



Water and Wastewater Treatment Technologies & Services

for the Food and Beverage Industry

WATER TECHNOLOGIES

Understanding Water Challenges Facing Food & Beverage Companies

The demands made on Food & Beverage companies are numerous. Veolia Water Technologies understands these issues and has experience in helping organizations achieve their goals in:

- > Regulatory Compliance
- > Sewer Surcharge Reduction
- > Operational Efficiency
- > Product Quality
- > Increased Resource Recovery
- > Risk Mitigation
- > Corporate Sustainability Initiatives

A Creative and Trusted Solutions Provider

Veolia Water Technologies is trusted by leading Food & Beverage companies across the globe and has successfully executed more than 1,400 projects worldwide.

Veolia provides its clients an integrated approach to water management using innovative technologies, equipment, chemistry, and services. Our customer-focused culture combined with comprehensive water management capabilities make Veolia a preferred partner for all water and wastewater related projects.

Capabilities

Veolia is experienced in the design and implementation of standard and customized technologies for the food & beverage industry

Ingredient (Production) Water

Production facilities need a continuous and safe supply of water. Veolia's technologies ensure that the production of ingredient water is reliable, cost effective, and meets the highest quality standards that your operation demands.

Utility Water

Food and Beverage manufacturers rely upon their utility operations to provide reliable steam and cooling water to support production needs. Veolia's equipment and chemical technologies effectively produce the type of water your utilities need to ensure steam quality, heat exchange efficiency and environmental compliance.

Product Filtration

Ensure product quality and clarity with Veolia's fine filtration technologies. These systems are a safe and economical method to remove suspended solids and other unwanted particles from your product.

Wastewater

Veolia is experienced in helping clients reduce their financial exposure and comply with discharge requirements and stringent environmental regulations.

Anaerobic Treatment Convert Waste & Wastewater to Energy

Anaerobic treatment technologies offer a dual benefit for food and beverage facilities. They simultaneously treat a wide range of waste and wastewater streams while creating energy-rich biogas as a by-product that can be used to produce "green" electricity or heat.

Water Recycling & Reuse

Food production is a water-intensive industry. Veolia understands this and is able to help clients meet water reduction goals and minimize their environmental impact by implementing technologies that convert wastewater into water that can be reused elsewhere.

Nutrient Recovery

Veolia's sustainable approach to water can transform waste into valuable by-products, such as fertilizer, that can be reused or sold.

Industries Served

- > Food Processing
- > Beverage Production
- > Breweries
- > Wineries
- > Distilleries
- > Dairy / Cheese
- > Sweeteners
- > Snacks
- > Grain / Cereal Production
- > Vegetable Processing
- > Wet Corn & Oilseed Processing
- > Meat & Poultry Processing
- > Biofuel Production
- > Aquaculture



Expansive Technology Portfolio for Food & Beverage Water & Wastewater Treatment

Veolia's more than 350 patented technologies allows for comprehensive water solutions for food and beverage operations of all types and scales. From ingredient water to wastewater handling, our experienced global network of engineering professionals are consistently creating innovative technologies to help you achieve your operational and regulatory goals

VEOLIA'S INNOVATIVE TECHNOLOGY AND PRODUCT OFFERING INCLUDE:



Biothane® High-Rate Anaerobic Treatment System
 Anaerobic granular wastewater treatment process designed to effectively remove COD/BOD, while simultaneously generating green energy as a by-product



Memthane® Anaerobic Membrane Bioreactor (AnMBR)
 High-strength wastewater treatment process that reduces BOD while producing a high-quality effluent that can be reused or discharged directly to sewer



AnoxKaldnes™ MBBR (Moving Bed Biofilm Reactor)
 High-performance aerobic wastewater treatment technology engineered to effectively remove BOD/COD and nitrogen



NEOSEP™ MBR Immersed Membrane Bioreactor
 Activated sludge treatment with immersed membrane filtration to produce a high-quality permeate



Hydrotech Drumfilters & Discfilters
 Filtration technology that uses woven media panels to remove suspended solids > than 10 microns



Actiflo® High-Rate Clarifier/Softener
 Small-footprint technology in which water is flocculated with microsand and polymer to increase settling velocity for the removal of more than 99% of TSS

CASE STUDY

Leading Candy Manufacturer

PROJECT: Wastewater Treatment Facility
LOCATION: United States
FLOW: 1.2 MGD
COD: 34,570 lb/day

A leading confectionery company approached Veolia to design a complete wastewater process to replace their aging treatment facility. Veolia designed, installed, and commissioned a robust process that utilizes several technologies to remove solids, BOD, nitrogen, and other contaminants. In addition to successfully treating the wastewater, the facility produces green energy as a by-product to help offset the energy costs.

