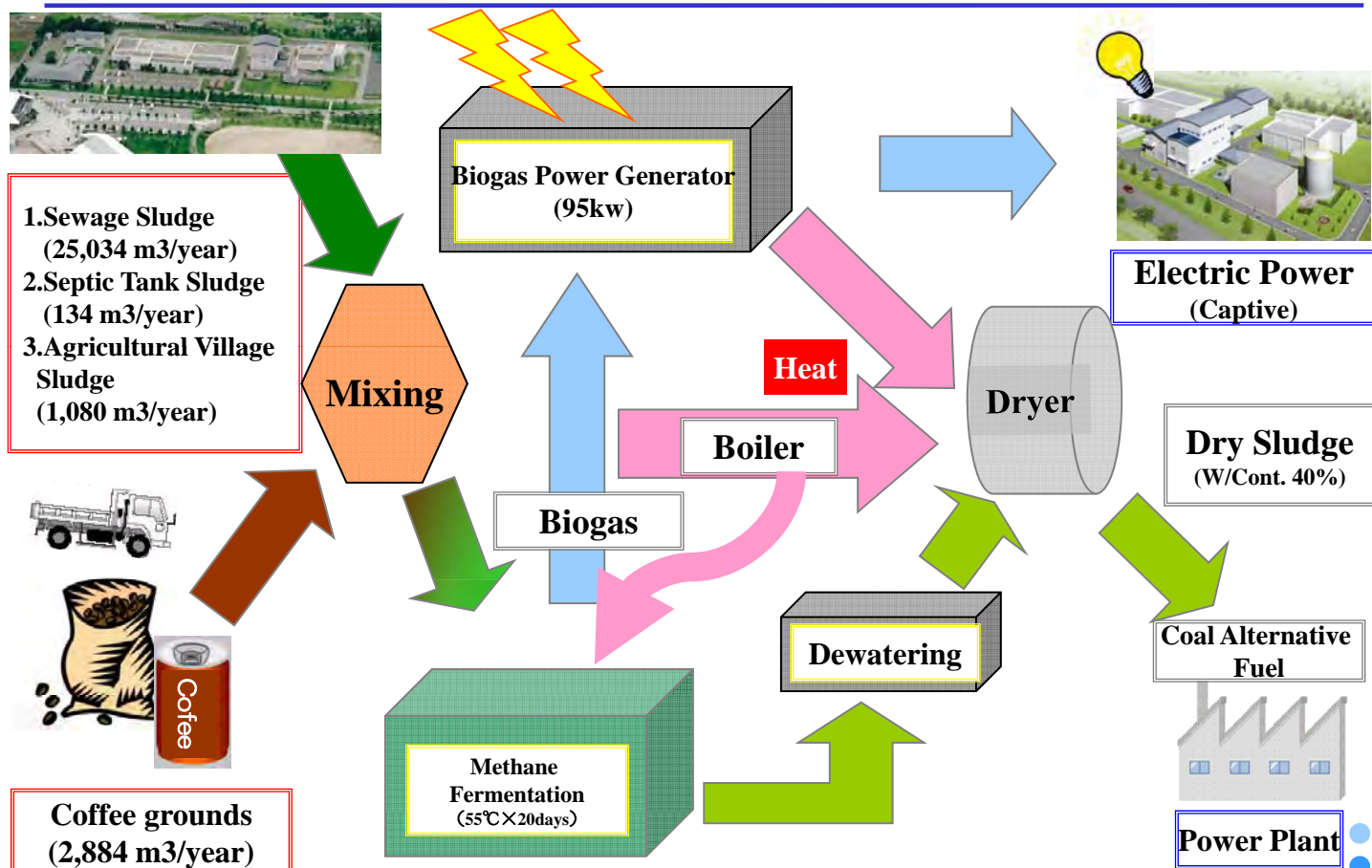
Plant Process Flow



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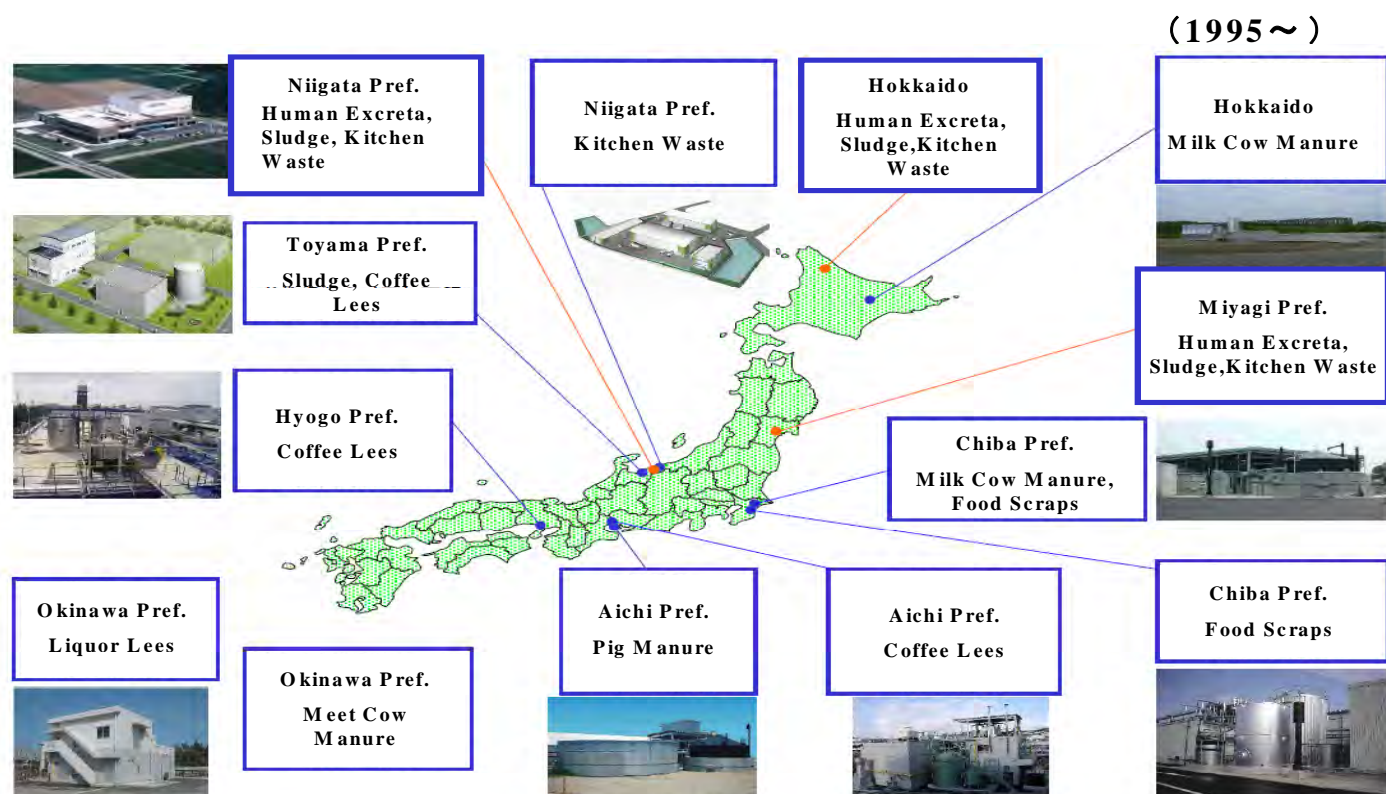
Biogas Plant in KUROBE City



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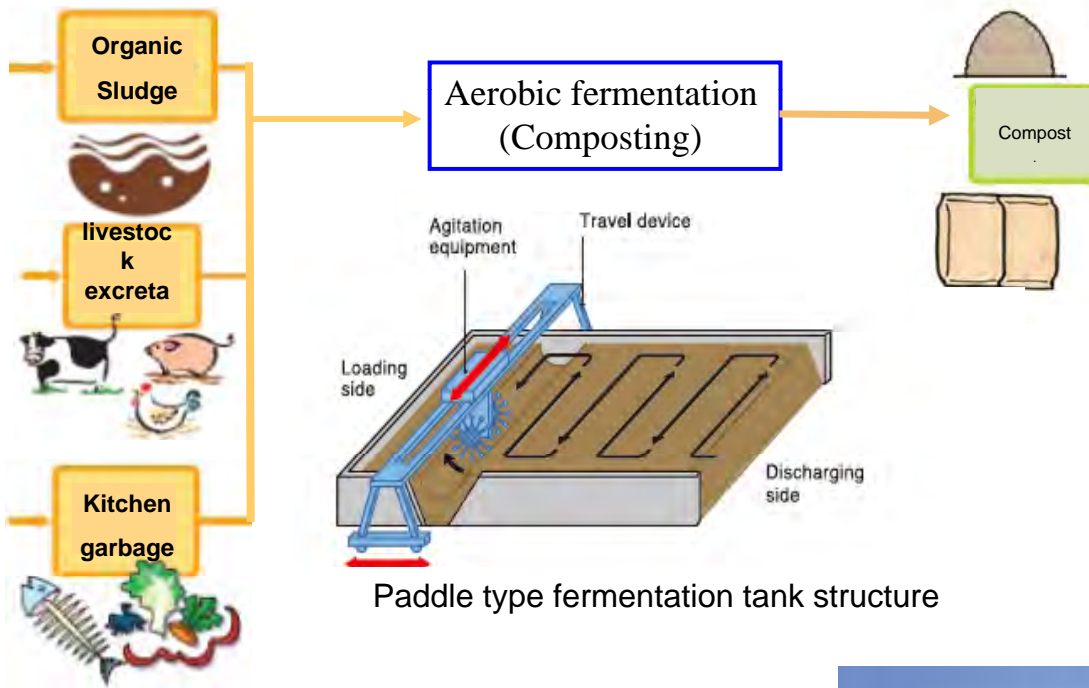
Track Record for Methane Fermentation Plant



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SLUDGE RECYCLING SYSTEM (Composting Plant in SENDAI City)



Our experience

Feed : 30t/d, Sludge, Kitchen garbage, prune tree and leaves

Production : 12t/d of compost



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Thank you very much for your attention!

Swing, a total solutions provider for water and the environment.

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