

aquarion
HIGH PERFORMANCE ENGINEERING



Leading provider of industrial
water treatment solutions



Our Members



GEMWATER s.r.l.

The company founded in 2006 consists of very experienced engineers, coming from various water technology EPC companies. GEMWATER provides the whole range of water treatment processes to international EPC groups and clients with a particular focus on Mediterranean and Middle East locations and oil and energy related projects.

H₂Oil & Gas Ltd



H2Oil & Gas Ltd.

H2 Oil & Gas provides consulting services to companies engaged in the offshore oil & gas market. With its keen understanding of technologies such as sulphate removal, seawater reverse osmosis and processes associated with water injection for enhanced oil recovery, H2 Oil & Gas provides specialized technical input at project inception through equipment specification, selection and supply, commissioning and long term plant operation support (healthcare).

H+E GmbH

Part of Aquarion Group since mid-2014, H+E has been one of Europe's most important water treatment companies for more than 80 years. Today its operations span Europe as well as southeast Asia, and H+E offers customers unrivaled experience in process and ultrapure water as well as wastewater treatment.



MFT GmbH

Part of Aquarion group since 2015. MFT is now 20+ years in the water business. MFT is involved in the design, construction and service of membrane equipment for clean water, drinking water and waste water applications. MFT is specialized in providing innovative solutions using Microfiltration, Ultrafiltration, Nano filtration, Reverse Osmosis and Circular Disc Membrane modules.

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HIGH PERFORMANCE ENGINEERING



Welcome to AQUARION

World class engineering and most advanced water technologies



AQUARION is a leading provider of advanced water systems, solutions and technologies for the oil & gas industry, the energy sector semiconductor and other industries. As a total enhanced EPC solution provider, the group offers solutions to some of the most critical water and waste water requirements such as produced water, seawater for injection, ultrapure water, process water, cooling water, boiler feed water, spent caustic treatment, refinery waste water and water recycling/reuse. AQUARION provides the best available technologies, high quality engineering, international expertise and local know how from its global operations.



Strengths of AQUARION Group



Differentiating technologies to create optimal solutions to customer with regard to CAPEX, OPEX, footprint and CO₂ emissions



Process design expertise and leading edge understanding and adoption of all state-of-the-art and enhanced water technologies (biological, thermal, chemical/physical/AOP, membranes)



Flexibility in the fulfillment of tailored and complex customer requirements



Very experienced in EPC contracting in some geographical markets like GCC, Iraq, Libya, Nigeria, Kasachstan, Algeria, Russia, South East Asia, etc.



Ability to provide our clients with financing and BOO/BOT solutions



Strong backbone in project engineering and project management



Reliable life cycle service according to each customer's unique needs





AQUARION Markets

OIL & GAS

Upstream

Aquarion provides a comprehensive range of process equipment and services to the upstream sector for offshore and onshore. As oil fields mature, their water cost steadily increases. The oil & gas industry is aware of its environmental responsibility when it comes to cleaning waste water before reinjection or discharging. Aquarion provides water treatment solutions which helps the environment and enable customers to comply with environmental regulations.

Water for Injection

Sulphate Removal Systems (SRP)

Produced Water Treatment Process

Thermal EOR, Chemical EOR

Zero Liquid Discharge (ZLD - ECO)

Potable Water Systems (Water Maker)

Low Salinity Enhanced Oil Recovery

SLOP Water Treatment

Reduced Footprint Desalination (REDft®)

Waste water Treatment

Recycling, Reuse



AQUARION Markets

PETROCHEMICALS

Downstream

Waste water treatment in petroleum refineries is a complex process with demanding environmental management challenges as byproducts can be both volatile and toxic. Petrochemical waste water often requires a combination of treatment methods to remove oil and other contaminants before discharge. Aquarion provides a wide range of process equipment and services to the Downstream sector.

Zero Liquid Discharge (ZLD - ECO)

Seawater Reverse Osmosis

Process Water

Condensate Polishing

Waste water Treatment

Recycling, Reuse

Sludge Dewatering





AQUARION Markets

ENERGY - POWER



During burning in a thermal power plant, water is injected to produce steam which drives turbines, and this creates energy. For this reason, process water treatment by means of condensate polishing, demineralized water, cooling water, make-up water and cooling tower blow-down plays a central role in power plants. Rising water prices and water shortages in certain regions of the world, combined with environmental concerns, results in an increasing demand for water recycling and ZLD systems.

- ZLD (Zero Liquid Discharge)
- Condensate Polishing
- Demin Water and Boiler Feed water
- Waste water Treatment Systems
- Water Circulation Systems
- Cooling Tower Blow Down
- FGD (Flue Gas Desulphurization)
- Hybrid Systems
- Membrane Technologies
- (RO, NF, UF, MF, Degasification)
- Ion Exchanger (Cation, Anion, Mixed Bed)

MINING

Large amounts of leachate, rinse water, mine water or waste water are found in the mining sector. The effluents are often contaminated with heavy metals and organic material. As mining activities often take place in arid environments (South America, Australia, Africa or Central Asia) recycling technologies and ZLD concepts provide economic solutions. Process combinations with focculation/precipitation, filtration and membrane technologies as well as thermal treatment units are established methods for reducing the water footprint and complying with the highest standards for discharging of waste water.