Standard Equipment Product Line

Pre-Engineered for Fast Implementation

Veolia offers standard, pre-engineered products and skid-mounted systems for several of its technologies. Our Standard Product Line offering is designed to provide cost-effective water and wastewater treatment solutions for food and beverage facilities.

OUR STANDARD PRODUCT LINE INCLUDES:

- > Media & Membrane Filtration
- > Reverse Osmosis
- > Softening & Demineralization
- > High Recovery RO
- > Evaporators & Crystallizers
- > Wastewater Equipment
- > UV Disinfection
- > Chemical Dosing Packages
- > Automated Control Systems



Reverse Osmosis (RO) Systems
 Advanced membrane based water filtration systems engineered to create a high-quality permeate for utility equipment, ingredient water, or water reuse applications



Ion Exchange Systems
 Flexible and automated water treatment systems used to soften, dealkalize, deionize, or demineralize water for utility or process applications



Auto-Jet™ Filtra-Matic™
 Superior precoat pressure leaf filters used for fine filtration (> 1 micron) to improve product clarity and quality in liquids, gelatins, and syrups



Sand, Multimedia, Carbon, and Cartridge Filters
 Efficient equipment designed to remove particles, odors, and organics to improve intake water quality for use in utilities and manufacturing



IDRAFLOT® Dissolved Air Flotation (DAF)
 An innovative and effective wastewater treatment technology based on a unique modular design to remove suspended solids and FOG (fats, oils, and grease)



EVALED® Evaporators
 Highly reliable and cost-effective evaporation technology designed to reduce wastewater volume, produce a high-quality, reusable distillate and recover valuable by-products

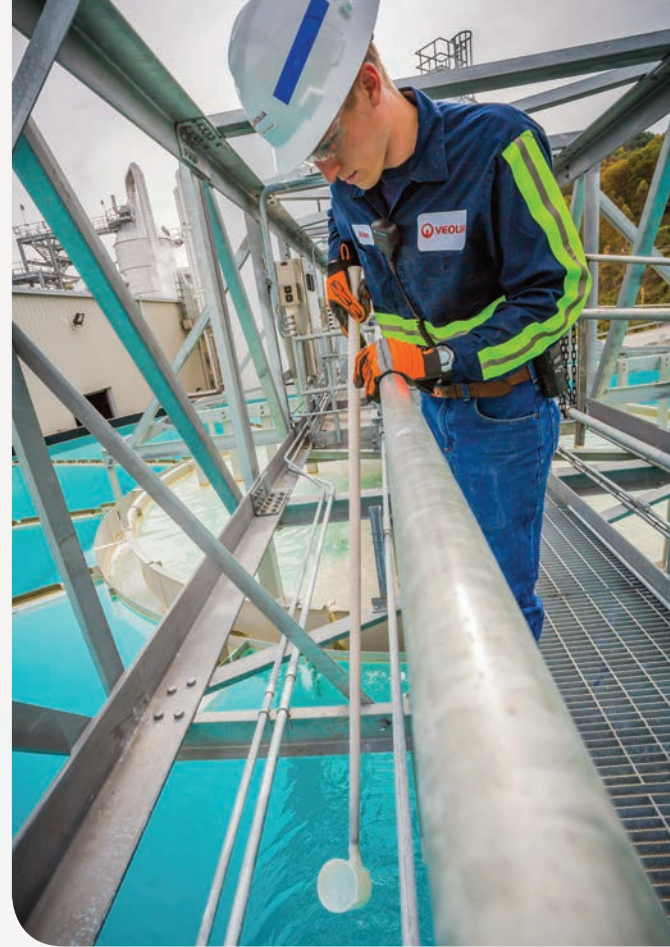
Comprehensive Service & Solutions

Veolia Water Technologies offers customer care at its best—not just during a capital project, but beyond.

