



Seongnam Water Treatment Plant

Clean,
Reliable Water Supply

**HEALTHFUL
WATER**



**With healthy water supply projects,
K-water will always be there for you
to supply healthy water.**

K-water will always be there anywhere you can see water supply projects underway to supply healthy water.

K-water will always be there anywhere you can see the development of a sound, efficient water cycle system underway to supply healthy water.

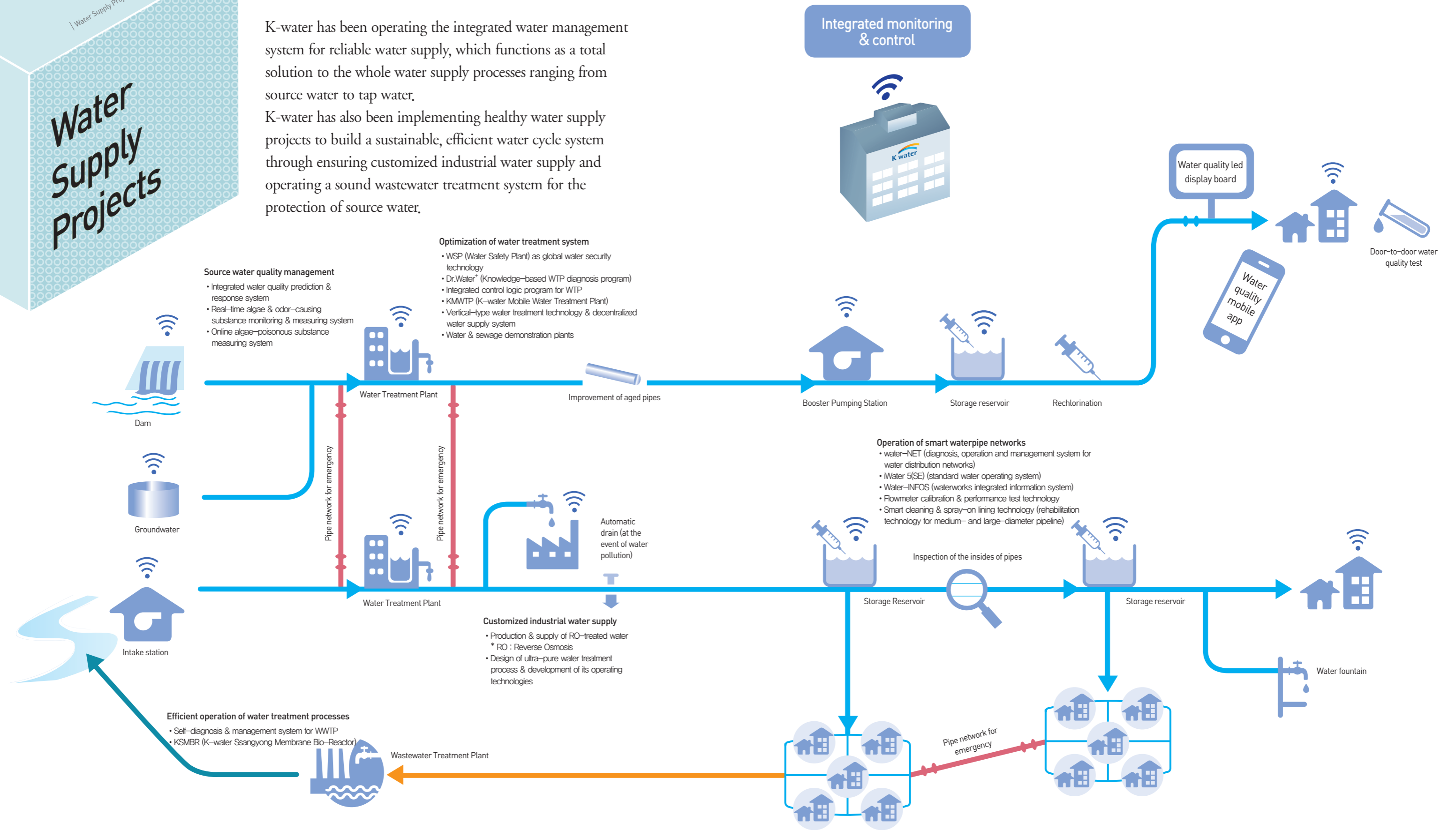
K-water will always be there for you to supply healthy water.

