GnG InTech

Water Solutions Partner

GnG InTech Co., Ltd.

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COMPANY BROCHURE

ADVANCED INDUSTRY WATER

Industrial water expertise from design through operation

Water treatment for semiconductors and advanced industries

Since 2001, GnG InTech has delivered ultrapure water (UPW), deionized (DI) water, water reuse, wastewater treatment and seawater desalination solutions. Our integrated services cover process assessment and consulting, engineering, procurement, fabrication, construction, commissioning and ongoing operations.

UPW production system for semiconductor manufacturing

COMPANY

03 **Message from the CEO**
Management philosophy and values

04 **Company Profile & Milestones**
Organization, customers and history

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Engineering, cost and responsiveness

BUSINESS

06 **UPW & DI Water**
Semiconductors, displays and power

08 **Wastewater & Resource Recovery**
Complex wastewater and crystallization

09 **Water Reuse**
Biological treatment to UPW feedwater

10 **Pilot Validation & O&M**
Scale-up, commissioning and operations

12 **Water Management Consulting**
Operating efficiency and energy savings

13 **Global Business**
United States, Middle East and Asia

TECHNOLOGY, R&D & PROJECT EXPERIENCE

14 **Global Technology Partnerships**
Materials and process technologies

16 **Key R&D Programs**
Government-funded research

17 **Leadership & R&D Infrastructure**
Management and Innovation Center

18 **Selected Project Experience**
EPC, operations and commissioning

MESSAGE FROM THE CEO

Our customers’ success is at the center of everything we do

At GnG InTech, we strive to be the partner our customers trust most to help them succeed. We earn that trust through technical expertise and accountability for the work we deliver.

Since our founding, we have focused exclusively on industrial water treatment. We manage the entire project lifecycle directly, from process assessment and consulting to engineering, fabrication, construction, commissioning and operations. Our experience spans ultrapure and process water supply for semiconductor and display manufacturing, as well as complex industrial wastewater treatment, resource recovery and water reuse.

As manufacturing processes advance, water quality requirements become more demanding and environmental regulations more stringent. Meeting these demands requires an integrated view of the entire water cycle, from incoming water quality to final discharge and reuse.

For us, a project is successful when it contributes to our customer’s business success. Guided by this principle, we are committed to uncompromising quality and solutions that best meet each customer’s needs.

Jamie Lee

Chief Executive Officer | GnG InTech Co., Ltd.

Dedicated UPW distribution piping within a semiconductor fab

Our Core Values

Customer Success

Our responsibility continues until target water quality and production performance are achieved. We tailor each solution to the customer’s processes and operating conditions, remaining involved through engineering, construction, commissioning, stabilization and performance delivery.

Sustainable Innovation

We use field design and operating data to advance sustainable water treatment. Continuous technical improvements increase energy and resource efficiency while maintaining consistent performance across a range of operating conditions.

Quality and Trust

Precise engineering and accountable operations deliver reliable water quality and system performance. Our commitment extends beyond handover, with rigorous performance management and technical support from startup throughout the operating lifecycle.

COMPANY PROFILE

25 years of expertise. Integrated industrial water solutions.

Our specialists in ultrapure water, wastewater treatment, water reuse and resource recovery bring experience from projects in Korea and overseas. We directly manage every stage, from initial assessment through operation, applying 25 years of engineering experience to reduce project risk and deliver optimized water treatment solutions.

Company	GnG InTech Co., Ltd.
Established / CEO	January 9, 2001 / Jamie Lee
Team	45 employees: 3 PhDs, 7 master’s degrees, 2 Korean Professional Engineer qualifications and 11 Korean Engineer qualifications
Core services	Process consulting: water quality and process assessments, mass balances, operating optimization, energy and chemical savings. Engineering, fabrication and construction: UPW, DI water, MBR/RO reuse, wastewater, desalination and cooling tower blowdown reuse. O&M: commissioning, operations, maintenance and data-based optimization.
Key customers	Samsung Electronics, Samsung E&A, Samsung C&T, K-water, Lam Research, Particle Measuring Systems, Veolia and advanced-industry materials, components and equipment suppliers
Licenses / registrations	Mechanical systems and gas works contractor; water quality specialist environmental contractor (No. 379); environmental consulting; direct production certification for UPW generators; Samsung E&A engineering partner
Address	Suites 810, 909 and 910, U-TOWER, 120 Heungdeokjungang-ro, Giheung-gu, Yongin-si, Gyeonggi-do, Republic of Korea

Milestones

2001–2015

Jan 2001: Company established.
March 2005: In-house R&D center established.
Sep 2007: Renamed GnG InTech.
Nov 2008: INNOBIZ certification and venture company status obtained.
Jan 2015: Registered as a water quality specialist environmental contractor.
Jan 2015: Business partnership established with ATS of Italy.
Aug 2015: ISO 9001 and ISO 14001 certifications obtained.

2016–2023

May 2016: Distribution agreement signed for Biocell biofilm carrier media.
Aug 2016: Appointed distributor of BactiQuant products.
Feb 2019: Containerized systems supplied to the Middle East.
July 2022: ISO 45001 certification obtained.
Samsung E&A engineering partner.
Commissioned multiple UPW systems for semiconductor fabs.
Supplied systems to China, the United States and Malaysia.

2024–PRESENT

Jun 2024: Korean Society for Ultrapure Water membership.
Jan 2025: K-water overseas market delegation.
Jun 2025: Innovative Water Company designation.
Jul 2025: Mechanical / gas works registration; UPW generator production certification.
Apr 2026: Lead R&D program on UPW from reclaimed municipal wastewater.
Series A external investment secured.
Dongtan Innovation Center development.

TECHNICAL CAPABILITIES & COMPETITIVE ADVANTAGES

Accurate engineering. Responsive execution.

We integrate 25 years of design data, procurement records and commissioning experience into standardized workflows to deliver consistent engineering quality across our business.

