



# GSD Technologies Co.,Ltd.

Stock Code :6641

## Company Presentation

by Andrew /CFO

2020.08



GREEN · SAFE · DEVELOPMENT

# CONTENTS

01  Company  
Profile

02  Operating  
Performance

03  Industry  
Overview

04  Operating  
Strategy



# Company Profile

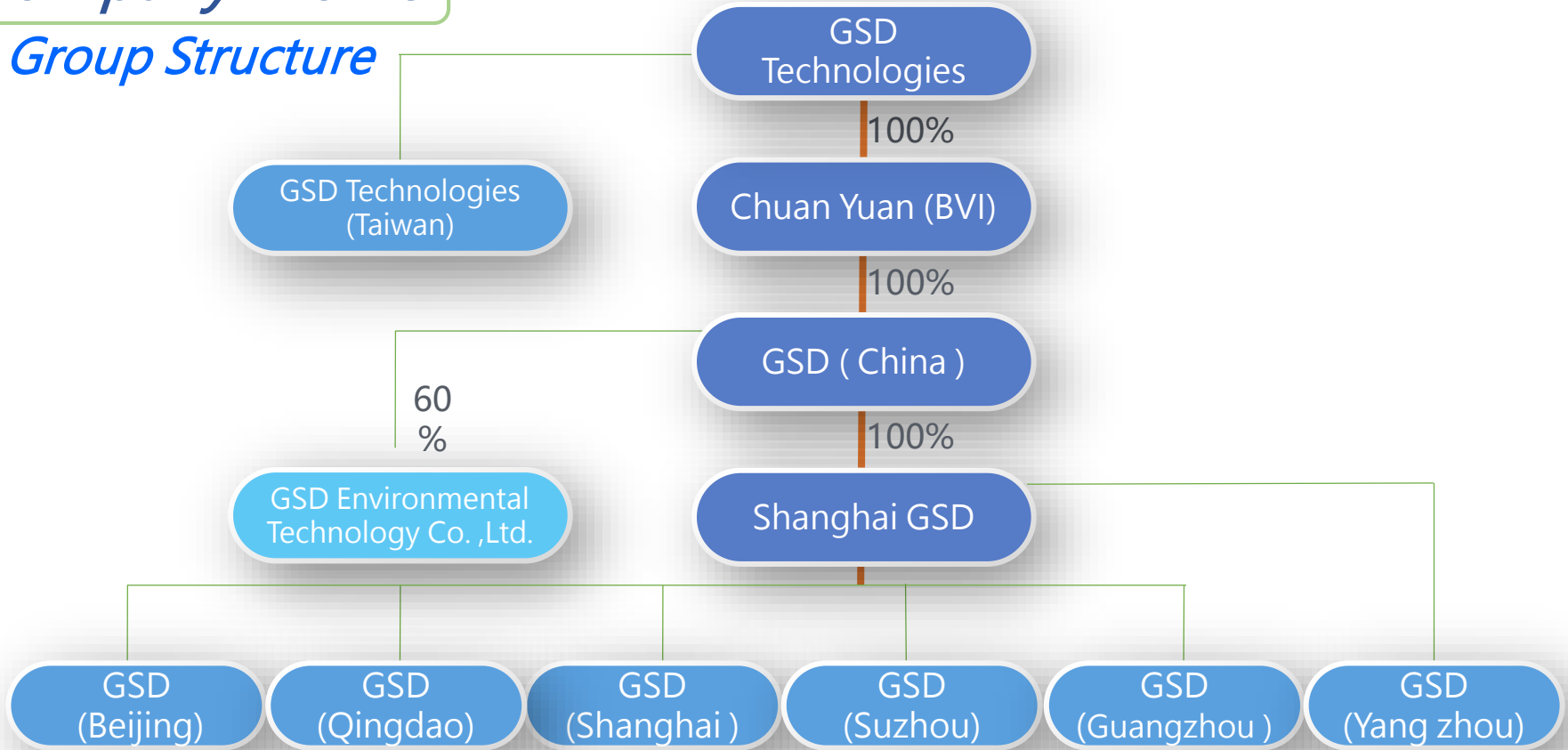
# 01

## *Company Profile*

Company	◆ GSD Technologies Co., Ltd.
Stock Code	◆ 6641
Established	◆ Oct.,2013
Chairman	◆ Hung-June, Hsieh
Paid in capital	◆ NTD 340 Millions
Major business	◆ Water and waste water equipment manufacturing, sales and technical services
Brand	◆ GSD
2 Plants	◆ Pinghu & Yangzhou
Staffs	◆ 548 employees (2020.06)

# Company Profile

## Group Structure



## *Company Profile* *Business Philosophy*

### GREEN

A promise to keep the nature environment to be green for the Earth.

### SAFE

A promise to keep quality of products to be safe for customers.

### DEVELOPMENT

A promise to keep company developing for staffs, stockholders and society.

#### Mission & Vision

- Mission:** To optimize the ecological environment and to benefit the whole world.
- Environment:** All rivers are clean and no water is dirty.
- Company:** The paragon among all brands, the leader in WWTP industry.
- Colleagues:** To enable our staff' s devotion in wonderful career and life.

# Company Profile

## Social Responsibility



- Support Hubei new infectious disease hospital.
- Solar power generation electricity-saving.
- Support local river governance.
- Construction of sponge factory.
- Continuous development of energy saving products .

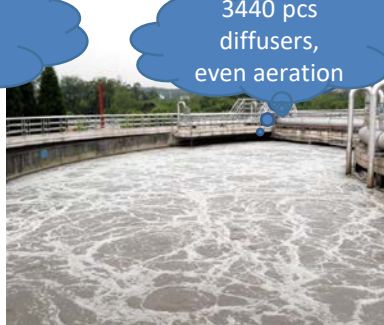
# Company Profile

# Social Responsibility

## Aeration modification case: improve unit efficiency



3456 pcs  
diffusers,  
uneven aeration



3440 pcs  
diffusers,  
even aeration

Before(not GSD product)

After

After transformation, the energy consumption of blower is **reduced by 15-20%**



Customized matching design reduces 4kw motor power.

