

# ZEOLOGIC

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SUBSIDIARY OF **MYTILINEOS**

Resolving Challenges in  
**Water, Liquid & Solid Waste Treatment**



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ZEOLÓGIC S.A. is a new innovative Greek company, founded in 2014 in Thessaloniki, Greece, with the aim of exploiting the international patented GACS (Geochemical Active Clay Sediment) technology for the treatment of liquid and solid waste. Since April 2019, ZEOLÓGIC is a subsidiary of MYTILINEOS S.A., a strategic cooperation which enables the penetration in new international markets and the further development of ZEOLÓGIC's innovative technologies into new applications.

ZEOLÓGIC applies a Quality Management System in line, according to the ELOT EN ISO 9001:2015 Quality System for the Study, Design, Construction and Maintenance of Waste Water and Sludge Treatment Plants.

# Sustainability

| A strong commitment to  
| protecting the environment

Current global challenges, including increasing need for clean water, effective wastewater and waste treatment, call for radical solutions to resolve problems to the environment and society, and be consistent with increasingly strict environmental regulations.

Although present many times, the existing treatment of industrial and municipal waste is either not coping with the necessary reliability levels or its cost is hindering the proper operation and monitoring of the units.

ZEOLÓGIC provides innovative and sustainable solutions to its customers worldwide to address these challenges.

ZEOLÓGIC stands out for its innovation, its excellent scientific expertise, and the environmental sensitivity of its people.

Although being new, the company has implemented GACS technology in a significant number of projects, and it is committed to continuous improvement.

**The services of ZEOLÓGIC are addressed to industrial as well as to public sectors.**



## GACS Technology

GACS (Geochemical Active Clay Sediment) is a process created, developed, and patented by ZEOLAGIC which:

- Is friendly to the environment
- Can be applied to a wide range of environmental projects
- Is based upon the usage of geopolymer materials with high absorption ability
- Relies on the principles of nanomechanics, achieving treatment of the pollutant load at nanoscale level. Pollutant load is captured on the crystal structure of the geopolymer materials.
- Produces **inert, hygenized, and non-hazardous** sludge



# A Wide Spectrum of Applications

ZEOLOGIC's unique geochemical solutions serve important environmentally driven market sectors such as:



Municipal Waste-Water Treatment



Industrial & Hazardous Waste-Water Treatment



Ship-Generated Liquid Waste Treatment



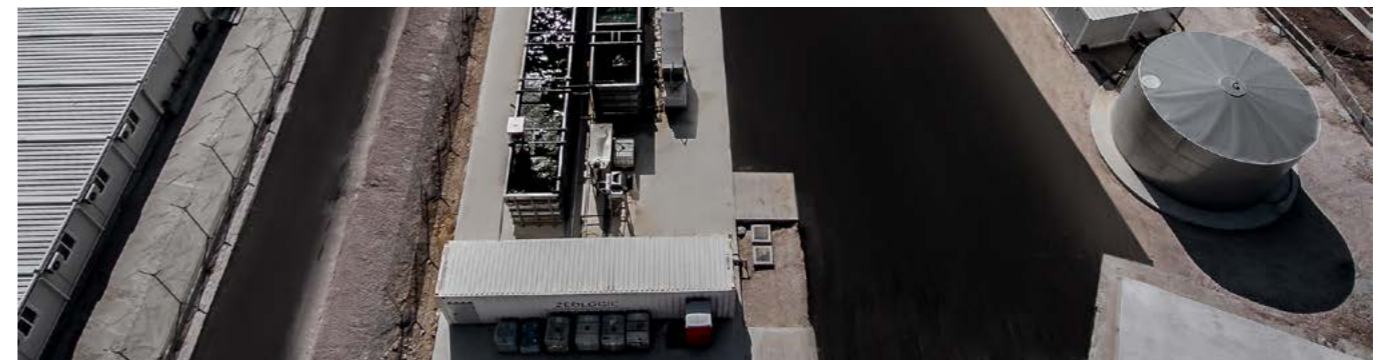
Heavily Contaminated Sludge Treatment



Air Pollutants Control residues



Landfill Leachate Treatment



Potable Water Plants

## Products

ZEOLOGIC has developed a series of innovative products such as, nanocoagulant mediums, nanoflocculants, organoflocculant compounds, and metallic oxidation nanoparticles, which together with the artificial geopolymer materials enhance significantly the performance of the treatment process.

The specialized approach is applied with a unique utilization of the geopolymer materials for each application. This ability is extended to the specialized design of a wide range of sludges and wastewater treatment lines, providing the maximum pollutant load absorption.

