



GSD Technologies Co.,Ltd.

Stock Code :6641

Company Presentation

2020.10



GREEN · SAFE · DEVELOPMENT

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Company Profile

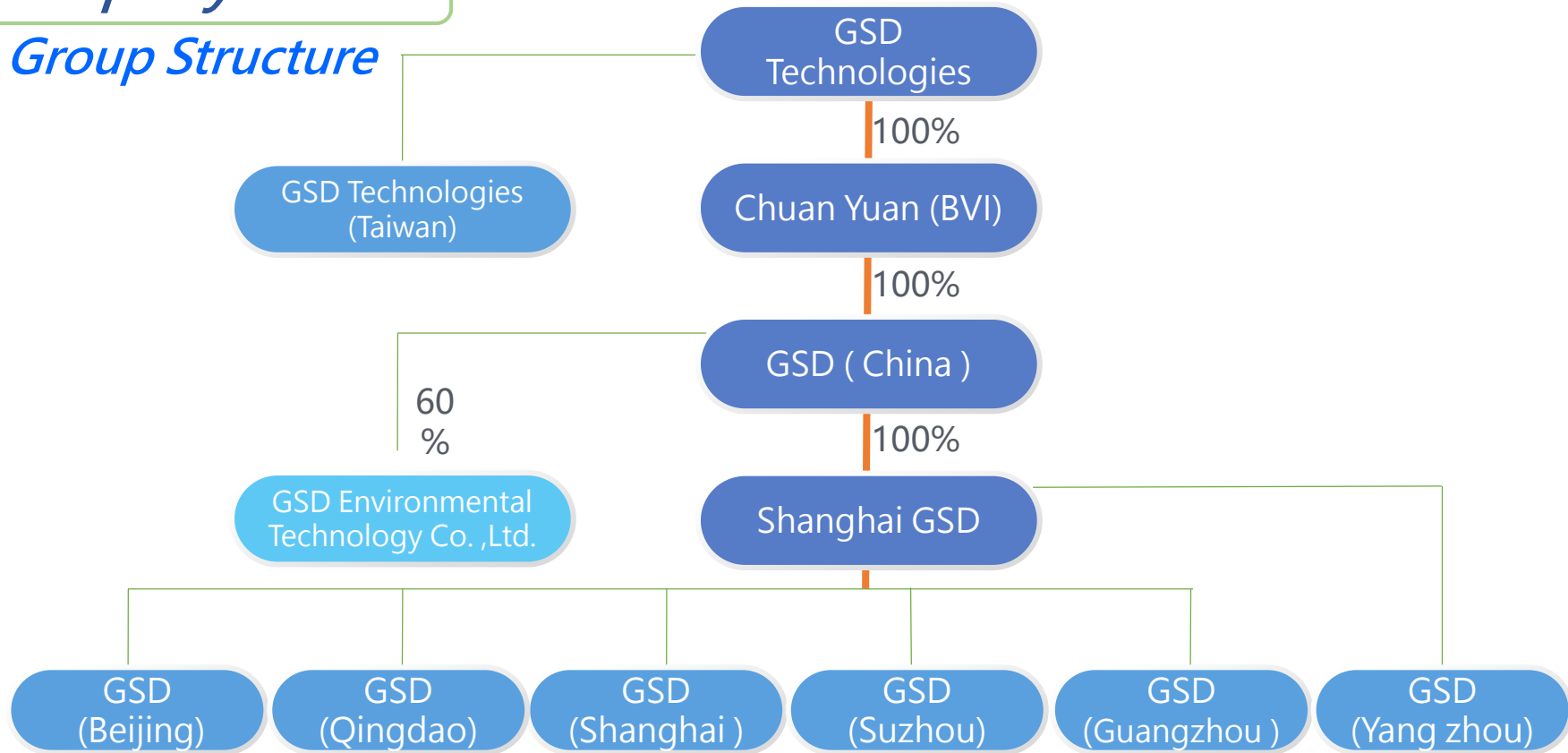
01

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 (Zhejiang) & Yangzhou (Jiangsu)
Staffs	◆ 556 employees (2020.09)

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

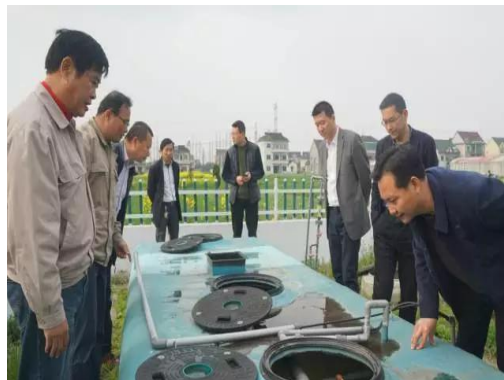
A promise to keep company developing for staffs, stockholders and society.

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 .

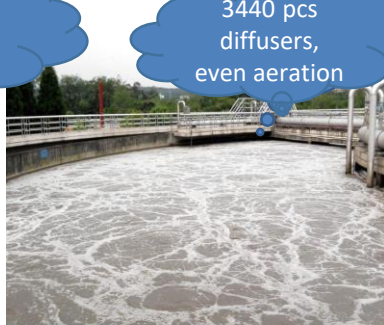
Company Profile

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%**



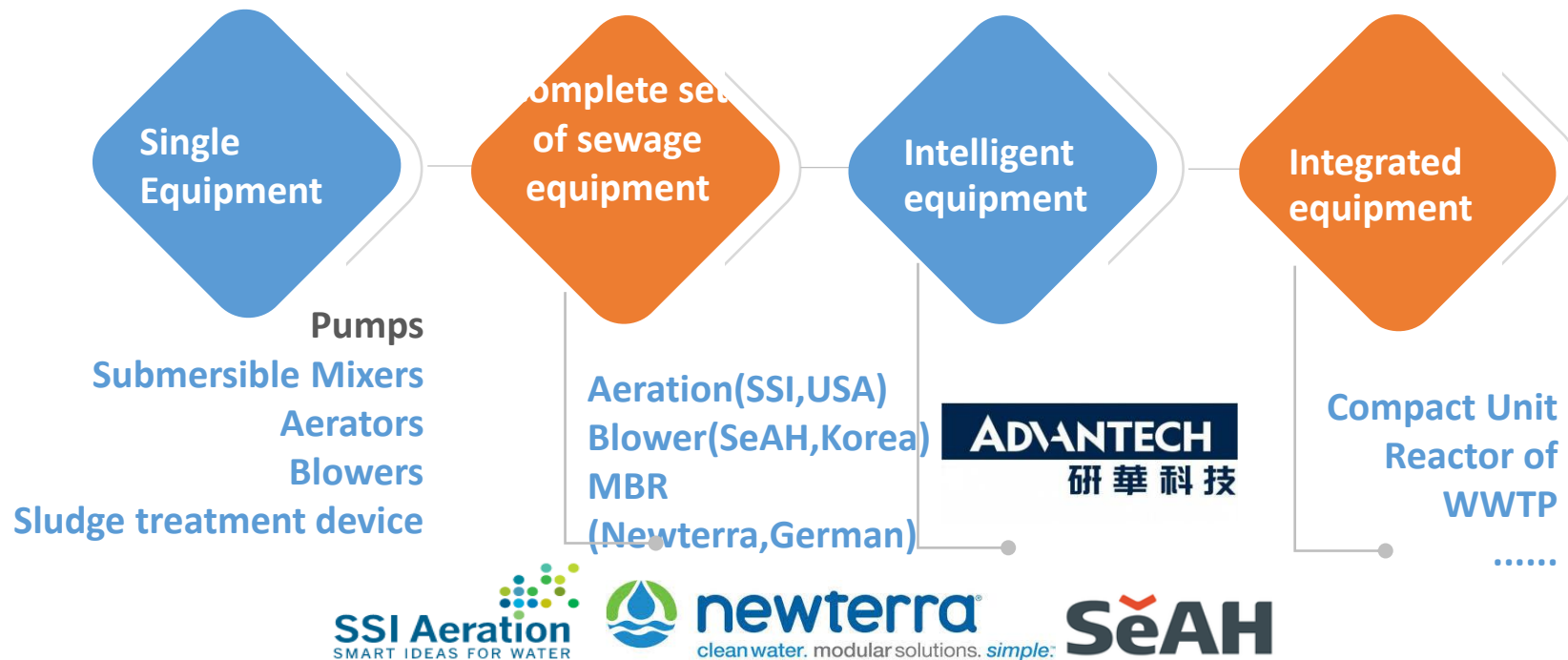
Customized matching design reduces 4kw motor power.