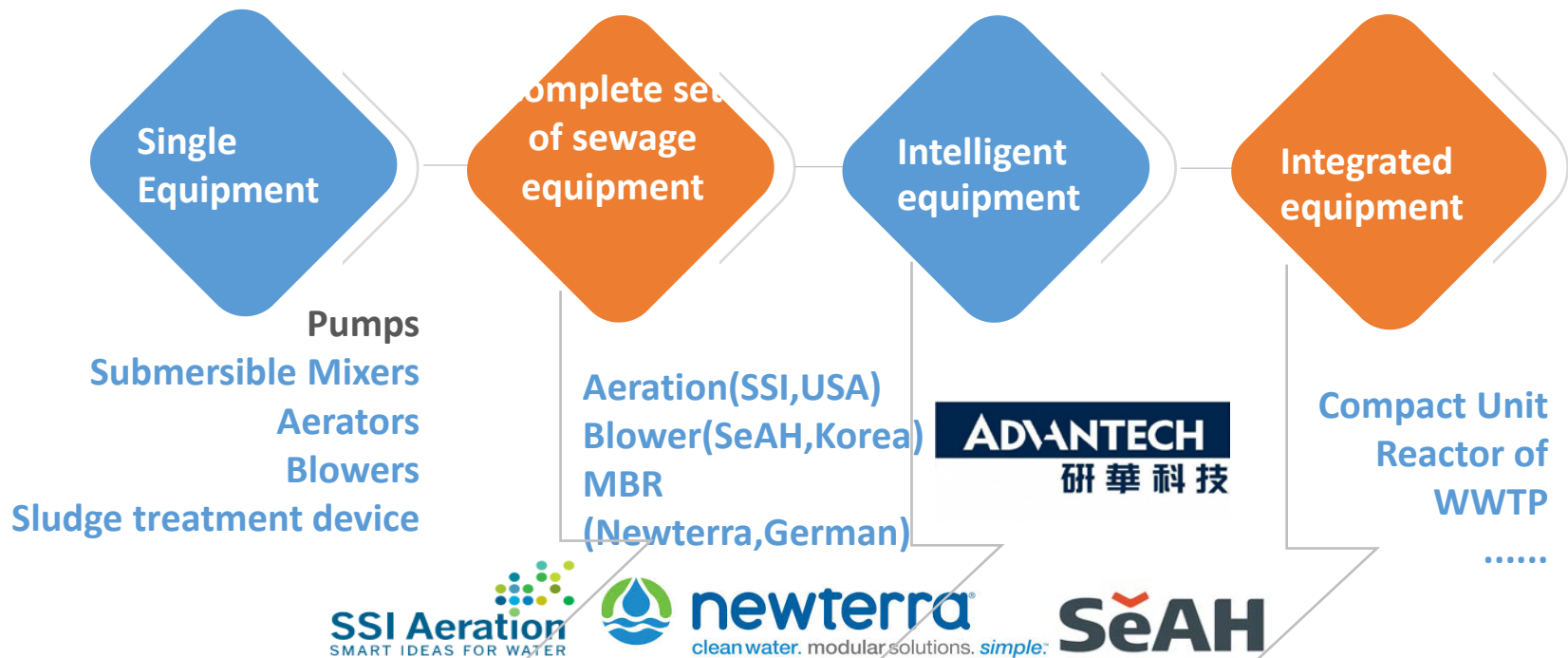


A number of GSD products have energy-saving certification. Through design, customization, process transformation and IoT, GSD can help customers to reduce costs and energy.



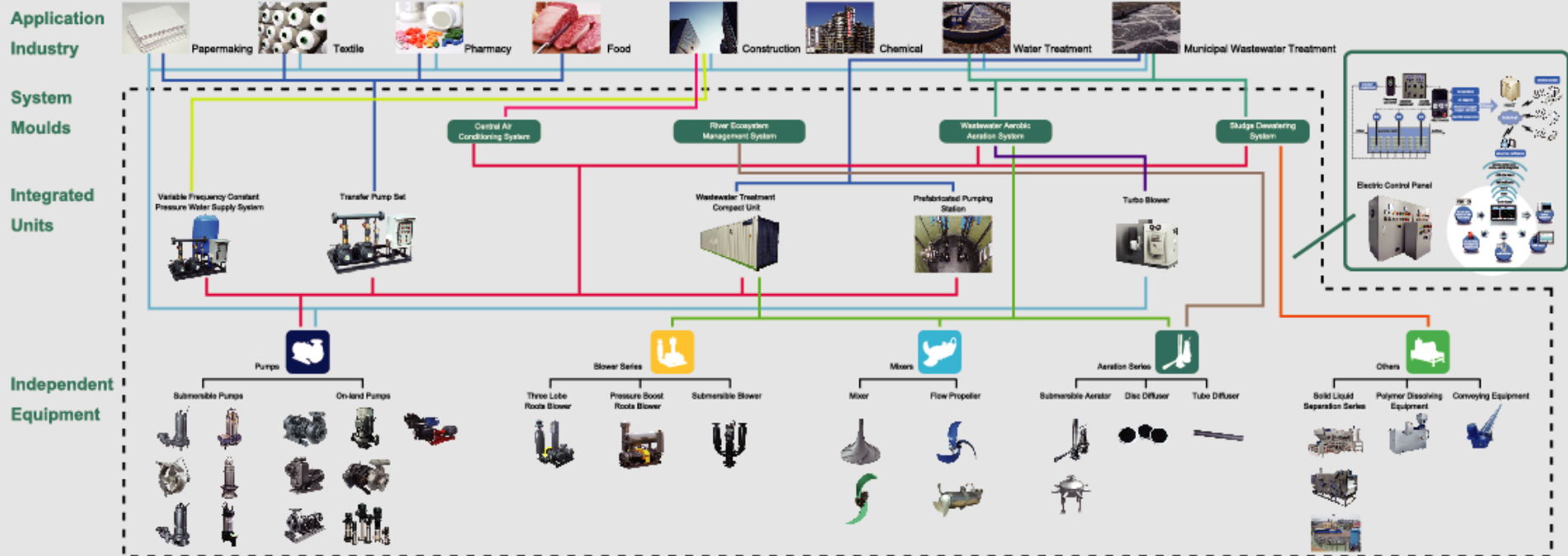
# Company Profile

## Product Scope



# Company Profile

## Product Scope & Application





# Operating Performance

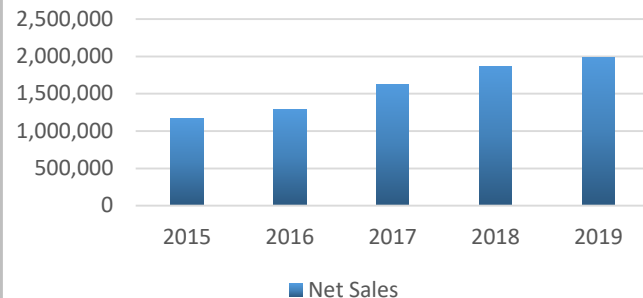
# 02

# Operating Performance

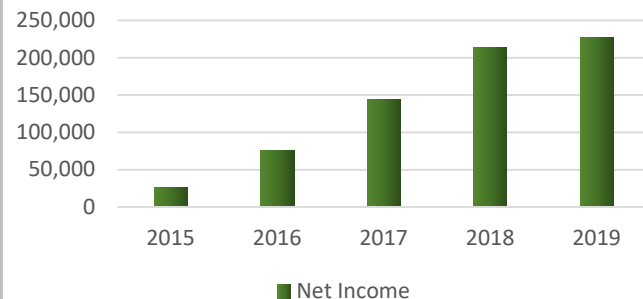
## Consolidated income statement

Items	2015	2016	2017	2018	2019
Net Sales	1,171,289	1,290,919	1,622,684	1,867,639	1,992,051
Growth Rate		10.21%	25.70%	15.10%	6.66%
Sales Margin	452,080	503,034	635,387	739,292	771,093
Op. Income	36,039	81,169	189,557	263,642	240,532
EBIT	42,662	106,469	202,756	280,499	282,631
Net Income	25,773	75,529	144,433	213,672	227,154
Income Growth%		193.05%	91.23%	47.94%	6.31%
EPS(Basic)	0.86	2.52	4.81	6.86	6.79
EPS (No.of shares at end of year)	0.86	2.52	4.81	6.28	6.79

