

# COMPANY PROFILE

True Value Creator



True Value Creator

Bubang Bldg., 528, Samseong-ro, Gangnam-gu, Seoul, Republic of Korea

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# Highlights

## Leading the Future Environment & Energy Industries

Techcross Water & Energy is an EPC company with professional expertise in the environment and energy sectors. We provide total solutions for various areas of the environment and energy fields, including water treatment, waste treatment, hydrogen, and CCUS (Carbon Capture, Utilization and Storage). We also offer EPC (Engineering, Procurement, and Construction) services for public and private environmental facilities, such as those that supply quality industrial water for manufacturing displays, electronics, chemicals, and foods, as well as sewage and wastewater treatment facilities, waste treatment facilities, and hydrogen production bases.

## Market Leader



Completed the largest industrial water construction project in South Korea



Completed the largest ultrapure water construction project in South Korea  
(About 310,000 m<sup>3</sup> per day)



Built the largest water electrolysis capacity and hydrogen infrastructure  
in the private sector in South Korea



Completed the world's largest water treatment project  
(in the global display sector)



### A Key Player in Privately Funded Projects

Completed multiple privately funded  
projects in the environment sector



### A New Solution for Water Scarcity

Completed multiple water  
reclamation projects

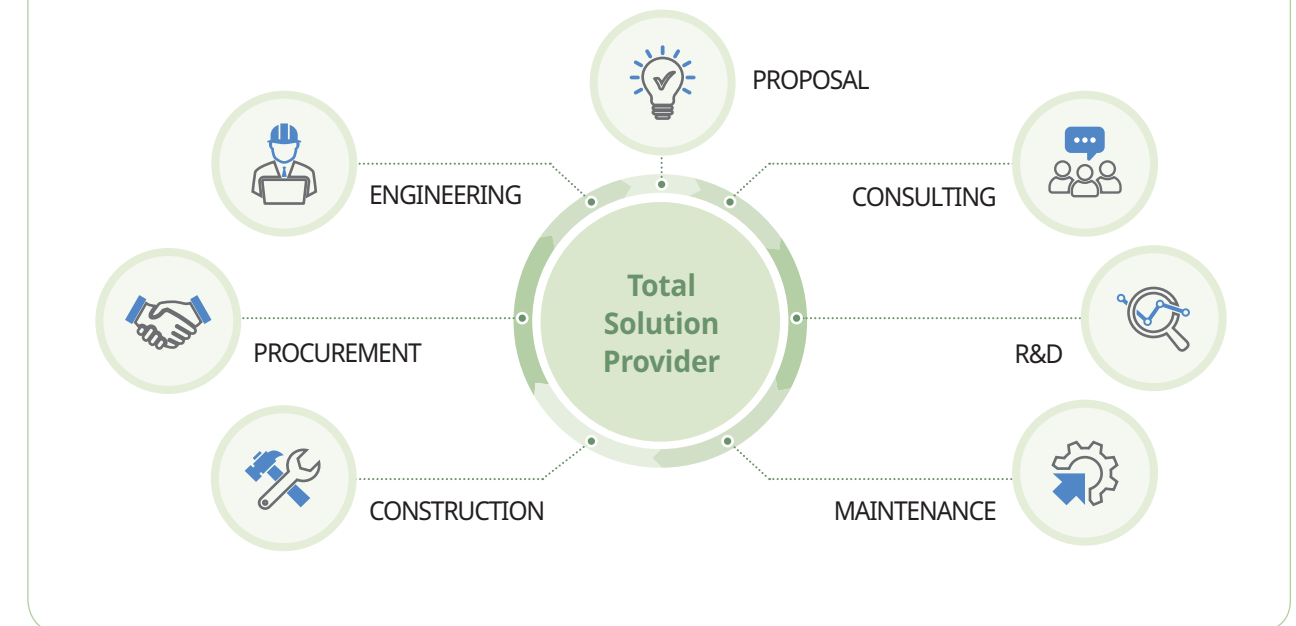


### Completed Multiple International Projects

in North and Central America, China,  
Southeast and Central Asia, and more

# Company Overview

## Value Chain



## Associates



Techcross holds the No.1 global market share in ballast water management systems, having developed the world's first electrolysis-based system built on proprietary water electrolysis technology. Starting with the development and sales of eco-friendly marine equipment that protects the ocean environment, Techcross is now expanding into the green hydrogen sector and exploring various environmental industries derived from its core electrolysis technology.



Bubang transitioned into a holding company that oversees Cuchen, Bubang Retail, and BIZNTECH Consulting (2015), merged with Busan Textile as a business unit (2016), and incorporated SCK as a subsidiary (2019). Bubang aims to fulfill its social responsibilities by strengthening the capabilities of the companies under its oversight, establishing a responsible management system, and maximizing shareholder value.



Cuchen, launched as a home appliance business in 1976, is leading lifestyle culture with its innovative technologies and high-quality design. By means of customer-oriented R&D, Cuchen offers a diverse range of products to enrich customers' lives not only in culinary culture but also throughout the entire lifestyle culture.



Bubang Retail has been managing E-Mart Anyang Store since 1997, providing customer satisfaction and happy lifestyle through the highest quality and services at the lowest price.



BIZNTECH Consulting is a total IT service provider, offering efficient and progressive directions based on sector-specific services across industries.



Established in 2004, SCK provides services across the entire sector of outsourcing industry from manufacturing to sales, parcel logistics, facility management, outsourcing of specialized workforce to call centers and more, personnel dispatch, recruitment agency, and headhunting business.



Korea Ship Finance (KSF), licensed by the government of the Republic of Korea, is Korea's largest provider of ship asset management services by managing and operating affairs entrusted by ship investment companies.

# Company Overview

## Leading Environmental and Energy EPC Company



### Leader of Future Environmental and Energy Industry

We are taking the lead in enhancing the competitiveness of environmental and energy industry with our value chain covering the entire onshore and offshore water treatment sector, and business diversification into waste to energy, air pollution reduction, renewable energy, and hydrogen production and use.

Pioneer



### Providing Customers with Optimized Solutions One Step Ahead

Thanks to expertise and technical capabilities accumulated through a wide range of domestic and international projects, we are one step ahead of the game to provide optimized solutions by putting together business development, construction, operation & maintenance, investment and consulting.

Agile



### Reliable Partner of Environmental and Energy Industry

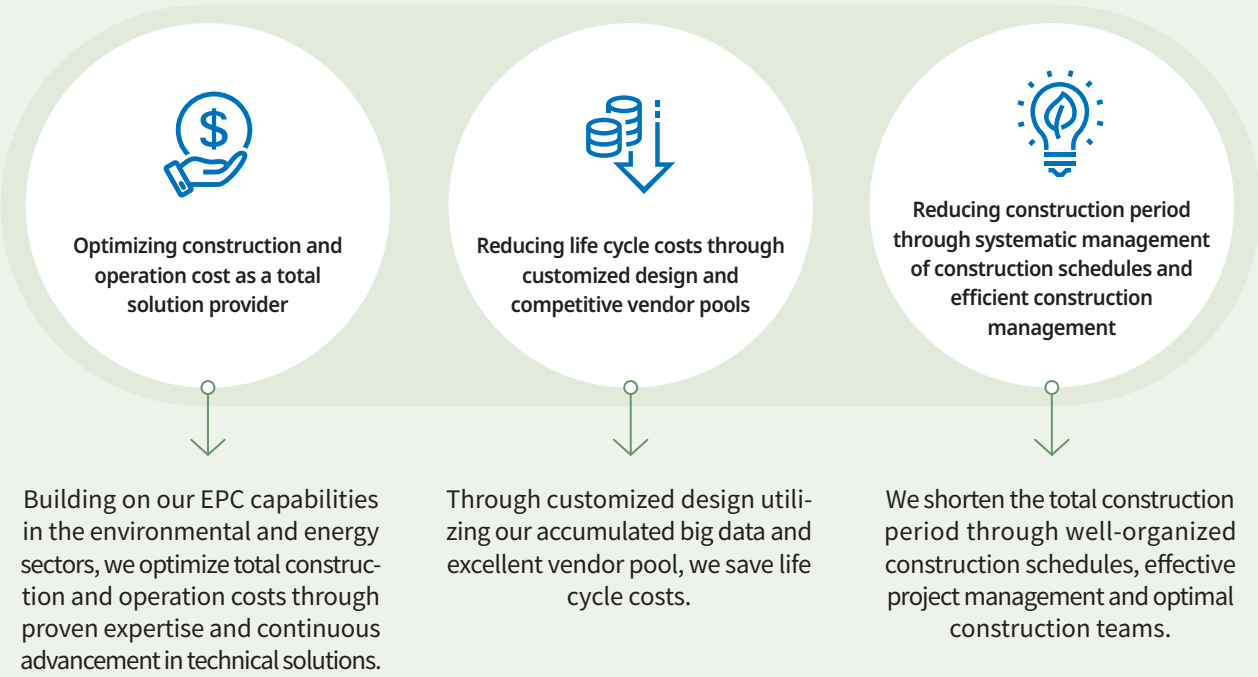
We continue to maintain our position as a reliable partner at home and abroad by performing the largest industrial water construction work in Korea and the largest water treatment construction for the global display sector in the world.

Reliable

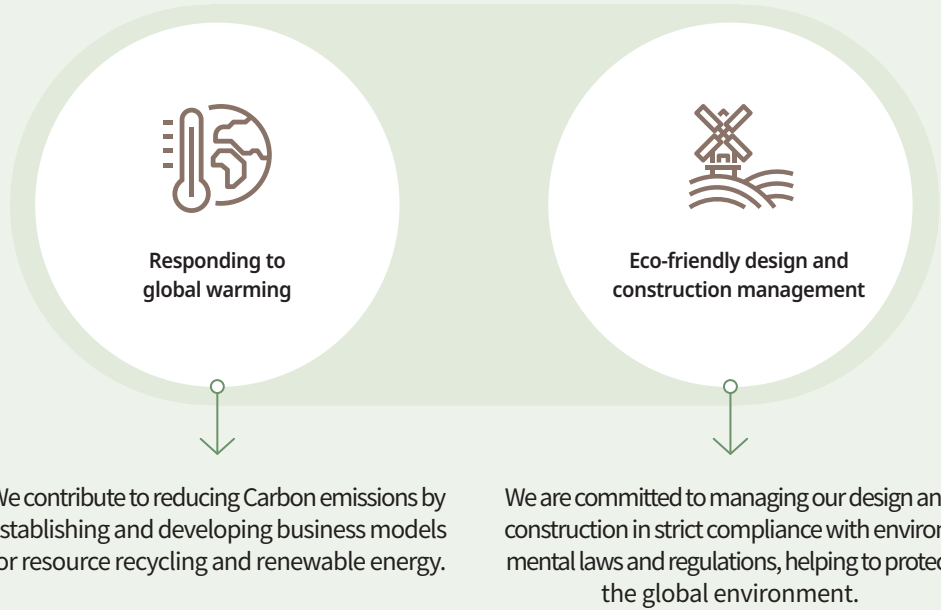
# “SAVE OPEX SAVE EARTH”

With expertise in the environmental and energy industry and by offering differentiated, customized solutions, we maximize customer value and contribute to a sustainable future.

