



EMC Co.,Ltd Company Profile



The solution of Water Quality Monitoring

EMC, Imagine Greater!

Imagine the future

Creating a better water quality environment and We will continue developing while imagining a future in which everyone can enjoy happiness.

Promise to always be sincere

We will sincerely do our best to realize the vision of users based on high technology.

Customer comes first

We will put our customers first, keep our trust, and repay you with the best quality.

We promise to satisfy the various needs of our customers and realize economic benefits.





Business performance | EMC Vision | Market Prospect

EMC moves forward with a goal



Business Areas | Projects | Products

EMC provides a total solution for the water pollutant automatic monitoring

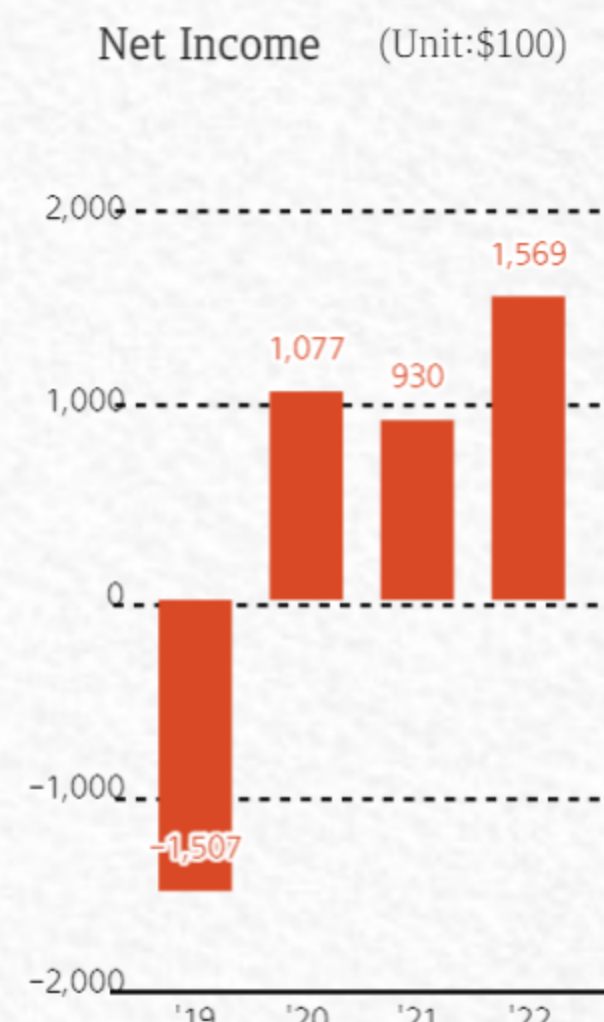
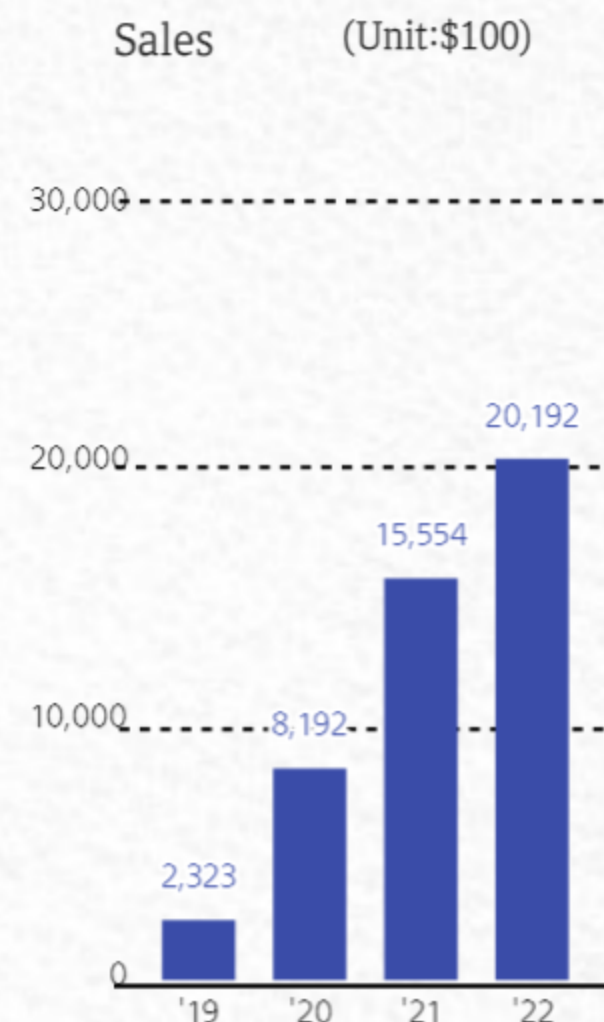
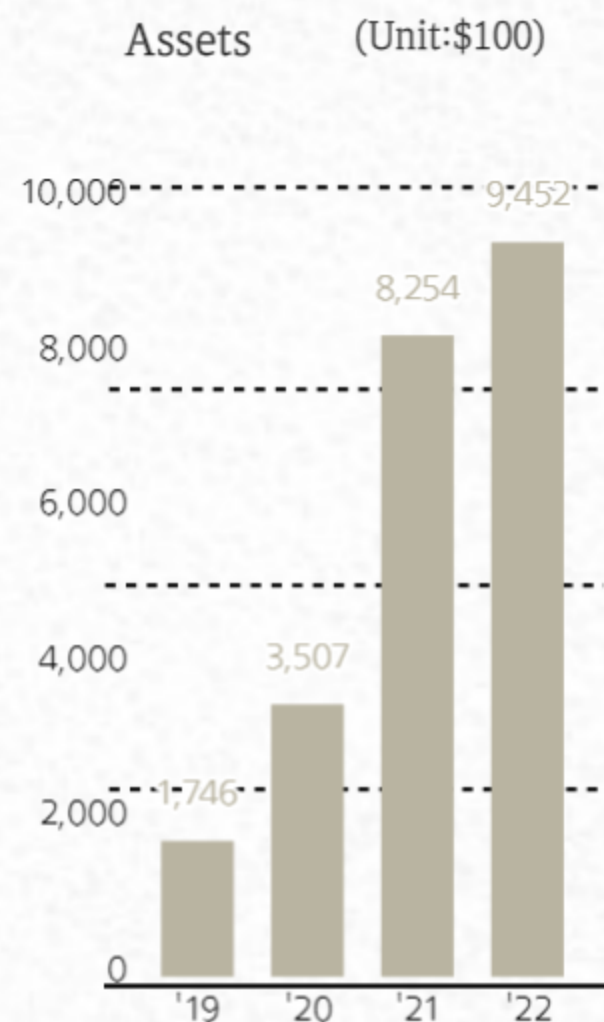