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.

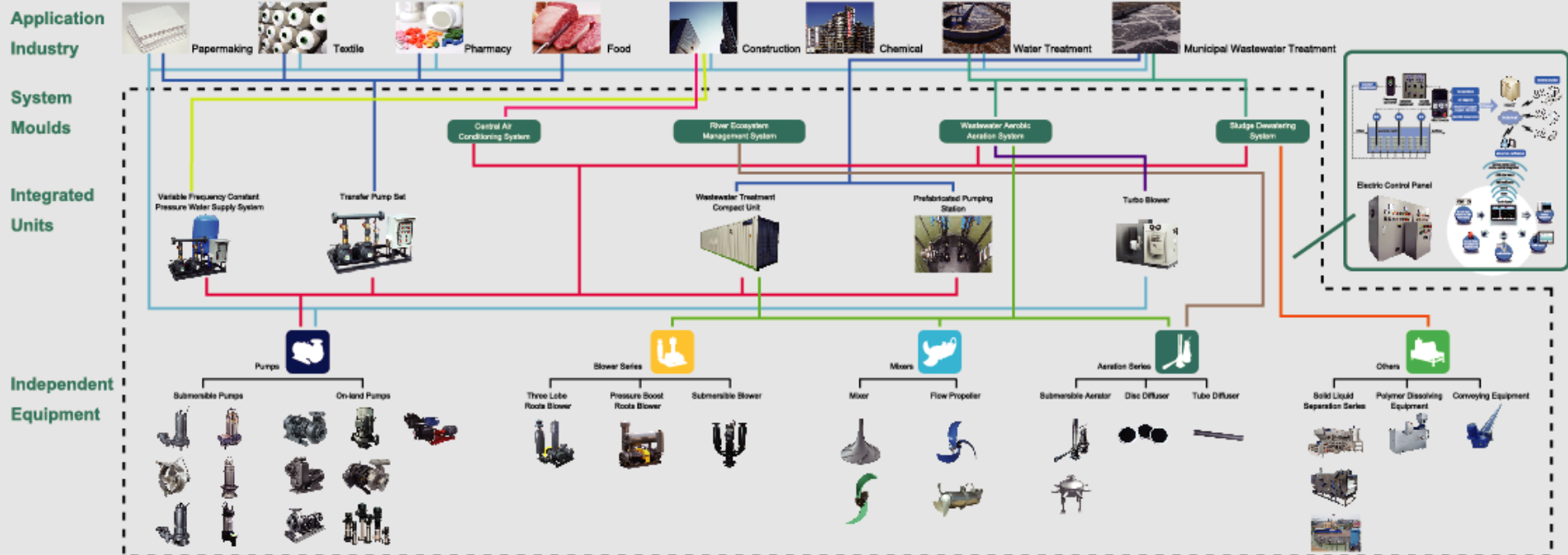
Company Profile

Product Scope



Company Profile

Product Scope & Application



Company Profile

Invest TAIWAN



GSD Technologies (Taiwan)
was established in 2019.



NCKU&GSD Water Technology R&D
Center was established in 2019.

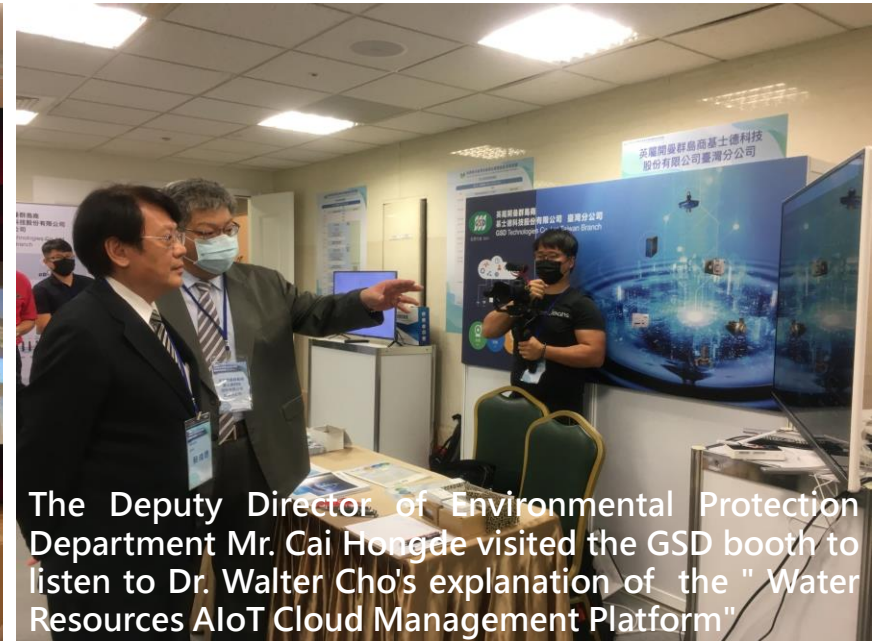
Company Profile

*International Conference & Exhibition
2020.07.30-31*

Organizer: Environmental Protection Administration, Executive Yuan

Location: Taipei Evergreen International Convention Center

Topic: Joint Efforts to Reduce Pollution & Create Sustainability



The Deputy Director of Environmental Protection Department Mr. Cai Hongde visited the GSD booth to listen to Dr. Walter Cho's explanation of the "Water Resources AIoT Cloud Management Platform"

Company Profile

International Conference & Exhibition
2020.08.27

Organizer: Construction & Planning Agency Ministry of the Interior

Location: Taipei Evergreen International Convention Center

Topic: Comprehensive Start-Perspective Sewage Sewer Smart Management Forum



Mr. Wu Xinxiu, director of the Construction Department of the Ministry of the Interior (left), listens to the introduction of the application of intelligent water resources IOT cloud management platform by manager Liu Jilin of GSD (right).

Organizer: GSD & Advantech

Location: Kaohsiung Metal Industries Research & Development Centre

Topic: Smart Factory New Blue Ocean, Intelligent Plant Innovation & Application



Most of the guests were well-known enterprises in the south area of Taiwan. Through the "AIoT cloud management platform for water resources" and online digitization, GSD achieves in the digitalization of sewage water treatment were presented.

Company Profile



台灣國際水週
Taiwan International Water Week

2020.09.24-26

Organizer: Taiwan External Trade Development Council

Location: Taipei World Trade Center

Topic: Taiwan International Water Week (TIWW)



Combined with the digital technology of environmental engineering in water treatment and AI fields, GSD exhibited 3 major themes: Intelligent water system, MBR membrane and E-inspection.