## SAVE OPEX



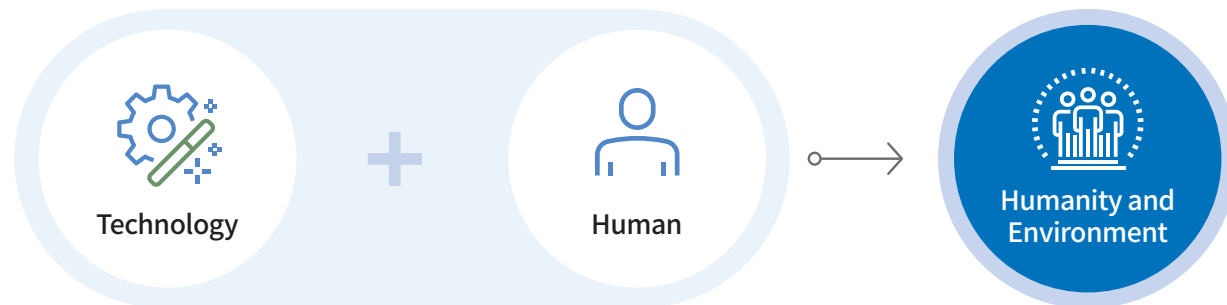
## SAVE EARTH



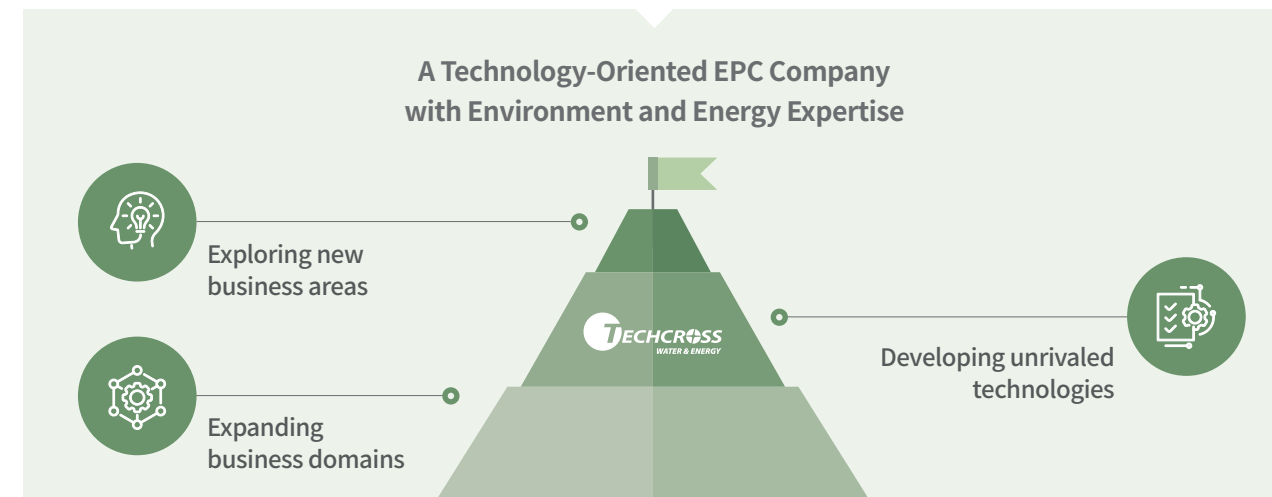
# Vision

## Mission

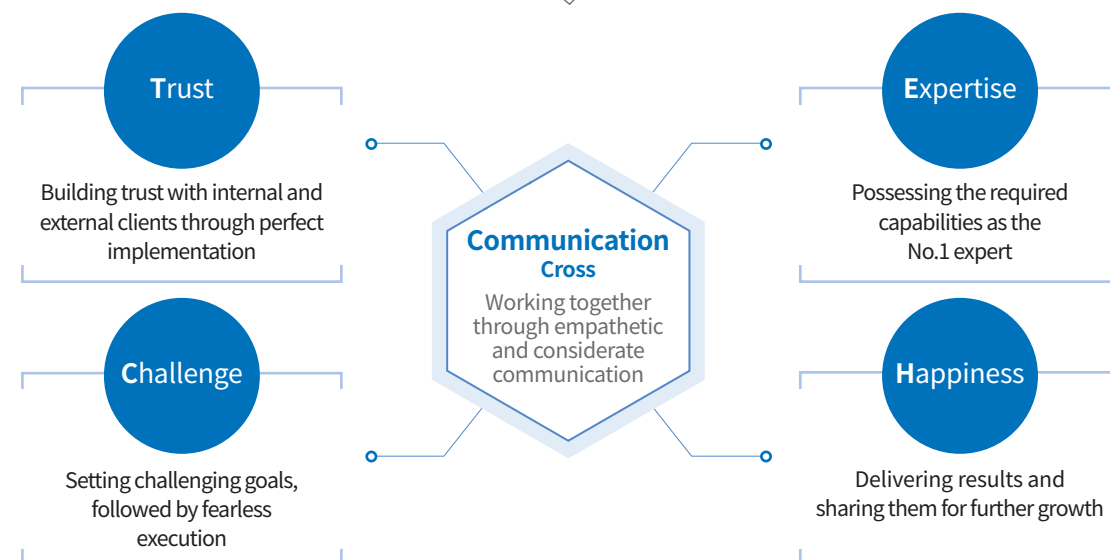
Contribute to humanity and environment through convergence of technology and human