01 TECHNOLOGY

Process design tailored to water quality requirements

• **Optimized treatment trains**: We configure 20 to 30 unit processes around target parameters such as boron, total organic carbon (TOC) and particles, together with the characteristics of the wastewater being treated.
• **Proprietary dynamic RO control**: Our design assigns distinct operating roles to the first and second RO passes and adjusts operation in real time to changes in water quality, flow and pressure. A patent application was filed in January 2026.
• **Standardized operating practices**: Defined operating criteria, inspection intervals and water quality acceptance criteria support consistently high performance.

02 COST

Competitive project economics

• **Modular skids and 3D engineering**: We fabricate and validate complete skid modules using 3D models, reducing field construction time and optimizing engineering, fabrication and installation costs.
• **Detailed estimating backed by procurement data**: A structured database of historical equipment and material prices improves estimate accuracy and budget control from the outset.
• **Direct delivery of medium-sized and larger projects**: In-house design and procurement of major process systems reduce outsourcing costs.

03 RESPONSE

Fast support with clear accountability

• **Dedicated project engineer**: A designated engineer remains accountable from the initial quotation through delivery and after-sales support, enabling fast, informed responses.
• **Smart monitoring and AI-based predictive diagnostics**: Online water quality measurements and operating data are integrated in real time. AI-assisted anomaly detection and diagnostics provide prompt guidance on corrective action.
• **Global emergency response**: We dispatch specialist engineers within five business days of a reported site issue to reduce shutdown risk at customer facilities in the United States, Southeast Asia and other overseas markets.

BUSINESS 01 | ULTRAPURE & DEIONIZED WATER

Reliable ultrapure water for advanced manufacturing

From DI water for power and petrochemical plants to semiconductor UPW, we tailor systems to each customer’s specifications and operating conditions. Direct delivery from assessment through engineering, construction and operation supports stable water quality and reliable performance.

Core Capabilities

01 Semiconductor-grade UPW production

- High-purity process design to meet semiconductor water quality specifications.
- System configurations tailored to the requirements of each production line and changing operating conditions.

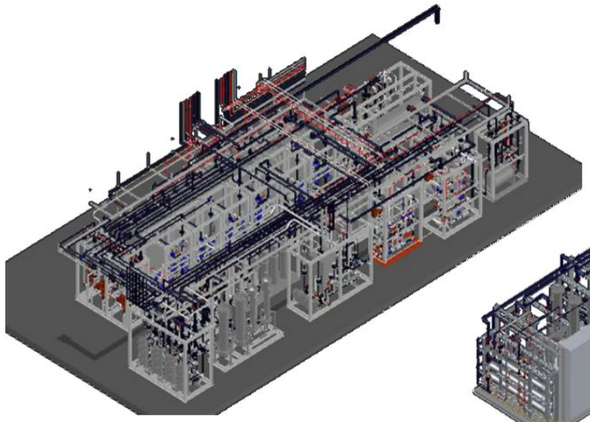
02 Competitive pricing

- Cost advantages through distributor relationships with global RO membrane and ion exchange resin brands.
- Faster quotations and competitive costs through our design database and standardized units.

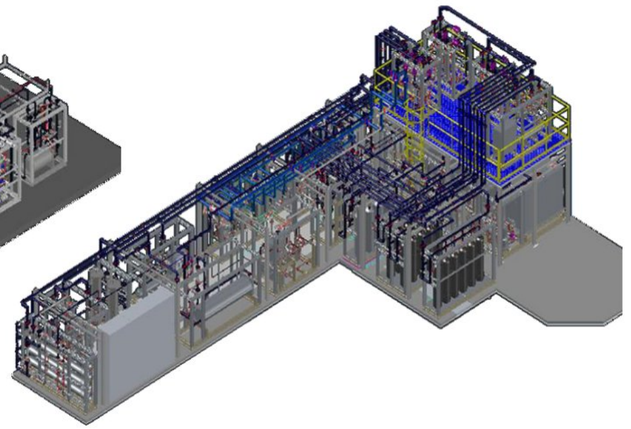
03 Proven project experience

- Experience building semiconductor-grade UPW and fab rinse water systems.
- Supply and operating references with major Korean semiconductor materials, components and equipment companies.

3D Modeling



UPW system for Company S



UPW system for Company L

Engineering to Reduce Capital Costs

Design

- Review process suitability and project economics.
- Use 3D modeling to optimize layouts and detect piping and structural clashes.
- Design for coordinated operation across unit processes and convenient maintenance access.

