HELPING A SEMICONDUCTOR MANUFACTURER TO ACHIEVE CONSISTENT HIGH PURITY WATER WITH COST EFFECTIVE SOLUTIONS

CASE STUDY | Microelectronics

| The client's needs

To meet the growing demand in the semiconductors industry, a global semiconductor manufacturer sought a reliable ultrapure water (UPW) supplier able to deliver a fast track project – completing water certification in four months – and providing highly purified water that meets the technical specifications for a 200mm wafer fab.

| The solution

To meet the total organic carbon (TOC) and resistivity criteria, raw water is treated in the primary make-up system using advanced technologies: UV, membrane degasifier, and continuous deionization (CEDI).

The continuous deionization (CEDI) process delivers consistent water quality with high ion removal efficiency. CEDI systems operate continuously, 24/7, without chemical use or regeneration downtime.

Ultrafiltration membranes are employed in the polishing loop to ensure continuous, high-quality water at the point of use. Our intelligent engineering design enables seamless integration of new systems into existing plants without shutdown.

| The Results

- By combining advanced technologies, Veolia offered cost-effective solution and ensured high purified water production (TOC<1ppb, Resistivity to 18.2 mega ohm, Boron<5ppt, Silica<0.5ppb, particle 0.05M<300c/l).
- Constant high purity water is provided to the client at the point of use to ensure the quality of the semiconductors production process.
- By using SCADA PLC, the plant is controlled at the touch of a button 24/7.



Singapore

| The client

Singapore --

A global semiconductor manufacturer awarded Veolia a project to develop an ultrapure water (UPW) plant in Singapore, with a production capacity of approximately 160 m³/hr.

The client is a leading international developer and manufacturer of semiconductor and System-on-Chip (SoC) solutions.

It operates advanced manufacturing facilities across multiple regions worldwide.

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