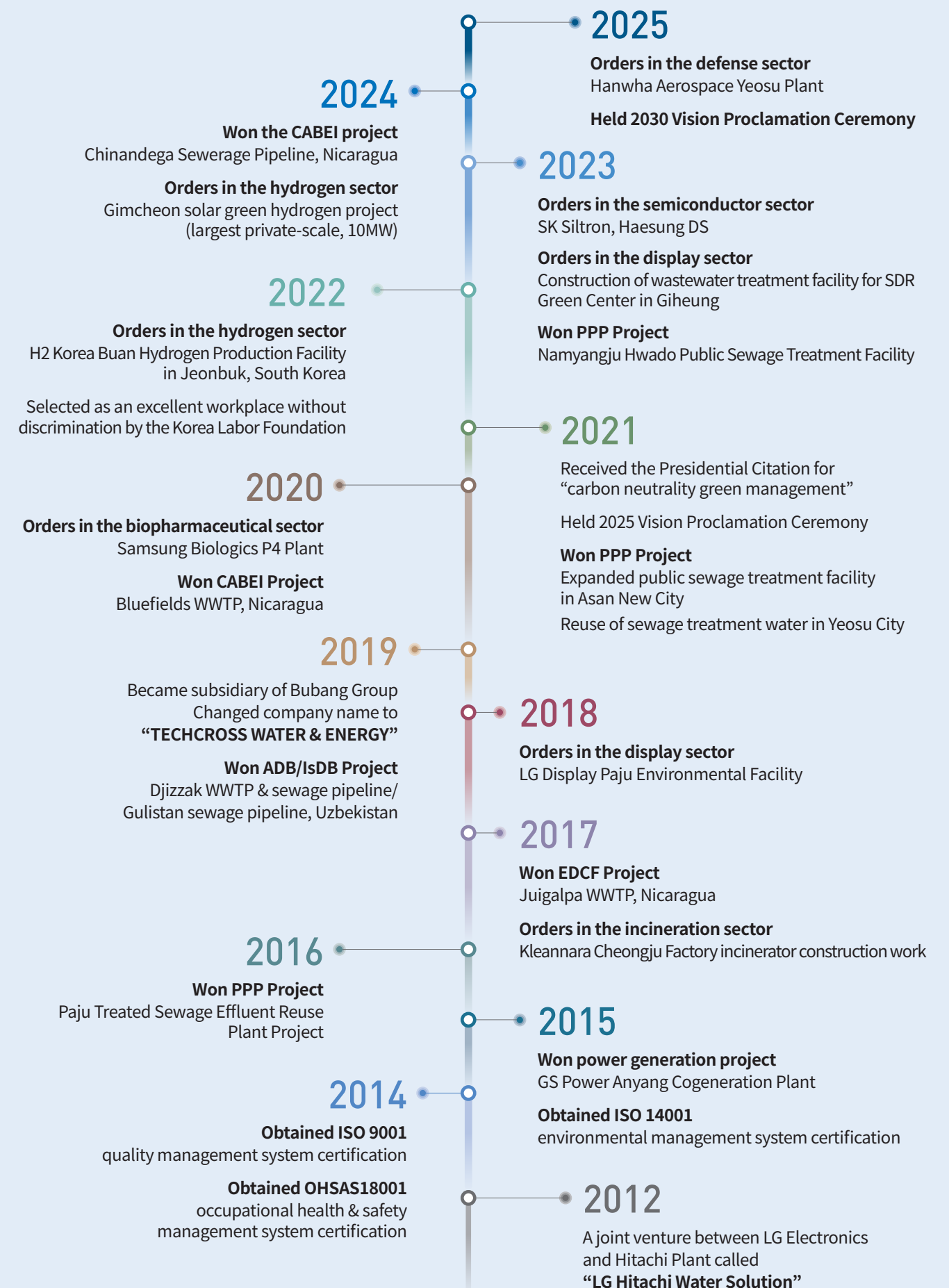
## Vision



## Core Values



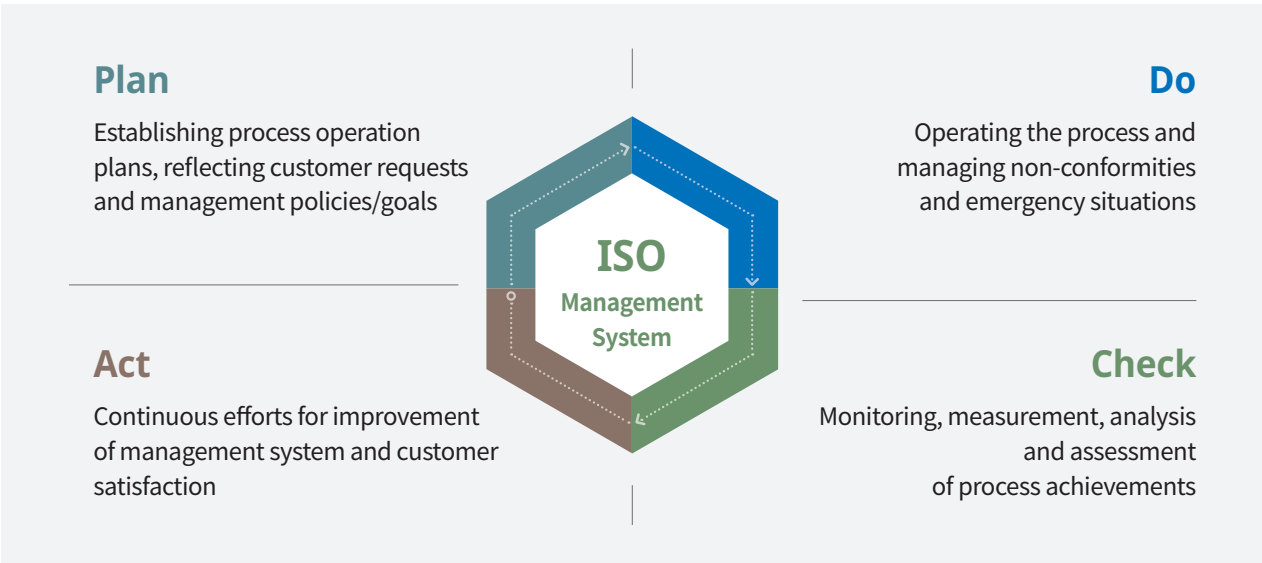
# History



# Quality · Health & Safety · Environment Management

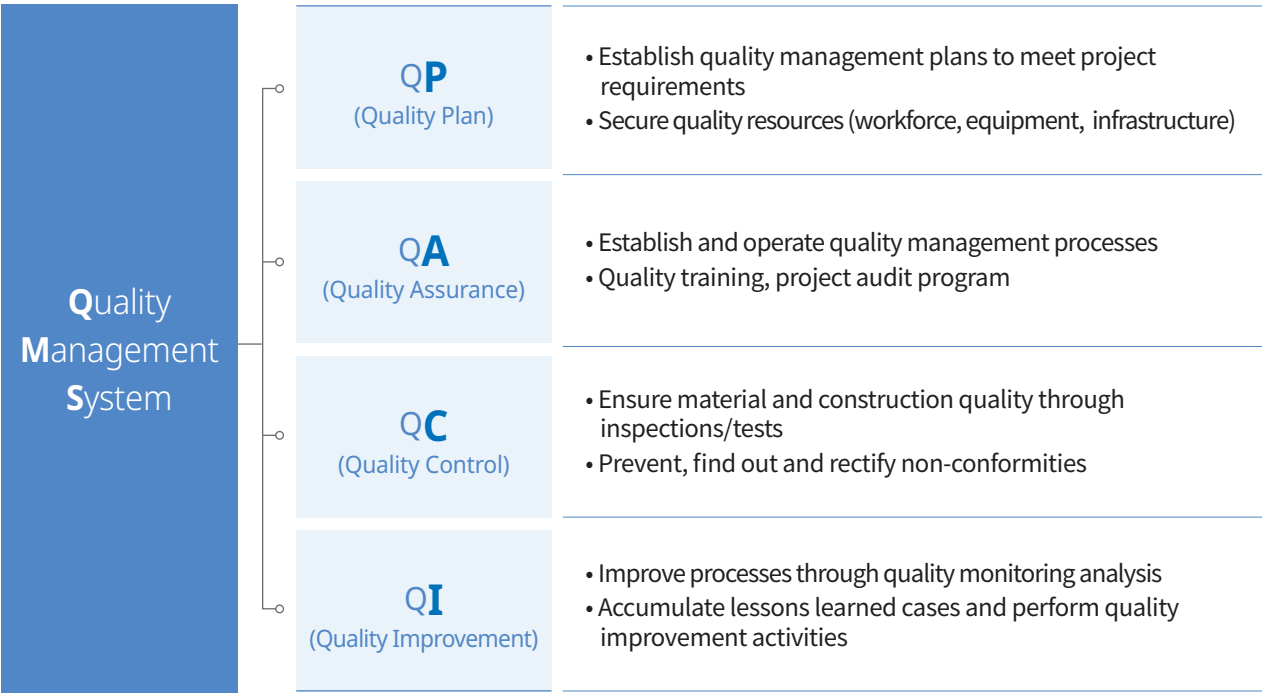
## Quality / Health&Safety / Environment Management System

We have established and operated our management system based on the ISO standards for quality, health & safety and environment of the company. The system is under continuous improvement and development through the PDCA cycle.



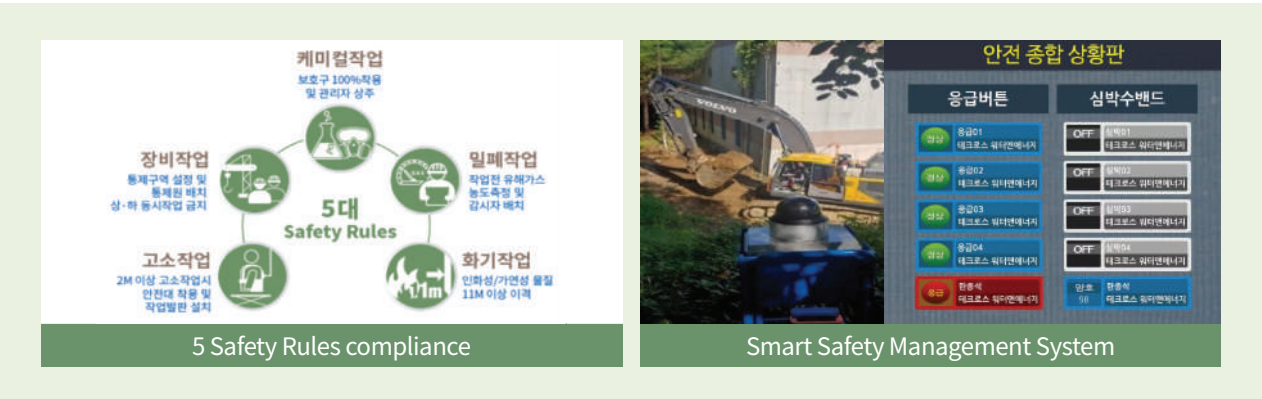
## Project quality management

We are operating a systematic quality management system to ensure the highest quality that meets the project requirements and guarantee design plant performance for our customers.



## Project Health & Safety Management

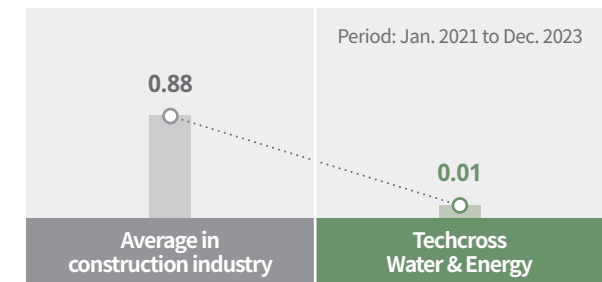
We have established key processes for prevention of serious and recordable accident as the health & safety management system. We have established and operated strategies to strengthen health & safety leadership and execution under the CSO in each business sector.



We maintain a significantly lower industrial accident rate compared to the average in construction industry through operation of the health & safety management system to prevent accidents. Our tireless efforts to project health & safety management is well reflected in zero fatalities.

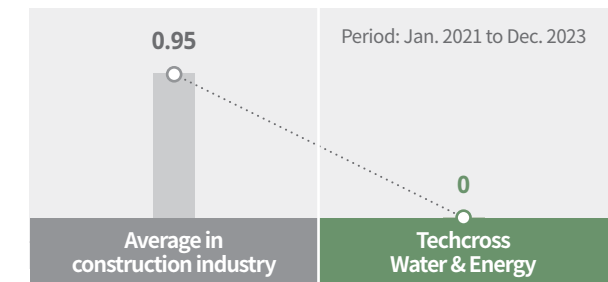
### Industrial accident rate

The ratio of the number of accidents per 100 workers



### Mortality rate

The ratio of the number of fatalities per 10,000 permanent workers in a year



# BUSINESS AREA



## Industrial Water

- Industrial Water Supply
- Pure & Ultra Pure Water Production
- Water Pipe Network
- Desalination Production

## Sewage and Wastewater

- Sewage Treatment
- Wastewater Treatment
- Water Reclamation
- Zero Liquid Discharge (ZLD)
- Sewer Network

## Air Pollution Reduction

- Wet Scrubber
- Biofilter
- RTO & RCO & CTO
- Activated Carbon Filter
- Bag Filter

## Waste to Energy

- Waste Incineration & Power Generation
- Landfill Development & Restoration
- Organic Waste Resources Treatment

## Renewable Energy

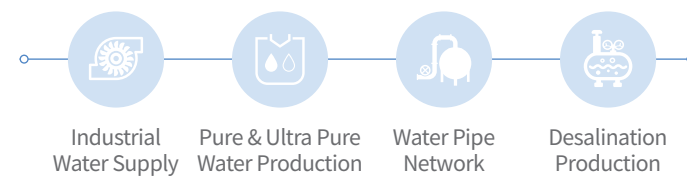
- Photovoltaic (PV)
- Energy Storage System(ESS)
- Fuel Cell

## Hydrogen Production and Utilization

- Production of Water electrolysis-based hydrogen in Connection with Renewable/Nuclear Energy
- Hydrogen Production and Utilization Based on CCUS
- Self-Production of Water Electrolysis Equipment
- Establishment of Carbon-Neutral Hydrogen Infrastructure and Facility Operation



# Business Performance

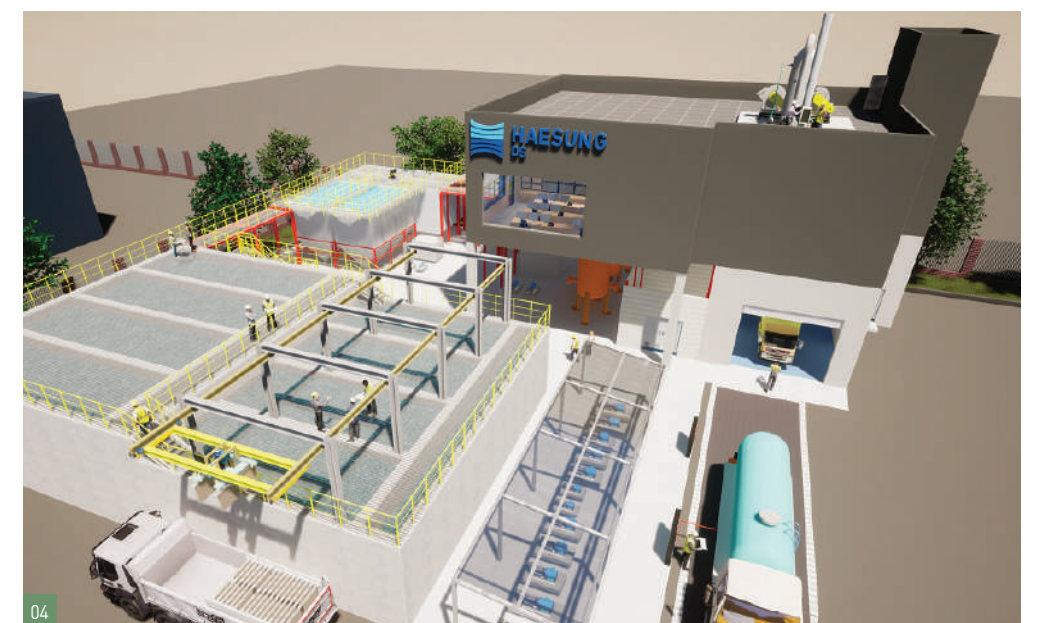


## Industrial Water

We supply the best quality water through quality production of pure and ultra pure water required for the manufacturing of displays, electronics, etc. With experience of performing a wide range of projects including the largest industrial water construction work in Korea, Techcross Water & Energy provides customers with competitive design and construction solutions.