Fabrication, Installation & Commissioning

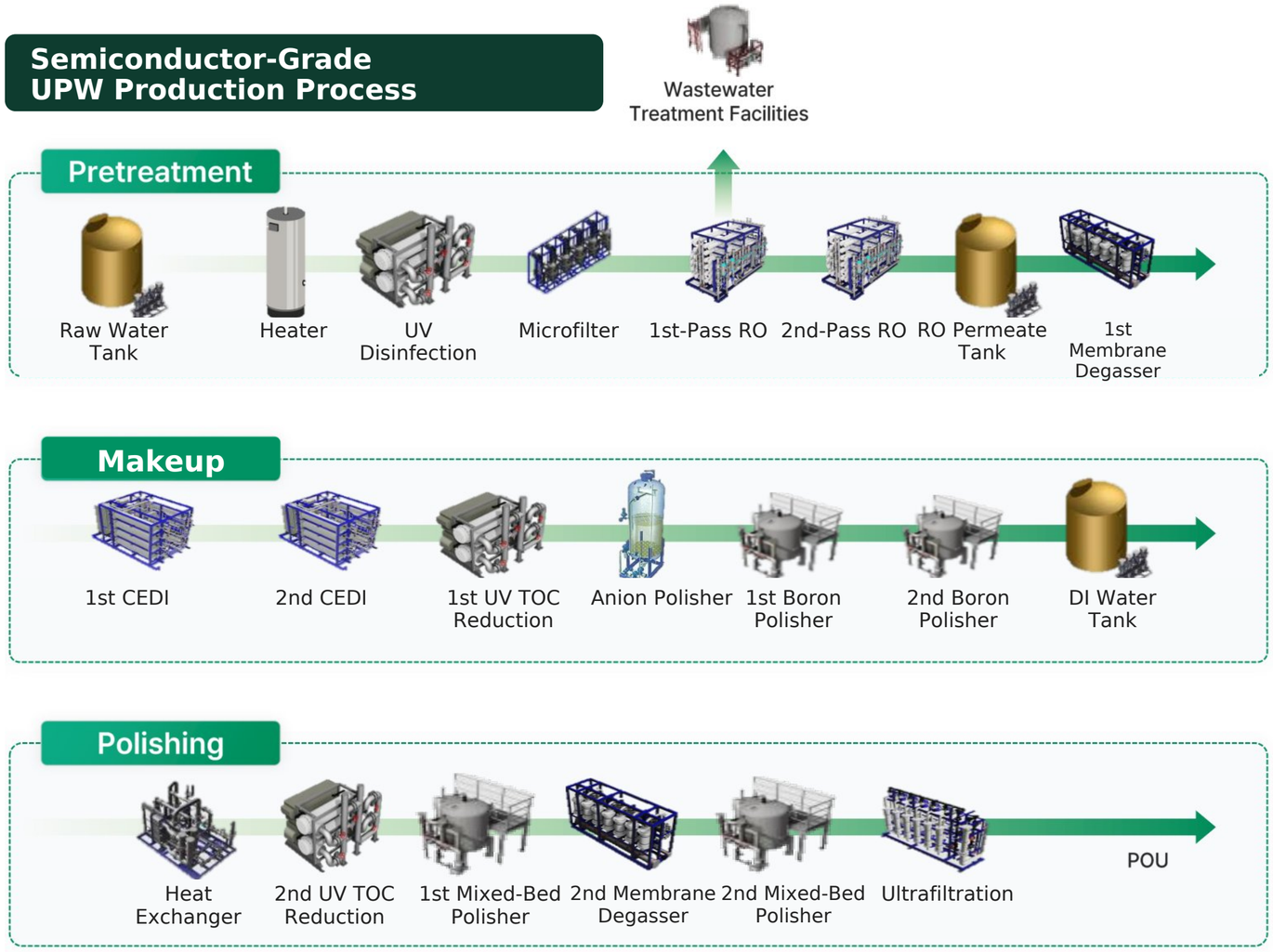
- Prefabricate modular skids to shorten schedules and improve quality control.
- Apply rigorous construction, quality and safety management, and verify target water quality during commissioning.
- Support permitting and technical coordination for water treatment and wastewater discharge facilities.

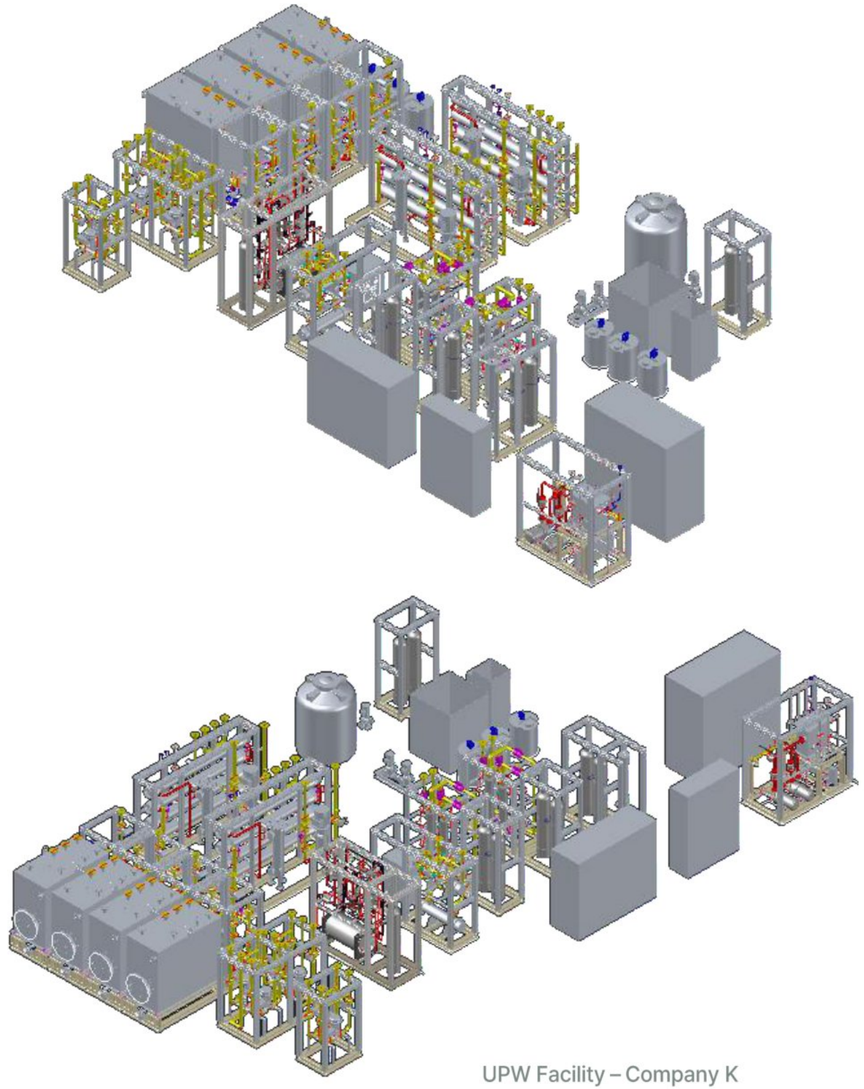
After-Sales Service & Technical Support

- Provide customized operating manuals, practical training and transfer of operating know-how.
- Assign operating personnel for ongoing monitoring and technical support.
- Establish remote monitoring and provide real-time troubleshooting support.