Net Sales



Net Income

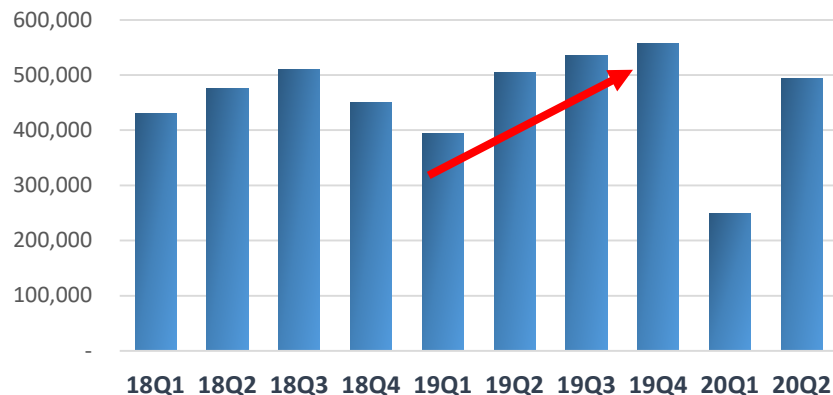


# Operating Performance

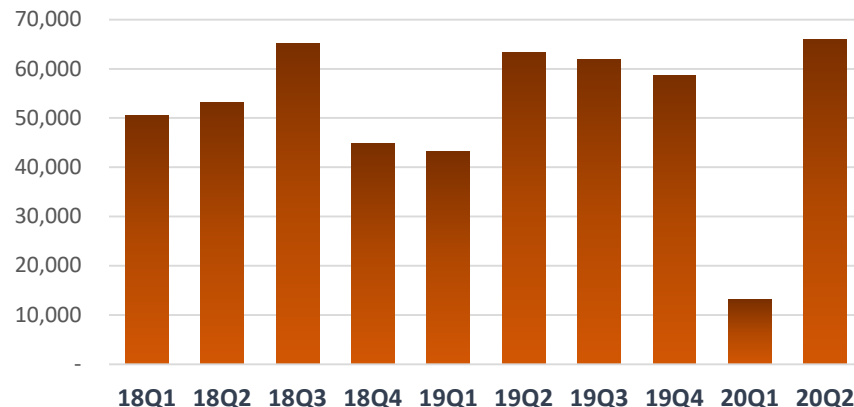
## Consolidated income statement

Items	18Q1	18Q2	18Q3	18Q4	19Q1	19Q2	19Q3	19Q4	20Q1	20Q2
Net Sales	430,567	476,365	510,410	450,291	394,512	505,098	535,690	556,751	248,663	493,929
Sales margin	170,020	188,768	205,466	175,038	152,536	200,285	201,412	216,860	99,188	207,187
Op. Expenses	108,395	119,925	124,442	122,888	108,567	134,036	133,263	154,695	89,850	123,243
Op.Income	61,625	68,843	81,024	52,150	43,969	66,249	68,149	62,165	9,338	83,944
EBIT	67,496	72,644	83,817	56,542	55,620	81,035	79,788	66,188	17,589	91,686
Net income	50,561	53,214	65,101	44,796	43,230	63,256	61,927	58,741	13,171	65,935