### 01 LG Display P9 Environment Facility Project

|                 |                                                               |
|-----------------|---------------------------------------------------------------|
| Client          | LG Display                                                    |
| Location        | Paju, Korea                                                   |
| Completion Year | 2019                                                          |
| Capacity        | Ultra pure water production facility 6,890 m <sup>3</sup> /hr |



### 02 SK Siltron Gumi #3 DI System Expansion Project

|                 |                                                  |
|-----------------|--------------------------------------------------|
| Client          | SK Siltron                                       |
| Location        | Gumi, Korea                                      |
| Completion Year | 2011                                             |
| Capacity        | Pure and ultra pure water 208 m <sup>3</sup> /hr |

### 04 Haesung DS DI System Project

|                 |                                                     |
|-----------------|-----------------------------------------------------|
| Client          | Haesung DS                                          |
| Location        | Changwon, Korea                                     |
| Completion Year | 2025                                                |
| Capacity        | DI Water Treatment System 2,400 m <sup>3</sup> /day |

### 03 Coca Cola Korea Yeosu Drinking Water Facility Expansion Project

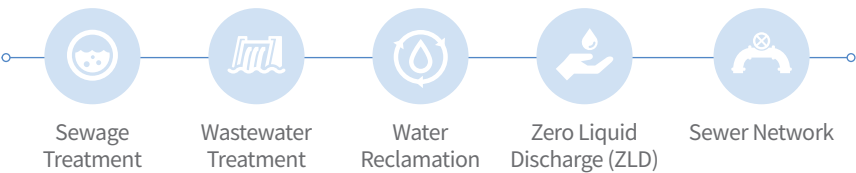
|                 |                                                  |
|-----------------|--------------------------------------------------|
| Client          | Coca Cola Korea                                  |
| Location        | Yeosu, Korea                                     |
| Completion Year | 2012                                             |
| Capacity        | Pure and ultra pure water 260 m <sup>3</sup> /hr |

### 05 Wavepark Siheung Water Treatment Project

|                 |                                            |
|-----------------|--------------------------------------------|
| Client          | Wavepart                                   |
| Location        | Siheung, Korea                             |
| Completion Year | 2021                                       |
| Capacity        | Filtration System 5,500 m <sup>3</sup> /hr |

# Sewage · Wastewater

With our exceptional technical expertise and abundant references, we design and build optimized municipal sewage and industrial wastewater treatment facilities. Also, we seek to strengthen our competitiveness while revitalizing local economy through the business of reusing effluent into high-quality, low-cost industrial water.



## 01 LG Display P9 Environment Facility Project

|                 |                                                                                                  |
|-----------------|--------------------------------------------------------------------------------------------------|
| Client          | LG Display                                                                                       |
| Location        | Paju, Korea                                                                                      |
| Completion Year | 2019                                                                                             |
| Capacity        | Wastewater treatment 38,500 m <sup>3</sup> /day<br>Water Reuse System 32,120 m <sup>3</sup> /day |

## 02 Samsung Biologics EDISON IV Wastewater Treatment Facility Project

|                 |                                                |
|-----------------|------------------------------------------------|
| Client          | Samsung Biologics                              |
| Location        | Incheon, Korea                                 |
| Completion Year | 2023                                           |
| Capacity        | Wastewater treatment 3,600 m <sup>3</sup> /day |

## 03 LG Chemical Yeosu Factory Industrial & Wastewater Treatment Plant Project

|                 |                                                                                                      |
|-----------------|------------------------------------------------------------------------------------------------------|
| Client          | LG Chemical                                                                                          |
| Location        | Yeosu, Korea                                                                                         |
| Completion Year | 2019                                                                                                 |
| Capacity        | Wastewater treatment 1,080 m <sup>3</sup> /day<br>Industrial water supply 34,560 m <sup>3</sup> /day |

## 04 Haesung DS Wastewater Treatment Plant Project

|                 |                                                                                                |
|-----------------|------------------------------------------------------------------------------------------------|
| Client          | Haesung DS                                                                                     |
| Location        | Changwon, Korea                                                                                |
| Completion Year | 2025                                                                                           |
| Capacity        | Wastewater treatment 8,400 m <sup>3</sup> /day<br>Water Reuse System 9,000 m <sup>3</sup> /day |

## 05 Giheung SDR Green Center Wastewater Treatment Facility Project

|                 |                                                                                              |
|-----------------|----------------------------------------------------------------------------------------------|
| Client          | Samsung Display                                                                              |
| Location        | Yongin, Korea                                                                                |
| Completion Year | 2025                                                                                         |
| Capacity        | Wastewater Treatment 2,400 m <sup>3</sup> /day<br>Water Reuse System 450 m <sup>3</sup> /day |

## 06 SK Siltron N-PROJECT Wastewater Treatment Plant Expansion Project

|                 |                                                 |
|-----------------|-------------------------------------------------|
| Client          | SK Siltron                                      |
| Location        | Gumi, Korea                                     |
| Completion Year | 2025                                            |
| Capacity        | Wastewater treatment 15,000 m <sup>3</sup> /day |

## 07 Lotte Fine Chemical Reuse Water Supply Project

|                 |                                                                                             |
|-----------------|---------------------------------------------------------------------------------------------|
| Client          | Lotte Fine Chemical                                                                         |
| Location        | Ulsan, Korea                                                                                |
| Completion Year | 2026                                                                                        |
| Capacity        | Wastewater Treatment Step 1: 6,000 m <sup>3</sup> /day<br>Step 2: 4,000 m <sup>3</sup> /day |

Sewage · Wastewater

08 Asan Privately-Invested Public Wastewater Treatment Plant Expansion Project (PPP)

|                 |                                                |
|-----------------|------------------------------------------------|
| Client          | Asan City                                      |
| Location        | Asan, Korea                                    |
| Completion Year | 2026                                           |
| Capacity        | Step 1: 14,000 m³/day<br>Step 2: 14,000 m³/day |

09 Hwado, Namyangju Privately-Invested Public Wastewater Treatment Plant Project (PPP)

|                 |                                                  |
|-----------------|--------------------------------------------------|
| Client          | Namyangju City                                   |
| Location        | Namyangju, Korea                                 |
| Completion Year | 2027                                             |
| Capacity        | Hwado 1: 33,000 m³/day<br>Hwado 2: 18,000 m³/day |



10 Paju Treated Sewage Effluent Reuse Plant Project (PPP)

|                 |                                                                            |
|-----------------|----------------------------------------------------------------------------|
| Client          | Paju City                                                                  |
| Location        | Paju, Korea                                                                |
| Completion Year | 2018                                                                       |
| Capacity        | Water Reuse Facility 41,200 m³/day (UF+RO)<br>Water Supply Pipeline 13.8km |

11 Yeosu Treated Sewage Effluent Reuse Plant Project (PPP)

|                 |                                                                            |
|-----------------|----------------------------------------------------------------------------|
| Client          | Yeosu City                                                                 |
| Location        | Yeosu, Korea                                                               |
| Completion Year | 2025                                                                       |
| Capacity        | Water Reuse Facility 50,000 m³/day (UF+RO)<br>Water Supply Pipeline 16.8km |

Sewage · Wastewater

12 Toseong-Myeon, Goseong-Gun Public Wastewater Treatment Plant Expansion Project

|                 |                                                               |
|-----------------|---------------------------------------------------------------|
| Client          | KECO                                                          |
| Location        | Goseong-Gun, Korea                                            |
| Completion Year | 2023                                                          |
| Capacity        | Sewage water treatment 3,800 m³/day<br>Sewage pipeline 35.8km |

13 Gwangmyeong-Siheung General Industrial Complex Public Wastewater Treatment Plant Project

|                 |                                   |
|-----------------|-----------------------------------|
| Client          | Korea Land & Housing Corporation  |
| Location        | Gwangmyeong, Korea                |
| Completion Year | 2026                              |
| Capacity        | Wastewater Treatment 2,500 m³/day |



14 Gumi National Industrial Complex Buffering Retention Facility Installation Project

|                 |                                                                                               |
|-----------------|-----------------------------------------------------------------------------------------------|
| Client          | Gumi City                                                                                     |
| Location        | Gumi, Korea                                                                                   |
| Completion Year | 2022                                                                                          |
| Capacity        | Buffering retention 20,200 m³/day<br>9 collection facilities and<br>collection pipeline 5.0km |

16 Namyang Public Sewage Treatment Facility Expansion Project

|                 |                               |
|-----------------|-------------------------------|
| Client          | Hwaseong City                 |
| Location        | Hwaseong, Korea               |
| Completion Year | 2026                          |
| Capacity        | Sewage Treatment 7,000 m³/day |

15 Bongdam, Hwaseong Public Wastewater Treatment Plant Expansion Project

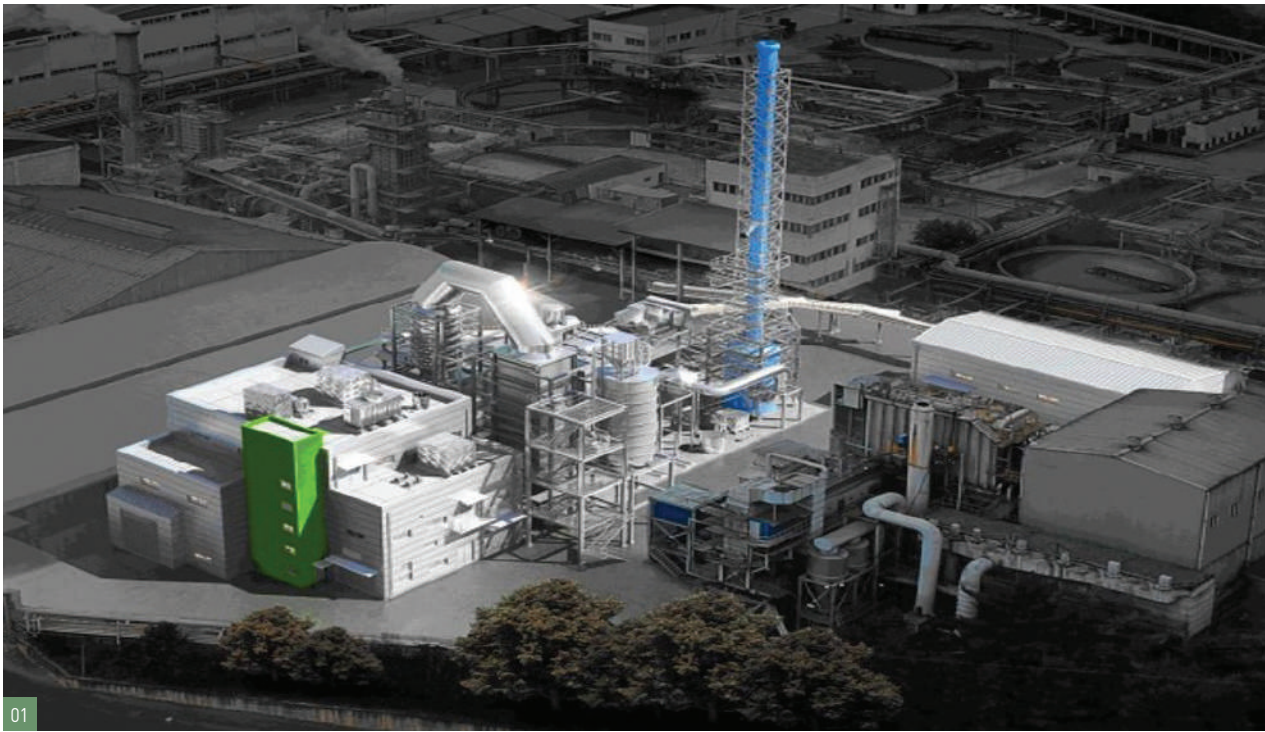
|                 |                               |
|-----------------|-------------------------------|
| Client          | Hwaseong City                 |
| Location        | Hwaseong, Korea               |
| Completion Year | 2020                          |
| Capacity        | Sewage Treatment 9,600 m³/day |

17 Gimpo Tongjin Reco Park Expansion Project

|                 |                                                                                                 |
|-----------------|-------------------------------------------------------------------------------------------------|
| Client          | Korea Environment Corporation                                                                   |
| Location        | Gimpo, Korea                                                                                    |
| Completion Year | 2027                                                                                            |
| Capacity        | Sewage Treatment 28,000 m³/day<br>Relay Pumping Station 68,000 m³/day<br>Sewage Pipeline 8.1 km |

# Waste to Energy

We operate facilities that treat incinerable waste and reduce and recover energy from organic waste.  
We maximize energy utilization, using electricity and steam generated from the incineration process and biogas generated from organic waste.