Certification.Awards | History | Contact

EMC strives to satisfy customers.

BUSINESS PERFORMANCE

EMC was founded in December 2017, and after completing technological development in 2021, it commenced full-scale product sales. Every year, EMC carries out research and development services, establishing advanced methods for monitoring water pollutants and aiming for continuous growth through new business creation.



EMC will expand its water pollutant measurement product line by 2025. We will lay the foundation for sustainable growth, and promote management stability by securing financial soundness. Respect the values and possibilities of employees, Create an environment where everyone feels they work with good colleagues. We will create a corporate culture that grows together with the company.



Product development

- Success in two R&D research projects
- Completion of two performance-sharing tasks
- Completion of two patent registrations

Management stability

- Credit rating of BBB or higher
- Within the top 10% of the industry's financial ratio
- More than 5 times diversification of major sales destinations

Human resource friendliness

- Four-day workweek
- Average wage within the top 10% in the same industry
- Resignation rate less than 5%

MARKET PROSPECT

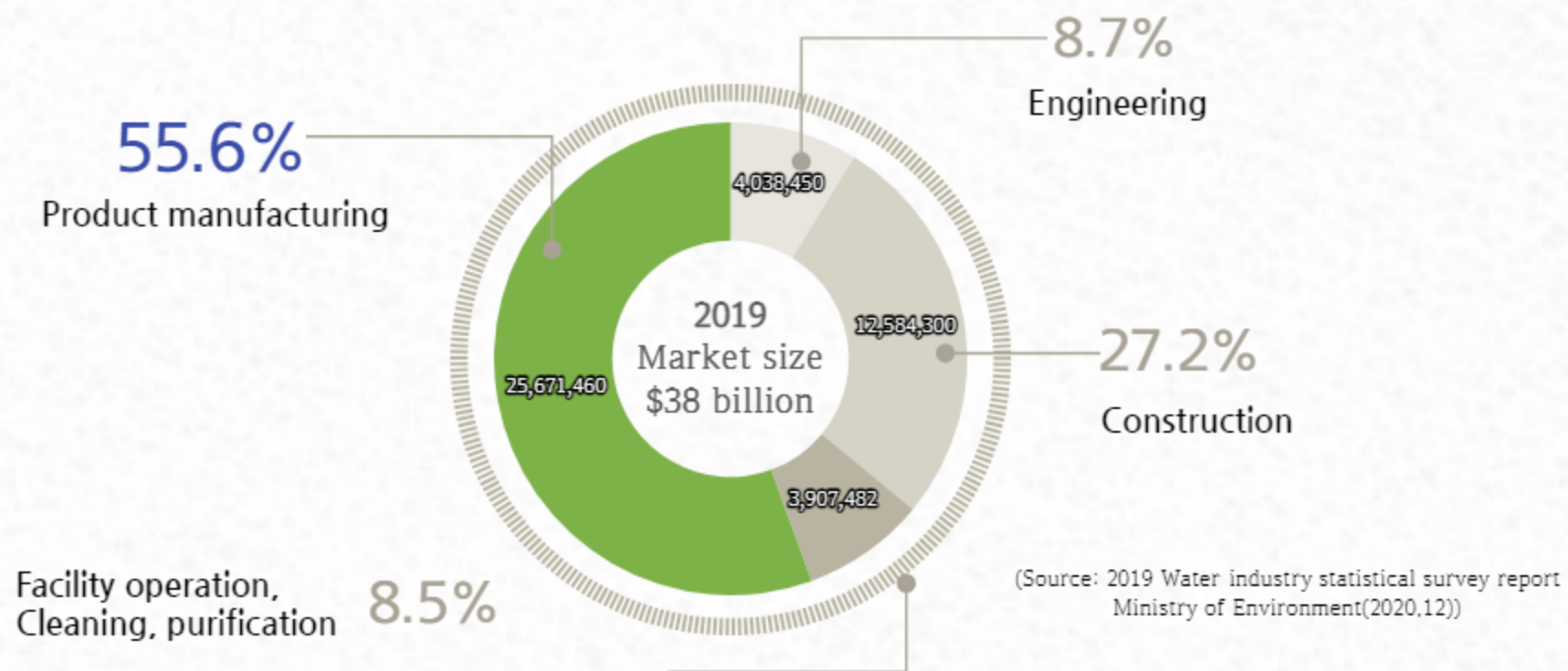
With the Green New Deal Declaration in 2020, the growth potential of the environmental industry is greater than ever.

The government aims to create \$8.3 billion in exports and 200,000 jobs in the water industry by 2030, so the marketability of the water industry is high.

The direction of development of the water pollutant monitoring industry will be able to monitor trace amounts and new pollutants that are not currently managed.

ICT technology will lead to innovation in service and creation of new markets.