### Net Sales

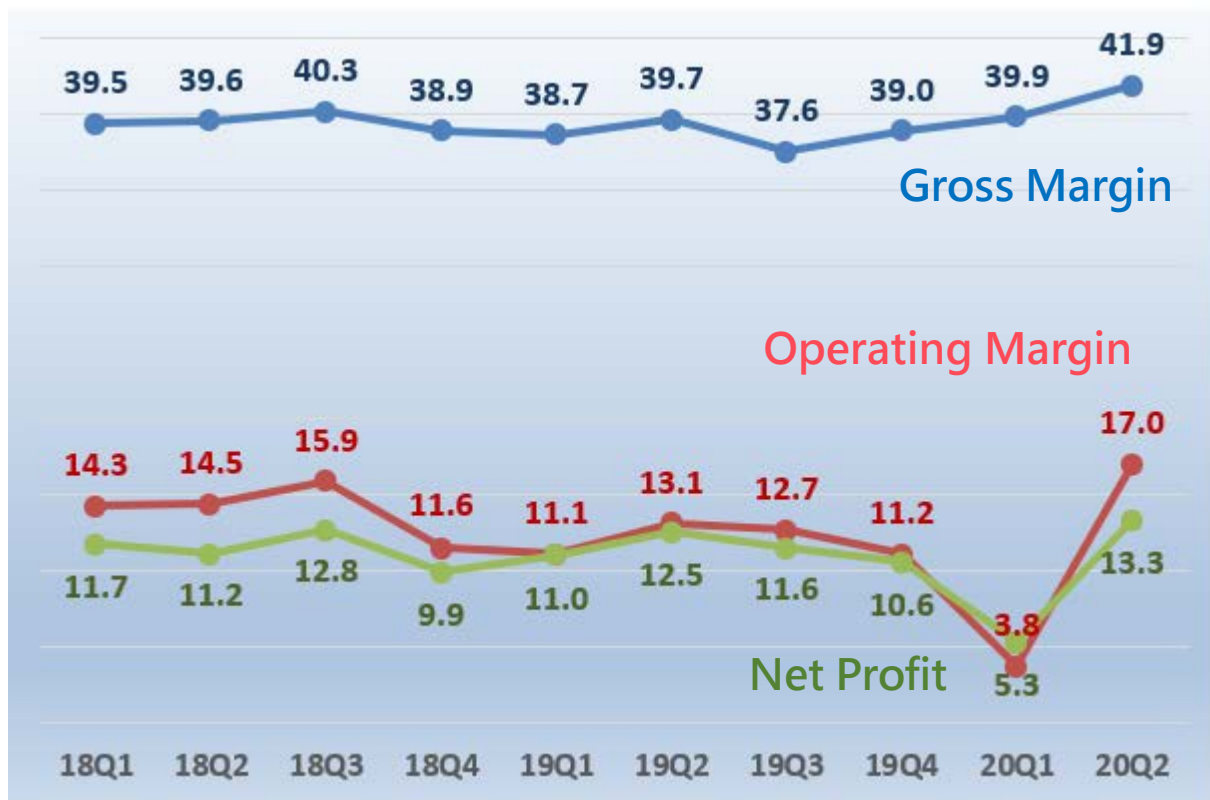


### Net Income



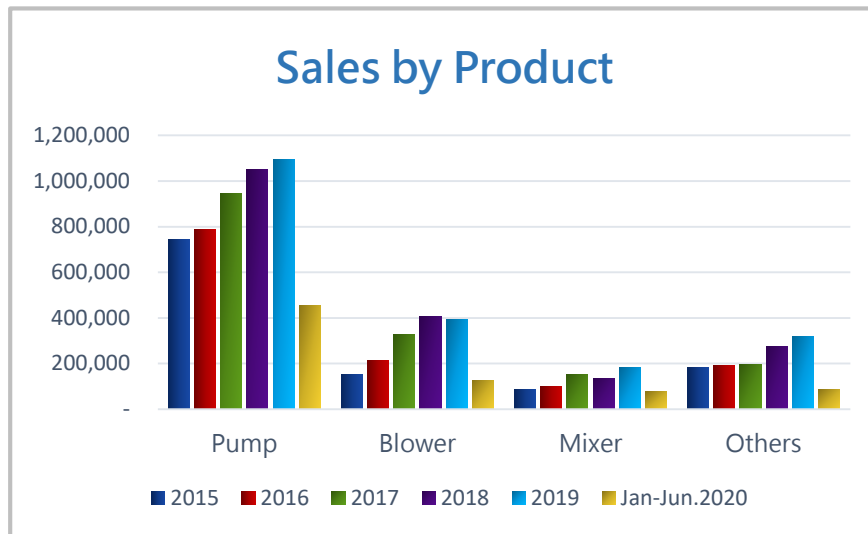
# Operating Performance

## Profitability



# Operating Performance

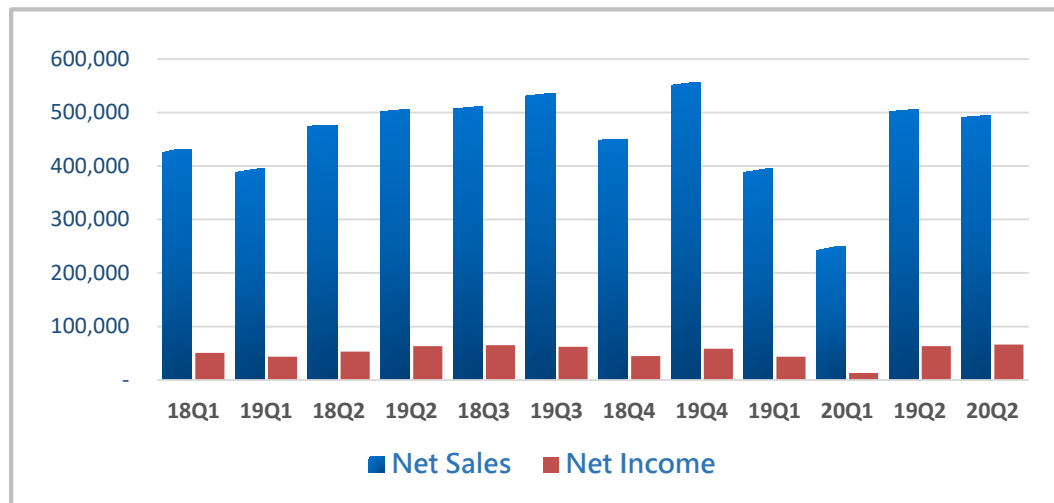
## Revenue by products



Item	2015		2016		2017		2018		2019年		Jan-Jun.2020	
	AMT	%	AMT	%	AMT	%	AMT	%	AMT	%	AMT	%
Pump	745,671	63.66	787,805	61.03	945,796	58.29	1,051,424	56.30	1,097,049	55.07	455,486	61.34
Blower	152,522	13.02	211,701	16.40	327,277	20.17	406,255	21.75	395,382	19.85	125,593	16.91
Mixer	87,466	7.47	98,067	7.60	153,279	9.45	133,092	7.13	182,604	9.17	75,955	10.23
Others	185,630	15.85	193,346	14.98	196,332	12.10	276,868	14.82	317,016	15.91	85,558	11.52
Total	1,171,289	100.00	1,290,919	100.00	1,622,684	100.00	1,867,639	100.00	1,992,051	100.00	742,592	100.00

# Operating Performance

## Consolidated income statement



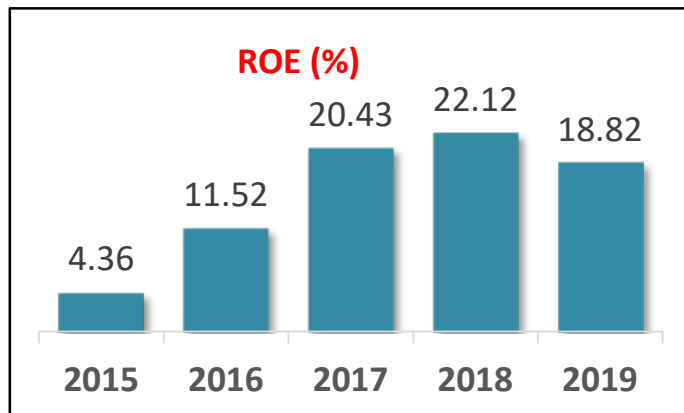
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Net Sales	430,567	394,512	476,365	505,098	510,410	535,690	450,297	556,751	394,512	248,663	505,098	493,929
Net Income	50,561	43,230	53,214	63,256	65,101	61,927	44,796	58,741	43,230	13,171	63,256	65,935

Currency	2018	2019	Difference	2019Q2	2020Q2	Difference
NTD/CNY	4.56	4.472	-1.93%	4.56	4.261	-6.56%



# Operating Performance

## Dividend (NTD %)



Items	2017	2018	2019
EPS ( 1 )	4.81	6.86	6.79
EPS ( 2 )	4.81	6.28	6.79
Cash Dividend	3.01	3.8	4.5
payout ratio(%) (N1)	62.58%	55.39%	66.27%
EPS(1): Counted by average shares			
EPS(2): Counted by year end shares			
N1: Counted by EPS(2)			

Dividend yield rate: by end of 2018 closing price ( $3.8/61.4=6.19\%$ );  
by end of 2019 closing price ( $4.5/68.5=6.57\%$ )

PE : by end of 2018 closing price ( $61.4/6.28=9.78$ );  
by end of 2019 closing price ( $68.5/6.79=10.09$ )

