



Creating **solutions**
for the **food and beverage industry**

Dedicated to improving your company's performance

> Water is an essential component for the food & beverage industry.

Each industry has specific technical, economic and environmental obligations.

From producing process water to treating effluent and sludge,

Veolia Water's experts have perfected specific solutions combining:

technological expertise and customized services

- Standard equipment
- Design/build engineering
- Providing services and maintenance
- Outsourced management of the water cycle

... for every industry:

- Dairy industry
- Meat and slaughterhouse industries
- Brewing, wine and spirit industries
- Water bottling and soft drinks industries
- Fruit and vegetable processing industries



All your water hygiene, safety and
environmental requirements are met
at every stage of the process.

Working with you:



- safety
- continuous water supply
- developing the capacity of wastewater treatment plants
- optimizing treatment solutions for fats and oils
- sludge control
- reduced energy costs
- minimizing odor pollution
- reliability of water cycle operations

From health requirements to process water quality

> **We are continuously optimizing the quality of the purified water that is produced as well as the reliability of our facilities.** Preventing possible contamination and removing undesirable elements are two of our major concerns: for example, residues of phytosanitary products, nitrates, pathogenic organisms (bacteria, viruses), water hardness, heavy metals, micro-pollutants.

We can provide a technological solution customized to each specific industrial application and each type of water quality:

Food Grade Water

- Drinking Water •
- Water as an ingredient •
- Process water •



Industrial quality Water

- Raw water: catchment, boreholes, networks
- Utility water: boiler feed, cooling water
- Wash water: CIP, rinse water
- Domestic hot water
- Conveyance water
- Cooling systems



Preventing, managing and treating legionella contamination is a top priority.

With the support of the Veolia Environnement Prevention Plan, Veolia Water Solutions and Technologies is ready to assist you in order to:

1. Protect your facilities
2. Optimize all stages in industrial water treatment
3. Prevent any health risks in an effective manner

Analytical monitoring of treatment solutions, expertise and consultancy:

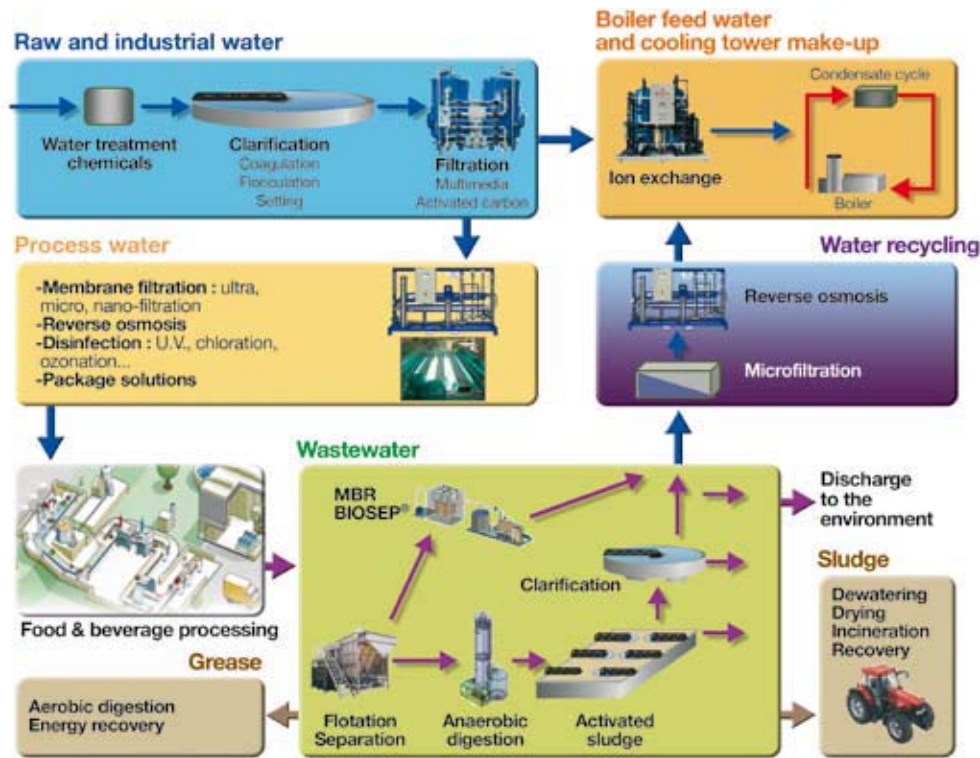
- Domestic hot water
- Cooling towers
- Boilers
- Cooling systems
- Preventing Legionella outbreaks
- Cleaning and preventative treatment of heating and iced water systems
- Comprehensive approach to preventing Legionella growth