Operating Performance

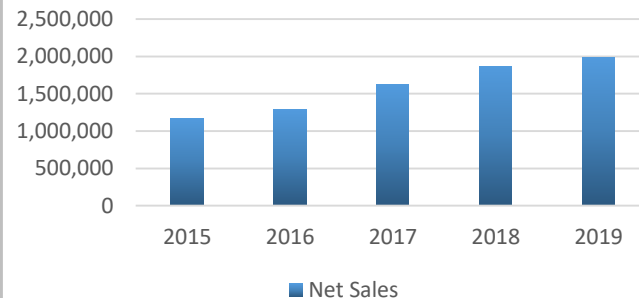
02

Operating Performance

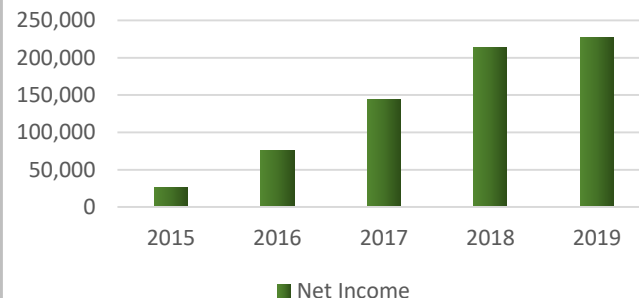
Consolidated income statement

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

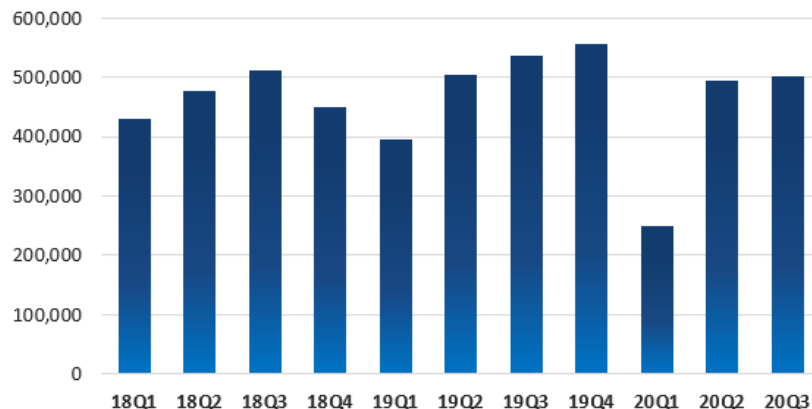


Operating Performance

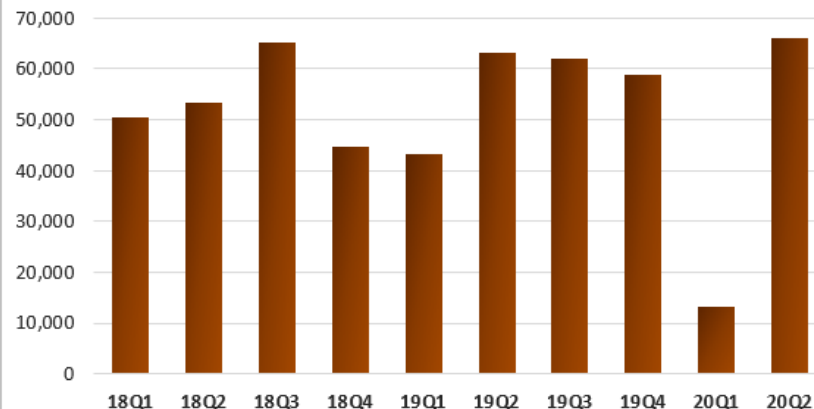
Consolidated income statement

Items	2018Q1	2018Q2	2018Q3	2018Q4	2019Q1	2019Q2	2019Q3	2019Q4	2020Q1	2020Q2	2020Q3
Net Sales	430,567	476,365	510,410	450,297	394,512	505,098	535,690	556,751	248,663	493,929	501,031
Sales margin	170,020	188,768	205,466	175,038	152,536	200,285	201,412	216,860	99,188	207,187	in Process
Op. Income	61,625	68,843	81,024	52,150	43,969	66,249	68,149	62,165	9,338	83,944	in Process
EBIT	67,496	72,644	83,817	56,542	55,620	81,035	79,788	66,188	17,589	91,686	in Process
Net income	50,561	53,214	65,101	44,796	43,230	63,256	61,927	58,741	13,171	65,935	in Process