The 2020 interest rate is adjusted to 4.567164 per share due to treasury shares



# Industry Overview

# 03

# Industry Overview

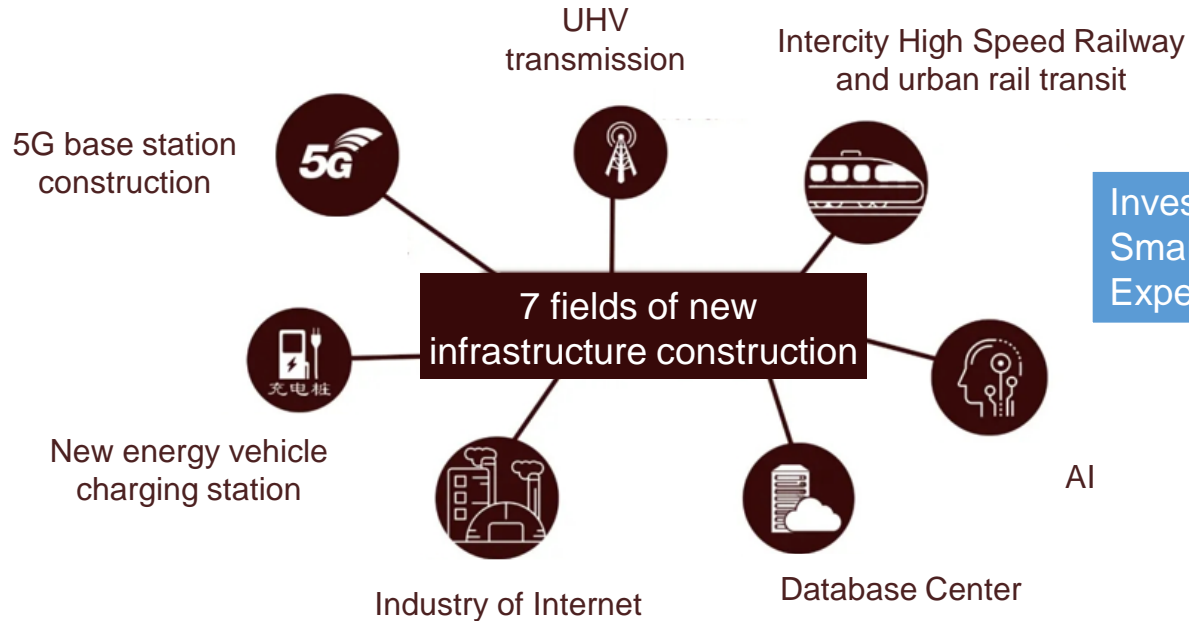
## China's Environmental Policy

2011-2015	2016-2020	2021-2025	2026-2030	2030~
	<b>Ten Water Phase I</b>	<b>Ten Water Phase II</b>		<b>Ten Water Phase III</b>
	1.Periodic improvement of water environment quality. 2.The seriously polluted water has been greatly reduced.	1.Overall improvement of water environment quality. 2.Preliminary Restoration of water ecosystem function.		1.Overall improvement of ecological environment quality. 2.Ecosystem achieves a virtuous circle.
<b>Twelfth Five</b>	<b>Thirteenth Five</b>	<b>Fourteenth Five</b>	<b>Fifteenth Five</b>	
1.Improve the drainage network. 2.Improve sewage treatment capacity. 3.Improve the effluent quality of sewage treatment plant. 4.Improve the harmless treatment of sludge. 5.Improve the reuse capacity of reclaimed water.	1.Improve the sewage collection system. 2.Enhance the capacity of sewage treatment facilities. 3.Attach importance to harmless treatment of sludge. 4.Promote the use of recycled water. 5.Initial rainwater pollution control. 6.Strengthening the treatment of black and odorous water bodies in cities. 7.Strengthen supervision capacity building.			
Investment amount: RMB 427.1 billion	Investment amount: RMB 564.4 billion			

To achieve the ten ecological goals of water regulations, Environmental spending is expected to continue to grow.

# Industry Overview

## China's Environmental Policy



Invest in new infrastructure >>  
Smart water investment  
Expected to accelerate

# Industry Overview

## China's Environmental Policy



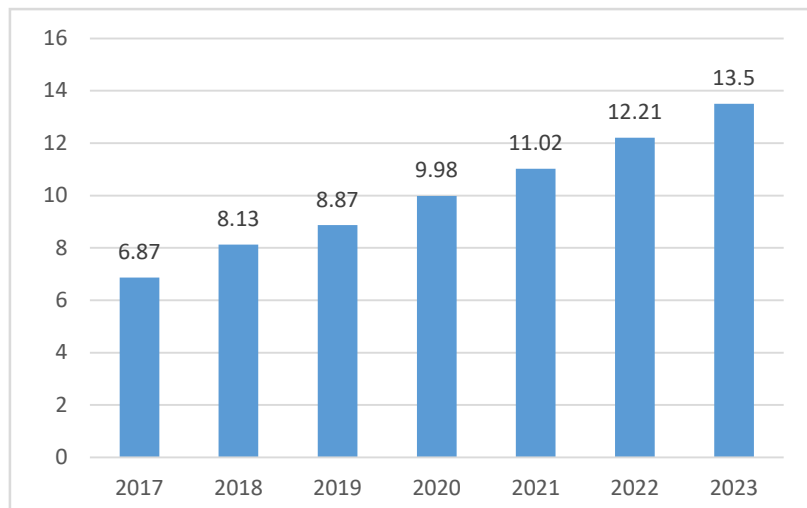
### Industrial changes after covid-19

- Various disinfection increases
- Inspection frequency increased
- Increasing demand for online monitoring system
- Increased demand for personnel safety

# Industry Overview

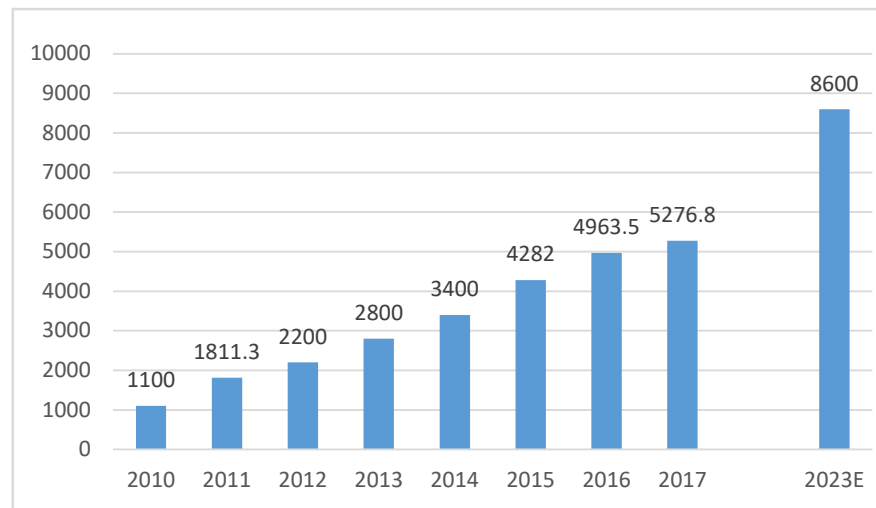
## China's Environmental Policy

Statistics and forecast of China's environmental protection industry from 2017 to 2023



Unit: Trillion(RMB)

2010-2023 China's water industry market size

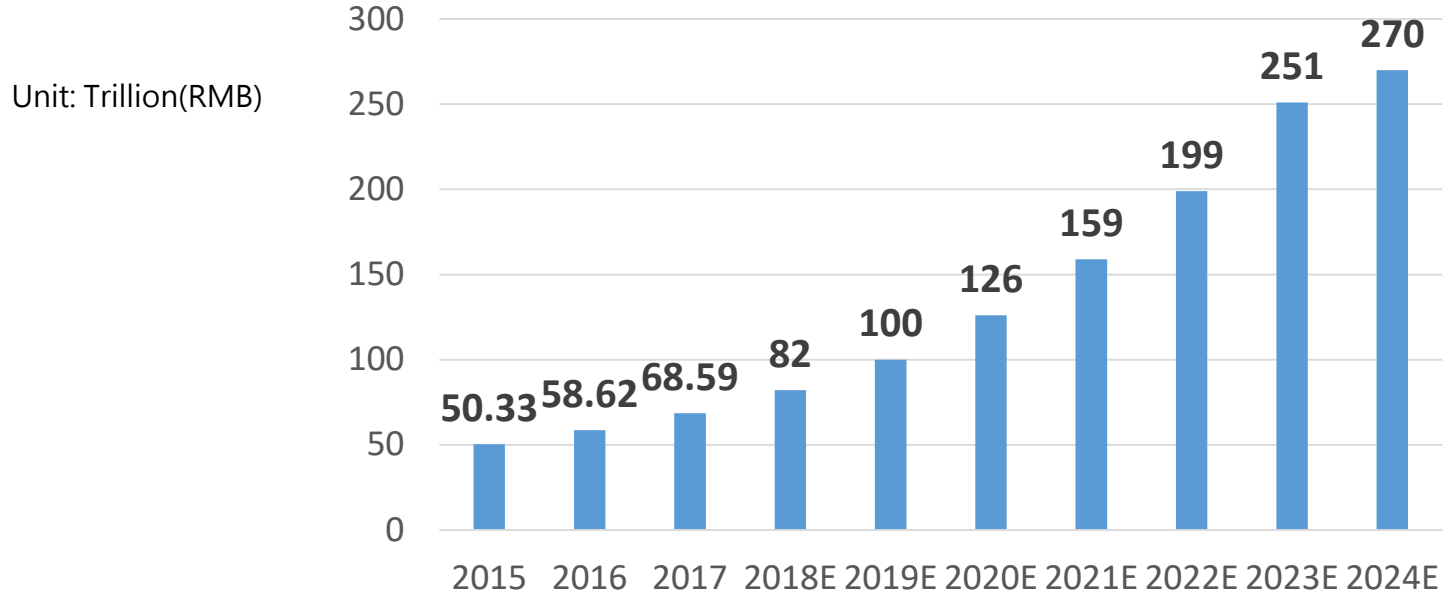


Unit: 100 million (RMB)