BUSINESS 01 | ULTRAPURE & DEIONIZED WATER

Semiconductor-Grade UPW Production Process





UPW Facility – Company K

CEDI: continuous electrodeionization | POU: point of use

BUSINESS 02 | WASTEWATER & RESOURCE RECOVERY

Reliable treatment of complex industrial wastewater

We characterize complex, high-strength wastewater from semiconductor and advanced manufacturing processes. Integrated physical, chemical and biological treatment, membranes and advanced oxidation are engineered to meet regulatory discharge limits and customers' internal water quality standards.

Treatment Applications & Approaches

01 **High-strength and hard-to-treat wastewater**

We combine moving bed biofilm reactor (MBBR) and membrane aerated biofilm reactor (MABR) technologies with physical and chemical treatment. Reactor volumes are carefully sized during design to provide stable treatment of difficult constituents.

02 **Fluoride-bearing and acidic wastewater**

Pilot-validated fluoride removal and acidic wastewater reuse technologies are supported by project experience treating hydrofluoric-acid-bearing wastewater from semiconductor fabs.

03 **Resource recovery and sludge reduction**

High-efficiency concentration and crystallization recover valuable resources and minimize sludge production, reducing operating costs and environmental impact.

04 **Integration with desalination**

We design and fabricate membrane systems, including brackish water reverse osmosis (BWRO) and seawater reverse osmosis (SWRO), for high-salinity water treatment and desalination.

Aerobic granular sludge (AGS) system | KAUST, Saudi Arabia

MBBR and MABR media: high-density biofilm carriers

Selected Projects

MABR pilot plant fabrication • High-rate coagulation and clarification systems • Retrofit of a high-efficiency fluoride removal pilot • Wastewater treatment plant expansion • Fabrication of MBBR and clarification systems • Containerized wastewater treatment plants in the Middle East • MBBR systems for overseas methanol plants.

BUSINESS 03 | WATER REUSE

Reclaim wastewater as high-quality process water

Water scarcity and ESG requirements make reuse essential to sustainable plant operations. We tailor efficient systems to site conditions and target water quality, from nonpotable utility water to feedwater for semiconductor-grade UPW production.

Treatment Stages Selected to Meet Target Water Quality

Process & municipal wastewater
Measure flow and characterize water

→

Biological treatment
MBR / PRO-MBR; coagulation and clarification

→

UF & biological activated carbon
Filtration and trace organic removal

→

RO recovery
Produce reclaimed water at target quality

→

Concentrate treatment
CFRO; support ≥90% water recovery

→

Return to use
Utility water; UPW feedwater with added purification

Project Delivery

01 Identify reuse opportunities

We analyze the composition and flow of individual wastewater streams to identify technically feasible, economically attractive recovery opportunities. Consulting begins with setting the target reuse flow rate.

02 Design for each industry

RO, high-rate coagulation and clarification, and fluoride removal are combined to suit site water quality. High-recovery concentration increases overall water and resource recovery across the plant.

03 Assess the payback period

We compare process configurations at the target recovery rate and obtain competing quotations for major consumables to minimize capital and operating costs.

Industries: Semiconductors, fine chemicals, food and beverage, cosmetics, retail/apparel.
Applications: Nonpotable utility water and UPW feedwater.
Projects: Company S reuse systems and O&M; Caitac Garment (U.S.) reuse RO; Xi'an BAC and UPW; Pyeongtaek acidic wastewater reuse commissioning.

Reuse membrane filtration | Korean semiconductor facility

BWRO / SWRO skids | Caitac Garment, United States

BUSINESS 04 | OPERATIONS MANAGEMENT & PILOT VALIDATION

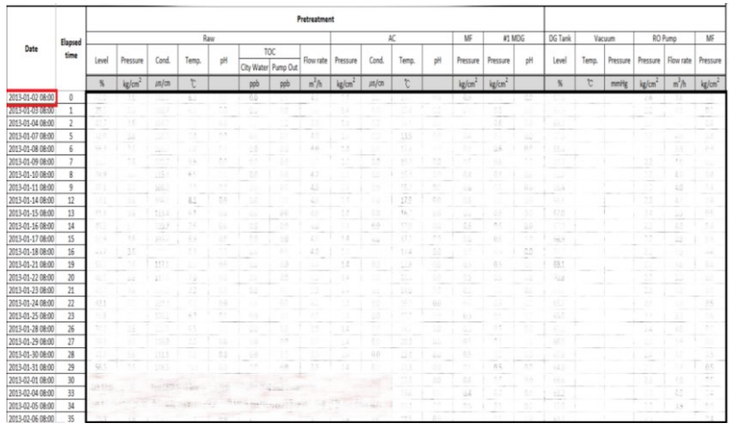
Operational expertise built on plant data and field experience

We combine commissioning and operating data with standardized management procedures to assess water quality and equipment condition. Preventive inspections and responsive field support help maintain target water quality and maximize operating efficiency.

Plant Data & Operating Know-How

- Daily operating logs and data analysis.
- Event and incident records.
- Analysis of seasonal influences.
- Correlation of operating events with equipment behavior.
- Maintenance costs and component replacement intervals.
- pH monitoring.

Operating Log Sheet



Date	Elapsed time	Pretreatment																						
		Raw							AC				MF	#1 MDG		DG Tank	Vacuum		RO Pump		MF		
		Level	Pressure	Cond.	Temp.	pH	TOC		Flow rate	Pressure	Cond.	Temp.	pH	Pressure	Pressure	pH	Level	Temp.	Pressure	Pressure	Flow rate	Pressure		
							City Water	Pump Out																
		%	kg/cm²	μS/cm	℃		ppb	ppb	m³/h	kg/cm²	μS/cm	℃		kg/cm²	kg/cm²		%	℃	mmHg	kg/cm²	m³/h	kg/cm²		
2013-01-02 08:00	0																							
2013-01-03 08:00	1																							
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2013-01-07 08:00	5																							
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Operating records support trend analysis and maintenance planning.