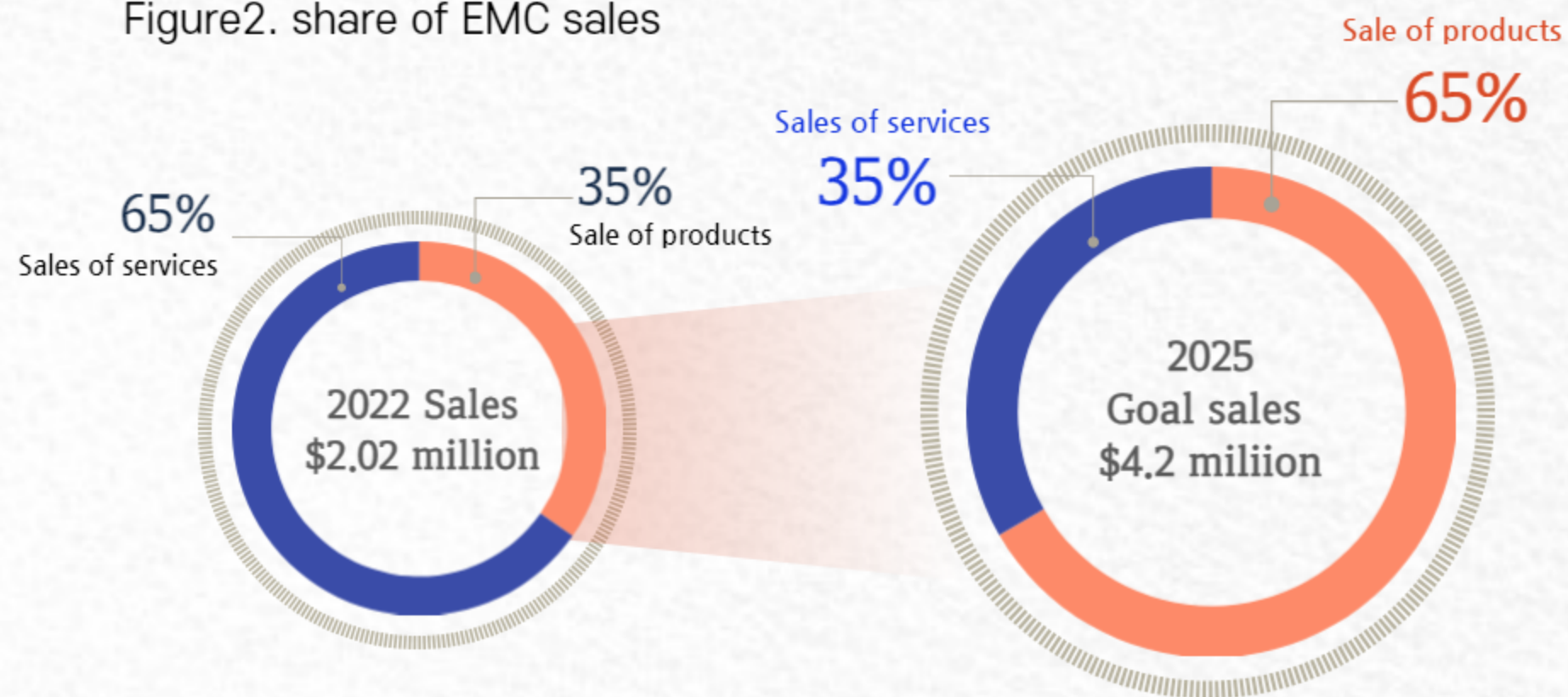
Figure1. Sales by water industry



The market size of the water industry in 2019 is \$38 billion. Of these, the manufacturing industry accounts for 55.6%. It has a market size of about \$21.1 billion.

The manufacturing of measuring equipment, which is our major industrial field, accounts for 5.5% of the manufacturing market. It has a market size of about \$2.1 billion.

Figure2. share of EMC sales



More than half of the sales in the manufacturing industry in the water industry are larger than in the service industry, so we will focus on the manufacturing sector.

The proportion of sales of related ClassicTOC is expected to increase, which will be a stable main source of income.



