

Industrial Water Purification | Switzerland

April 2017

INTRODUCTION

While the world's population grows continuously, natural resources and energy become more rare and more costly. Clear water is a prerequisite for the existence of life. The UN estimates that 1.8 billion people have critically limited access to fresh water today and that 5.3 billion will be in a similar situation by 2050. The World Bank appraise that by 2025 1.4 billion people in 48 countries may experience water stress or scarcity.

The sustainable treatment of water becomes a **must** to secure the world's future demand. It is important to have environmentally friendly and cost efficient solutions, available in the local market. Existing technologies for water treatment have their limitations and cannot combine all in one scope.

TECHNOLOGY

MUST water technology means **M**olecular **U**nique **S**eparation **T**echnology. The technology was developed by an inventor during the last 20 years and is protected by a significant amount of know-how and by a range of patents. MUST works on an ionic and a molecular network separation of impurities with the most stable elementary isotope in the universe, Iron (Fe 56) and dissociation of the most dependable molecule of life, Water (H₂O). Ferric Hydroxide ions create a 3-dimensional molecular network or a sieve that allows pure water molecules to pass through, whilst all other ions, molecules, viruses, hormones and bacteria are trapped and separated into the network or "floc". Small amounts of generated hydrogen gas (H₂) lifts the network continuously to the surface and separates it from the water.

STRENGTHS

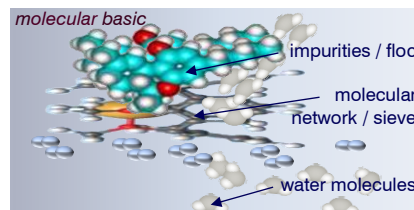
MUST is a real water purification and processes various type of waste water up to clean water. The modular design allows simple integrations and high scales. Low investment and operational costs make it attractive for different industries. Due to the molecular network created by electricity no emissions accrue and no chemicals as cleaner are required. The fouling and abrasion exposed components are almost eliminated. Only a simple replacement of the ring reactor cells is needed every few months (cf printer cartridge, Nespresso capsule). The compact size of the technology reduces space in factors compared to conventional installations. During the whole process there is only one flow without any retention time. The use of proven and standardized industrial components offers short delivery time of few months. The MUST water technology team has a vast experience and strong background in engineering and realization of industrial plants. MUST is based on solid Swissness and cooperates with first class equipment partners.

BUSINESS MODEL

Rights on the technology and entering into the market. Roll out in phases. Turnkey realizations, license models, operation of plants and service business. Continuous return on reactor cell replacements. MUST strives to be an established water technology company with industrial part- and complete solutions for purification of waste water.

INVESTMENTS

Total investment in a MUST plant depends on the capacity and grade of purification. The typical plant size starts from 10 m³/h by investments cost below 1 MEUR. A typical Return on Investment is less than 3 years



FACTS

- unique modular technology
- purification of many waste water
- floc / sludge is self-drying
- low investment & running costs
- no emissions and no chemicals
- short delivery time
- plug and play
- made in Switzerland

FIGURES

- from 5 to 1000 m³/h plants
- CAPEX from < 1 M€ for a plant
- OPEX 50% of conventional
- plant ROI typically < 3 years
- space < 20% of conventional
- delivery time < 5 months
- min 20 years lifetime of plant

STATEMENT

*"MUST technology is the solution for the ever increasing world demand for clean water and governments strengthening restrictions on treatment of waste water. It is agile and adaptable from small to mega installations and could be built greenfield or as an extension to the existing plant.
MUST is a must for a better world."*

CONTACT

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