Veolia does this by providing a wide variety of services to optimize the performance of water, wastewater, and utility infrastructure at food and beverage facilities. This is what makes Veolia a unique and comprehensive partner in water and wastewater treatment.

Our Services Include:

- > Laboratory Service / Testing
- > Bench-Scale Tests
- > Pilot Tests
- > Chemical Service Programs
- > Water Audits, Studies & Evaluations
- > System Troubleshooting
- > System Maintenance
- > Complete Process Design
- > System Integration
- > Start-Up & Commissioning
- > Training and Continuing Education
- > Spare Parts and Consumables
- > Full or Part-Time On-Site System Operations
- > Remote Monitoring / Automation
- > Deionization Services



Veolia Water Technologies delivers creative, effective, and sustainable services and solutions that meet the business and environmental goals of its clients



MadTree Brewing

SERVICES: Hydrex™ Utility & Water Services
TECHNOLOGY: Sirion™ Mega Reverse Osmosis
LOCATION: Cincinnati, Ohio

MadTree Brewing relies on Veolia for integrated water treatment equipment and services. Veolia installed a Sirion™ Mega Reverse Osmosis (RO) system to ensure that all of the water used in MadTree's brewing process is of the highest quality. In addition to providing this equipment solution, Veolia regularly performs a comprehensive service checklist on their entire water infrastructure. The program includes maintenance and testing of the Sirion Mega RO system, as well as boiler water chemistry services. With this integrated approach, Veolia is able to maximize the operational efficiency and lifespan of MadTree's systems.



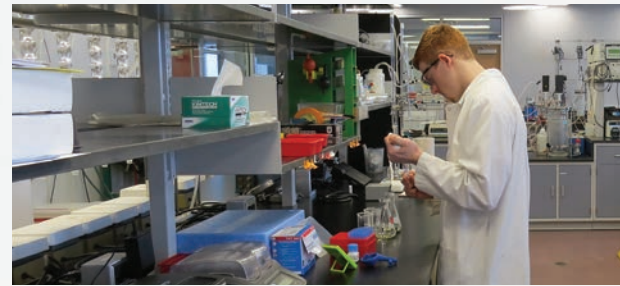
Aquaservice™ Operational & Environmental Compliance Services

Our on-site specialists can implement an objective, integrated, customer-specific plan to increase operational efficiency and ensure regulatory compliance.



Hydrex™ Chemical Solutions

Veolia's Hydrex™ chemical programs tackle our clients toughest water challenges by reducing their water footprint while improving both production and utility reliability and efficiency.



Lab Services & Pilot Testing

Laboratory and pilot testing is critical to characterizing water and wastewater streams for treatability. Veolia has in-house and onsite capabilities to ensure the feasibility and successful implementation of water and wastewater projects.

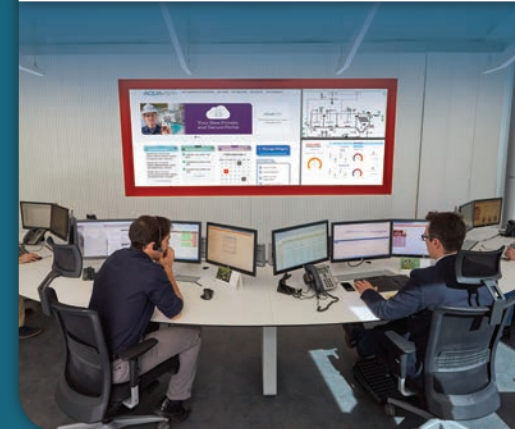


Mobile Water Services

Veolia's mobile fleet includes a wide range of technologies for temporary, emergency and long-term water treatment applications, including reverse osmosis (RO), clarification/softening, and more.

KEY SERVICES

AQUAVISTA™ DIGITAL SERVICES



Smarter Water Management

To enhance water and wastewater treatment at your facility, Veolia Water Technologies has developed an all-in-one digital service called AQUAVISTA™.

AQUAVISTA is accessible Anytime, Anywhere and on Any Device through a single private portal. This advanced service allows our customers to efficiently manage their water treatment equipment in real-time, 24/7. AQUAVISTA can be implemented for a single technology or a complete water treatment facility.

A Faster Response to Your Needs

Using AQUAVISTA, Veolia can also perform a virtual site visit to a facility to more efficiently provide troubleshooting and emergency support.