Complying with standards and continuous production

- **Monitoring** facilities contamination
- Health **Diagnostic** and characterization of pollution sources
- Rapid and long-term **Disinfection** of contaminated networks
- **Fighting** against structural flaws within the network, scaling and corrosion
- Facilities **Compliance**

> **Veolia Water's experts provide a range of technologies and services** in order to develop the best customized solution for your water treatment system:

- Physical-chemical processes such as clarification, flotation, separation
- Biological processes such as anaerobic digestion, activated sludge, membrane bio-reactors
- Pilot schemes, consultancy, training, maintenance, operating the treatment plant



A technological solution for each type of effluent.

Our treatment systems take into account all parameters in terms of suspended matter, BOD, COD, nitrogen, phosphorus and other pollutants in order to guarantee optimal wastewater treatment:

- Effluent from the brewing, dairy, slaughterhouse, bottling, canning, beverage and biofuel industries
- Oily water, sludge and organic waste
- Highly polluted industrial effluent

For dealing with growth ...

- Threat of disconnection from the communal wastewater system
- Need to increase capacity in order to extend the plant
- Emergency renovation and upgrade in order to comply with regulatory specifications

... Veolia Water provides you with innovative solutions

to improve, at least cost, the efficiency of your wastewater treatment system and to uncover flexibilities and performance sources:

- New technologies to “boost” the current plant
- Productivity gains by optimizing operations
- Regained environmental compliance through technological advances
- Sharing resources with compatible neighboring facilities

From treating effluent to meeting discharge standards

Your purified water is much more than a waste product, it's a recyclable resource

> The food & beverage industry has to face the challenge of sustainable development.

- Water scarcity and conservation of water resources
- Constantly increasing production and effluent treatment costs
- Ever more stringent environmental and regulatory constraints

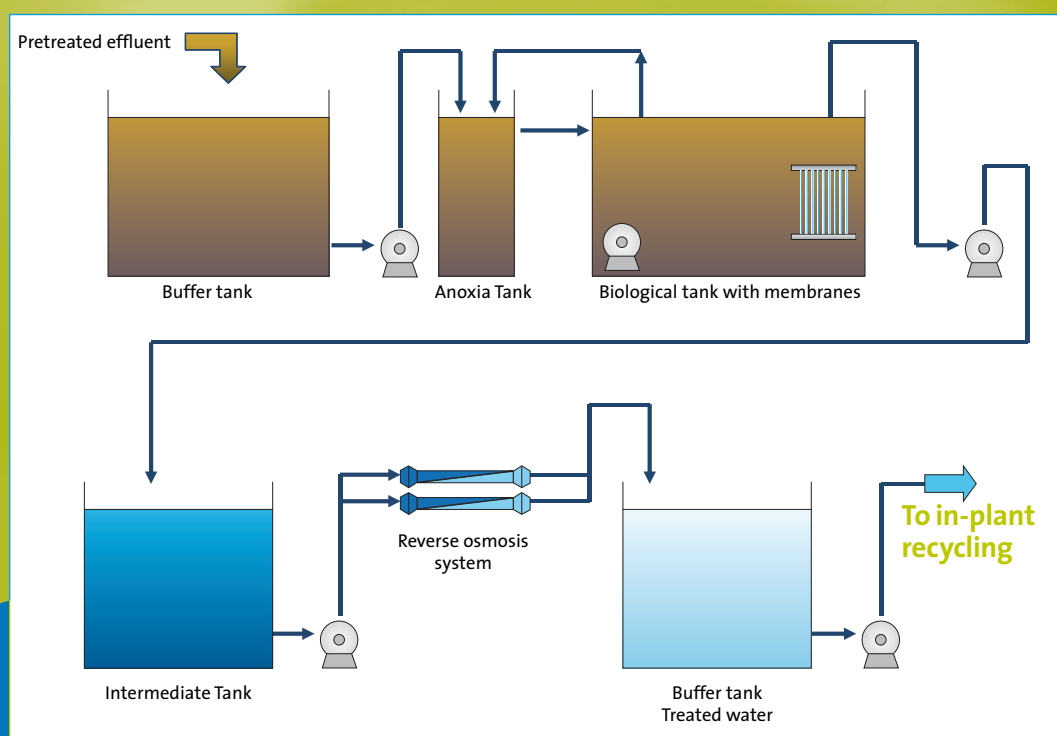
Each of our clients has guaranteed access to technological excellence thanks to the research carried out by the Veolia Water Group and a portfolio of **more than 1,000 patents**.