**Water
pollutants
monitoring**

water pollutant Analyzer

We install and maintenance a water pollutant Analyzer that remotely monitors the current status of water pollutants discharged from public sewage treatment facilities and wastewater discharge facilities 24 hours a day.

portable water quality monitoring system

Real-time monitoring using IoT for small-scale wastewater discharge facilities 24-hour remote monitoring system contributes to fundamental prevention of unauthorized discharge of pollutants and stable management of wastewater discharge facilities.

Research service

The development of ICT plays a leading role in the direction of environmental policy by providing optimal solutions for water pollutant management and researching intelligent water quality management measures using them.

Installation

Maintenance

Water pollutant Analyzer Installation / Maintenance

'18 ~ '19

1. Wastewater treatment facility
 - Gunwi agricultural industrial complex (COD, TN, TP, pH, SS)
 - Sewon industrial complex (pH, MLSS, DO, TOX)
2. public sewage treatment facility
 - Yeongyang-Gun (COD, TN, TP, pH, SS)
 - Seosan-Si (COD, TN, TP, pH, SS)
 - Gwangju-Si (COD)
 - Namwon-Si (TN, TP)

'20

- Pocheon-Si (TN, TP)
- Bonghwa livestock manure wastewater treatment facility(TOC)
- Paju-Si (TOC)
- Gyeongsan-Si (pH, SS, EC, pH, TOC, TOX)

'21

- Wastewater treatment facility
 - Hadong thermal power site division (TOC)
 - POSCO(Pohang) (TOC)
 - Enwatersolution (Installation of TMS)

'22

- Wastewater treatment facility and public sewage treatment facility of National Water Industry Cluster (TOC)

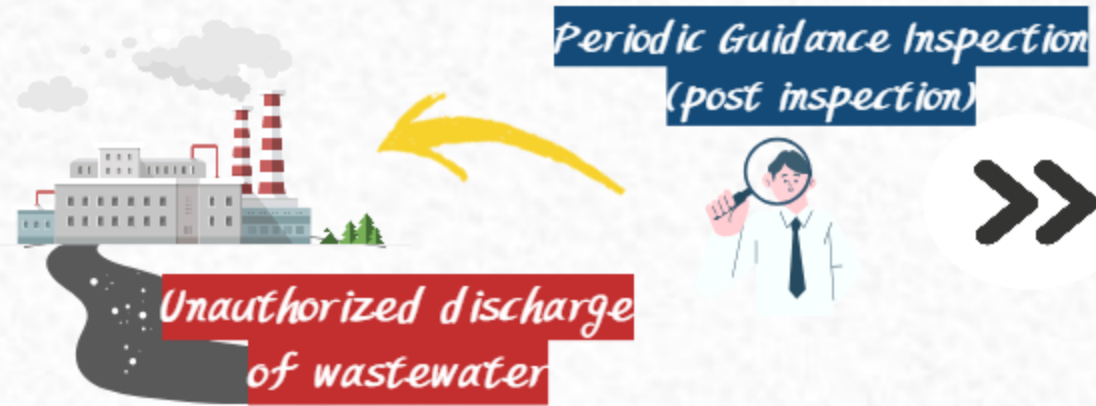
- Gunwi agricultural industrial complex Wastewater treatment facility
- Goesan food industry complex Wastewater treatment facility
- Chunjangdae public sewage treatment facility
- Bakdaljae LPC Wastewater treatment facility

- Gunwi agricultural industrial complex Wastewater treatment facility
- Bakdaljae LPC Wastewater treatment facility
- Tancheon public sewage treatment facility
- Namwon public sewage treatment facility
- Gapyeong public sewage treatment facility

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- Namwon public sewage treatment facility
- Gapyeong public sewage treatment facility
- Pocheon public sewage treatment facility
- Siheung public sewage treatment facility
- Yeongyang public sewage treatment facility

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— ○ — Project_portable water quality monitoring system