## 01 Kleannara Cheongju Incineration Plant Project

|                 |                                                                  |
|-----------------|------------------------------------------------------------------|
| Client          | Kleannara                                                        |
| Location        | Cheongju, Korea                                                  |
| Completion Year | 2019                                                             |
| Capacity        | Fluidized bed incinerator 400 ton/day<br>Stream supply 25 ton/hr |

## 04 Yeonggwang Waste-to-Energy Facility Project

|                 |                                                                    |
|-----------------|--------------------------------------------------------------------|
| Client          | Yeonggwang SRF                                                     |
| Location        | Yeonggwang-Gun, Korea                                              |
| Completion Year | 2026                                                               |
| Capacity        | Stoker incinerator 318 ton/day<br>Power generation facility 9.9 MW |

## 02 Seongam Incinerating Facility Units 1 and 2 Reconstruction Project

|                 |                                |
|-----------------|--------------------------------|
| Client          | Ulsan City                     |
| Location        | Ulsan, Korea                   |
| Completion Year | 2026                           |
| Capacity        | Stoker incinerator 460 ton/day |

## 05 Gwangmyeong Resource Recovery Facility Expansion Project

|                 |                                |
|-----------------|--------------------------------|
| Client          | Korea Environment Corporation  |
| Location        | Gwangmyeong, Korea             |
| Completion Year | 2029                           |
| Capacity        | Stoker incinerator 380 ton/day |

## 03 Siheung Clean Energy Center Project (PPP)

|                 |                                                                                                         |
|-----------------|---------------------------------------------------------------------------------------------------------|
| Client          | Siheung City                                                                                            |
| Location        | Siheung, Korea                                                                                          |
| Completion Year | 2024                                                                                                    |
| Capacity        | Biogas facility 743 ton/day<br>(Sewage sludge 540 ton/day + food waste 145 ton/day + manure 60 ton/day) |

## 06 Gumi Regional Integrated Biogas Facility Project (PPP)

|                 |                                                                                                      |
|-----------------|------------------------------------------------------------------------------------------------------|
| Client          | Gumi City                                                                                            |
| Location        | Gumi, Korea                                                                                          |
| Completion Year | 2028                                                                                                 |
| Capacity        | Biogas facility 475 ton/day<br>(Sewage sludge 255 ton/day + food waste 190 ton/day + manure ton/day) |

# Air Pollution Reduction

We design and construct the facilities to reduce air pollutant emissions from pollution sources.



## 01 LG Electronics Tennessee Clarksville Environment Facility Project

|                 |                                                                                     |
|-----------------|-------------------------------------------------------------------------------------|
| Client          | LG Electronics                                                                      |
| Location        | Tennessee, US                                                                       |
| Completion Year | 2019                                                                                |
| Capacity        | C-RTO 4,200 CMM<br>Scrubber 300 CMM<br>Wastewater treatment 460 m <sup>3</sup> /day |

## 02 LG Chemical Guangzhou Air Pollution Reduction Facility Project

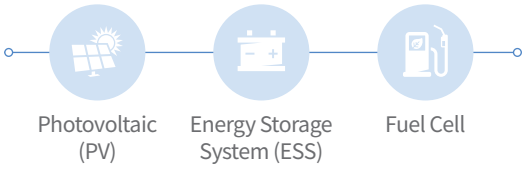
|                 |                                           |
|-----------------|-------------------------------------------|
| Client          | LG Chemical                               |
| Location        | Guangzhou, China                          |
| Completion Year | 2021                                      |
| Capacity        | RTO+CTO<br>RTO 1,500 CMM<br>CTO 1,650 CMM |

## 03 Lotte Fine Chemical Ulsan Integrated RTO Installation Project

|                 |                     |
|-----------------|---------------------|
| Client          | Lotte Fine Chemical |
| Location        | Ulsan, Korea        |
| Completion Year | 2025                |
| Capacity        | RTO 1,167 CMM       |

# Renewable Energy

We are operating an energy efficiency improvement project, which stores the unused power during nighttime for the time slots with high demand for electricity.



## 01 Jungnang WWT Plant ESS Installation Project

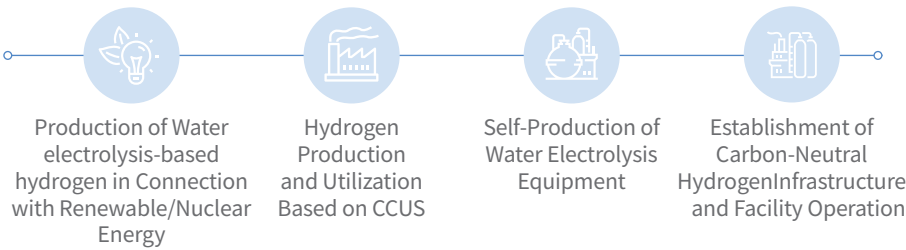
|                 |                                       |
|-----------------|---------------------------------------|
| Client          | Seoul Jungnang Water Recycling Center |
| Location        | Seoul, Korea                          |
| Completion Year | 2017                                  |
| Capacity        | PCS: 3 MW<br>Battery: 19.9 MWh        |

## 02 Nanji WWT Plant ESS Installation Project

|                 |                                    |
|-----------------|------------------------------------|
| Client          | Seoul Nanji Water Recycling Center |
| Location        | Seoul, Korea                       |
| Completion Year | 2018                               |
| Capacity        | PCS 1 MW<br>Battery 6.7 MWh        |

Hydrogen Business

Hydrogen Production and Utilization



|           |                                                                                                                                                                                |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Challenge | Carbon neutrality is an unavoidable challenge for realizing a healthy global environment and values for humankind, and green hydrogen is at the very core.                     |
| Expertise | We provide optimized solutions with consideration for both CAPEX and OPEX, leveraging our EPC expertise in hydrogen production and proven technologies for water electrolysis. |
| Trust     | A sole provider of “green energy integrated solution” in Korea, we are fulfilling our missions for humankind and global environment.                                           |

Hydrogen Business Status



- 01 Three Techcross companies signed an MOU with K-water and Korea Institute of Energy Research (2022)
- 02 MOU for Onshore CO<sub>2</sub> Storage Utilizing Abandoned Mines (2024)
- 03 Promotional booth for Techcross companies at H2 Meet (2024, KINTEX)
- 04 MOU to Promote the East Coast Hydrogen Economy Industrial Belt (2024)

Water Electrolysis Demonstration Project



Buan, Jeonbuk Water Electrolysis-Based Hydrogen Production Base Construction Project

**Project duration :** 36 months (Jun. 2022 - May 2025)  
**Project details :** Water electrolysis equipment with capacity of 2.5MW and hydrogen production of 1 ton/day  
**Location :** Baekrye-ri, Haseo-myeon, Buan-gun, Jeollabuk-do, Korea  
**Led by overseeing institutions :** Jeonbuk T. P  
**Local government :** Buan, Jeollabuk-do  
**Participants :** Techcross Water & Energy · Techcross Environmental Services, Hyundai Engineering & Construction, Korea Hydro & Nuclear Power

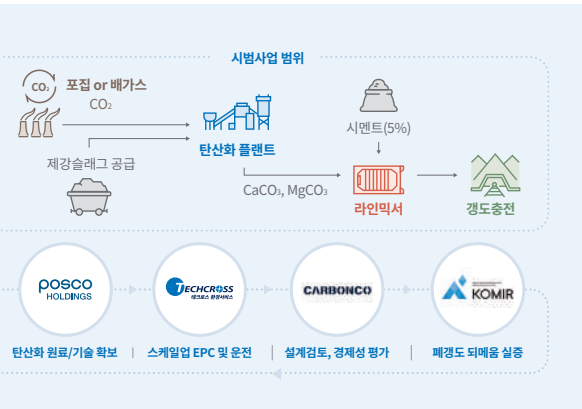
Boryeong, Chungnam Water Electrolysis-Based Hydrogen Production Base Construction Project

**Project duration :** 36 months (Oct. 2023 – Sep. 2026)  
**Project details :** Water electrolysis equipment with capacity of 2.5MW and hydrogen production of 1 ton/day  
**Location :** Songhak-ri, Boryeong-si, Chungcheongnam-do, Korea  
**Led by overseeing institutions :** Korea Midland Power Co., Ltd.  
**Local government :** Boryeong City, Chungcheongnam-do  
**Participants :** Techcross Water & Energy, Hyundai Engineering, ISTE



Gimcheon Solar-Powered Green Hydrogen Technology Demonstration (Samsung C&T)

**Project duration :** 12 months (Jan. 2025 – Dec. 2025)  
**Project details :** Utilization of solar energy for hydrogen production, storage, transportation, and infrastructure development



Participation in a Pilot Project for Onshore CO<sub>2</sub> Storage Utilizing Abandoned Mines

**Project duration :** 42 months (June. 2024 – Dec. 2027)  
**Project details :** Pilot demonstration of slag carbonization and construction of a CO<sub>2</sub> charging plant (CO<sub>2</sub> : 3 tons/day, total capacity: approx. 300 tons)

# International Project

By delivering diverse international projects across North and Central America, China, Southeast Asia, and Central Asia, we are strengthening our position as a global environmental and energy EPC company.

