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[Water Management]

Unlocking Sustainable Development in Central Asia with Innovative Water Management



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K-water





Global climate tech company beyond a nation's leading water utility

Incorporation

- Established in 1967
- K-water Act
- 100% Government-owned

Financial Highlights

- Total Assets: USD 18 billion
- Revenue: USD 3 billion
- Credit Rating: AA2 (Moody's)

Organization

- 6,380 employees
- HQ and 81 branches
- 7 global locations



Nation's Leading Player in Water Management & Renewable Energy Sector

Water Resources Management

- Flood Control: 5.3 bil. m³ (94%)
- Water Supply: 12.5 bil. m³/y (61%)

- 20 Multi-purpose Dams
- 14 Domestic/Industrial Water Dams
- 5 Flood Detention Dam/Basin
- 16 Weirs & 1 Estuary Barrage



Water Supply Service

- Drinking Water: 18.6 mil m³/d (49%)
- Water Reuse (37%)

- 43 Water Treatment Plants
- 50 Multi-regional Waterworks
- 23 Municipal Water Service
- Desalination and Water Reuse



Energy Transition

- Renewable Energy: 1.4GW (6%)
- Tidal Power Plant: 254MW

- 64 Hydro power plants
- 1 Tidal power plant
- Floating Photovoltaic Plants
- Hydro-thermal Energy



Climate Resilient City

- Urban Development
- Industrial Complexes

- Smart city
- Carbon neutrality-oriented city
- Environmentally friendly city
- Hydrothermal energy cluster





Sharing the experiences and technologies in the world since 1993

Active Projects

● 7 PPP Projects ■ 32 ODA/TC Projects



Water Cooperation



- Asia Water Council (27 countries · 181 organization)
- Official ODA Project Developer by Korean Gov.
- Bilateral G2G water cooperation

ADB Collaboration Highlights: PPP Projects



Patrind, Pakistan

- Project Patrind Hydropower Project
- Modality PPP, Build-Own-Operate-Transfer
- Financing Equity(K-water etc.) + Loan(ADB, IFC, ISDB)
- Capacity 150MW(50MW x 3)
- Cost 436Million USD



Nenskra, Georgia

- Project Nenskra Hydropower Project
- Modality PPP, Build-Operate-Transfer
- Financing Equity(K-water etc.) + Loan
- Capacity 279MW(93MW x 3)
- Cost 1,054Million USD

ADB Collaboration Highlights: Project Management Consulting



Uzbekistan

- Project Water Supply Development
- Client Uzbekistan Gov. (funded by ADB)
- TPC 3.3M USD
- Location Karakalpakstan
- Scope Selection · Evaluation of EPC
Construction Supervision

Cambodia

- Project Integrated Water Management
- Client Cambodia Gov. (funded by ADB)
- TPC 5.5M USD
- Location Battambang, Pursat
- Scope Project Management, Design Review
Construction Supervision

ADB Collaboration Highlights: Technical Assistance



Rawalpindi, Pakistan

- Project SWNM TA Project
- Client ADB
- TPC 600K USD
- Duration 25 months (2024.09 ~ 2026.07)
- Scope Analysis of Water Balance
Assessment of Management Capacity

Tashkent, Uzbekistan

- Project TA for Water Supply Operation Capacity
- Client ADB
- TPC 1M USD
- Duration 40 months (2021.08 ~ 2024.12)
- Scope Transfer of Operation Technologies
Training on O&M of WTP, Networks

ADB Collaboration Highlights: Capacity Building



Vietnam

- Project WOP4R Twinning Program
- Client ADB
- TPC 50K USD
- Duration 6 months (2025.07 ~ 2025.12)
- Scope Diagnosis of Water Supply Facility
Capacity Building of Carbon Neutrality

Uzbekistan

- Project Capacity Building and Water Academy
- Client WB
- TPC 233K USD
- Duration 24 months (2022.06 ~ 2024.05)
- Scope Support of the Water Academy
Development of Training Curriculum

Emerging Opportunities in Water Sector

Kazakhstan

- ▶ Digital Twin Water Management System
- ▶ Smart Water Metering & Monitoring
- ▶ AI-based Flood & Drought Forecasting



Mongolia

- ▶ Urban Flood Risk Reduction & Management
- ▶ Stormwater Drainage Improvement
- ▶ Water Use Efficiency & Water Sector Capacity



Kyrgyzstan

- ▶ Small Hydropower Development
- ▶ Rural Water Supply & Sanitation
- ▶ Energy-efficient Water Services