ZEOLOGIC supplies its waste treatment units with the required chemical consumables, which it produces in its own facilities, ensuring the necessary quality and availability to ensure reliable long-term operation of the units.



# Typical Wastewater Treatment Plants



Food Industry Wastewater Treatment



Table Olives Industry Wastewater Treatment



Metal Industry-Anodizing Plant Wastewater Treatment



Olive Mill Industry Wastewater Treatment



Cheese and Dairy Industry Wastewater Treatment

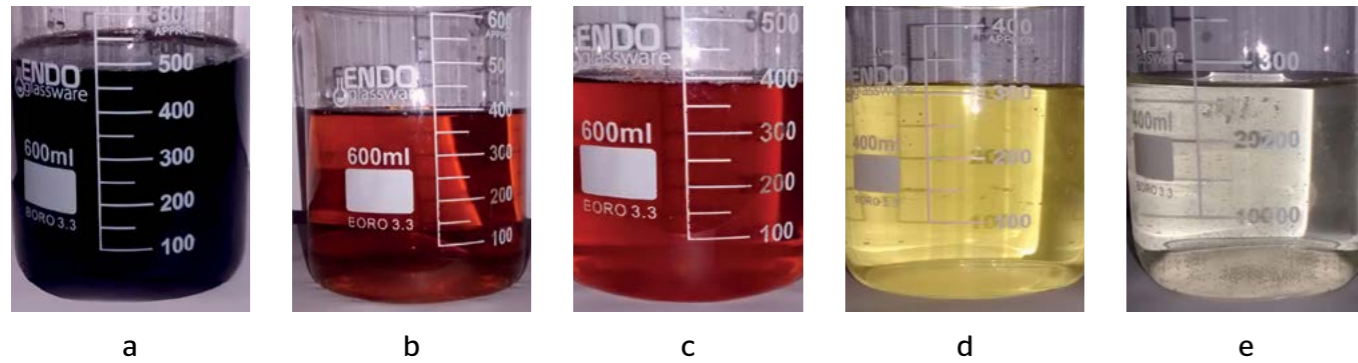


Fish & fisheries Industry Wastewater Treatment



# Treatment

A typical sample of the treatment, through GACS method, as well as some typical procedure stages are presented below.



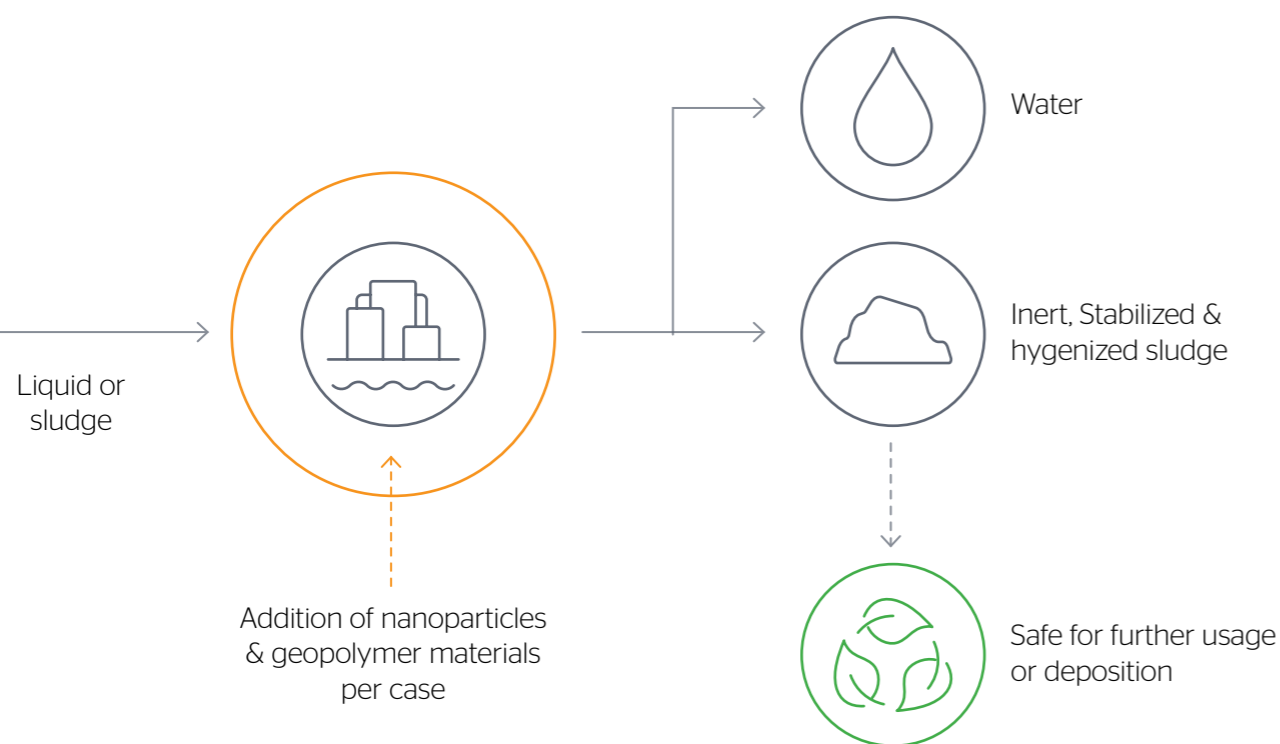
Visual observation at various stages of a typical hazardous wastewater treatment