Net Sales

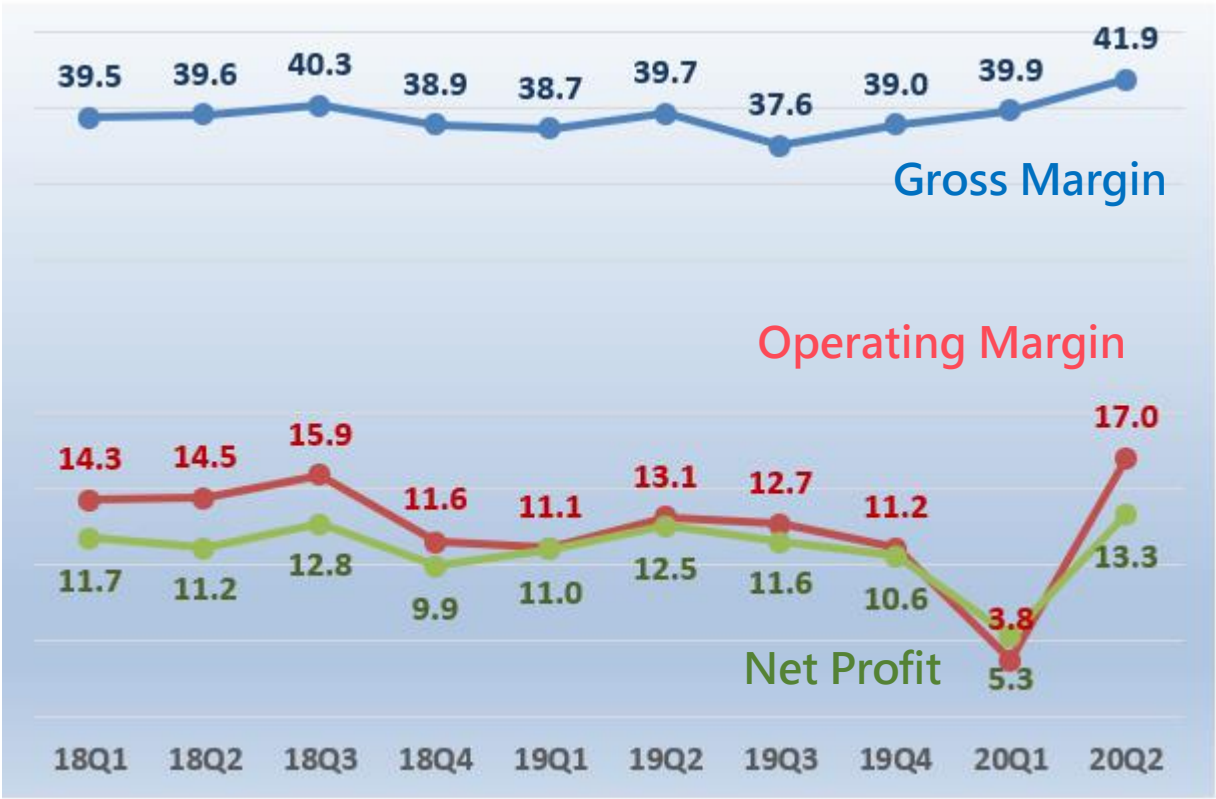


Net Income



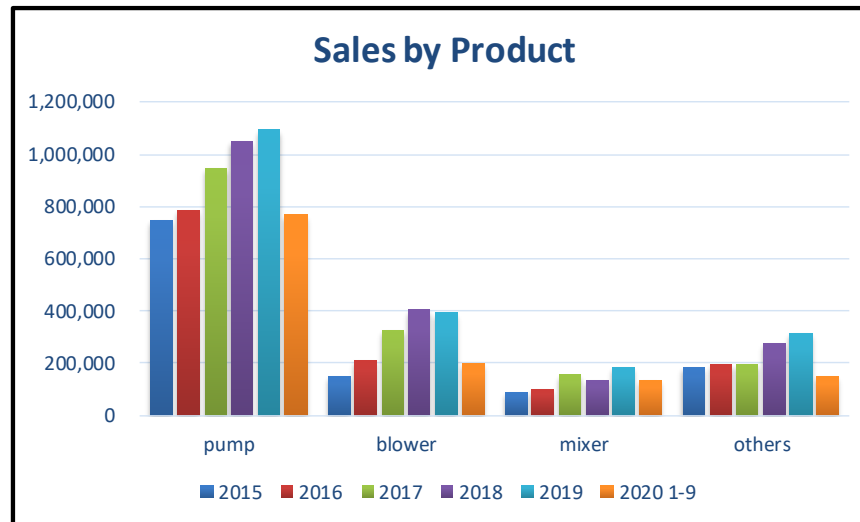
Operating Performance

Profitability



Operating Performance

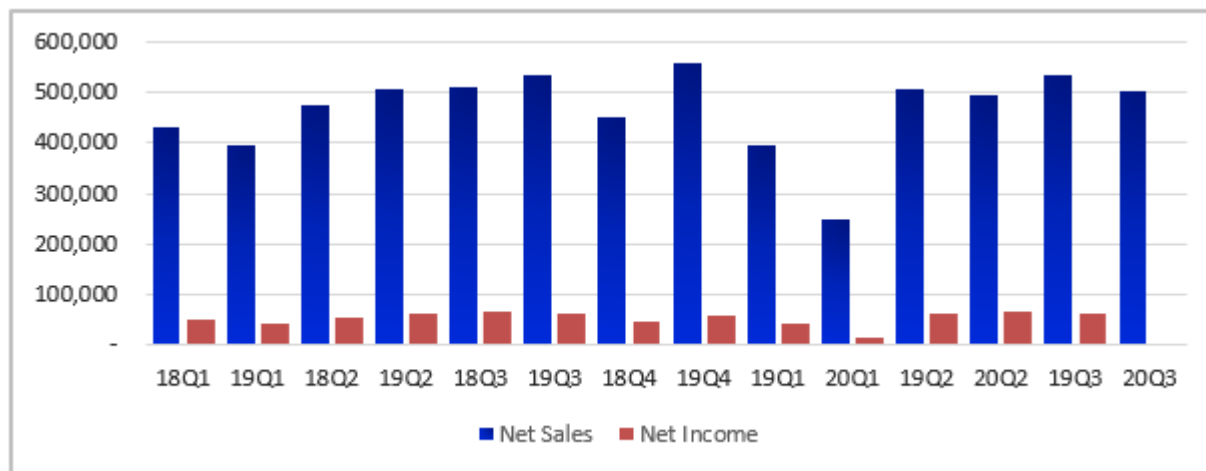
Revenue by products



item	2015		2016		2017		2018		2019		2020 1-9	
	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	767,213	61.69
blower	152,522	13.02	211,701	16.40	327,277	20.17	406,255	21.75	395,382	19.85	197,419	15.87
mixer	87,466	7.47	98,067	7.60	153,279	9.45	133,092	7.13	182,604	9.17	131,179	10.55
others	185,630	15.85	193,346	14.97	196,332	12.09	276,868	14.82	317,016	15.91	147,812	11.89
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	1,243,623	100.00

Operating Performance

Consolidated income statement

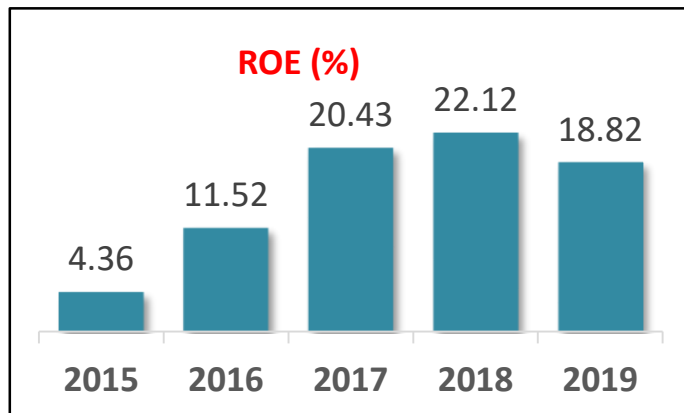


Items	18Q1	19Q1	18Q2	19Q2	18Q3	19Q3	18Q4	19Q4	19Q1	20Q1	19Q2	20Q2	19Q3	20Q3
Revenue	430,567	394,512	476,365	505,098	510,410	535,690	450,297	556,751	394,512	248,663	505,098	493,929	535,690	501,031
Net Income	50,561	43,230	53,214	63,256	65,101	61,927	65,101	58,741	43,230	13,171	63,256	65,935	61,927	in Process

Currency	2018	2019	Difference	2019Q3	2020Q3	Difference
NTD/CNY	4.56	4.472	-1.93%	4.52	4.259	-5.77%

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

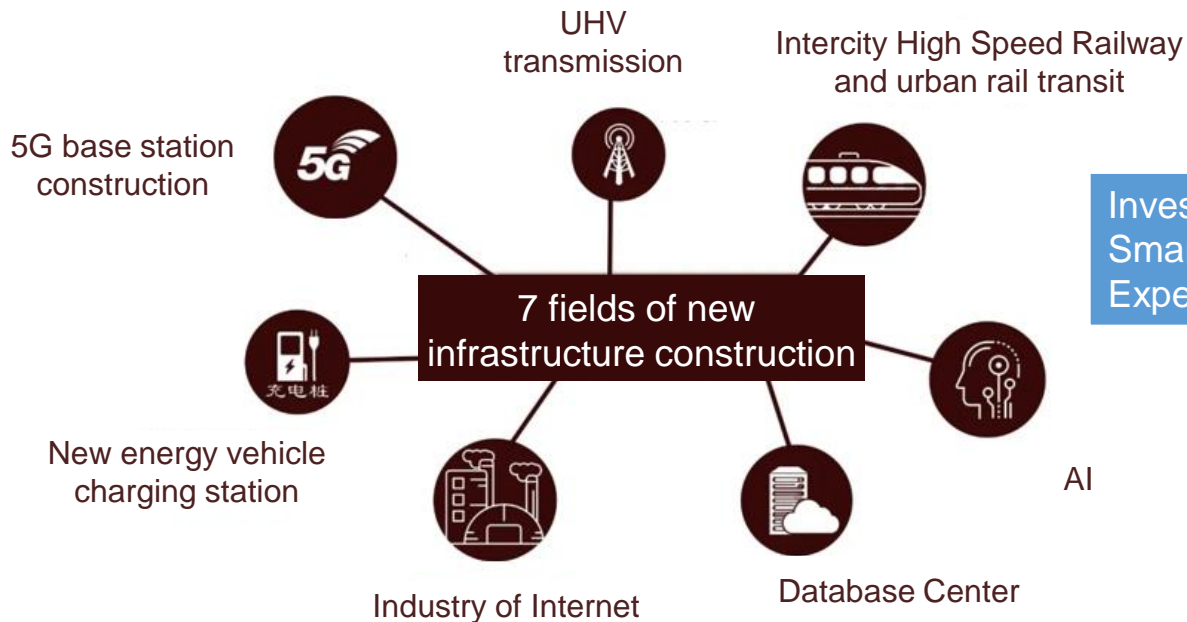
China's Environmental Policy

2011-2015	2016-2020	2021-2025	2026-2030	2030~
	Ten Water Phase I	Ten Water Phase II		Ten Water Phase III
	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.
Twelfth Five	Thirteenth Five	Fourteenth Five	Fifteenth Five	
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