Uzbekistan

- ▶ Rehabilitation and renewal of Aging Water Infrastructure
- ▶ Efficient Water Resources Management
- ▶ Small & Medium Hydropower Development



Digital-Twin Water Management System



Backgrounds

- Unprecedented climate disasters
- Communication with stakeholders
- Discrepancy of capacity

Enablers

- Intuitive monitoring
- What-if simulation
- 3-dimensional visualization
- Analytic tools

Outcomes

- Better decision-making
- Early detection and warning
- Shared-vision operation

Implementation

- All of the K-water's dams
- Jeddah, Saudi Arabia
- Santa Clara, California
- Nagai, Japan

AI-driven Water Treatment Plant

Autonomous operation

Operate independently with minimal employee intervention



Predictive management System

Real-time detection of abnormal signs and diagnosis of problems



Energy management System

Water production with the least amount of power



Intelligent video surveillance

Accident recognition without time and space constraints



Backgrounds

- Unstable water quality
- Cost management

Enablers

- Optimal chemical dosing
- Energy consumption
- Monitoring the safety of workforce
- Diagnosing abnormal operation

Outcomes

- Saving the chemical cost (19%)
- Saving the energy cost (10%)
- Improving labor efficiency (104%)

Recognition

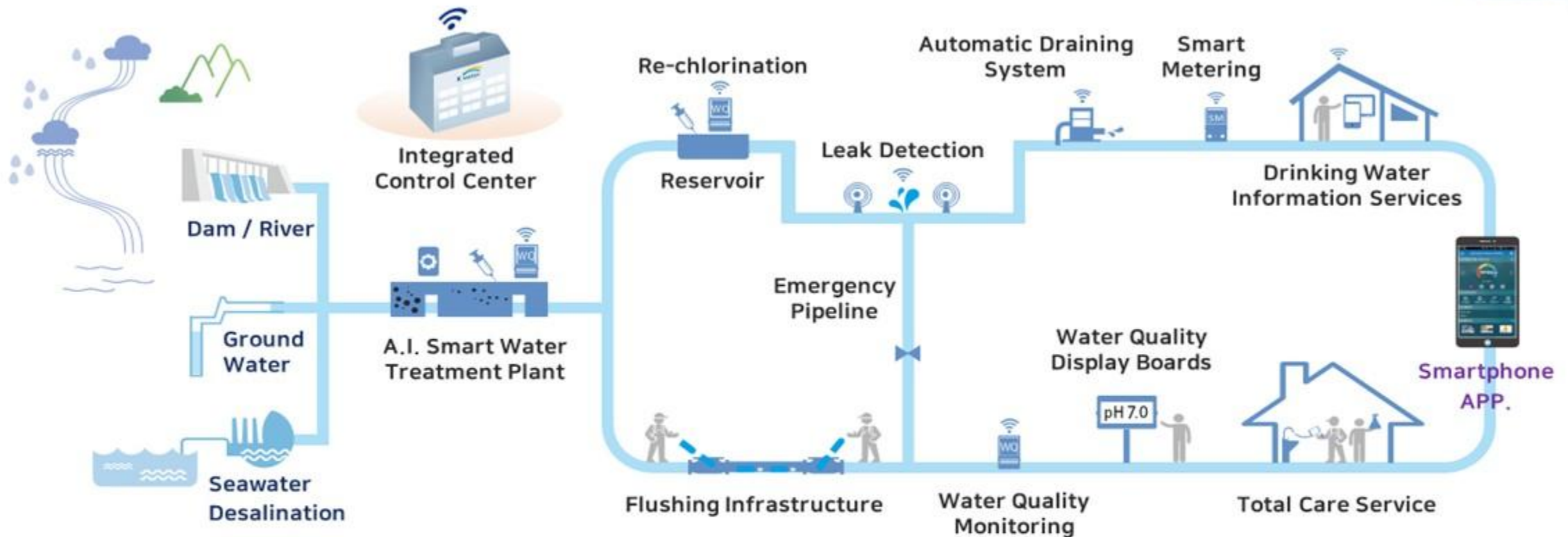
WORLD
ECONOMIC
FORUM



Global Lighthouse Network

December, 2023

Smart Water Network Management



Backgrounds

- Water leakages and bursts
- Inefficiency of water supply
- Water quality in the pipelines

Enablers

- Sensors for quality and quantity
- AI-driven water leakage detection
- Smart metering
- Pressure management

Outcomes

- Reducing the water loss (25% ↓)
- Guaranteed water quality
- Customer satisfaction

