

Desalination Experience

*Unleashing Insight
to Create Value*



Technology Experience

1

Membrane based desalination such as brackish water reverse osmosis (BWRO), nanofiltration (NF), and seawater reverse osmosis (SWRO)

2

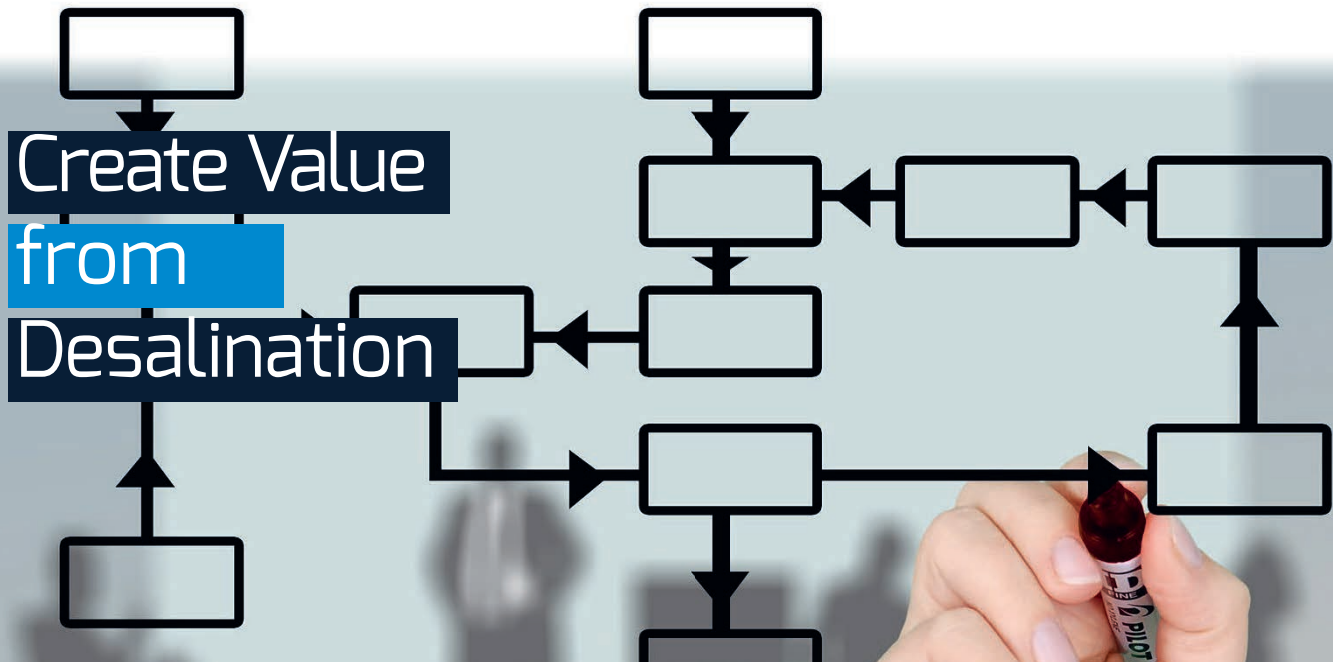
Thermal Desalination such as multi-stage Flash (MSF), Multi-effect distillation (MED), mechanical vapor recompression (MVR), forced circulation crystallizer (FCC)

3

Emerging desalination technologies such as forward osmosis (FO), membrane distillation (MD), Concentrated Solar Still (CSS) with MED, Solar assisted humidification-dehumidification (HDH)

Our Consulting Solutions

- Desalination Market Entry
- Research & Development
- Business Development
- Future Demand & Planning Study
- Water Supply / Reuse Options Evaluation
- Business Case & Cost Estimation
- Desalination Feasibility Study
- Front End Engineering Design (FEED)
- Renewable Energy & Desalination Evaluation
- Desalination Project Management
- Bench Scale & Piloting Study
- Process & Water Chemistry Simulation
- Operations Assessment & Troubleshooting



**Produce
Water**

**Reuse
Water**

**Produce Salt or
Zero Liquid Discharge
(ZLD)**

Experience



Commercial Water Production

Served as the technical advisor for the operation of a 38,000 M3/D (10 MGD) SWRO) desalination plant that serves as a private water utility and was financed through a BOOT model through a water purchase agreement (WPA) for a 25 year period.



Industrial Water Production

Served as the process consultant for a turnkey 86,400 M3/D (22.8 MGD) seawater desalination plant that included a long pipeline to deliver desalinated water to a copper mine at an altitude of 1,650 meters.



Power Plant Water Production

Assisted in the development of an optimization study that evaluated a 500,000 M3/D (130 MGD) thermal and membrane desalination hybrid system for a 2,400 MW power plant.



Water & Salt Production

Developed a business case and conceptual engineering for two separate seawater desalination plants with a salt production plant. Salt production capacities were in the range of 200,000 to 800,000 ton/year.



Water Reuse Production

Developed a technical assessment to provide water treatment alternatives for indirect potable reuse (IPR) to reduce groundwater buffering requirements to reduce costs compared to costlier advanced water treatment systems such as RO.



Municipal Water Production

Served as a Lender's Consultant for review of a 137,000 M3/D SWRO desalination Plant. Reviewed technical, financial, and commissioning/operations strategy focusing on compliance to process guarantees and mechanical warranties.