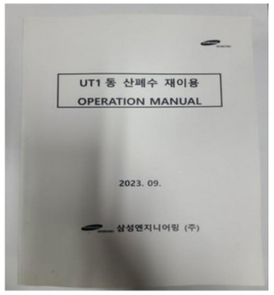
Commissioning & Pilot Deliverables

Commissioning

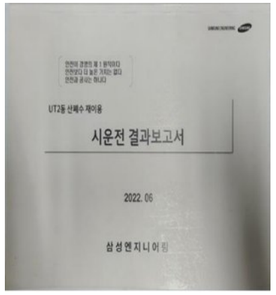
- Commissioning plan and daily reports.
- Pre-commissioning system inspection checklists.
- Startup checklists and punch lists.
- Pump full-load test results.
- Performance guarantee test results.
- Final commissioning report.
- Maintenance guidelines and operator training materials.

Pilot Operations

- Operations plan and pilot operating logs.
- Preventive inspection plan and periodic inspection reports.
- Standard operating procedures (SOPs).
- Troubleshooting reports and final operating report.
- Chemical safety data sheets (SDSs) posted on site.
- Chemical inspection checklists.
- Visual inspection of valves, pumps, reactors and related equipment.



UT1 Acidic Wastewater Reuse Operating Manual



UT2 Acidic Wastewater Reuse Commissioning Report

Environmental Treatment Expertise

Water treatment

Commissioning of UPW, municipal and industrial wastewater, and UF/RO reuse systems. Operation of UPW, wastewater and reuse pilots. Analysis of experimental and operating data.

Air pollution control

Pilot operation and analysis of experimental and operating data.

Mechanical equipment inspection

Electrical and control inspection

Safety and fire protection

Preventive inspection report

BUSINESS 04 | PILOT VALIDATION & SCALE-UP

Site-specific validation for successful commercial deployment

Pilot operation validates real-time process data and establishes the design parameters required for full-scale systems. This allows scale-up risks to be addressed before commercial implementation.

Scale-Up Process

Bench testing
Establish baseline performance of treatment media and chemicals

→

Pilot plant
Validate performance using the site's actual feedwater

→

Design basis confirmation
Establish and verify design parameters

→

Full-scale construction
Fabricate and install the commercial system

→

Commissioning and ongoing operations
Continuously optimize performance using operating data

Pilot Demonstration

Pilot demonstration facility

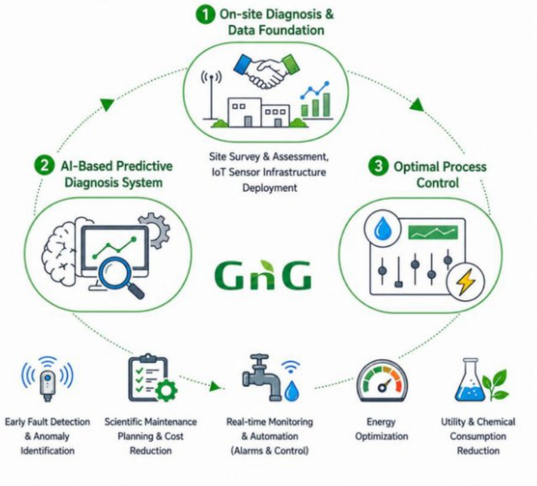
Direct field operation to reduce design risk

We design, build and operate technically demanding pilots for UPW, wastewater treatment and water reuse. Validated field data establish the design basis and reduce performance risk for full-scale systems.

Research collaboration with major semiconductor companies

Longstanding partnerships with leading semiconductor companies' research institutes cover pilot fabrication, validation and operations management, demonstrating the reliability of our engineering capabilities.

A Project Roadmap Tailored to Each Customer

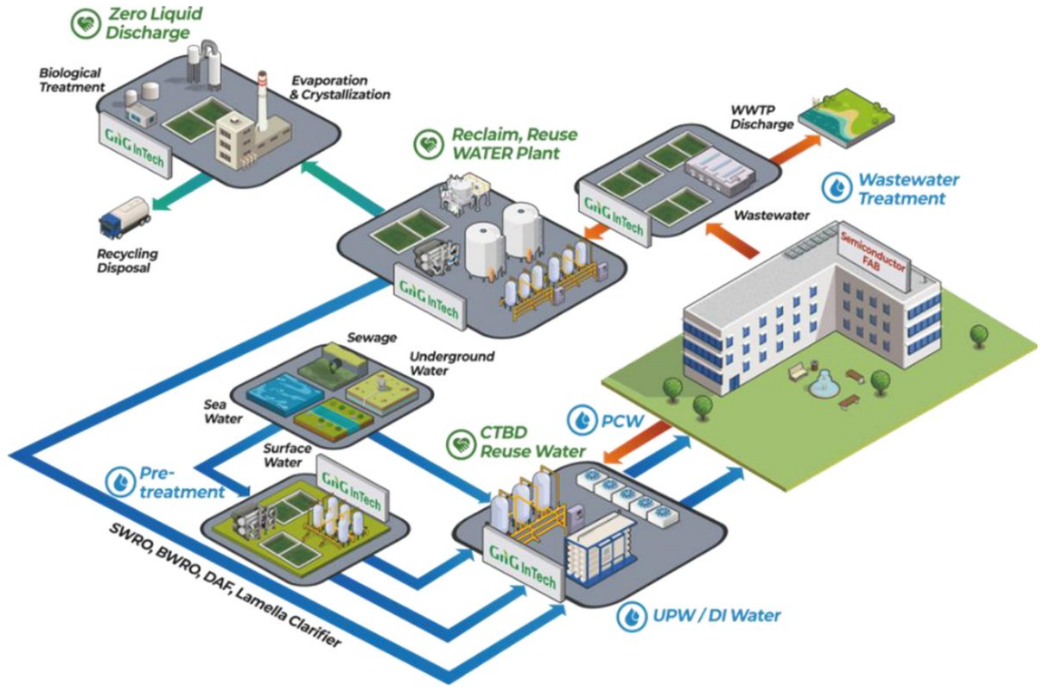


BUSINESS 05 | INTEGRATED WATER MANAGEMENT CONSULTING

Lower operating costs through data-driven process optimization

We assess the entire water cycle to identify bottlenecks and energy and water losses. Practical, phased improvements to process design, power demand, chemical dosing and wastewater reuse support lower operating costs and ESG goals.

