

HELPING STMICROELECTRONICS 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, STMicroelectronics Pte Ltd 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 STMicroelectronics Pte Ltd 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

STMicroelectronics Pte Ltd awarded Veolia the project to build the UPW plant AMK6E (loop 5) in Singapore with a production capacity of 160m³/hr.

STMicroelectronics is a global leader in developing and delivering System on Chip (SoC) and semiconductor solutions across the spectrum of microelectronics.

Being one of the world's Top Ten semiconductor suppliers since 1999, STMicroelectronics has leading-edge manufacturing facilities on four continents, including a 200mm wafer fab in Singapore.

FPI is principally engaged in purchasing and processing of Fresh Fruit Bunches (FFB) from Felda schemes, estates owned by the Felda Group and external suppliers.

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