

# MICRO-ELECTRONICS APPLICATION

*Highly purified water for sensitive processes*

## QUALITY

- **Highly purified** water production
- **Advanced** online quality monitoring

## FLEXIBILITY

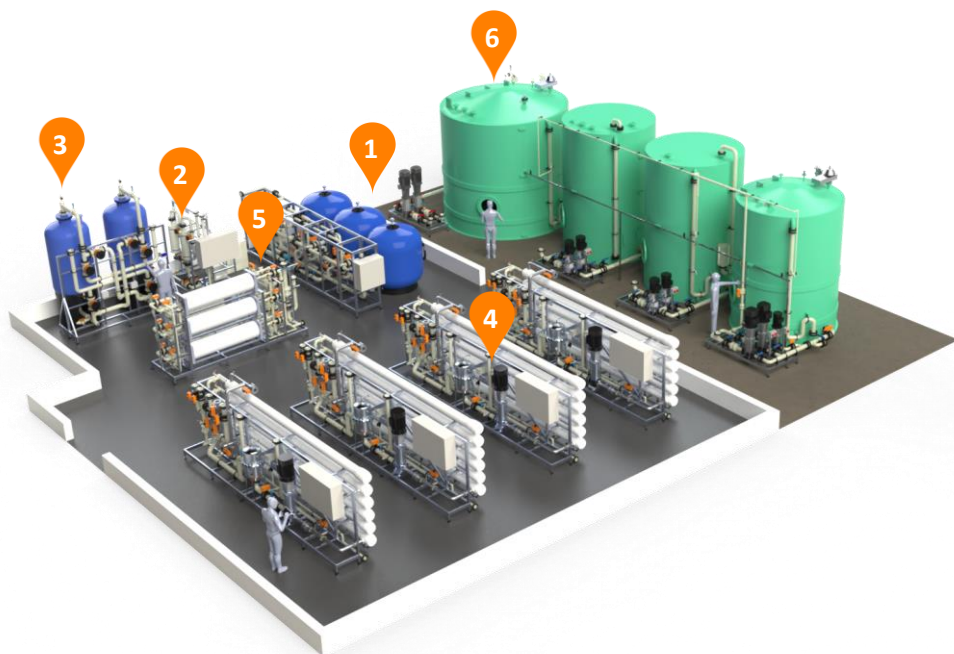
- **On demand production** according to immediate water needs

## INCREASED RELIABILITY

- **Extended** equipment lifetime
- **Control** of scaling, fouling and corrosion