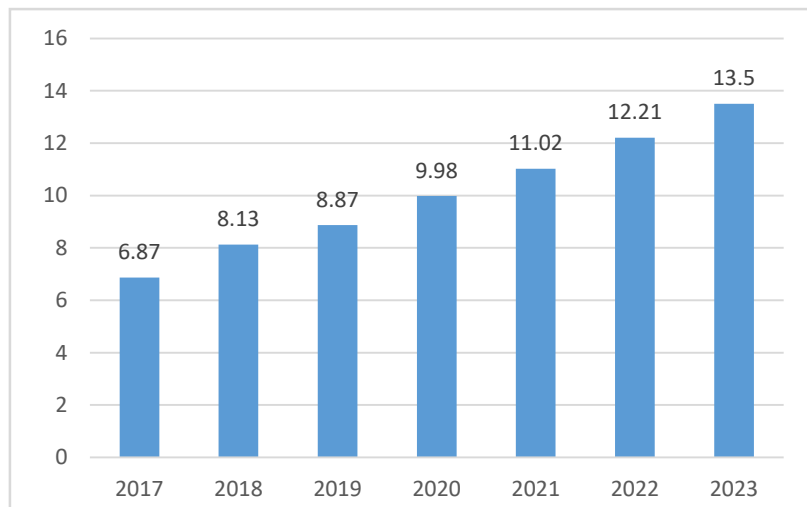
Industrial changes after covid-19

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

Industry Overview

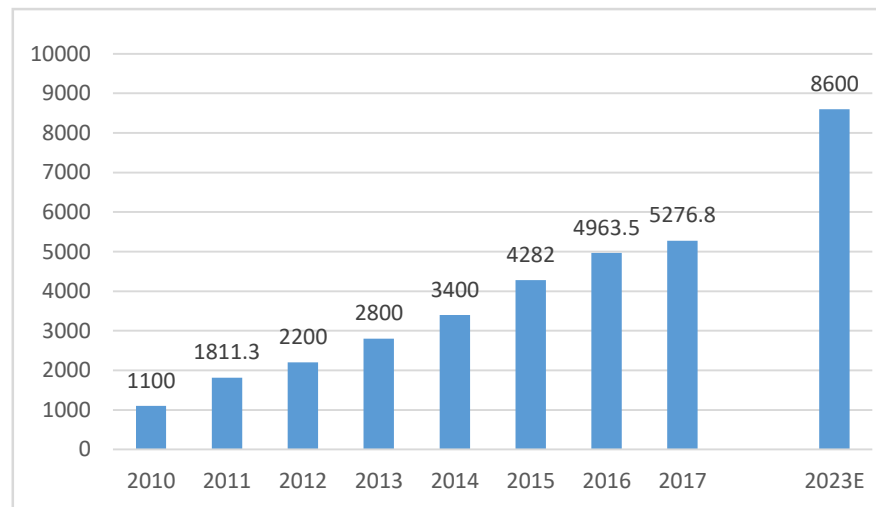
China's Environmental Policy

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



Unit: Trillion(RMB)

2010-2023 China's water industry market size

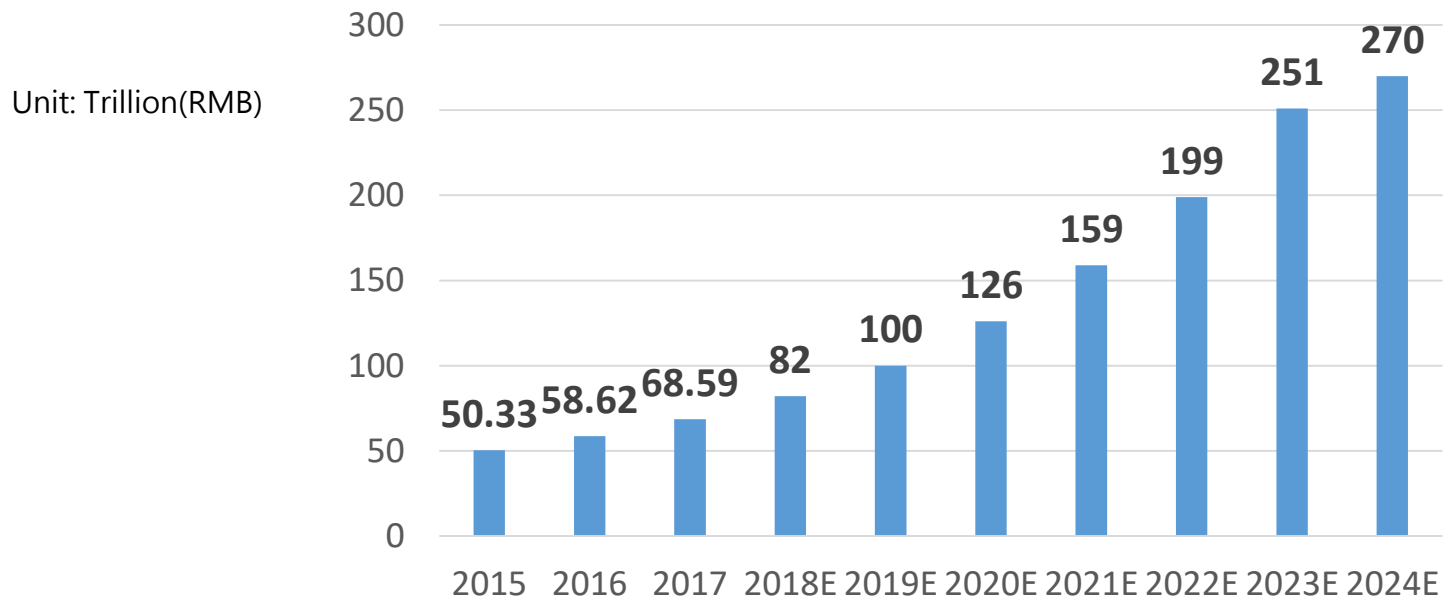


Unit: 100 million (RMB)