We are therefore able to provide proven solutions for the reuse of your purified effluent:

- Producing industrial water for multiple uses such as irrigation, wash water (trucks, floors), cleaning water, conveyance water
- Cooling system feed
- Producing demineralised water for your boilers

Our expertise is primarily built upon a wealth of international experience which guarantees up to **30% more efficient water usage**.



Example of an industrial effluent recycling system from the food & beverage industry

➤ **Ensuring safety, traceability, preventing odor pollution, volume reduction, agricultural reuse and waste to energy conversion ...** just as many important issues surrounding the treatment of fats, oils, sludge and by-products from the food & beverage industry. In order to meet these challenges, Veolia Water is developing high-performance long-term solutions with the ultimate objective of minimizing cost:

▶ **Collecting, treating, reusing oily effluents**

Improved energy recovery is now possible thanks to the technological solutions available for treating oily effluents.

Technologies	Recovery and Reuse
<ul style="list-style-type: none"> • Flotation • Physical and chemical treatment solutions (acidification) • Biological treatment solutions: Agira™ / Biolix™, anaerobic digestion 	<ul style="list-style-type: none"> • Agricultural use/ composting • Waste to energy conversion <ul style="list-style-type: none"> - Heat Generation (CHP) - Electricity (biogas) - Biofuel production

▶ **Disposing, treating, recovering and reusing sludge**

Our innovative technologies reduce sludge volumes considerably. We can provide you with mono-process or multi-process solutions or a combination of solutions:

- Dewatering, drying
- Mesophilic and thermophilic digestion
- Sterilization, pasteurization
- Chemical and biological odor removal
- Landfill disposal
- Temporary storage
- Incineration, co-incineration
- Spreading, composting
- Anaerobic treatment of effluents and biogas recovery:
 - CHP Heat Generation
 - “Green” electricity
 - Carbon credits



**Long-term solutions
for treating grease,
oil and sludge**

From after sales service to operations

- > **Veolia Water is able to provide you with a complete and diverse range of services** tailored to suit your requirements, from the simplest to the most complex of services, at all levels of integration. The starting point for each solution is an overall analysis of the best technical and most cost-effective options.
- > **Veolia Water - 70 000 employees working for you.**

After Sales Service and Maintenance

- Supplying spare parts and consumables
- Ion-exchange resin regeneration
- Membrane diagnostics and monitoring
- Supplying activated carbon
 - Chemical products
- Emergency assistance

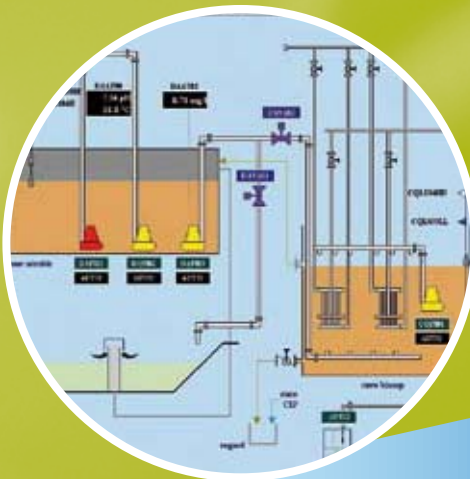


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Operational Technical Assistance

- Diagnostics and expert audits, covering:
 - Installations and equipment
 - Water networks, water supplies and boreholes
 - Operating conditions
 - Water cycle efficiencies
- Service contracts
- Control and monitoring, on call 24/7
- Preventive and curative maintenance
- Operation with commitments of resources