GnG's Vision for Integrated Fab Water Management



Plantwide assessment and total cost of ownership optimization

We integrate mass balances and energy and chemical consumption across pretreatment, DI water, PCW, wastewater treatment, water reuse, cooling tower blowdown recovery and ZLD. This identifies the improvements with the greatest potential to reduce total cost of ownership (TCO).

Consulting Services

01 **Water quality and process assessment**

Measure water quality from source through the point of use and discharge to identify gaps between actual performance and the design basis.

02 **Operations optimization using plant data**

Reset recovery rates, CIP intervals and chemical dosing using real-time data to increase capacity and stability without plant expansion.

03 **Power and energy optimization**

Optimize RO pressure and pump operation at the best efficiency point (BEP); integrate energy recovery devices (ERDs) to lower power demand.

04 **Chemical dosing and condition-based CIP**

Optimize antiscalants and biocides. Quantitative microbiological analysis guides CIP timing and prevents unnecessary chemical use.

05 **Water reuse and water balance optimization**

Compare recoverable wastewater streams, treatment scenarios and target recovery rates to quantify reductions in freshwater intake and discharge.

06 **Expansion and investment feasibility**

Evaluate CAPEX and lifecycle OPEX for added capacity and process improvements, comparing investment options and payback periods.

Four-step consulting process
Assessment → optimization → pilot validation → engineering and construction.
A proven workflow connecting verification with execution.

BUSINESS 06 | GLOBAL BUSINESS

Modular engineering for faster delivery and consistent construction quality

Detailed engineering, fabrication and commissioning checks in Korea reduce overseas construction risk. Skid and container modules shorten installation and reduce local labor needs. Our Texas subsidiary supports responsive delivery for North American customers.

International Presence

UNITED STATES

Texas subsidiary and local support. 550 m³/day wastewater reuse RO. High-recovery concentration technology.

MIDDLE EAST

Containerized wastewater plants; VFA production; AGS systems; research pilot equipment.

CHINA

Xi’an BAC and UPW systems; X1 water reclamation; recovery of UPW feedwater.

VIETNAM

Commissioning support for semiconductor UPW; development of local partnerships.

MALAYSIA

MBBR design, fabrication and supply for a methanol plant.

Overseas Project Delivery

01 **3D clash detection and maintenance access**

Detailed 3D models identify piping clashes and verify access to valves and instruments before fabrication, reducing field rework and schedule risk.

02 **Prefabrication and factory acceptance testing**

Containerized and skid-mounted units are fully assembled in Korea, including piping, electrical systems and instrumentation. Wet testing and control-system checks are completed before shipment to support consistent site quality.

03 **Limited field work and rapid site acceptance**

Completed modules require primarily piping and power tie-ins, followed by site acceptance testing (SAT). This shortens field installation and enables earlier startup.

04 **Remote monitoring and emergency support**

Our Korean headquarters and U.S. subsidiary cross-check real-time operating data to resolve issues proactively. In an emergency, specialist engineers are deployed to the site within five days to minimize downtime.

CORE TECHNOLOGY 01 | HIGH-RECOVERY CONCENTRATION & ZLD

Maximize water recovery. Reduce wastewater treatment costs.

High-recovery concentration addresses scaling and osmotic pressure limits that constrain reuse. Increasing brine concentration maximizes recovery and enables zero liquid discharge when combined with final evaporation and crystallization.

Strategic technology partnership: Gradiant

Counterflow Reverse Osmosis (CFRO)

In conventional RO, increasing brine concentration raises osmotic pressure and limits further recovery. Counterflow reverse osmosis (CFRO) uses countercurrent brine flow on the permeate side to reduce the osmotic pressure differential across the membrane. This enables high brine concentrations at operating pressures of 69 bar or less, without ultra-high-pressure equipment.

Parameter	Ultra-high-pressure RO	Evaporation	Counterflow RO
Treatable brine TDS	Below 130,000 mg/L	Below 260,000 mg/L	Below 260,000 mg/L
Capital cost	Medium	Very high	Low to medium
Energy consumption	Medium	Very high	Medium
Operating complexity	Moderate	Complex	Simple

Up to 99%

Water recovery to salt saturation limits (NaCl basis)

~60% lower cost

Versus seawater RO at equivalent recovery

10–15% savings

Lifecycle cost versus ultra-high-pressure RO

Applications: Saline groundwater recovery increased from below 75% to 98%; 15-fold concentration for lithium recovery with on-site freshwater production; doubled desalination capacity.

Hybrid MLD / ZLD for Lower TCO

High-recovery RO minimizes the load on downstream thermal treatment. Evaporation and crystallization are then applied to the final concentrate to achieve ZLD while reducing TCO.

Biological pretreatment
Organics and nitrogen removal

→

Selective crystallization
Hardness recovery; less sludge

→

Multistage membranes
RO and CFRO concentration

→

Evaporation & crystallization
Solids recovery

Minimum liquid discharge (MLD)	MLD maximizes recovery through membrane concentration to minimize residual liquid waste and reduce the load on any downstream thermal treatment.
Zero liquid discharge (ZLD)	ZLD eliminates liquid wastewater discharge, addressing permitting constraints in areas with discharge volume limits and at new or expanded facilities where discharge permits are difficult to obtain.
Combined system	MLD membrane systems recover 80–90% or more of the wastewater. Only the remaining concentrated stream is sent to ZLD evaporation and crystallization, minimizing the overall cost of treatment.

Application: 35,000 m³/day semiconductor wastewater reuse; 65% water recovery and 50% sludge reduction.

CORE TECHNOLOGY 02 | TRACE CONTAMINANT REMOVAL

Selective trace contaminant control for advanced manufacturing

Semiconductor yields can be affected by extremely low contaminant levels, while discharge requirements continue to tighten. Specialized processes target PFAS and boron that conventional RO does not reliably remove to the required levels.