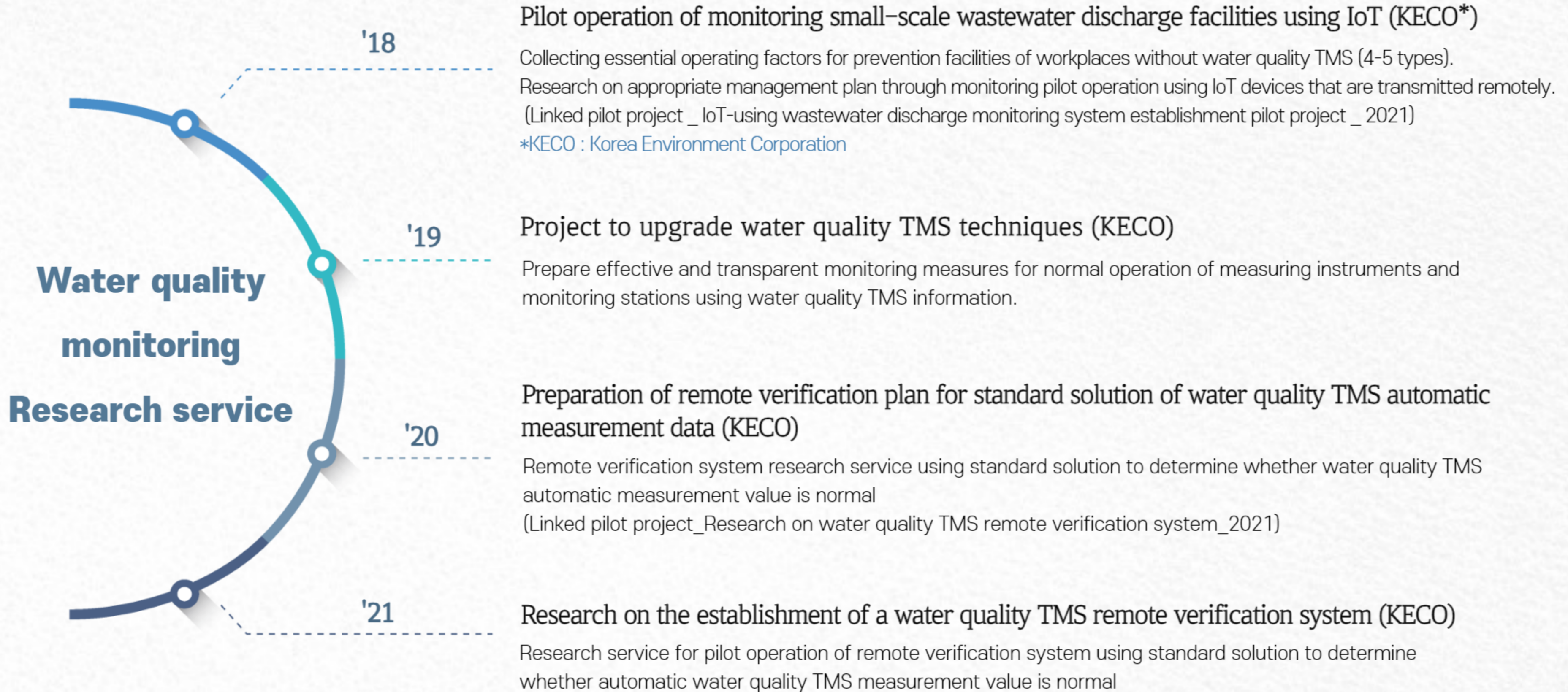
Water quality management and monitoring of small-scale wastewater discharge facilities are rarely carried out, and monitoring is limited by existing post inspections.

A portable water quality monitoring and measuring device capable of monitoring 24 hours is installed at the wastewater discharge facility, enabling monitoring for a certain period of time. Effective wastewater management plan can be established and unauthorized discharge can be prevented.