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

Industry Overview

China's Environmental Policy



China 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

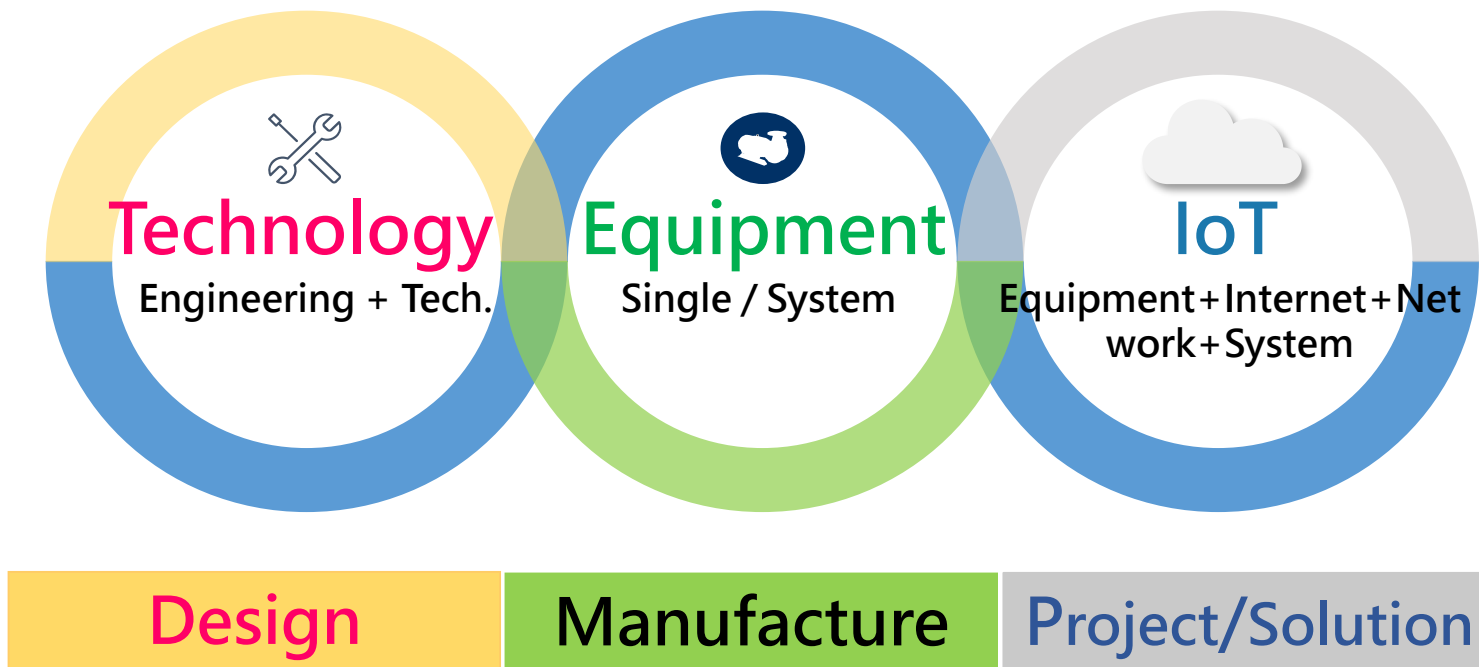


Tongji & GSD
Microorganism R&D Center

Both sides invest in microbiology-related industry-academic cooperation

Operating Strategy

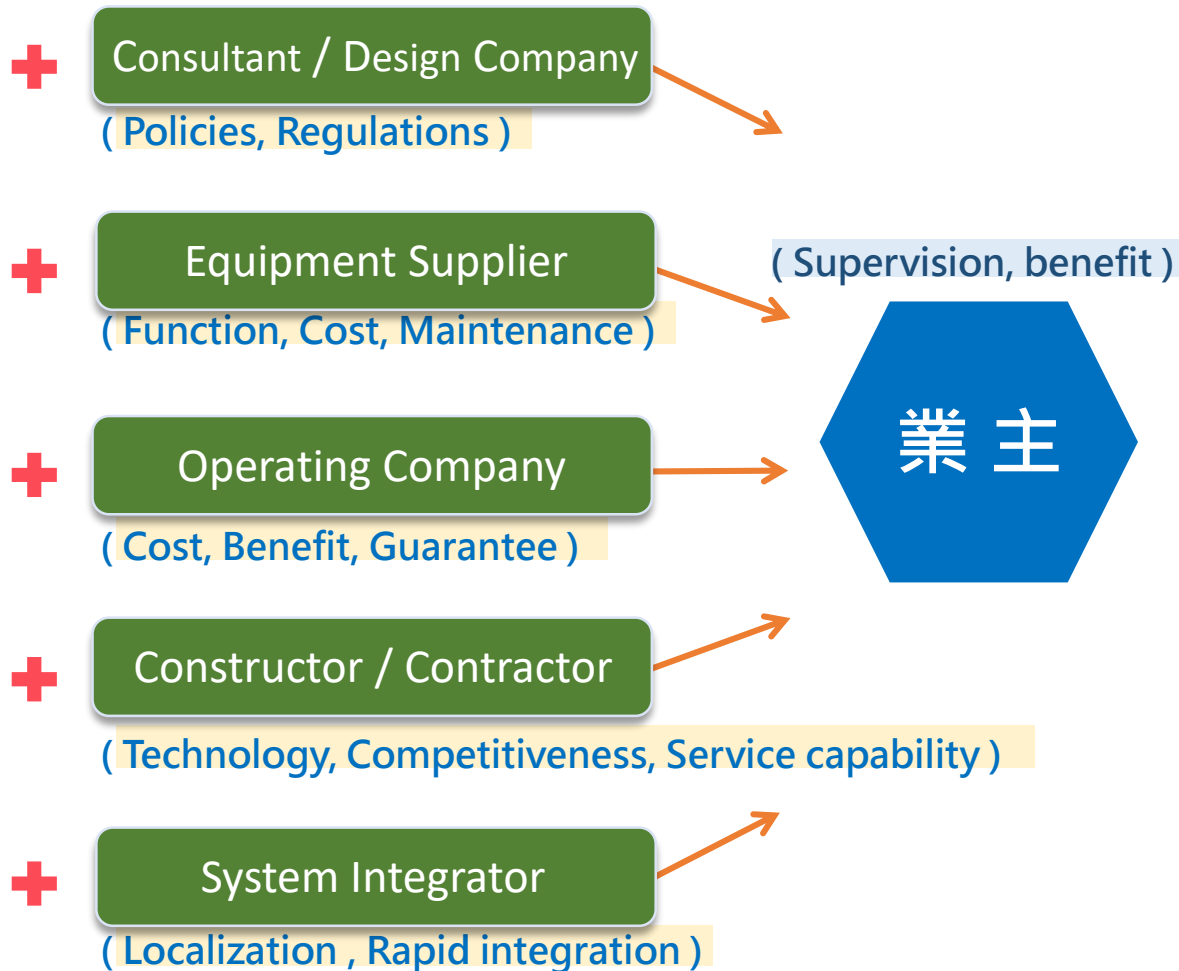
Core advantage



核心技術



- Equipment Empowerment
- AIoT Process Control



Operating Strategy

AIoT

Water Resources AIoT Management Platform



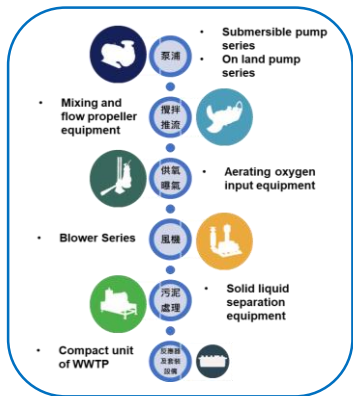
Operating Strategy

AIoTT

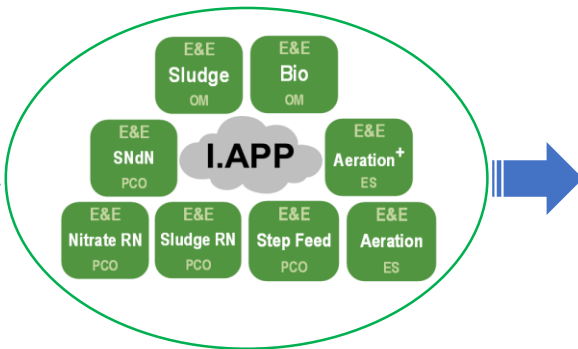
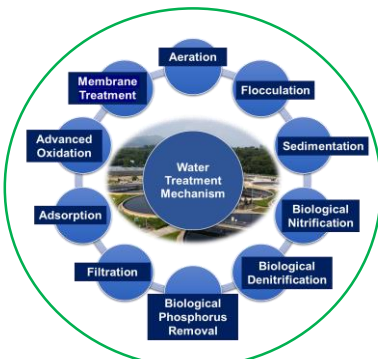
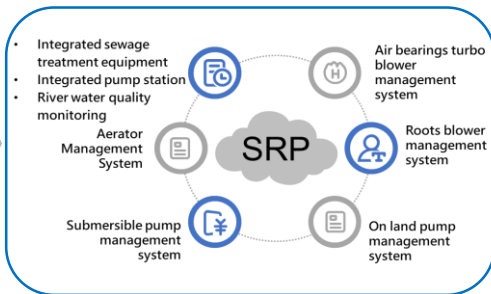
Equipment Empowerment