## 01 Juigalpa, Nicaragua Wastewater Treatment Plant Project

Using funds of EDCF (KEXIM Bank), this project builds a sewage treatment facility in Juigalpa, a central inland town of Nicaragua, and is expected to improve the health and life environment of 70,000 citizens in the region. The client is ENACAL, a state-owned enterprise in Nicaragua.



|                 |                                                                                                            |
|-----------------|------------------------------------------------------------------------------------------------------------|
| Category        | Sewage treatment facility                                                                                  |
| Client          | ENACAL                                                                                                     |
| Location        | Juigalpa, Nicaragua                                                                                        |
| Completion Date | 2022                                                                                                       |
| Capacity        | Sewage treatment facility 11,000 m³/day,<br>Sewage pipeline 109.73 km, 32 pumps,<br>9,154 drainage systems |

## 02 Djizzak, Uzbekistan Sanitation System Development Project

This project of building a sewage treatment facility of 30,000 m³/day is aimed to procure infrastructure in Djizzak, which has been designated as a special industrial complex by the Uzbekistan government. The project is funded by Asian Development Bank (ADB), and the Uzbekistan government expects that the sewage and wastewater system to be connected to the region will be improved and that 85,000 residents and more than 350 businesses in the region will enjoy direct or indirect benefits.



|                 |                                                                           |
|-----------------|---------------------------------------------------------------------------|
| Category        | Sewage treatment facility                                                 |
| Client          | Plant Djizzak region SUE “SUVOKOVA”                                       |
| Location        | Djizzak, Uzbekistan                                                       |
| Completion Date | 2023                                                                      |
| Capacity        | Sewage treatment facility 30,000 m³/day, Sewage pipeline 82.8 km, 3 pumps |

## 03 Bluefields, Nicaragua Wastewater Treatment Plant Project

In this project, funded by a cooperative loan of Central American Bank for Economic Integration (CABEI) and Economic Development Cooperation Fund (EDCF), we design and build a sewage treatment facility, comprising of a wastewater treatment facility, sewer pipeline, pumps and drainages, in an eastern marine city called Bluefields. It is expected to improve the health, hygiene, and living environment of 50,000 citizens residing in the region of Nicaragua. The client is ENACAL, a state-owned enterprise in Nicaragua.



|                 |                                                                                                       |
|-----------------|-------------------------------------------------------------------------------------------------------|
| Category        | Sewage treatment facility                                                                             |
| Client          | ENACAL                                                                                                |
| Location        | Bluefields, Nicaragua                                                                                 |
| Completion Date | 2025                                                                                                  |
| Capacity        | Sewage treatment facility 5,256 m³/day,<br>Sewage pipeline 55 km,<br>13 pumps, 5,591 drainage systems |

## 04 Gulistan, Uzbekistan Sewage pipeline Project

This project, funded by the Islamic Development Bank (IsDB), was initiated by the government of Uzbekistan to construct a sewage pipeline network in Gulistan — the administrative and industrial center of the Syrdarya region. As part of the project, approximately 47 kilometers of new sewage pipelines and two relay pumping stations were installed, significantly improving the local sewage management system. These improvements have contributed to enhancing both the living environment and sanitation standards for residents in the area.



|                 |                                |
|-----------------|--------------------------------|
| Category        | Sewage treatment facility      |
| Client          | JSC “SIRDARYO SUV TA’MINOTI”   |
| Location        | Gulistan, Uzbekistan           |
| Completion Date | 2024                           |
| Capacity        | Sewage pipeline 47 km, 2 pumps |

# References

## Industrial Water

| Client          | Project Name                                                                                | Scale            | Completion Year |
|-----------------|---------------------------------------------------------------------------------------------|------------------|-----------------|
| EG Korea        | EG Korea Paju Water Treatment Construction (Pure)                                           | 250 m³/hr        | 2014            |
| GS E&C          | LG Science Park Magok DP2 UPW Construction                                                  | 20 m³/hr         | 2017            |
| GS Power        | GS Power Anyang Cogeneration Water Treatment Construction (Pure)                            | 830 m³/hr        | 2018            |
| LG Display      | LG Display Paju P9 Mobile PO Expansion Environmental Facility Construction                  | 825 m³/hr        | 2023            |
|                 | LG Display Paju P10 C/R 6F IT OLED                                                          | 1,500 m³/hr      | 2025            |
|                 | LG Display Paju P10 C/R 7F A07 Response Environmental Facility Water Treatment Construction | 480 m³/hr        | 2023            |
|                 | LG Display Paju P10 C/R 3F LCD Construction                                                 | 1,200 m³/hr      | 2022            |
|                 | LG Display Paju P9 AP4 ToE Response Environmental Facility Construction                     | 14,000 m³/day    | 2022            |
|                 | LG Display Paju P9 AP4 MTO Response Environmental Facility Construction                     | 7,000 m³/day     | 2022            |
|                 | LG Display Paju P9 AP4 ToE Capacity Increase Response Environmental Facility Construction   | 625 m³/hr        | 2022            |
|                 | LG Display Paju P9 pOT DI System Capacity Expansion Construction                            | 1,250 m³/hr      | 2019            |
|                 | LG Display Paju P9 a-Si Capacity Expansion Construction                                     | 550 m³/hr        | 2019            |
|                 | LG Display Paju P9 pOC DI System Capacity Expansion Construction                            | 290 m³/hr        | 2019            |
|                 | LG Display Gumi P4 ToE 5.6K DI System Capacity Expansion Construction                       | 150 m³/hr        | 2019            |
|                 | LG Display Gumi P4 ToE 1st Capacity Expansion Construction                                  | 150 m³/hr        | 2019            |
|                 | LG Display Gumi B-PJT Water Treatment P1 Construction                                       | 100 m³/hr        | 2017            |
|                 | LG Display Gumi B-PJT Water Treatment P2 Construction                                       | 150 m³/hr        | 2017            |
|                 | LG Display Gumi P8 DI System Polishing Expansion Construction                               | 260 m³/hr        | 2014            |
|                 | LG Display Gumi P6 DI System Polishing Expansion Construction                               | 230 m³/hr        | 2014            |
|                 | LG Display Paju P9 DI System Expansion Construction                                         | 320 m³/hr        | 2013            |
|                 | LG Display Gumi P6 DI System Expansion Construction                                         | 140 m³/hr        | 2013            |
|                 | LG Display Gumi Module DI System P1 Expansion Construction                                  | 220 m³/hr        | 2011            |
|                 | LG Display Gumi Module DI System P2 Expansion Construction                                  | 200 m³/hr        | 2011            |
| LG Innotek      | LG Innotek Gumi PS Phase 2 Environmental Facility Expansion Construction                    | 40 m³/hr         | 2021            |
|                 | LG Innotek Gumi OM Mass Production Relocation Environmental Facility Construction           | 25 m³/hr         | 2021            |
| LG Electronics  | LG Electronics Gumi Solar DI System Expansion Construction                                  | 30 m³/hr         | 2014            |
|                 | LG Electronics Changwon RO System Construction                                              | 11 m³/hr         | 2013            |
|                 | LG Electronics Gasan Campus Groundwater Supply Construction                                 | 150 m³/hr        | 2011            |
| LG Chemical     | LG Chem Yeosu Utility Center Construction                                                   | 750 m³/hr        | 2019            |
|                 | LG Chem Cheongju RO System Construction                                                     | 60 m³/hr         | 2015            |
|                 | LG Chem Cheongju RO#2 System Construction                                                   | 80 m³/hr         | 2016            |
|                 | LG Chem Paju DI System Expansion Construction                                               | 30 m³/hr         | 2015            |
|                 | LG Chem Yeosu SAA PJT WT (Water Treatment) Facility                                         | 400 m³/hr        | 2016            |
|                 | LG Chem Yeosu NCC Water Treatment Expansion Construction                                    | 360 m³/hr        | 2011            |
|                 | LG Chem Yeosu Y2C DI, WWT Expansion Construction                                            | 1,425 m³/hr      | 2020            |
| SK Siltron      | SK Siltron Gumi #3 DI System Expansion Construction                                         | 208 m³/hr        | 2011            |
|                 | SK Siltron Incheon Sapphire DI System Construction                                          | 40 m³/hr         | 2011            |
|                 | SK Siltron Gumi #2 DI System Construction                                                   | 40 m³/hr         | 2011            |
| SERVEONE        | LG Science Park Magok DP3 UPW Construction                                                  | 278 m³/hr        | 2017            |
| Wavepark        | Wavepark Siheung Water Treatment Project                                                    | 5,500 m³/hr (여과) | 2021            |
| Coca Cola Korea | Coca Cola Korea Yeosu Drinking Water Facility Work (Ext.)                                   | 260 m³/hr        | 2012            |
| Haesung DS      | Haesung DS DI System Project                                                                | 2,400 m³/day     | 2025            |
| Haetae Beverage | Haetae Beverage Cheonan Drinking Water Facility Work (Ext.)                                 | 100 m³/hr        | 2011            |

## Sewage and Wastewater

| Client                     | Project Name                                                                                                             | Scale                             | Completion Year |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------|-----------------------------------|-----------------|
| EG Korea                   | EG Korea Paju Water Treatment Construction (Wastewater)                                                                  | 960 m³/day                        | 2014            |
| GS E&C                     | LG Science Park Magok DP2 Sewage Treatment Facility Construction                                                         | 200 m³/day                        | 2017            |
| GS Power                   | GS Power Anyang Cogeneration Wastewater Treatment Construction (Wastewater)                                              | 2,000 m³/day                      | 2017            |
| LG Display                 | LG Display Paju P10 C/R 3F LCD Construction                                                                              | 14,500 m³/day                     | 2022            |
|                            | LG Display Paju P9, 10 Environmental Pollution Prevention Facility Wastewater Treatment Construction                     | 60,000 m³/day                     | 2019            |
|                            | LG Display Paju P9, 10 Environmental Pollution Prevention Facility Reuse Construction                                    | 29,200 m³/day                     | 2019            |
|                            | LG Display Paju P9 POT Capacity Expansion Construction                                                                   | 4,100 m³/day                      | 2019            |
|                            | LG Display Paju CA GP2 180k Reuse Plant Construction                                                                     | 13,500 m³/day                     | 2018            |
|                            | LG Display Paju CA GP2 120k Reuse Construction                                                                           | 6,300 m³/day                      | 2018            |
|                            | LG Display Paju P8 E42 Reuse Facility Construction                                                                       | 700 m³/day                        | 2018            |
|                            | LG Display Gumi B-PJT Wastewater Treatment Facility Construction                                                         | 2,200 m³/day                      | 2017            |
|                            | LG Display Gumi P6 Wastewater Treatment System Expansion Construction                                                    | 8,300 m³/day                      | 2014            |
|                            | LG Display Paju Environmental Pollution Prevention Facility Organic Wastewater Treatment Facility Expansion Construction | 4,500 m³/day                      | 2013            |
| LG Household & Health Care | LG Household & Health Care Cheongju TP Wastewater Treatment Expansion Construction                                       | 300 m³/day                        | 2020            |
| LG Innotek                 | LG Innotek Gumi 4 Factory FC-BGA Investment Environment Construction                                                     | 500 m³/day                        | 2023            |
|                            | LG Innotek Cheongju Wastewater Treatment Facility Construction                                                           | 2,000 m³/day                      | 2017            |
|                            | LG Innotek Gumi #3 Wastewater Treatment Facility Construction                                                            | 3,200 m³/day                      | 2013            |
| LG Chemical                | LG Chem Yeosu Y2C DI, WWT Capacity Expansion Construction                                                                | 1,320 m³/day                      | 2020            |
|                            | LG Chem Yeosu Utility Center Construction                                                                                | 960 m³/day                        | 2019            |
|                            | LG Chem Yeosu EPS Wastewater Facility Plant Expansion Construction                                                       | 1,100 m³/day                      | 2016            |
|                            | LG Chem Yeosu SAA Wastewater Treatment Facility Construction                                                             | 623 m³/day                        | 2016            |
|                            | LG Chem (formerly LG Life Science) Osong Campus Wastewater Treatment Facility Construction                               | 1,000 m³/day                      | 2014            |
|                            | LG Chem (formerly LG Life Science) Iksan Wastewater Treatment Facility Construction                                      | 650 m³/day                        | 2013            |
|                            | LG Chem Daesan Wastewater Treatment Facility Expansion Construction                                                      | 900 m³/day                        | 2013            |
| SK Siltron                 | SK Siltron N-Project Wastewater Treatment Plant Expansion Construction                                                   | 15,000 m³/day                     | 2025            |
|                            | SK Siltron Gumi Hook-up & PD construction                                                                                | 5,000 m³/day                      | 2013            |
|                            | SK Siltron Gumi #3 wastewater treatment facility #1 expansion project                                                    | 4,000 m³/day                      | 2011            |
|                            | SK Siltron Gumi #3 wastewater treatment facility #2 expansion project                                                    | 3,000 m³/day                      | 2011            |
| Goseong-gun                | Toseong-myeon sewage treatment facility expansion project                                                                | 3,800 m³/day                      | 2023            |
| Gwangmyeong City           | Gwangmyeong-Siheung General Industrial Complex Public Wastewater Treatment Plant Project                                 | Wastewater Treatment 2,500 m³/day | 2026            |
| Gumi City                  | Gumi National Industrial Complex Buffer Storage Facility Installation Project                                            | 20,200 m³/day                     | 2022            |
| Namyangju City             | Hwado, Namyangju Privately-Invested Public Wastewater Treatment Plant Project (PPP)                                      | 51,000 m³/day                     | 2027            |
| Daejeon City               | Daejeon Sewage Treatment Plant Facility Modernization Private Investment Project                                         | 650,000 m³/day                    | 2028            |
| Lotte Fine Chemical        | Lotte Fine Chemical Wastewater Treatment Plant Effluent Recycling Construction                                           | 10,000 m³/day                     | 2026            |
| Mu-hak                     | Mu-hak Chungju Wastewater Treatment Facility Construction                                                                | 700 m³/day                        | 2019            |
|                            | Mu-hak Changwon #1 Wastewater Treatment Facility (Advanced) Construction                                                 | 350 m³/day                        | 2015            |
| Sancheong-gun              | Sancheong Daepo District Rural Village Sewage System Expansion Project                                                   | 330 m³/day<br>L=24,237m           | 2027            |