Strategic technology partnerships: Gradiant and DuPont

PFAS Concentration & Electrochemical Destruction

Per- and polyfluoroalkyl substances (PFAS) resist natural degradation because of their strong carbon-fluorine bonds. They enter wastewater from semiconductor etching, cleaning and photolithography processes and are difficult to remove through conventional coagulation, clarification or standard filtration. Activated carbon and ion exchange capture PFAS but leave residuals requiring further management. Our approach concentrates PFAS using microbubbles, then destroys the concentrated compounds through electrochemical oxidation.

Microbubble separation
Concentrate PFAS at bubble surfaces

→

Chemical-free recovery
Recover a small concentrate stream

→

Electrochemical destruction
On site; no off-site transport or incineration

99–99.99%
Removal of long- and short-chain PFAS

0.5 kWh/m³
Energy consumption for the destruction stage

1/5–1/10
Operating cost versus activated carbon or ion exchange

Regulatory Developments

United States	2024 drinking water limits: PFOA / PFOS, 4 ng/L each; PFHxS / PFNA / GenX, 10 ng/L each. EPA proposed rescinding the latter limits and mixture provisions in May 2026. These are not industrial discharge limits.
Taiwan	Semiconductor wastewater discharge limit: 1.2 ppb.
Korea / Europe	Tighter industrial PFAS discharge controls are under discussion; consider requirements early in new-fab permitting.

Modular expansion: Factory-validated skid and container modules connect to existing treatment plants or concentrate streams, adding capacity flexibly without a plant shutdown.

Boron-Selective Ion Exchange Resins

Boron-selective resins (BSR) use N-methyl-D-glucamine (NMDG) functional groups to selectively capture electrically neutral boric acid (H_3BO_3), which can pass through conventional RO. This supports wafer defect prevention, while chemical regeneration enables repeated resin use and extends service life.

Resin Conditioning & Application Engineering

01 **UPW-specific conditioning:** Thorough cleaning and pretreatment reduce residual TOC and trace ions in the resin, preparing it for UPW and polishing service.

02 **Operating conditions matched to target water quality:** Design accounts for boron concentration, resin loading, space velocity (SV), regeneration intervals and chemical dosing to maintain stable operation.

03 **Breakthrough prediction and resin life management:** Real-time operating data and adsorption kinetics help predict exhaustion and optimize regeneration and replacement before boron leakage compromises water quality.

04 **Integration with the UPW system:** Boron-selective resins are integrated with UV TOC reduction and the polishing loop to minimize interference between treatment steps and maintain stable, high-purity water.

Design target: boron below 1 ppt. Resin performance and regeneration conditions are validated at our Innovation Center before field application.

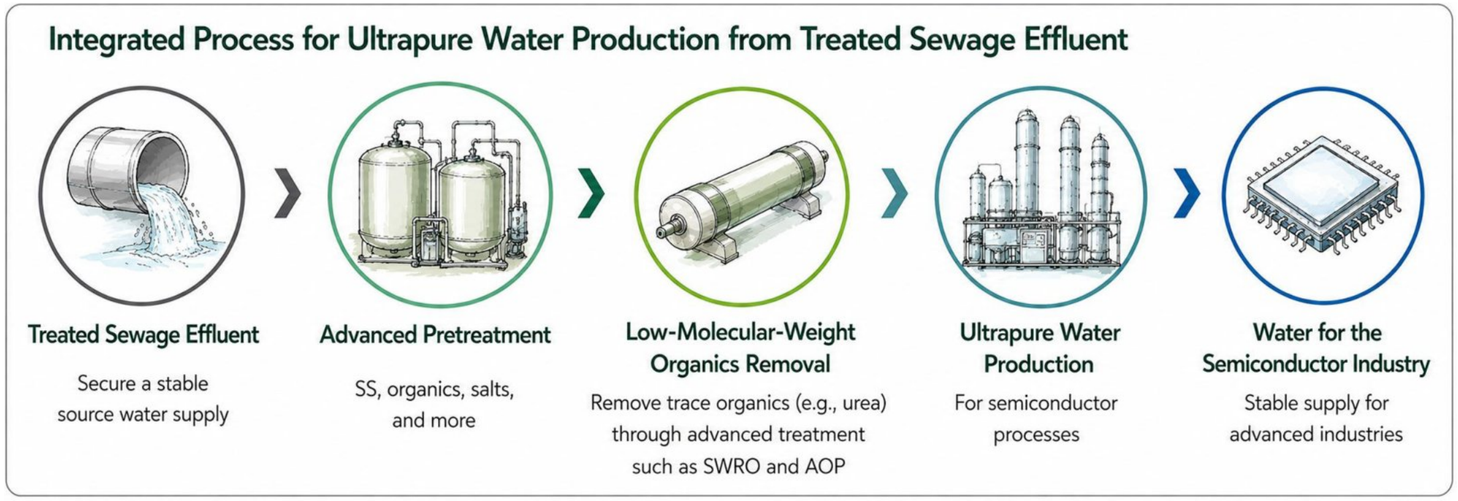
KEY R&D PROGRAMS

Semiconductor-grade UPW from reclaimed municipal wastewater

This program addresses source-water shortages at semiconductor and display fabs by purifying treated municipal effluent to UPW specifications, supporting a sustainable industrial water supply.

UPW Production, Process Design & Long-Distance Distribution

Program period	April 2026–December 2030 | Five-year program
Overall lead	GnG InTech
1. UPW production	GnG InTech, K-water, BL Process, Sunchon National University
2. Distribution piping	PPI, KAIST, Korea Conformity Laboratories (KCL)
3. Low-energy design	Hansung Cleantech, Pukyong National University



Intellectual Property & Development

January 2026	Patent application filed for dynamic, RO-centered process design and operating optimization
July 2025	Direct production certification obtained for ultrapure water generators
Since 2005	In-house R&D center conducting process development and materials evaluation

A detailed list of patent applications and registrations is available separately.