[Water Supply Projects]

Water Supply Projects

K-water has been operating the integrated water management system for reliable water supply, which functions as a total solution to the whole water supply processes ranging from source water to tap water.

K-water has also been implementing healthy water supply projects to build a sustainable, efficient water cycle system through ensuring customized industrial water supply and operating a sound wastewater treatment system for the protection of source water.



Smart Piping & Operation Technologies

K-water has developed and built *ICT-based water operation systems to acquire, monitor and control all relevant data on a real-time basis from the whole water supply systems ranging from water sources to tap water. The acquired data are analysed in terms of water quantity, water quality and energy management with the help of intelligent water network softwares that enable K-water to supply drinking water without service interruption and formulate an optimal plan to rehabilitate water supply infrastructure.
* ICT: Information & Communications Technology

Customized industrial water treatment technology

Industrial water refers to treated water customized for companies' needs. K-water has enhanced global competitiveness by developing optimal water treatment technologies and saving water production costs with efficient operation and maintenance practices. K-water has also ensured reliable water supply through linking among regional water supply networks.
※ Customized industrial water treatment : Process to produce and supply water meeting specific quality requirements for industrial sectors.

Diagnosis support

Diagnosis Program

Irrigation diagnosis

- Bloc suitability assessment
- Water leakage and pressure diagnosis
- Water supply capability and water flow speed diagnosis

Water-quality diagnosis

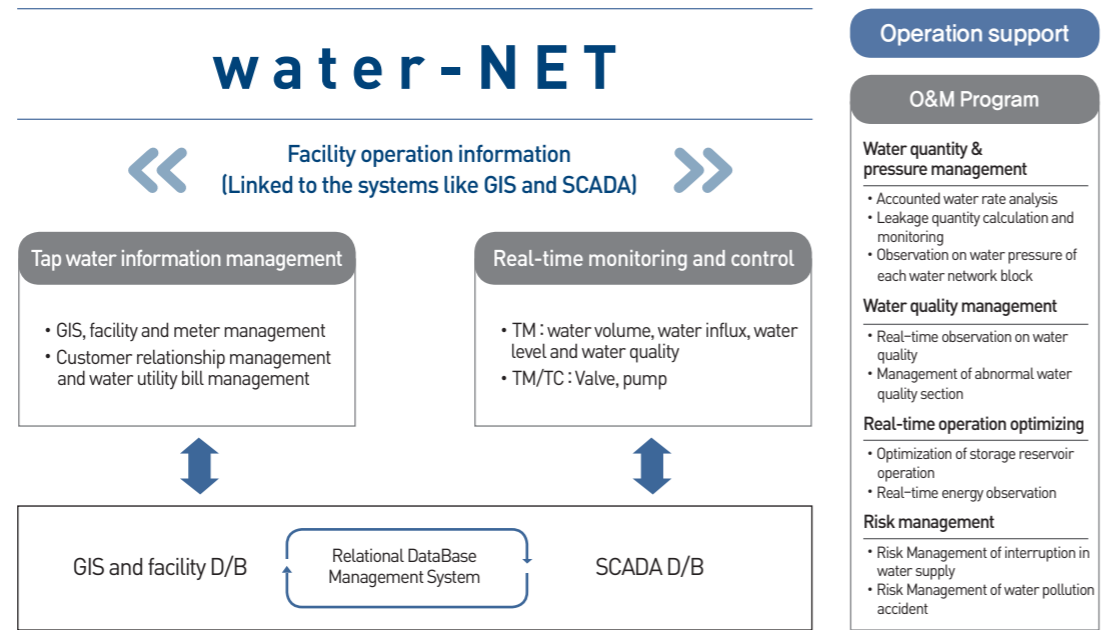
- Residual chlorine forecasting
- Water quality safety assessment