# References

## Sewage and Wastewater

| Client                        | Project Name                                                                             | Scale                                                                                                | Completion Year |
|-------------------------------|------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|-----------------|
| Samsung C&T                   | Samsung Display Giheung SDR Green Center Wastewater Treatment Facility Construction      | 2,400 m³/day                                                                                         | 2025            |
|                               | Samsung Display Giheung SDR Green Center Reuse Facility Construction                     | 450 m³/day                                                                                           | 2025            |
| Samsung Biologics             | Samsung Biologics Songdo EDISON IV PJT Wastewater Treatment Facility Construction        | 3,600 m³/day                                                                                         | 2023            |
| SERVEONE                      | LG Science Park Magok DP3/D22 Wastewater Treatment Facility Construction                 | 1,280 m³/day                                                                                         | 2017            |
| Asan City                     | Asan Privately-Invested Public Wastewater Treatment Plant Expansion Project (PPP)        | 28,000 m³/day                                                                                        | 2026            |
| Yeosu City                    | Yeosu Treated Sewage Effluent Reuse Plant Project (PPP)                                  | Water Reuse Facility<br>50,000 m³/day (UF+RO),<br>Water Supply Pipeline<br>16.8km                    | 2025            |
| Cheongju City                 | Cheongju High Water Wastewater Treatment Plant Reuse Private Investment Project          | 35,000 m³/day                                                                                        | 2024            |
| Coca Cola Korea               | Coca-Cola Yeoju Wastewater Treatment Facility Construction                               | 3,000 m³/day                                                                                         | 2015            |
| Paju City                     | Paju City Wastewater Reuse Private Investment Project                                    | 41,200 m³/day                                                                                        | 2018            |
| Pyeongtaek Urban Corporation  | Pyeongtaek Jinwi Industrial Complex Wastewater Treatment Facility Expansion Construction | 2,000 m³/day                                                                                         | 2017            |
| Korea Environment Corporation | Gimpo Tongjin Reco Park Expansion Project                                                | Sewage Treatment<br>28,000 m³/day<br>Relay Pumping Station<br>68,000 m³/day<br>Sewage Pipeline 8.1km | 2027            |
| Hanwha Aerospace              | Yeosu Plant Wastewater Treatment Facility Expansion Investment                           | 1,000 m³/day                                                                                         | 2026            |
| Haesung DS                    | Haesung DS Wastewater Treatment Plant Project                                            | 8,400 m³/day                                                                                         | 2025            |
| Hwaseong City                 | Hwaseong Bongdam Wastewater Treatment Facility Construction                              | 9,600 m³/day                                                                                         | 2020            |
|                               | Hwaseong Namyang Public Wastewater Treatment Facility Private Investment Project         | 7,000 m³/day                                                                                         | 2026            |

## Waste to Energy

| Client                        | Project Name                                                       | Scale       | Completion Year |
|-------------------------------|--------------------------------------------------------------------|-------------|-----------------|
| Gumi City                     | Gumi Regional Integrated Biogas Facility Project (PPP)             | 475 ton/day | 2028            |
| Kleannara                     | Kleannara Cheongju Incineration Plant Project                      | 400 ton/day | 2019            |
| Siheung City                  | Siheung Clean Energy Center Project (PPP)                          | 745 ton/day | 2024            |
| Eco E&T                       | Gunsan Waste Recycling Project                                     | 480 ton/day | 2022            |
| Yeonggwang SRF                | Yeonggwang Waste-to-Energy Facility Project                        | 318 ton/day | 2026            |
| Ulsan City                    | Seongam Incinerating Facility Units 1 and 2 Reconstruction Project | 460 ton/day | 2026            |
| Changshin E&E                 | Gimcheon Waste Energy Recovery Facility Construction               | 360 ton/day | 2028            |
| Korea Resources Environment   | Mungyeong Waste Recycling Project                                  | 146 ton/day | 2022            |
| Korea Environment Corporation | Gwangmyeong Resource Recovery Facility Expansion Construction      | 380 ton/day | 2029            |

## Air Pollution Reduction

| Client              | Project Name                                                                                           | Scale                                                                                                                                                                               | Completion Year |
|---------------------|--------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| GS E&C              | LG Science Park Magok DP2 Air Environment Facility Construction                                        | Scrubber 500 CMM<br>Scrubber 600 CMM<br>Chemical Filter 950 CMM                                                                                                                     | 2019            |
| LG Innotek          | LG Innotek Gumi 2nd Factory Wastewater Treatment Plant Old Lime Tank Expansion Construction and others | New Lime Metering Tank<br>Dredging of Existing Lime Tank<br>Recycling of Existing FRP Tank to Form New Lime Tank<br>Repair of Mechanical Concentrator in Wastewater Treatment Plant | 2025            |
| LG Electronics      | LG Electronics Gumi Solar Environmental Facility Construction                                          | Wet Scrubber 500 CMM<br>A/C Tower 350 CMM<br>Fan 450 m³/min                                                                                                                         | 2019            |
|                     | LG Electronics Incheon Campus Environmental Facility Construction                                      | A/C Tower 415 CMM<br>Bag Filter 24 CMM<br>Carbon Filter 393 CMM<br>Dust Collector 53 CMM                                                                                            | 2018            |
| LG Chemical         | LG Chem Yeosu 5AA Wastewater Treatment Facility Environmental Equipment Construction                   | Wet Scrubber 700 CMM                                                                                                                                                                | 2014            |
| Lotte Fine Chemical | Lotte Fine Chemical Integrated RTO Construction                                                        | RTO 1,167 CMM<br>Wet Scrubber 610 CMM                                                                                                                                               | 2025            |

## Renewable Energy

| Client                           | Project Name                                                              | Scale    | Completion Year |
|----------------------------------|---------------------------------------------------------------------------|----------|-----------------|
| GS E&R                           | GS E&R Sihwa · Seonggok Solar Energy Generation ESS Facility Installation | 6.7 MWh  | 2018            |
| LG Electronics                   | LG Electronics Gumi A1 Plant ESS Facility Installation                    | 13.3 MWh | 2017            |
| Nanji Sewage Treatment Center    | Nanji Sewage Treatment Center ESS Facility Installation Work              | 6.7 MWh  | 2018            |
| Jungnang Sewage Treatment Center | Jungnang Sewage Treatment Center ESS Facility Installation Work           | 19.9 MWh | 2017            |

## Hydrogen Production and Utilization

| Client                                 | Project Name                                                                                   | Scale  | Completion Year |
|----------------------------------------|------------------------------------------------------------------------------------------------|--------|-----------------|
| Ministry of Trade, Industry and Energy | Buan, Jeonbuk Water Electrolysis-Based Hydrogen Production Base Construction Project           | 2.5 MW | 2025            |
|                                        | Boryeong, Chungnam Water Electrolysis-Based Hydrogen Production Base Construction Project      | 2.5 MW | 2026            |
|                                        | Participation in a Pilot Project for Onshore CO <sub>2</sub> Storage Utilizing Abandoned Mines | -      | 2026            |
| Samsung C&T                            | Gimcheon Solar-Powered Green Hydrogen Technology Demonstration                                 | 10 MW  | 2026            |

## International Project

| Category              | Client | Project Name                                                           | Scale            | Completion Year |
|-----------------------|--------|------------------------------------------------------------------------|------------------|-----------------|
| Sewage and Wastewater | ENACAL | Bluefields, Nicaragua Wastewater Treatment Plant Project               | 5,256 m³/day     | 2025            |
|                       |        | Chinandega, Nicaragua Sewer Pipeline Improvement and Expansion Project | D150~600 72.69km | 2026            |
|                       |        | Juigalpa, Nicaragua Wastewater Treatment Plant Project                 | 11,000 m³/day    | 2022            |