**portable water quality
monitoring system
Installation /
Maintenance**



- '20 Incheon Metropolitan City_Installation of portable water quality monitoring system
Incheon Metropolitan City_Installation of Water quality movement monitoring vehicle
- '21 Incheon Metropolitan City_Maintenance of portable water quality monitoring system
- '22 Incheon Metropolitan City_4 SETS Installation of portable water quality monitoring system
Incheon Metropolitan City_Maintenance of portable water quality monitoring system



Online water quality Analyzer

Water quality management measures can be prepared along with water quality monitoring effects by measuring water pollution in real time and monitoring the measured data in real time.



Burning oxidation in 680°C high temperature
Range : 0~100mg/L
Sample injection : One-direction flow through
Minimum scale : 0.1mg/L
Detection limit : 0.1mg/L
Type Approval TOC (No. WTMS-TOC-2021-7)
KECO joint technology development



UV absorbance photometry TN
Range : 0~100mg/L
Minimum scale : 0.001mg/L
Direct heating of silicone rubber



Absorbance photometry TP
Range : 0~10mg/L
Minimum scale : 0.001mg/L
Tube-linked pump metering



Composite glass electrode method (pH)
Absorption of scattered light (SS)
pH Range : 0~14pH
SS Range : 0~100mg/L
4 contact points, cleaning contact
Color LCD 5" Touch Screen



EC(0 ~ 2,000 μ S/cm)
DO(0~20mg/L)
MLSS(0~20,000mg/L)
ORP(-2000~+2000mV)

IoT portable water quality monitoring system

From 2020 to 2022, a portable water quality monitoring system has been built and operated for wastewater discharge facilities located in Incheon Metropolitan city.



Operation factors (TOC, NO₃, NH₄) are transmitted to the control PC through the connection between the wastewater discharge facility and the portable water quality meter. When the measured value is abnormal, it has automatic water collection and alarm functions, and smart water quality management is possible by converting operating factors into a DB.

Model	Mobile WQ
Measurement method	UV-Vis spectrometry 220-720nm / Ion selective electrode
Range	TOC(0~400mg/L),NO ₃ -N(0~45mg/L),NH ₄ -N(0~1000mg/L),pH(2~12pH)
Cleaning	Compressor or Wiper
Display	Color-Display 9" TFT Touch Screen
Operation function	Touch panel, Automatic water collection & purge, flow rate detection, GPS
Built-in UPS	Option (more than 1 hour backup possible)
Data inquiry	Data storage, Excel conversion, daily/monthly report generation



Technology



Patent Registration (No. 10-2087642)

"Total Organic Carbon Measurement Equipment Automating Sample and Gas Supply"

Patent application "An analysis error correction method of TOC measurement system"

Patent Application "Potable Sample Collection and Analysis Device"

Patent Application "Fuel-Sensitized Solar Cell Manufacturing Method"

Industry-Academic Cooperation Project (KUMOH NATIONAL INSTITUTE OF TECHNOLOGY)

"Replacing the power source of water quality automatic measuring instruments with eco-friendly energy"

Achievement-sharing task (KECO) "Technology Development of Total Organic Carbon Measurement Equipment"

Achievement Sharing Task (KECO) "Development of a Potable Water Quality Monitoring System

to Control Waste Water Emission Facilities"