AIoT Process Control



Equipment Management System

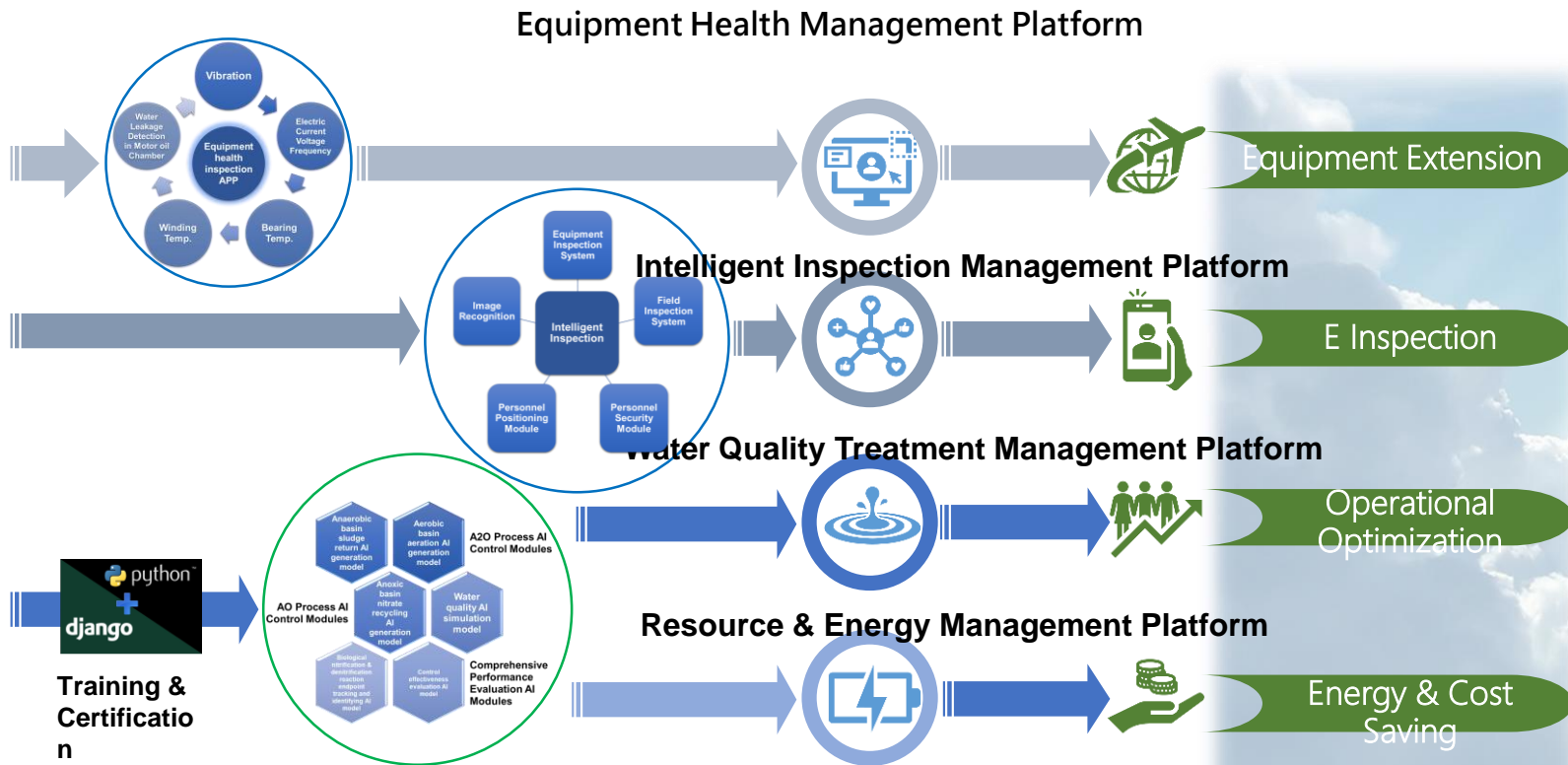


Intelligent Process Monitoring & Control Modules



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

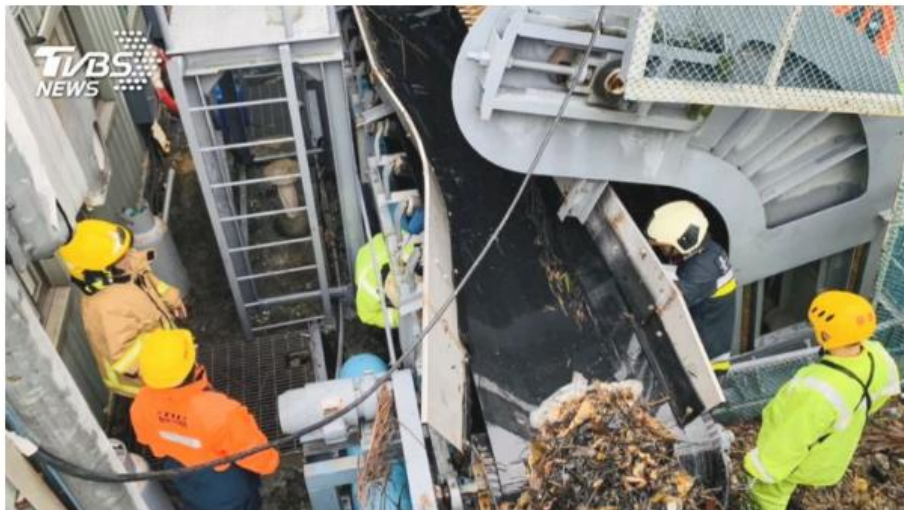
Li Caiying, Chen Shuxian, Liao Wenhan

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：

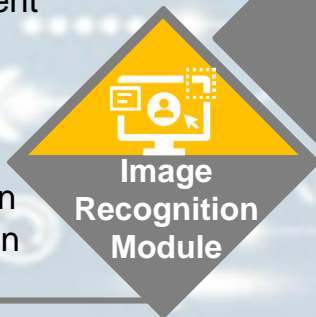
<https://tw.news.yahoo.com/%E4%B8%8B%E5%85%AB%E4%BB%99%E6%8A%BD%E6%B0%B4%E7%AB%99-%E6%B8%85%E6%B7%A4-%E6%B0%B4%E5%88%A9%E8%99%95%E6%8A%80%E5%B7%A5%E6%BA%BA%E6%B0%B4%E6%AE%89%E8%81%B7-151920742.html>

E Inspection

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



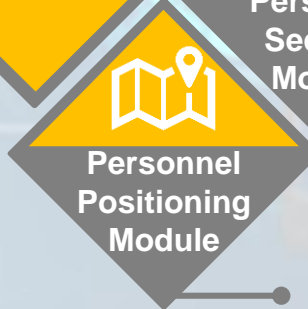
- Mobile QR code login
- Flexible checklist settings
- Real-time progress feedback



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



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



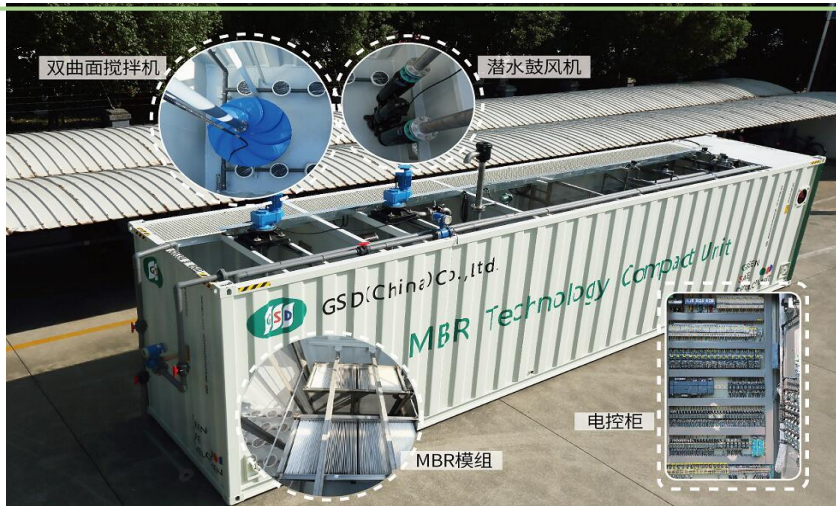
- GPS satellite positioning
- iBeacon triangulation
- AI KNN nearest neighbor positioning