# References

## International Project

| Category                | Client                                 | Project Name                                                                                      | Scale                            | Completion Year |
|-------------------------|----------------------------------------|---------------------------------------------------------------------------------------------------|----------------------------------|-----------------|
| Sewage and Waste water  | JSC "SIRDARYO SUV TA'MINOTI"           | Gulistan, Uzbekistan Sewer Pipeline Construction (Lot2, Lot3)                                     | 47km                             | 2024            |
|                         | SUE “Suvokova” (Djizzak)               | Gulistan, Uzbekistan Pkg No.5 Sewer Pipeline Construction                                         | 54.81km / 9.72km Dredging / PS 2 | 2023            |
|                         |                                        | Djizzak, Uzbekistan Zone C. Sewer Pipeline Construction                                           | D300~1200 18.29km / PS 1         | 2022            |
|                         |                                        | Djizzak, Uzbekistan Wastewater Treatment Plant Project                                            | 30,000 m³/day                    | 2022            |
|                         | Ministry of Public Works and Transport | Ta Khmau, Cambodia Sewerage System Improvement Project                                            | 12,000 m³/day D150~D900 111.4km  | 2027            |
|                         | LG Display                             | LG Display Guangzhou CO P10A Construction in China                                                | 12,900 m³/day                    | 2019            |
|                         |                                        | LG Display Vietnam Haiphong V-PJT Wastewater Treatment Facility Construction                      | 2,100 m³/day                     | 2017            |
|                         | LG Electronics                         | LG Electronics Tennessee Clarksville Environmental Facility Construction                          | 460 m³/day                       | 2019            |
| Industrial Water        | LG Display                             | LG Display Vietnam Haiphong H2 Water Treatment Construction                                       | 50 m³/hr                         | 2021            |
|                         |                                        | LG Display Vietnam Haiphong H3 4F, 5F Small and Medium OLED Water Treatment Facility Construction | 150 m³/day                       | 2023            |
|                         |                                        | LG Display Vietnam Haiphong H2 pO Auto Construction                                               | 50 m³/hr                         | 2019            |
|                         |                                        | LG Display Vietnam Haiphong H2 E62 Line Construction                                              | 50 m³/hr                         | 2019            |
|                         |                                        | LG Display Vietnam Haiphong H1 E61 Golden Line Installation Construction                          | 50 m³/hr                         | 2017            |
|                         |                                        | LG Display Vietnam Haiphong H1 E61 pOM Line Installation Construction                             | 50 m³/hr                         | 2017            |
|                         |                                        | LG Display Vietnam Haiphong V-PJT Water Treatment Construction                                    | 30 m³/hr                         | 2014            |
|                         |                                        | LG Display Guangzhou CO P10A Capacity Expansion Construction in China                             | 2,000 m³/hr                      | 2024            |
|                         |                                        | LG Display Guangzhou CO P10A Construction in China                                                | 800 m³/hr                        | 2019            |
|                         |                                        | LG Display Guangzhou Water Treatment System Design Construction                                   | 1,125 m³/hr                      | 2013            |
|                         |                                        | LG Display Nanjing N4 IT Capacity Expansion Construction in China                                 | 120 m³/hr                        | 2018            |
|                         | LG Innotek                             | LG Display Nanjing N1, N3 IT/NBPC Capacity Expansion Construction in China                        | 7 m³/hr                          | 2012            |
|                         | Heesung Electronics                    | LG Display Nanjing N2 Environmental System Construction in China                                  | 170 m³/hr                        | 2019            |
|                         |                                        | LG Display Yantai Y3 D705 DI System Construction in China                                         | 90 m³/hr                         | 2019            |
|                         |                                        | LG Display Yantai Y1 North Grinder Construction in China                                          | 50 m³/hr                         | 2019            |
|                         |                                        | LG Display Yantai Y1 Y2 Smart Watch LTF Capacity Expansion in China                               | 140 m³/hr                        | 2018            |
|                         |                                        | LG Display Yantai Y2 Smart Watch D273 Construction in China                                       | 60 m³/hr                         | 2025            |
| Air Pollution Reduction | LG Electronics                         | LG Electronics Tennessee Clarksville Environment Facility Project                                 | C-RTO 4,200 CMM Scrubber 300 CMM | 2019            |
|                         | LG Chemical                            | LG Chem China Guangzhou Coating 1st and 2nd RTO Efficiency Improvement                            | RTO 6,000A CMM (4 units)         | 2021            |
|                         |                                        | LG Chem China Guangzhou FSPM Entire Process Environmental Equipment Manufacturing and Delivery    | RTO 1,500 CMM CTO 1,650N CMM     | 2021            |

## Technical Consulting

| Client          | Project Name                                                                          | Scale                                                                                                                                    | Completion Year |
|-----------------|---------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| LX MMA          | Technical Service for Yeosu Wastewater Treatment Plant (formerly LG MMA)              | Investigation of Wastewater Treatment Plant Equipment Status and Derivation of Improvement Plans<br>Operation Manual Review and Revision | 2016            |
| Hyundai Oilbank | Consulting Service for Efficiency Improvement and Process Optimization at DaeSan WWTP | Diagnosis of wastewater treatment plant and development of process improvement measures                                                  | 2025            |

# Patents and Model Utility Rights

## Patents and Model Utility Rights

| Sector                             | Title of Invention                                                                                              | Registration No. | Registration Date |
|------------------------------------|-----------------------------------------------------------------------------------------------------------------|------------------|-------------------|
| Waste resources · Renewable energy | MANUFACTURING SYSTEM OF MEMBRANE BASED BIOGAS USING THE HYDROGEN                                                | 1025610470000    | 2023.07.25        |
| Civil · Architectural Structures   | OPTIMIZED TWO-WAY PRECAST CONCRETE BLOCK SLAB                                                                   | 1024151360000    | 2022.06.27        |
| Waste resources · Renewable energy | Biological Carbon Dioxide Methanation Process System using methane production strain and control Method thereof | 1023936770000    | 2022.04.28        |
|                                    | NOVEL MICROORGANISM PRODUCING METHANE AND METHOD OF PRODUCING METHANE USING THE SAME                            | 1022603080000    | 2021.05.28        |
|                                    | BIOMETHANATION PROCESS FOR BIOGAS UPGRADING                                                                     | 1020938950000    | 2020.03.20        |
| Wastewater                         | WASTEWATER TREATMENT SYSTEM AND WASTEWATER TREATMENT METHOD                                                     | 1018920170000    | 2018.08.21        |
| Water                              | WATER TREATMENT APPARATUS                                                                                       | 1018673540000    | 2018.06.07        |
| Waste resources · Renewable energy | SYSTEM FOR PRODUCING HIGH PURITY METHANE GAS USING TWO PHASE ANAEROBIC FERMENTATION AND METHOD THEREFOR         | 1018665020000    | 2018.06.04        |
| Water                              | SELF-ACTUATING WATER TREATMENT APPARATUS AND WATER TREATMENT SYSTEM INCLUDING SAME                              | 1018561800000    | 2018.05.02        |
| Wastewater                         | WATER TREATMENT APPARATUS                                                                                       | 1017955080000    | 2017.11.02        |
| Water                              | WATER TREATING APPARATUS INCLUDING BUBBLE GENERATOR                                                             | 1017436420000    | 2017.05.30        |

## Trademarks

| Name                                                                              | Registration No. |               |
|-----------------------------------------------------------------------------------|------------------|---------------|
| OTS (Optimized Two-way System)                                                    | 4018174550000    | 4018174560000 |
| PROES [ Photovoltaic Panel + RO (Reverse Osmosis) + ESS (Energy Storage System) ] | 4012673000000    | 4012789400000 |
|                                                                                   | 4012673010000    |               |

## Business License

| License Name                                                    | Registration No.  | License Name                                                       | Registration No. |
|-----------------------------------------------------------------|-------------------|--------------------------------------------------------------------|------------------|
| Industrial Environmental Equipment Construction                 | 01-0086           | Electrical Construction Business                                   | Seoul-05166      |
| Civil and Architectural Engineering Construction                | 10-0518           | Mechanical Equipment & Gas Construction Business (Type 1)          | Bucheon-24-Pi-01 |
| Water Quality Environmental Engineering Works                   | No. 408           | Overseas Construction License (Industrial Environmental Equipment) | 273              |
| Air Quality Environmental Engineering Works                     | No. 275           | Overseas Construction License (Electrical Works)                   | 1720             |
| General Fire Protection System Design (Electrical & Mechanical) | No. 2019-01-00100 | Overseas Construction License (Environmental Engineering Works)    | 1145             |
| Specialized Fire Protection System Construction                 | No. 2015-02-0091  | Overseas Construction License (Civil and Architectural Works)      | 1446             |

# Technology Research Center

## Institute of Environmental Technology

Our technology research center develops forward-looking strategies and solutions to meet the evolving environment and energy markets. We deliver cost-efficient technologies by integrating digital innovation for stable and optimized processes.

|                        |                                                                                                                                                                                                                           |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Optimal Capex and Opex | <ul style="list-style-type: none"><li>• Future tech discovery &amp; application</li><li>• Environmental &amp; energy process innovation</li><li>• Optimal operation &amp; management</li></ul>                            |
| Carbon Neutrality      | <ul style="list-style-type: none"><li>• Next-gen clean energy : hydrogen &amp; e-fuels</li><li>• Carbon reduction via CCUS : mineralization &amp; mine storage</li><li>• Waste-to-energy : biogas &amp; biochar</li></ul> |
| Digital Transformation | <ul style="list-style-type: none"><li>• Digital innovation in environment &amp; energy</li><li>• Data-driven operation &amp; asset integration</li><li>• AI-based process optimization &amp; efficiency</li></ul>         |

## Main Research Areas

|  |                        |                                                                                                                                                                                                                                                        |
|--|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | Ultrapure Water        | <ul style="list-style-type: none"><li>• Localizing UPW processes for electronics</li><li>• UPW from alternative water sources</li></ul>                                                                                                                |
|  | Water Reclamation      | <ul style="list-style-type: none"><li>• Efficient, low-cost membrane separation for water reuse</li><li>• Treatment of RO concentrate from water reuse</li><li>• Energy and chemical cost reduction technology</li></ul>                               |
|  | Carbon Net Zero        | <ul style="list-style-type: none"><li>• Large-scale water electrolysis for hydrogen production</li><li>• Microbial CO2 methanation</li><li>• Solar-powered desalination</li><li>• CCUS via carbon mineralization with slag &amp; mine shafts</li></ul> |
|  | Digital Transformation | <ul style="list-style-type: none"><li>• Digital operation &amp; management : automation, alerts, maintenance</li><li>• AI- and data-driven intelligent O&amp;M</li></ul>                                                                               |

## Core Technology

### Industrial Ultrapure Water Treatment and Wastewater Reclamation Technology



We provide engineering solutions for ultrapure water production and wastewater reuse in semiconductor and display manufacturing processes.

- Client-focused solutions from planning stage
- Wastewater separation & reuse by water quality
- Water solutions for display manufacturing

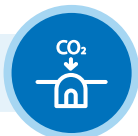
### Water Reuse



We optimize and develop UF and RO technologies through long-term operation of sewage reclamation and RO concentrate treatment.

- Process monitoring & optimization with operational data
- Korea's only full-treatment and direct discharge of RO concentrate
- Adaptive operation for variable water quality & flow

### CO2 Mineralization with Steel Slag



We develop CO2 mineralization technology using steel slag for cost-effective carbon capture.

- CO2 mineralization with slag & mine shaft filling
- CCUS technology linked to blue hydrogen

### Renewable-Powered Off-Grid Desalination



We provide small-scale desalination technology powered by PV, ESS, and RO for islands and resorts lacking freshwater and electricity.

- Environment-adaptive engineering for PV-ESS-RO systems
- Eco-friendly, chemical-free membrane cleaning with microbubbles



**SAVE OPEX  
SAVE EARTH**