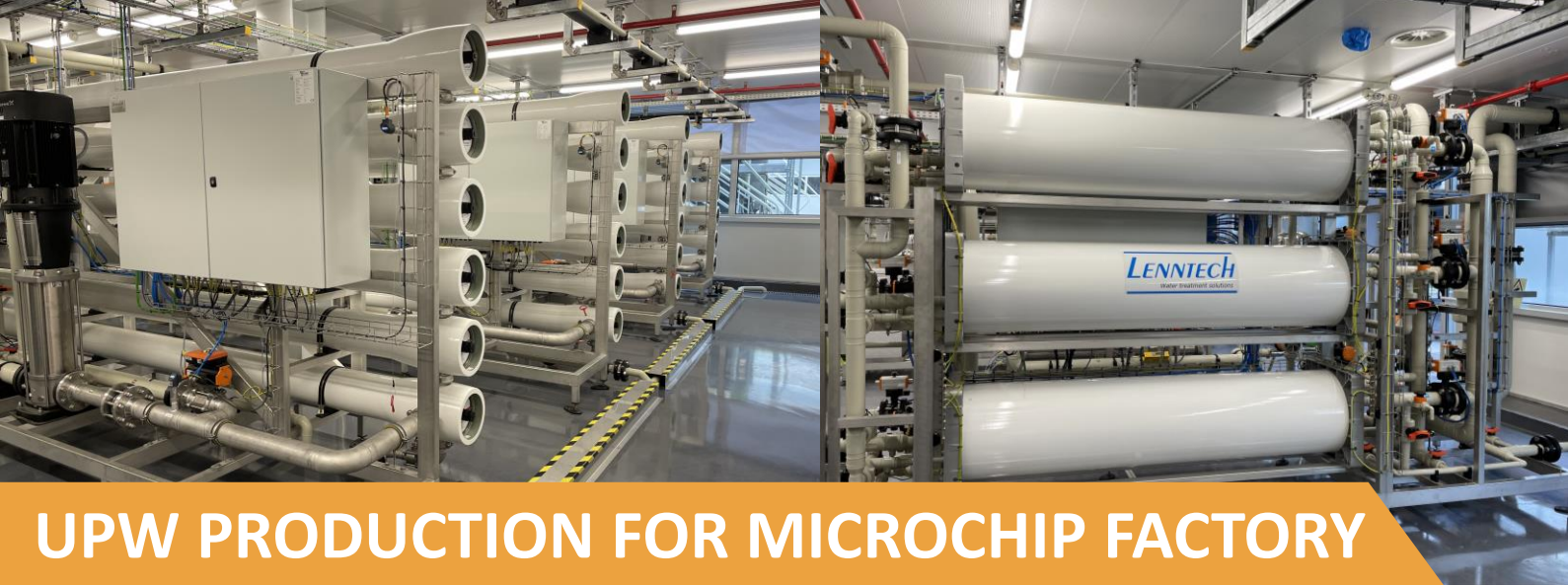
## Our Solution

- 1 ▶ Multimedia Filtration
- 2 ▶ Ultrafiltration
- 3 ▶ GAC Filtration
- 4 ▶ Reverse Osmosis
- 5 ▶ Ion Exchange
- 6 ▶ Electrodeionization
- 7 ▶ Degassing membranes
- 8 ▶ Water storage



## Special features

- ▶ Automatic analytical online monitoring
- ▶ Containerization to minimize the site works and footprint
- ▶ UPW loop customized design with high grade ion-exchange polishing resin
- ▶ Full redundancy for continuous operation 24/7



# UPW PRODUCTION FOR MICROCHIP FACTORY

Portugal, 720 m<sup>3</sup>/d

## Aim of the Project

The Ultra Pure Water (UPW) production plant is designed to produce process water for a microchip factory with strict requirements. The fully automatic plant is designed to purify water to the highest quality possible, and reduces particles and organics compounds to traces concentration, in ppb.

Lenntech has engineered and built the UPW plant considering full redundancy to ensure continuous UPW water production for the different client's points of uses, for 24/7 availability. Top brand instruments has been considered so all parameters such as pressure, flow, temperature, TOC or particles concentration are constantly measured.

The complete installation has been built and installed on modular skids (more than 15!) to facilitate quick and efficient installation.

The system can produce 30 m<sup>3</sup>/h of UPW water, following high standards for quality, reliability and sustainability.

## Scope of Work

- ▶ Engineering, manufacturing and assembly
- ▶ Installation and multi-phases commissioning
- ▶ PP-H low-pressure piping, Skids in SS316  
Technologies: MMF, RO, EDI, UV, IEX, UF filtration and membrane degassers
- ▶ 2 x 100% redundancy for all technologies
- ▶ Advanced parameters monitoring (TOC, particles, resistivity,...)
- ▶ UPW loop capacity of 40 m<sup>3</sup>/h with production flexibility from 25 to 100%
- ▶ After sales service including preventive maintenance at site

### PRODUCT WATER QUALITY

Conductivity < 0.06 µS/cm

TOC < 10 ppb

Particles (> 0.3 µm) < 1000 un/L

Total bacteria < 10 CFU/100mL

Temperature: 18°C (+/- 1°C°)

## Key accomplishments

PRODUCED  
WATER  
QUALITY

RESISTIVITY

**18.2 MΩm**

REUSE

**> 80%**

GENERATED  
WASTEWATER  
INTO PROCESS

OVERALL  
RECOVERY

**> 90%**