- ❖ 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

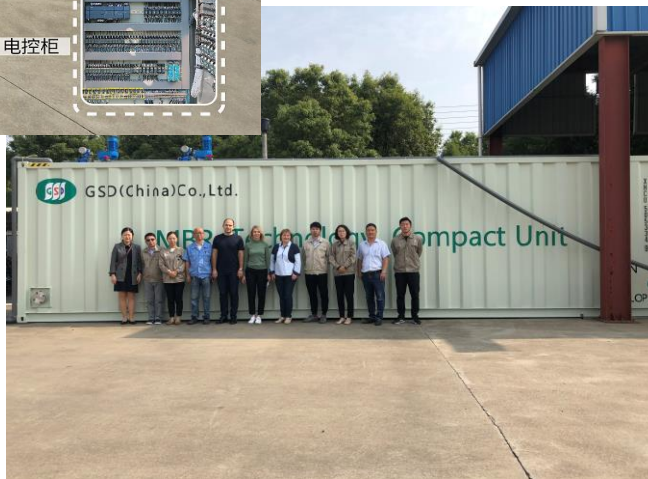


Case



Intelligent Compact
Unit Reactor for WWTP

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





Case



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
HHH
OFF

揚水站P07
HH
OFF

揚水站P07
H
OFF

揚水站P07
L
ON

揚水站P07
LL
ON

揚水站P07
EC
Read..
uS/cm

揚水站P07
變頻器3啟停控制
OFF
自動

揚水站P07
變頻器3頻率
0.0
Hz

揚水站P07
變頻器3頻率45/60Hz
OFF
自動

揚水站P07
變頻器3頻率55/60Hz
OFF
自動

揚水站P07
變頻器2啟停控制
OFF
自動

揚水站P07
變頻器2頻率
0.0
Hz

揚水站P07
變頻器2頻率45/60Hz
OFF
自動

揚水站P07
變頻器2頻率55/60Hz
OFF
自動

揚水站P07
變頻器1頻率
0.0
Hz

揚水站P07
變頻器1頻率45/60Hz
OFF
手動

揚水站P07
變頻器1頻率55/60Hz
OFF
手動

揚水站P07

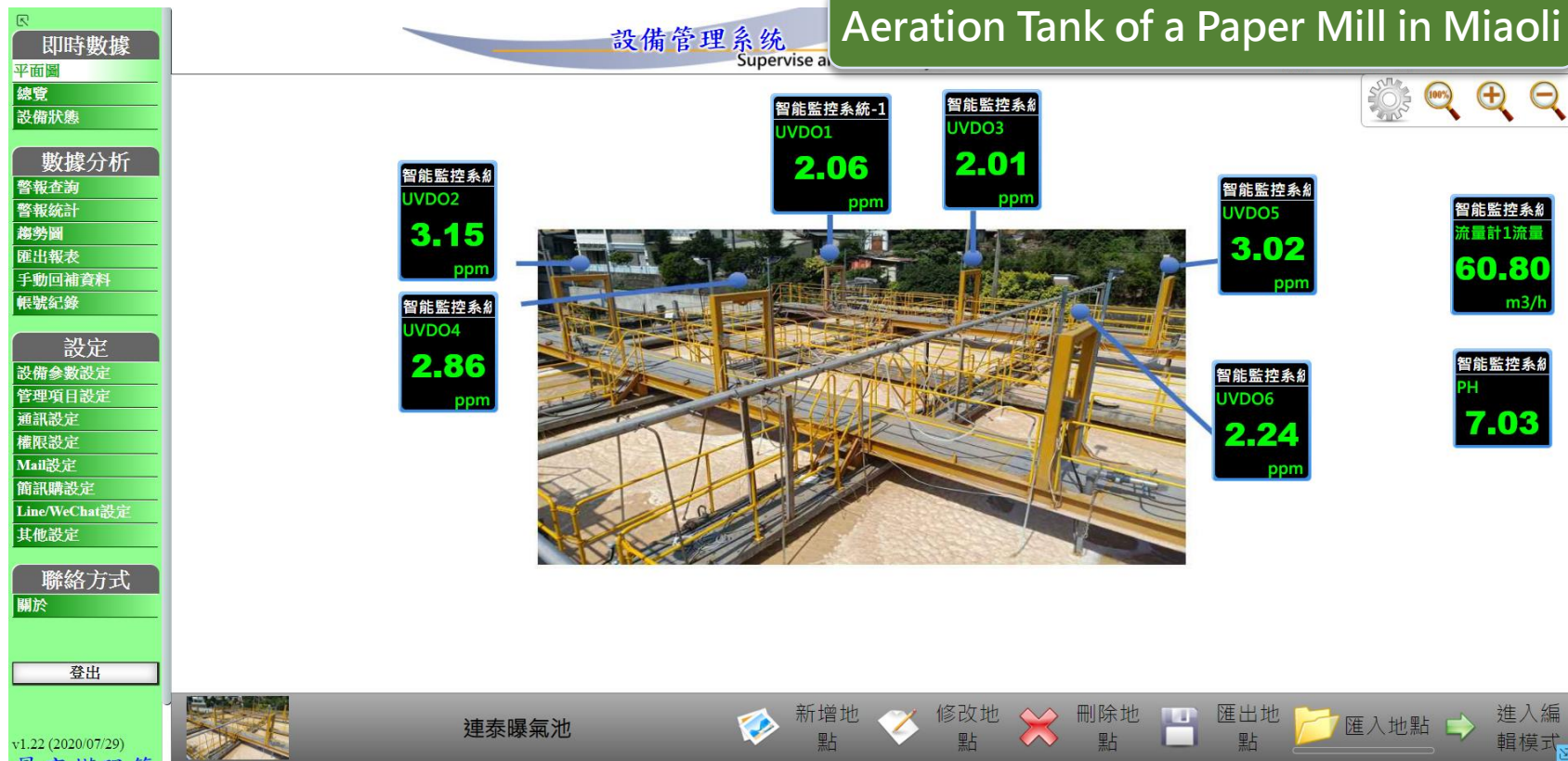
新增地點
修改地點
刪除地點
匯出地點
匯入地點
進入編輯模式

v1.22 (2020/07/29)

Equipment life extension

Case

Aeration Tank of a Paper Mill in Miaoli



Equipment life extension

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.



Soil Thermal Desorption

Real-time numerical trend display



Best operating recommendation



Energy consumption analysis



Reclaimed water

Case

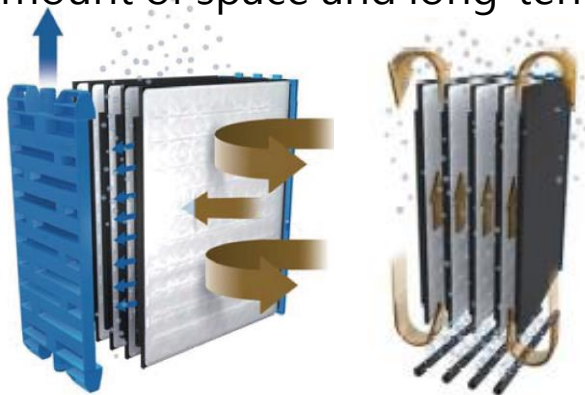
Linyuan Factory in Kaohsiung

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

Based on China

Focus on..
Production Capacity,
Product Development

- ◆ Pinghu II plant construction
- ◆ Yangzhou plant construction



Invest Taiwan

Focus on..
Strengthening
Competitiveness

- ◆ AIoT
- ◆ Equipment Factory
- ◆ Engineering Consultant
- ◆ Operating Company
- ◆ Circular economy



Invest Southeast Asia

Focus on..
Market Expanding

- ◆ Short-term: Building Channel
- ◆ Long-term: Capacity Development
- ◆ Method: Integrating Taiwan Resources .

Cooperate with diversified investment and plan to SPO in 2021

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 !