Reference: <http://huanbao.bjx.com.cn/news/20190613/986025.shtml>

## Industry Overview

### China's Environmental Policy



### China's smart water market size and forecast

Reference: <https://kknews.cc/finance/oe9nm66.html>



# Operating Strategy

# 04



# Operating Strategy

*Core advantage*



## Operating Strategy

- **S**ustainable
- **M**anageable
- **A**ffordable
- **R**esponsive
- **T**ransparent



- **W**ater/Waste
- **A**eration
- **T**oxics
- **E**nergy
- **R**esources

Bio 、 AI 、 IOT 、 Equipment 、 Integrated

- Taking environmental engineering biotechnology, AI, and IoT as the core of innovation,
- Turning the accumulated knowledge of environmental engineering into growth momentum,
- Committing to upgrading of the environmental industry and creating new value.

# Operating Strategy

**B** Bio  
**A** AI  
**I** IoT  
**E** Equipment  
**I** Integrated



aeration + microorganism + rapid screening + microbial agents



data base + model + expert system



working condition + health check + prediction + Preventive maintenance



Single unit + set + system + sensing



Single unit + Project implementation + service



Microbial control



Optimized system



Operational Intelligence



Equipment with IoT



Integrated service



## Industry-Academy Cooperation

NCKU&GSD water technology R&D center  
 Tongji&GSD microorganism R&D center



## Strategic Cooperation

upstream + cross-industry + downstream partner  
 ex: Advantech

Environmental Steward / Third Party Governance / Operation / Supervision / Investment

# Operating Strategy

The cooperation case of GSD and NCKU wins the Ministry of Science and Technology Special Award



NCKU & GSD  
Water technology R&D Center

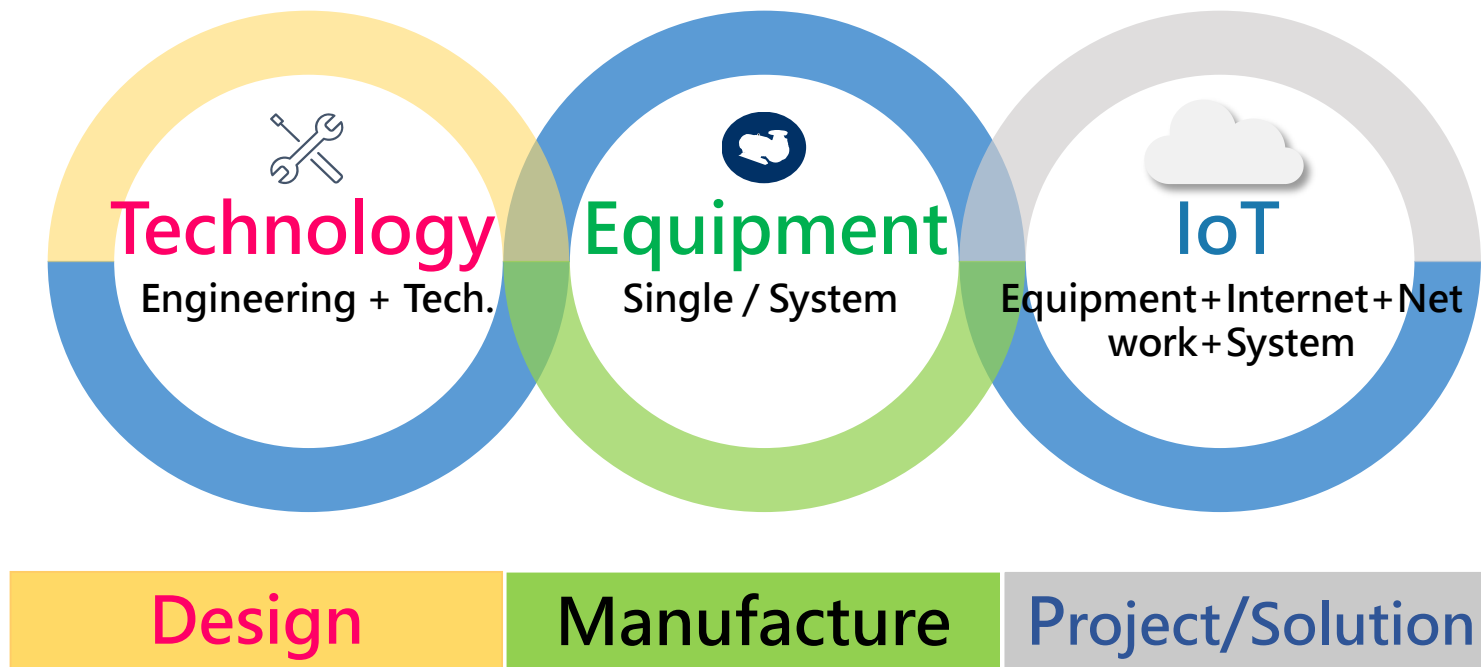


Tongji & GSD  
Microorganism R&D Center

Both sides invest in microbiology-related industry-academic cooperation

# Operating Strategy

*Core advantage*



# Operating Strategy

Core advantage



- Equipment Empowerment
- AloT Process Control



Consultant /  
design company

(Policies and regulations)



Equipment  
supplier

(Function, cost, maintenance)



Operating  
companies

(Cost, benefit, guarantee)



Contractor /  
Constructor

(Technology, competitiveness and service capability)



(Supervision, benefit)

# Operating Strategy

AIoT

## Water Resources AIoT Management Platform



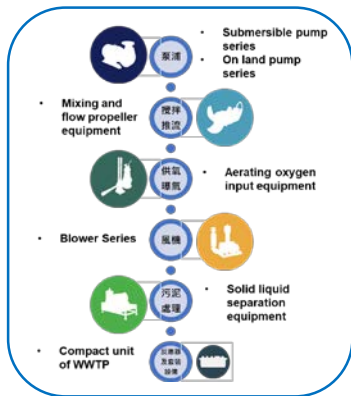
# Operating Strategy

*AloT*

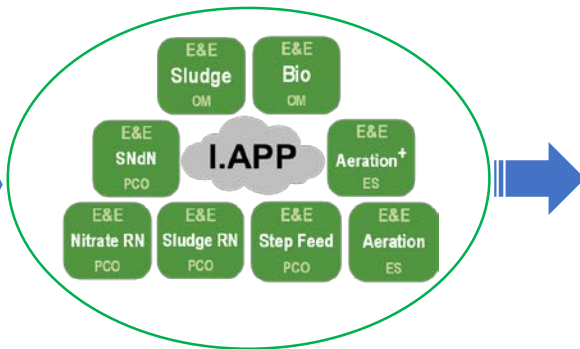
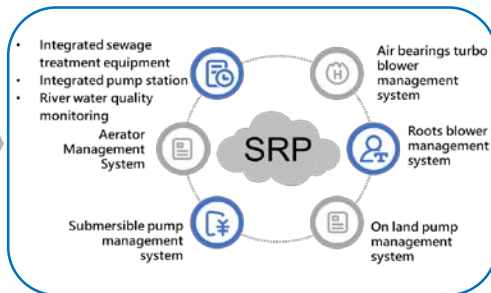
Equipment Empowerment