Recognition



MWC GLOMO AWARDS

March, 2026

Global Leading Technologies

Renewable Energy



Mitigation

Adaptation

Alternative Water Resources

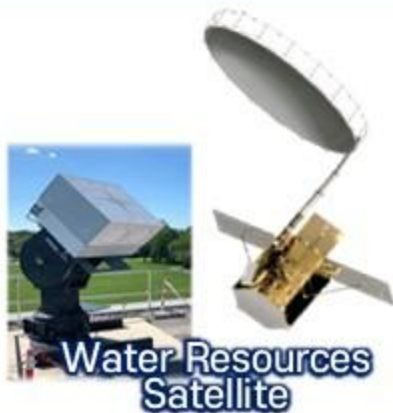


Advanced Water Solutions

Innovation

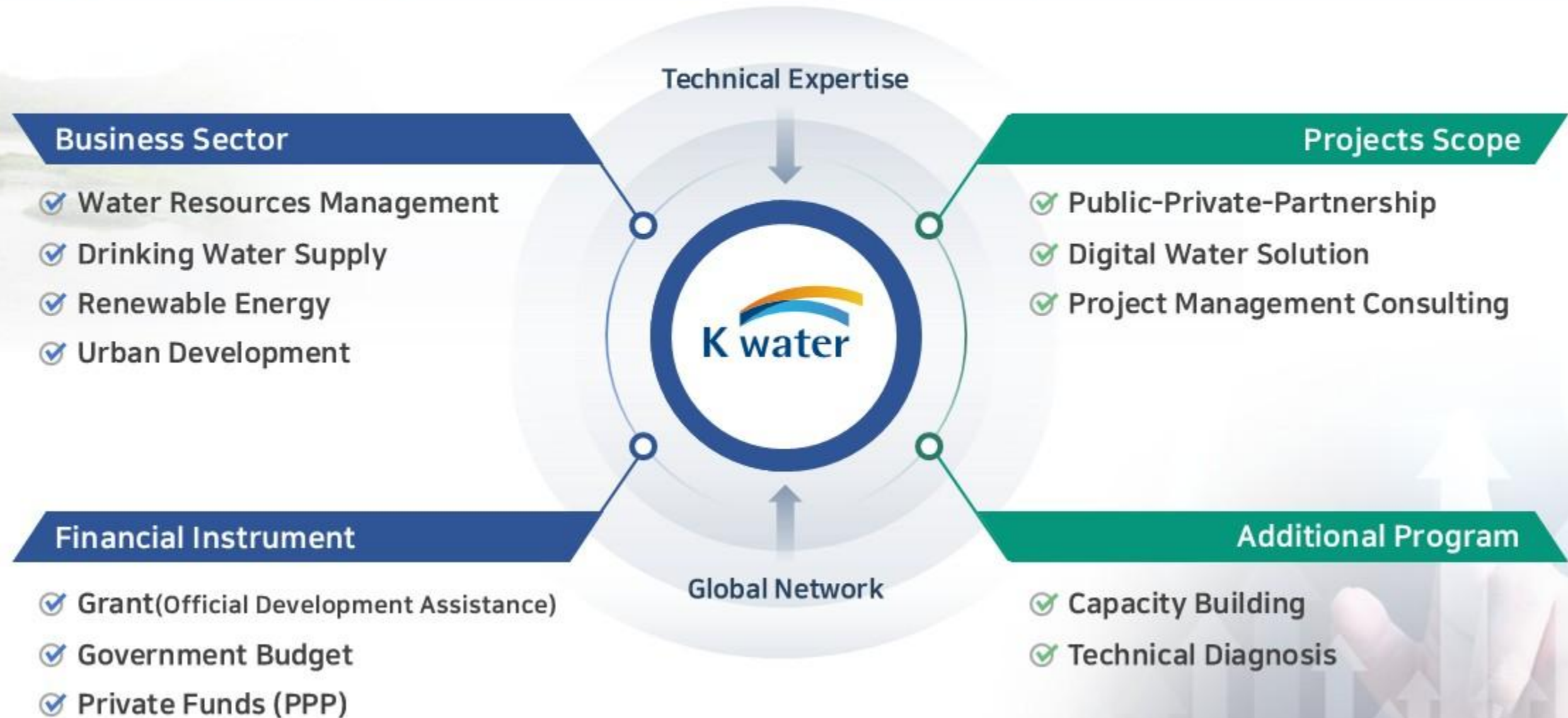
Industry

Value-Added Water





Suggesting the projects for water & energy as a peer-to-peer collaboration





Thank you!

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