Certifications, Designations & Registrations

Jul 2025	Mechanical systems and gas works contractor registration
Jun 2025	Innovative Water Company designation by Korea’s Ministry of Environment
Jan 2025	Selection for K-water’s overseas market development delegation
2025	Venture company certification
Jun 2024	Membership in the Korean Society for Ultrapure Water
2015 / 2022	ISO 9001, ISO 14001 and ISO 45001 certifications
Jan 2015	Water quality specialist environmental contractor registration, No. 379
Nov 2008	INNOBIZ certification as a technology-innovative SME

LEADERSHIP & R&D INFRASTRUCTURE

Advancing water treatment through in-house research and validation

Our research and demonstration infrastructure validates core processes and trace contaminant control before field deployment. Specialists with advanced degrees support in-house R&D, detailed engineering, construction and operations.

Dongtan Innovation Center

Scheduled for completion: December 2026

UPW production systems, cleanroom, analytical equipment and pilot testing lines

IN-HOUSE

Resin conditioning

Boron removal resins are pretreated in-house to match UPW system operating conditions. Only materials that pass all required Innovation Center performance tests are released for field use.

VALIDATION

Pilot validation

New treatment materials and unit processes from global technology partners are tested in our pilot facilities. We establish optimal operating parameters and systematically verify and document performance and reliability.

SMART O&M

Sensor-based smart O&M

Real-time online water quality sensors and automated control logic are developed and validated at the Innovation Center, building advanced operating capabilities for field deployment.

Leadership

Jamie Lee

Chief Executive Officer

Leads corporate strategy and executive decisions. Economics, Yonsei University; master's in Global Finance, New York University. Former Maeil Business Newspaper reporter and D.CAMP Growth Team Lead.

Seungkwan Choi

Executive Vice President, Business Operations

Leads EPC and O&M sales and project business management. Master's in Environmental Engineering, Hanyang University. Former water business lead at Hanyang ENG; sales at Veolia.

Jinwook Jung

Chief Technology Officer

Leads in-house EPC development and smart operations. PhD in Civil and Environmental Engineering, Hanyang University. Former Samsung E&A R&D Group Leader and Arizona State University civil engineering professor.

SELECTED PROJECT EXPERIENCE

EPC, Operations & Consulting

UPW, reuse, municipal and industrial wastewater projects for advanced manufacturing customers in Korea and overseas. Customer names are abbreviated where requested.

Plant Projects

Year	Project scope	Application	Customer
2026	UPW system and piping installation for Asan Plant 2	UPW	Company A
2026	UPW production system fabrication and installation, Water Quality Center	UPW	K-water
2025	Main UPW system	UPW	Company L
2025	UPW and DI water production systems	UPW / DI water	Semiconductor supply-chain companies
2024	Relocation and installation of a UPW system; MABR laboratory-scale pilot	UPW / wastewater	Company S
2024	Wastewater reuse RO system in the United States, 550 m³/day	Reuse	Caitac Garment
2023	Containerized VFA production plant	Resource recovery	KAUST
2022	Containerized wastewater treatment plant	Municipal WW	KAUST
2022	DI system expansion; retrofit of a high-efficiency fluoride removal pilot	DI water / wastewater	Company S
2021	Sarawak Methanol Project: MBBR and UPW piping installation	MBBR / UPW	Company S
2019	UPW production system; DI equipment fabrication; MEC and membrane systems	UPW / wastewater	Company S
2017	Nereda pilot plant; TMAH wastewater treatment system; RO system	Wastewater	Company S / Institute for Advanced Engineering
2016	X1 project water reclamation system; UPW pilot fabrication	UPW	Company S
2014	Systems for Asan municipal wastewater treatment and reuse	Reuse	Econity
2012	UPW infrastructure, including UF quality control test equipment; BAC pilot	UPW	Company S
2011	MBR/RO retrofit; catalyst resin production equipment for S-AOP	Wastewater	Company S
2004–08	RO for electronics wastewater reuse; MBR pilot; UPW ion exchange resin equipment	Reuse	Company S

UPW: ultrapure water | DI: deionized water | WW: wastewater

Operations & Commissioning

Year	Project scope	Application	Customer
2026	Pyeongtaek P4 Phase 2 UPW system commissioning	UPW	Company K
2026	Operation of a scrubber pilot in Pyeongtaek and an HN-AD pilot	Reuse	Company S
2025	UF / RO / UPW municipal wastewater reuse pilot operation	Reuse	Company S
2025	Commissioning of Jeju municipal wastewater treatment modernization	Municipal WW	Company C
2025	Boryeong wastewater treatment plant reuse commissioning	Reuse	Samchully
2024	NRD-K UPW commissioning services; N-free commissioning	UPW	Company S
2024	Stage 2 water treatment plant expansion commissioning, 55,000 metric tons	Water treatment	Company S
2024	Operation of a volatile fatty acid pilot	Resource recovery	KAUST (Saudi Arabia)
2023	Commissioning of P1 acidic wastewater reuse; TMAH separation and concentration pilot	Reuse	Company S
2023	Commissioning of the NRD-K sewage relay pumping station; operation of a Nereda pilot	Wastewater	Company S
2021–22	Commissioning of P2 acidic wastewater reuse; S3-V subfab fit-out commissioning	Reuse	Company S
2020	E-PJT UPW commissioning; operation of a high-efficiency fluoride removal pilot	UPW / water reuse	Company S
2019	E-PJT UPW commissioning; operation of an SBR and MBR pilot	UPW / water reuse	Company S
2017	Commissioning of the SDV V3 UPW system	UPW	Company S (Vietnam)
2017	Operation of a pilot for reuse of hydrofluoric-acid-bearing semiconductor wastewater	Wastewater	Company S (Vietnam)
2009–present	UPW pilot operation and process development services	UPW	Company S

Consulting Projects

2026	Semiconductor water treatment process, equipment and operating-efficiency assessment and optimization	UPW / water reuse	Company L
Various	Process and operations consulting for a major Korean semiconductor manufacturer (multiple assignments)	UPW / water reuse	Company S