Facility diagnosis

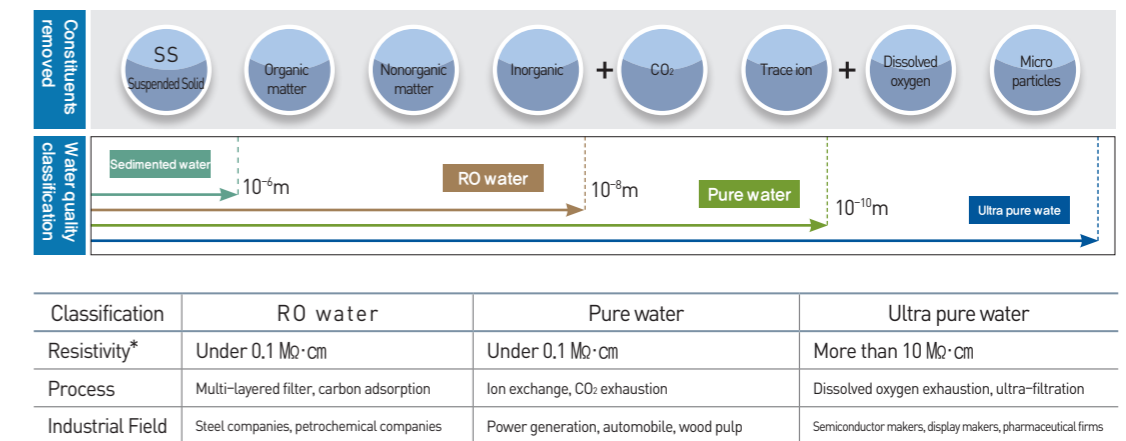
- Pipe state assessment
- Residual lifespan forecasting

Decision making support

- Comprehensive facility assessment
- Priority for pipe replacement
- Long-term and short-term improvement plans



Types and purposes of industrial water



* Resistivity : electric resistivity per unit area or unit length

Customized ultra-pure industrial water treatment technology

• Having developed & secured optimal process combination technologies through operating ultra-pure water pilot plants, K-water plans to develop new relevant processes and technologies until 2016.

Efficient wastewater treatment & operation technology

K-water has developed and built an integrated water cycle management system by constructing and operating sewerage infrastructure upstream of dams to enhance public benefits. K-water has also tried to maximize the synergetic effects of its own businesses by participating in a build-transfer-lease program, and thereby develop into a world-class company dedicated to water resource management.

- water-NET (Diagnosis, Operation and Management System for Water Distribution Networks)** (B-7)
Water-NET is a water network operation system with which it's possible to collect real-time information about waterworks, ensure a GIS-based water network inspection, and manage water quantity, quality and crisis and energy.
- iWater 5(SE) (Standard Water Operating Systems)** (B-8)
iWater 5(SE) is an HMI system for the supervisory control of all relevant facilities (including intake stations, water treatment plants, booster stations, pipelines, distribution reservoirs, water taps, etc.) at a remote integrated center.
- RWIS (Real-time Water Treatment Information System)** (B-9)
RWIS is a system to query and provide real-time operation data about waterworks on a basis of one minute.
- Water-INFOS (Integrated Waterworks Information System)** (B-10)
Water-INFOS is an integrated waterwork solution for the management of municipal or provincial waterworks, including GIS-based infrastructure management, customer management, tariff policy management, public relation management, etc.
- FCPTT (Flowmeter Calibration & Performance Testing Technology)** (B-11)
FCPTT is a technology to help with fluid flow performance tests on watermeters, valves, etc. through the precision correction of flowmeters (CMC: 0.08%).
- SCSL(Smart Cleaning & Spray on Lining technology)** (B-12)
SCSL is a cleaning & spray lining rehabilitation technology for large-diameter water pipes (with D500mm to D1,650mm in diameter) that requires the use of equipment having a structure of polygonal hydraulic cylinder frame.

- KSMBR (K-water Ssangyong Membrane Bio-Reactor)** (B-13)
KSMBR is an advanced wastewater treatment technology to maximize the utilization efficiency of organic matters with an aeration/non-aeration parallel swing reactor and a microfiltration membrane.
- Dr.Wastewater (Self-Diagnosis & Management System for WWTP)** (B-14)
Dr.Wastewater is a web-based self-diagnosis wastewater operation & maintenance system with which it's possible to predict the water quality of inflow and outflow on a real-time basis, and thereby manage wastewater treatment processes.