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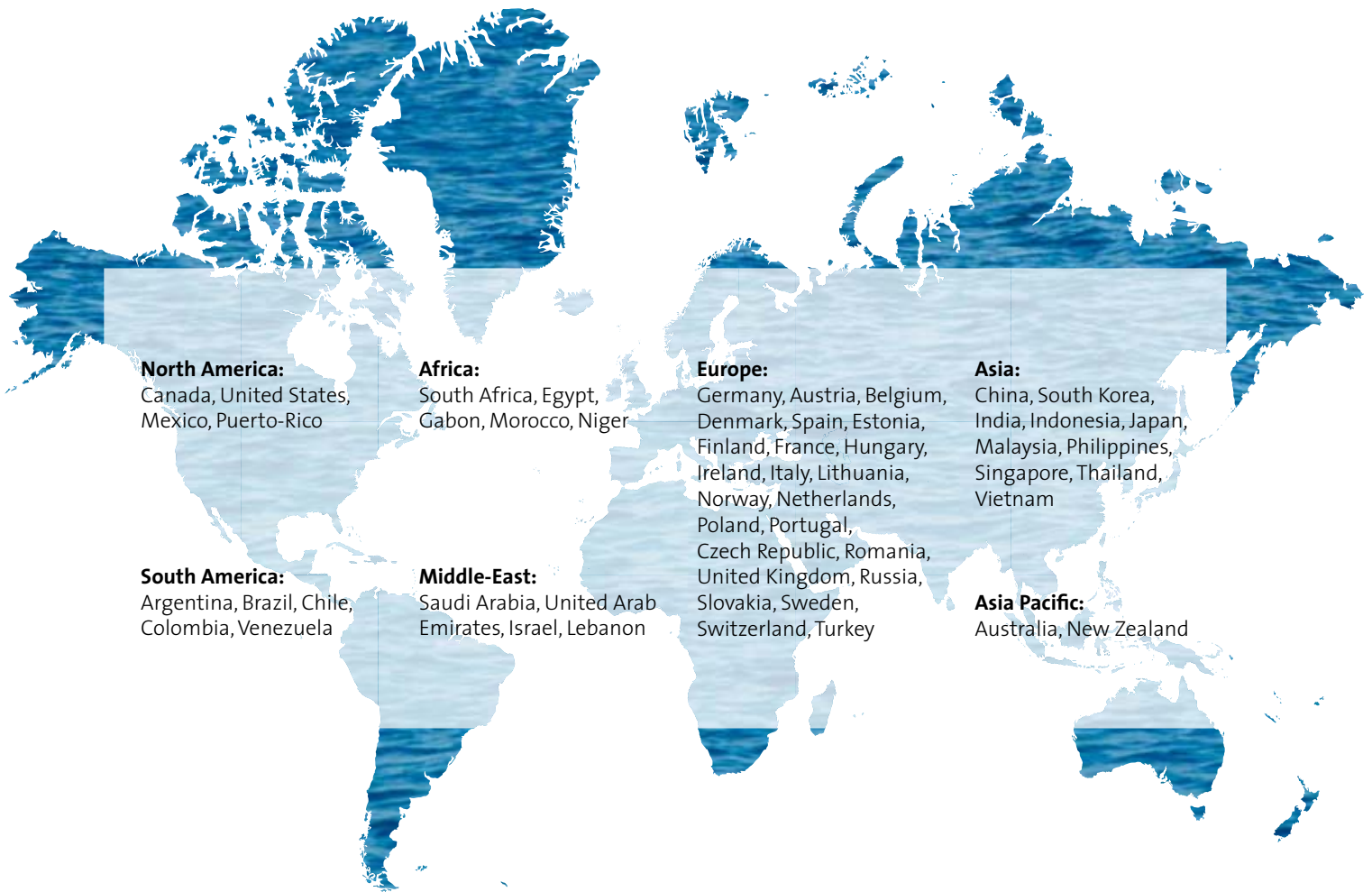


Industrial Outsourcing

- Running all or part of the operations (outsourced management)
- QHSE integrated management system
- Constant improvement of the service and evaluations on a regular basis
 - Guaranteed results



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**North America:**

Canada, United States,
Mexico, Puerto-Rico

Africa:

South Africa, Egypt,
Gabon, Morocco, Niger

Europe:

Germany, Austria, Belgium,
Denmark, Spain, Estonia,
Finland, France, Hungary,
Ireland, Italy, Lithuania,
Norway, Netherlands,
Poland, Portugal,
Czech Republic, Romania,
United Kingdom, Russia,
Slovakia, Sweden,
Switzerland, Turkey

Asia:

China, South Korea,
India, Indonesia, Japan,
Malaysia, Philippines,
Singapore, Thailand,
Vietnam

South America:

Argentina, Brazil, Chile,
Colombia, Venezuela

Middle-East:

Saudi Arabia, United Arab
Emirates, Israel, Lebanon

Asia Pacific:

Australia, New Zealand

A local network at your service

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