

Award-Winning Water Recycling Technologies

From Research and Development to Solution Fielding to Decommissioning

Tap our experienced team for your next water recycling and purification project.



We offer the ability to fully design, develop, prototype, test, build and maintain industrial water treatment systems that will reduce your costs and water usage.

Concurrent Technologies Corporation's (CTC's) innovative water recycling technologies purify and treat wastewater up to potable standards so that it can be safely recycled and reused, addressing pressing water needs.

No other technology matches the efficiency and benefits in providing clean water for unrestricted reuse—including human contact applications. Our systems recover more water at better quality using less energy, operations, and maintenance.

CTC's technologies allow water to be reused for a wide variety of applications, such as industrial and commercial laundry, toilet flushing, and landscaping.

Our research and development (R&D) work includes Department of Defense projects, which drives our solutions to comply with strict national water reuse standards and mandates, enabling quicker transition to the field.

CTC offers the following to meet your needs:

- More than 30 years of research and development experience
- Customized engineered solutions using innovative water processing technologies to meet your unique needs
- Scalable, modular, portable systems that are energy efficient and low maintenance
- Significant cost savings—achieved through reduced water, energy, and sewage fees
- Social and environmental benefits, especially in water scarce regions and disaster relief operations across the U.S. and abroad
- Full, turnkey services including design, construction, and installation
- Manual to fully automatic processes, minimizing man power while maximizing data analytics

 *Concurrent Technologies Corporation*

Facilities and Infrastructure to Support Water Recycling Research and Development



Water Evaluation Test (WET) System

Our in-house WET system is used to optimize water technologies before delivering customized solutions to clients, saving them time and money while ensuring performance.

The WET system is a fully functional test bed, where filtration elements are integrated and swapped for sub- and full-scale testing prior to final integration. This system affords CTC the ability to generate multiple configurations of filtration technology and/or “challenge” water to fully vet and validate filtration performance. Other areas of this infrastructure include:

- Wet chemistry laboratory for onsite testing and validation
- Two large high bay spaces totaling 130,000+ square feet
- Machine shop that houses fully equipped cold spray, additive manufacturing, machining, friction stir and conventional welding, and metrology capabilities



Expeditionary Wastewater Reuse System (EWRS)

Processes and recycles more than 90 percent of greywater

Developed for the U.S. Air Force, the Expeditionary Wastewater Reuse System (EWRS) makes a significant impact on water usage by efficiently processing and recycling 90% of greywater generated at Basic Expeditionary Airfield Resource (BEAR) sites. The EWRS recovers shower and laundry water each day while providing energy efficiency and low maintenance.



U.S. Air Force photo

Expeditionary Black Water Processing System (EBWPS)

Reducing environmental impacts of wastewater on host nations and enhancing the security of deployed personnel

CTC is developing an Expeditionary Black Water Processing System (EBWPS) for the U.S. Air Force. The EBWPS will complement and work holistically with the EWRS, which recycles greywater at BEAR sites. Because the EWRS greywater system reclaims all but 10 percent of greywater from showers and laundry at BEAR sites, the black water (sewage) will no longer be liquid enough, making disposal problematic. The new EBWPS will be an energy-efficient system to treat black water in a manner that will meet U.S. Environmental Protection Agency and U.S. Army Public Health Center standards for direct discharge back to the environment.



Small Unit Water Purification (SUWP) System

Provides up to 100 gallons per hour of ultra-filtered water and up to 10 gallons per hour of drinking water

The Small Unit Water Purification System (SUWP) provides an energy efficient, configurable solution to meet a specific water need and utilize the available energy source. For drinking water, reverse osmosis processes fresh or brackish water and can be configured for saltwater desalination.



CTC's alternative water treatment technology won an internationally renowned Silver Edison Award in the energy and sustainability category.

Innovative Water Technologies

Twin Ultra™ Greywater Recycling System



Recycles 70 to 90 percent of greywater

The Twin Ultra Greywater Recycling System treats greywater from laundry, sinks, showers, and other commercial and industrial sources and recycles the treated water for use in washing machines, showers, and other non-potable sanitary systems.

This system fulfills greywater recycling needs in multiple markets, including the federal and local governments, military, industrial, commercial, mining, hospitality, multi-family residences, higher education, oil and gas, manufacturing, and disaster relief.

Beyond the Twin Ultra product line, our Twin Ultra Plus™ adds a reverse osmosis module for laundries processing heavily soiled fabrics where high detergent and chemical use is required.

Green Laundry Benefits Users and Environment



CTC offers a first-of-its-kind Green Laundry system that combines CTC's Twin Ultra greywater filtration system and an innovative Ozone-Injection treatment technology.

Built to endure the toughest environmental conditions, CTC's water recycling system was developed for the U.S. Air Force's forward operating bases. Our innovative process is fully automated to minimize operator time requirements, while achieving recycled water quality requirements without the use of biological or high chemical demand coagulation-based treatment. The system leverages a proprietary treatment technology that was originally developed for NASA. It uses ozone, which works significantly faster at destroying bacteria (through oxidation) than chlorine bleach. The process replaces laundry chemicals, eliminates much of the need for hot water, and prolongs the life of linens.

The green laundry system also allows many users to qualify for water, sewer, and energy utility rebates.

The combined green laundry system allows laundries to significantly reduce:

- Water and wastewater utility bills up to 70%-90%
- Hot water energy use by up to 90%
- Detergent use up to 70%
- Dryer use and associated energy consumption up to 40%

Why CTC?

- We work to understand your unique water needs and conceive innovative solutions.
- We are an unbiased, proven technology evaluator.
- We are a technology transition leader.
- We provide a one-stop shop: from requirements to research & development to product and decommissioning—we address the entire life cycle of product development. We offer:
 - Full-service engineering design and technician staff
 - In-house laboratory services for water quality and corrosion testing
 - In-house cybersecure controls engineering
 - Instrumentation and advanced controls methodologies for today's data analytics using artificial intelligence and machine learning techniques
 - Upfront modeling capabilities using advanced software tools including ChemCAD, AutoCAD, Creo 3-D modelling, ANSYS, FEA, Abaqus, and CFD
 - Machining, welding, additive manufacturing & cold spray for specialty fabrication
 - 140,000+ square feet of manufacturing facilities, including machine shop, precision measurement, paint booth, and metal coatings



Concurrent Technologies Corporation (CTC) is an independent, nonprofit, applied scientific research and development professional services organization. Together with our affiliates, Enterprise Ventures Corporation and CTC Foundation, we leverage research, development, test and evaluation work to provide transformative, full lifecycle solutions. To best serve our clients' needs, we offer the complete ability to fully design, develop, test, prototype and build. We deliver robust, technical, and innovative solutions that safeguard our national security, retain U.S. technological advantage, and ensure the primacy of American manufacturing

CTC's quality management system is certified to the ISO 9001:2015 (Quality) and 14001:2015 (Environmental) standards, and to AS9100D:2016 (Quality-Aerospace-Related Products).

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