Awards



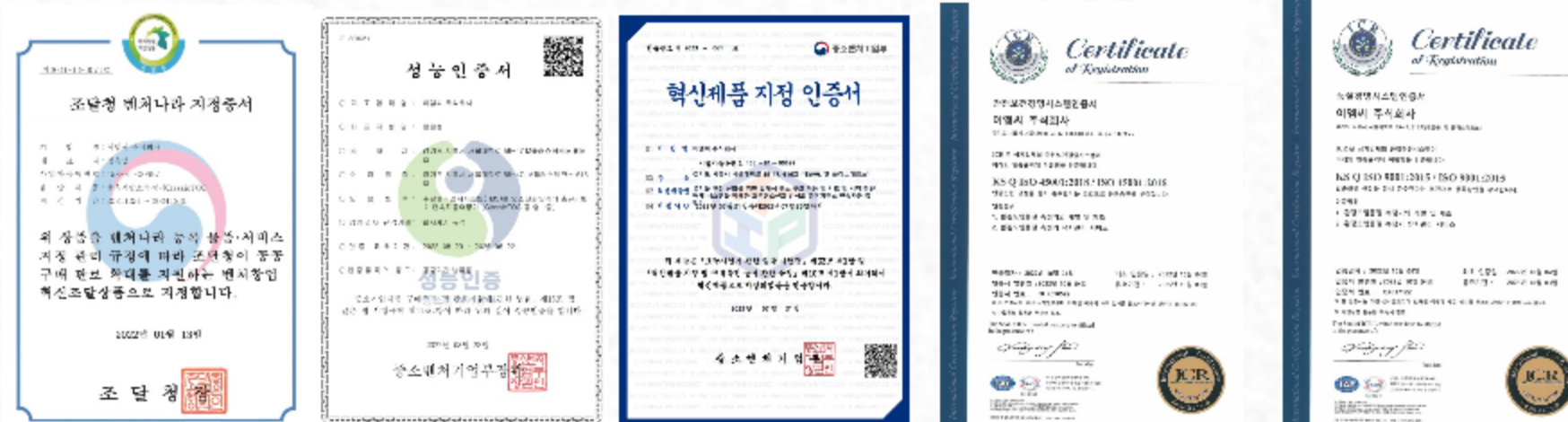
Environmental Startup Star Enterprise 'Excellence Award'

Entrepreneurship Competition 'Encouragement Award'

Minister of Environment 'Certificate of Commendation'

K-eco Excellent project 'Encouragement Award'

Certification



Designated as a Venture Startup Innovation Procurement Product for TOC measuring instrument

Performance Certification for TOC Analyzer (Ministry of SMEs and Startups)

Innovative Products Certification for TOC Analyzer (Ministry of SMEs and Startups)

KS Q ISO45001, ISO9001 (ICR)

EMC HISTORY

2018

Established Environmental Venture Company
EMC Co., Ltd.

- Establishment of a corporate research institute
- Venture company registration
- Registration of Water pollutant measurement equipment Maintenance Agency
- Registration of reagent sales business
- Software operator registration
- pH, SS measuring instrument type approval completed
- Convention on Performance Sharing with the KECCO
- Selection of "Customized Technology Partners"
- "Technical Support Project & Selection of "Generation Convergence Startup Campus" Start-up Support Project (Organized by the Ministry of SMEs and Startups)
- Environmental start-up star company won the Excellence Award (Ministry of Environment)

2019

- Engineering Operator Notification
- Patent Application (10-2019-0028844) "automated sample and gas supply Total Organic Carbon Measurement Equipment"
- Patent Application (10-2019-0040519) "How to manufacture fuel-sensitive solar cells."
- Selection of Support Projects "Start-up Growth Technology Development: Innovative Start-up Challenges" \$ "Generation Convergence Startup Campus" Startup Support Project Best Award (Organized by the Ministry of SMEs and Startups)

2020

Product Development

- Patent registration (No. 10-2087642) 'Automated sample and gas supply Total organic carbon measuring device'
- Patent application (10-2020-0097029) 'A portable sample collection and analysis device'
- Received the Encouragement Award at the Startup Contest (hosted by Siheung City)
- Received a certificate of commendation for 'Operation and Maintenance of Automatic Water Quality Measuring Equipment' (Minister of Environment)

2021

- Head office relocation,
- Factory registration
- Patent application (10-2021-0133124) 'Analysis error correction method of TOC measurement system'
- Completed TOC measuring instrument type approval
- Siheung Youth Happy Company Certification (Signed by Siheung City)
- Received a Citation for Municipal Development (Siheung Mayor)

2022

product production

- Designation of TOC measuring instrument venture start-up innovation procurement products
- K-eco Excellent project 'Encouragement Award'



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