- a Raw hazardous wastewater
- b After coagulation-filtration
- c After chemical oxidation
- d After geochemical reaction
- e After reverse osmosis

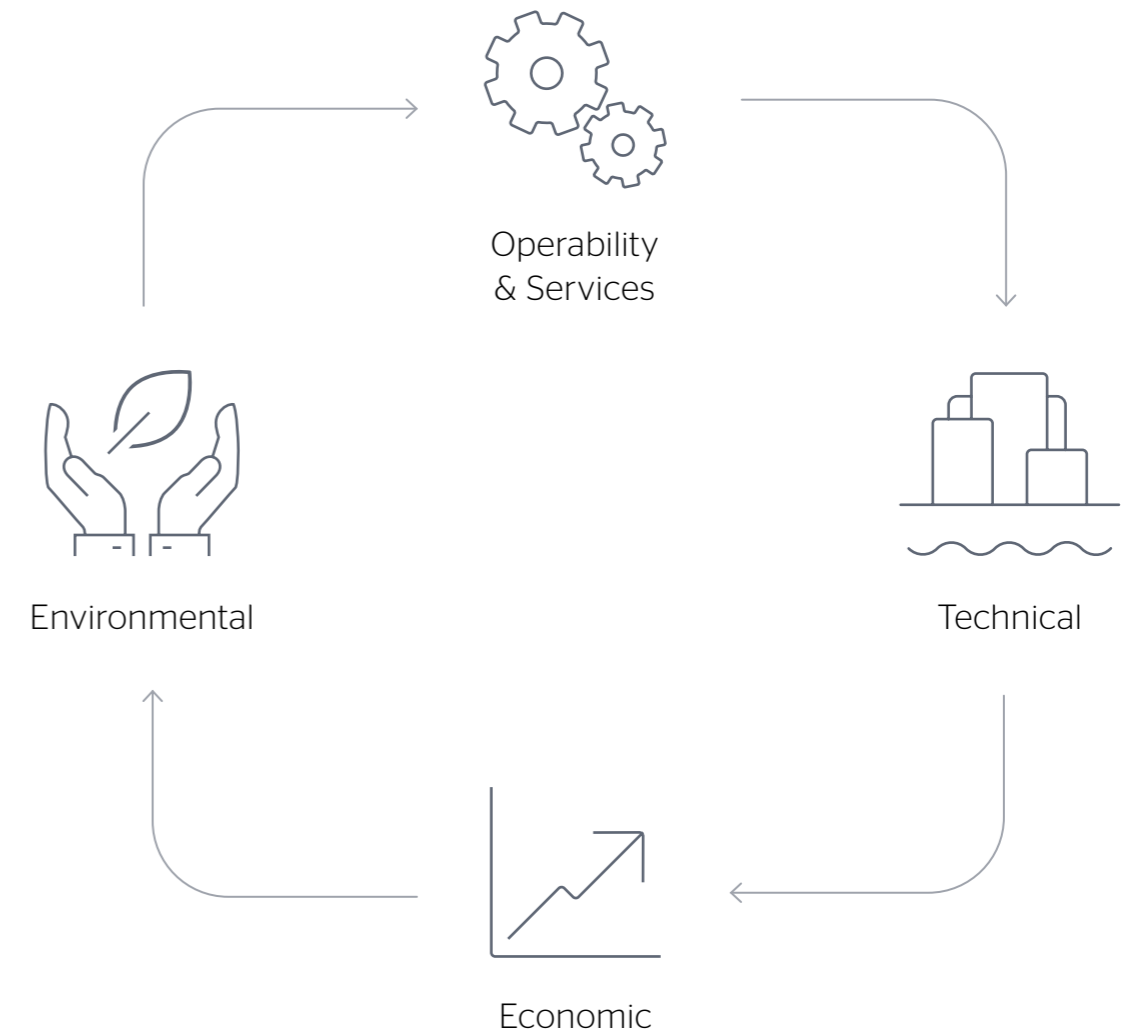
## INPUT

## TREATMENT

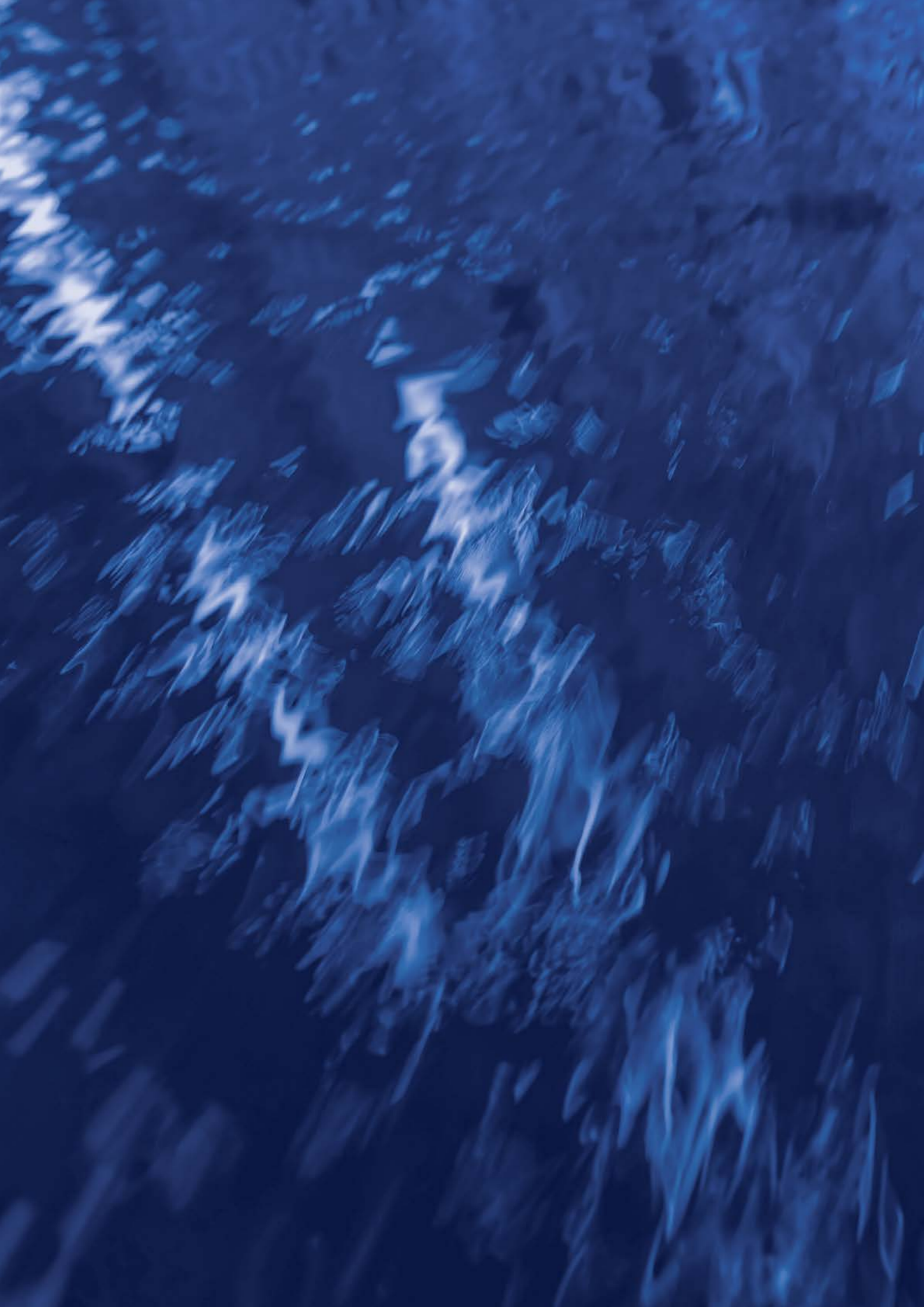
## OUTPUT



# Key Benefits



- High degree of automation
- Remote control of the plant
- Customized approaching in every type of waste
- No influence from climatic conditions to the treatment process
- Significantly lower reaction times
- Upgrade on existing waste treatment plants also possible
- Competitive investment cost compared to other treatment methods
- Significantly lower operational cost in use of chemical consumables
- Lower energy consumption
- Lower maintenance cost
- High reuse ability of treated waste
- Significant pollutant load reduction
- Production of inorganic sludge without toxic or dangerous characteristics
- Smaller treatment unit's footprint
- Elimination of irritant odors
- Lower volume of produced sludge



## Contact

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