Waste water Treatment Systems
ZLD (Zero Liquid Discharge)
Recycling + Reuse Technologies
AMD (Acid Mined Drainage Technologies)
Metal removal/recovery technologies
Tailing treatment technologies
Desalination for process water
Selenium/cyanide treatment





AQUARION Markets

CHEMICAL INDUSTRY



A wide variety of products are made in the chemical and pharmaceutical manufacturing industries, typically requiring large volumes of chemicals, materials and substances that are used throughout process operations. Waste streams generated in these industries can be heavily laden with contaminants, toxins, nutrients, and organic content, presenting unique challenges in terms of treatment, especially as regulations become more stringent.

ZLD (Zero Liquid Discharge)
 Recycling + Reuse Technologies
 Hybrid Systems
 Process Water
 Demin Water
 Waste water Treatment Systems

AQUARION Markets

DESALINATION

Desalination technologies can be provided using either membrane or thermal processes or a hybridisation of both to provide cost effective process and drinking water in areas of low water availability.

Desalination Systems
Ultrafiltration, DAF
RO (Reverse Osmose)
Membrane Distillation
Thermal Processes
Hybrid Systems
Filtration Technologies
Flocculation / Flotation





AQUARION Markets

SEMICONDUCTOR INDUSTRY



The semiconductor industry relies upon the supply of large volumes of extremely high quality ultrapure water (UPW) to manufacture the cells used in semiconductor systems. Therefore, efficient and reliable water treatment technologies along with solutions to reduce energy and chemical consumption, lower water footprint and recover valuable materials are essential.

Furthermore semiconductor production processes such as CMP, wet etch, rinsing and backgrind produces a wide variety of effluent streams that each require specific waste water treatment steps.

Depending on the fabrication process, a variety of special treatment processes can also be necessary such as ammonia reduction, denitrification, arsenic removal or recovery of precious metals such as silver.

Ultrapure Water (UPW) generation including pre-treatment, make-up and polishing
Advanced waste water treatment for various effluent streams from production processes
Water recycling and reuse technologies and valuable raw material recovery

PULP AND PAPER INDUSTRY

In the pulp and paper industry water plays a very important role. In the production of paper water is required for the processing (diluting agent and transport medium of the fibers, fillers and additives), to auxiliary purposes (seal water, cooling water) and cleaning purposes (screening and felt cleaning, system cleaning), where it is used several times within the production process; carefully purified process water passes nowadays up to ten.

The process and waste water from pulp and paper plants is usually very heavily loaded with organic carbon compounds, fibers and other contaminants.

Therefore chemical / physical treatment methods for removing the solids and biological waste water treatment technologies for heavily polluted waste water resulting from recycled paper production as well as moderate to slightly polluted waste water from the paper production based on chemical pulp are used. This includes anaerobically pre-treatment for the production of biogas for use in CHP-units.

Waste water treatment systems including enhanced anaerobic and aerobic treatment technologies

Advanced Oxidation Processes for the the reduction of residual COD

Process water and boiler feed water treatment

Water recycling and reuse technologies





AQUARION Markets

STEEL AND COKE INDUSTRY



Water plays a very important role in all production stages of the steel production and metals industry. 80 % of the process water is used as a cooling agent. The significant reduction of the water usage in the last years was mostly achieved by water-reuse.

The coke industry is recognized as a so called water intensive industry, as well. Coke wastewater is mainly loaded with organic ingredients because of the genesis of the coal and the coke process. Depending on the deposit, the coal has different contents of inorganic salts - mainly chlorides - and nitrogen compounds influencing the waste water characteristics.

Technologies used in the steel and coke Industry include cooling tower and cooling water circuits, heat recovery, chemical/physical treatment methods, as well as waste water treatment by means of primary, secondary and tertiary treatment followed by an AOP.

Waste water Treatment Systems including enhanced moving bed bioreactor technology (MBBR)

Zero liquid discharge technologies (ZLD)

Water recycling and reuse technologies

CUSTOMER SERVICE

What we offer

Excellence in all areas - that's what we're working on and offer our customers the following services as a comprehensive care-free package at any time:

After Sales Service:

- Maintenance
- Spare Parts
- Supply of Consumables
- Operation & Maintenance

- 24-hour on-call
- Training and education for your operating staff
- Energy optimisation & Co₂ calculation
- Alterations & modernisations
- Laboratory analyses, maintenance, repairs
- Chemicals for water and waste water treatment
- Special toll-free hotline for service contract customers

Whether it comes to trouble-oriented, state-oriented or preventive services - excellent service for us is not just a question of ability. Foremost it is a question of attitude.





AQUARION

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