AloT Process Control



Equipment Management System



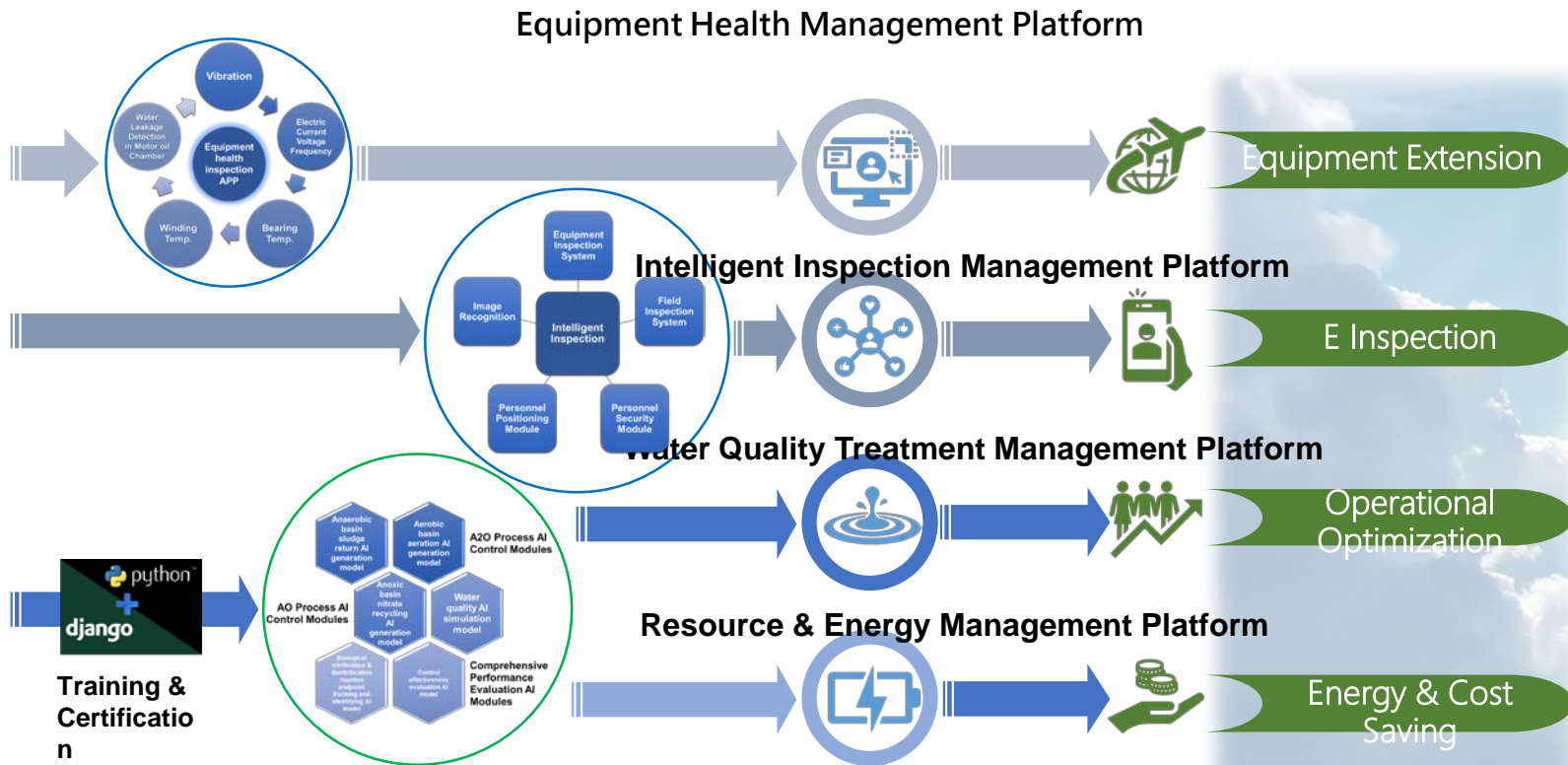
Intelligent Process Monitoring & Control Modules





# Operating Strategy

*AIoT*



# Operating Strategy

## Blower room of Tainan technology industrial zone



# "Xia Baxian Pumping Station" Drowned and died



TVBS News Network

46k people following

track

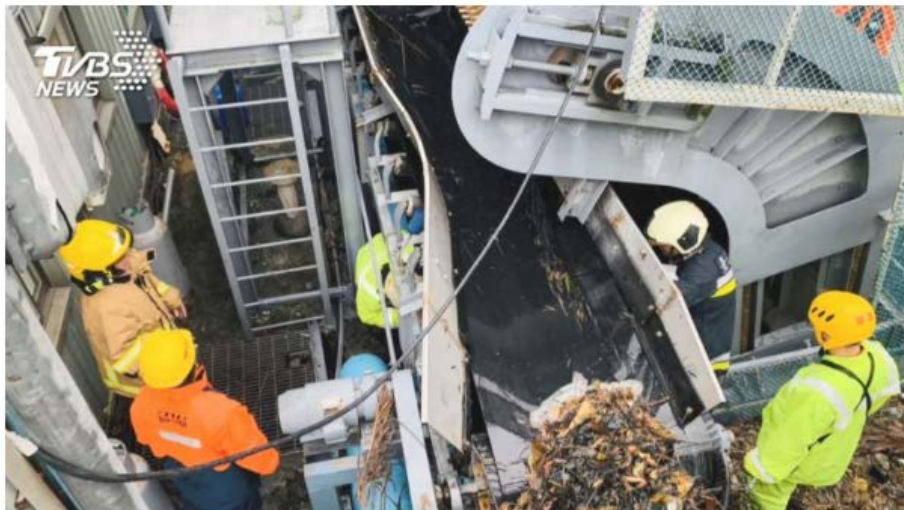
Li Caiying, Chen Shuxian, Liao Wenhan

August 4, 2020 at 10:37 am

2 comments



Typhoon Hagby caused many accidents. The Xiabaxian Pumping Station in Beitou, Taipei City today (8/3) afternoon, the staff of the Water Conservancy Department went down to dredge. They were suspected of drowning and losing contact. They had lost signs of life when they found people. In Taichung, it was suspected that the road was slippery in the rain. A male college student skidded on his bike and collided with a bus. He fell to the ground on the spot and was sent to a doctor and died.