Status of water supply infrastructure

K-water has continued its efforts to ensure reliable water supply by successfully building a water supply system considering water cycle.



Raw water, filtered water and treated water

K-water has supplied water for 22.23 million people all over the country through 48 regional & industrial water supply networks, 41 WTPs, and 5,090 km water networks.

* K-water is responsible for 48% of domestic tap water supply.



Industrial water

K-water has provided industrial water for six major industrial complexes, including Hyundai Steel, and Seosan and Daesan industrial complexes, which is customized for each company's needs for water quality. It has also strived to become the nation's top industrial water supplier by developing high-efficient, low-cost water treatment process technologies and securing optimal operation and management technologies.

* K-water is responsible for 63% of the domestic industrial water market



Seawater desalination for island areas

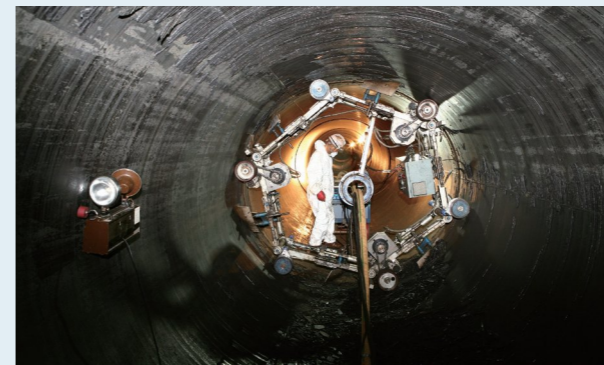
K-water is commissioned to operate 39 seawater desalination plants (1,800 m³/day) in eight provincial areas to ensure better water welfare for those living in the isolated island areas. This shows K-water's efforts to provide healthy water for everyone.



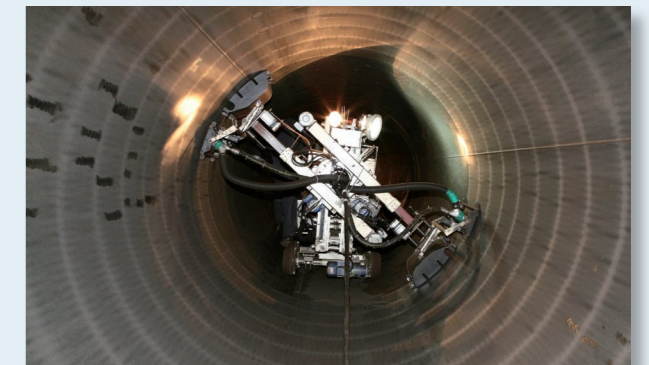
Wastewater treatment

K-water has built 12 WWTPs (wastewater treatment plants) around the country in an effort to improve the quality of river water, improve the public's sanitary conditions and living environment. Also, it has been implementing projects to expand the integrated operation of drainage systems (upstream of dams), along with projects to operate and maintain provincial water supply infrastructure, which is how K-water has improved water management efficiency and benefits.

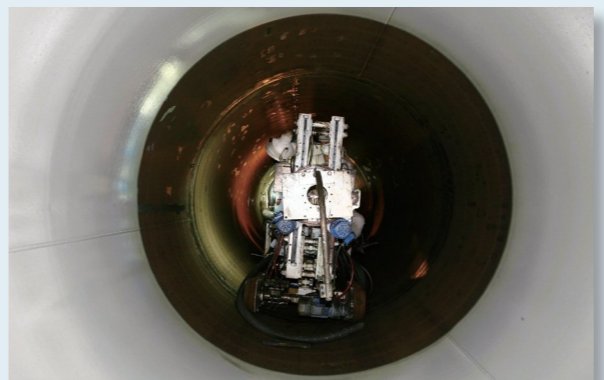
Improvement of water supply pipes
(at the first phase for the metropolitan areas, Length = 53.9km, Diameter = 800 to 2,800mm)



Removal of the residual painting materials



Surface treatment



Lining of the insides of the pipes



Examining of lining condition