Picture/TVBS

The personal safety issue  
of inspectors

資料來源：

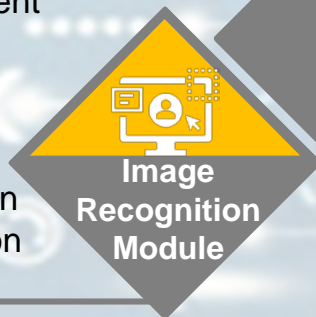
<https://tw.news.yahoo.com/%E4%B8%8B%E5%85%AB%E4%BB%99%E6%8A%BD%E6%B0%B4%E7%AB%99-%E6%B8%85%E6%B7%A4-%E6%B0%B4%E5%88%A9%E8%99%95%E6%8A%80%E5%B7%A5%E6%BA%BA%E6%B0%B4%E6%AE%89%E8%81%B7-151920742.html>

# *E Inspection*

- Real-time operation information capture
- Real-time measurement, analysis and diagnosis
- Diagnostic report management



- Mobile QR code login
- Flexible checklist settings
- Real-time progress feedback



- Face recognition
- Safety protection equipment identification
- Hanging object identification
- Recognition of other unsafe actions



- GPS satellite positioning
- iBeacon triangulation
- AI KNN nearest neighbor positioning



- Faint judgment
- Inactivity alert
- Fall judgment
- Fall alert
- Distress alert

- ❖ Accurate detection failure factors hidden to arrange preventive maintenance in advance.
- ❖ Patrol inspection no longer just pass, but patrol according to items scanned.
- ❖ Precise positioning, toxic gas detection and safety risk control throughout full process to ensure personnel safety.
- ❖ Identification of identity/object/unsafe actions for quick detection of risk warnings.



# Operation optimization + energy/cost saving

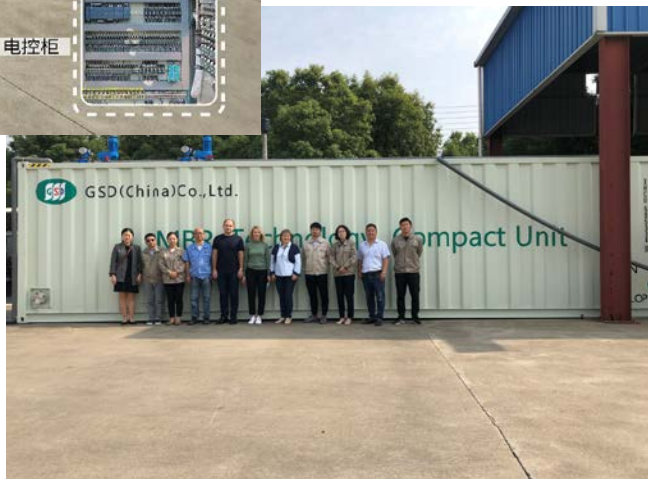


## Case



Intelligent Compact  
Unit Reactor for WWTP

Suitable for: urban and rural  
domestic sewage,  
General industrial wastewater  
and black & smelly rivers.



# Equipment life extension

Case

## Mobile Pumping Truck



# Operation optimization

## Case

### Pump Station in Linkou WWTP

設備管理系統  
Supervise and Control System

即時數據  
平面圖  
總覽  
設備狀態

數據分析  
警報查詢  
警報統計  
趨勢圖  
匯出報表  
手動回補資料  
帳號紀錄

設定  
設備參數設定  
管理項目設定  
通訊設定  
權限設定  
Mail設定  
簡訊購設定  
Line/WeChat設定  
其他設定

聯絡方式  
關於

登出

揚水站P07

揚水站P07  
EC  
Read..  
uS/cm

揚水站P07  
OFF  
自動

揚水站P07  
OFF  
自動

揚水站P07  
OFF  
自動

揚水站P07  
H  
OFF  
自動

揚水站P07  
PH  
Read..  
Hz

揚水站P07  
OFF  
自動

揚水站P07  
OFF  
自動

揚水站P07  
OFF  
自動

揚水站P07  
L  
ON

揚水站P07  
LL  
ON

揚水站P07  
OFF  
自動

揚水站P07  
OFF  
手動

揚水站P07  
OFF  
手動

揚水站P07  
OFF  
手動

揚水站P07

新增地點  
修改地點  
刪除地點  
匯出地點  
匯入地點  
進入編輯模式

v1.22 (2020/07/29)

# Equipment life extension

## Case





# Equipment life extension



## Case

### Problem Description

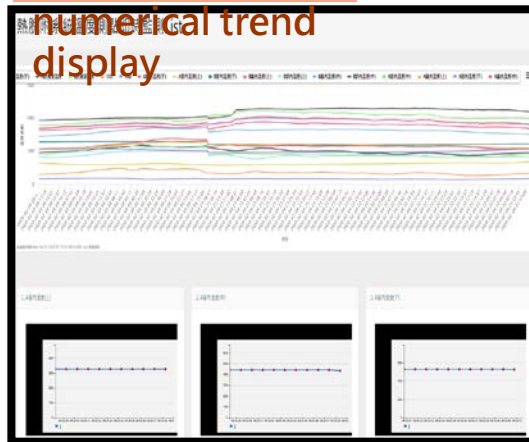
Before the introduction of intelligent thermal desorption equipment, the owner controls the fire rate and feeding time according to experience, which results in great energy consumption (oil consumption), and the treatment effect may not meet the treatment standard.

### After applying GSD solution

Through the customized platform, online intelligent remote control can be realized, and the efficiency and yield rate are improved.

### Real-time

### numerical trend display



### Best operating

### recommendation



### Energy

### consumption analysis



## Reclaimed water

## Case

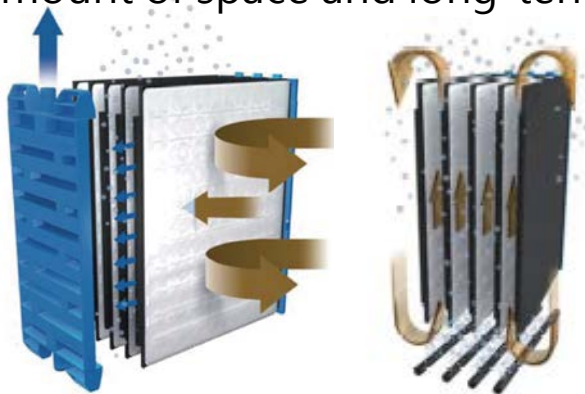
### Linyuan Factory in Kaohsiung

#### Expansion of existing sewage treatment plant

On the basis of the original sewage plant, a new recovery system was added.  
It can handle 800 tons/day

#### Benefit

After installing the GSD's MBR (membrane bioreactor) module, sewage can be efficiently treated in the original space, eliminating the traditional need for a large amount of space and long-term maintenance costs.



## *Investment Plan*

Invest Taiwan



Moving forward to  
Southeast Asia



# Disclaimer

- This presentation is a summary and assessment of the past, present and future operations of our company at the time of the presentation. It contains forward looking statements that will be affected by risks, uncertainties and inferences, some of which will partially beyond our control. The actual conclusions may differ greatly from these forward-looking statements.
- The information provided (including views on the future) does not express or imply that it is correct, complete and reliable ; nor does it represent a complete exposition of the company, the state of the industry and the subsequent major developments.
- The expectation for the future in this presentation reflects our company's view so far. If there is any change or adjustment, our company is not responsible for reminding and updating at any time.

# Thank you !