

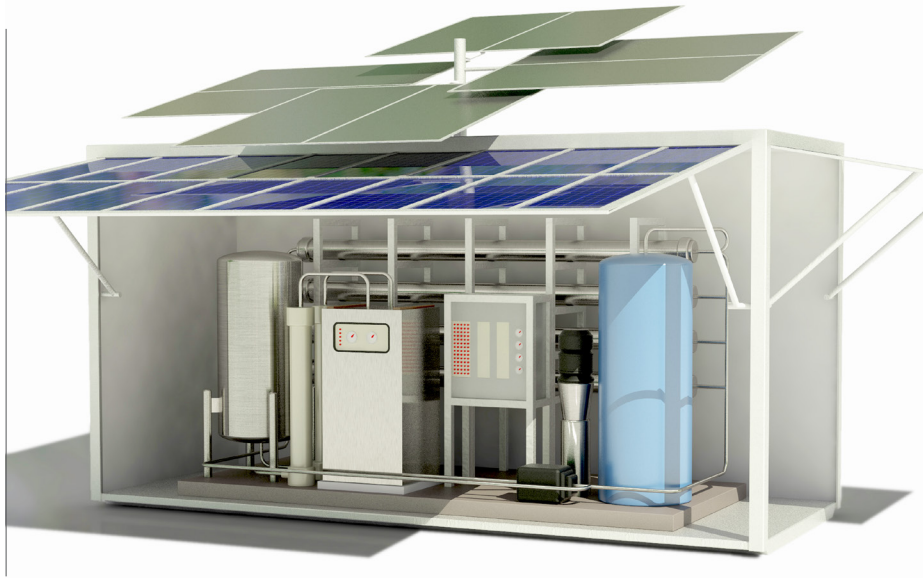


NEWT

NANOTECHNOLOGY ENABLED WATER TREATMENT

The Nanosystems Engineering Research Center on Nanotechnology Enabled Water Treatment (NEWT) will help provide clean water in a reliable and affordable fashion.

NEWT is developing highly compact, mobile and modular water treatment systems that will be easy to deploy, capable of tapping unconventional water sources and will enable access to clean water anywhere in the world. NEWT will also develop systems to treat and reuse challenging industrial wastewaters.



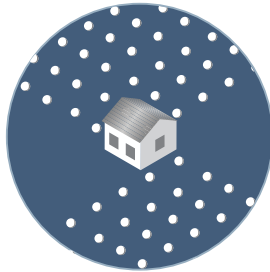
THE GLOBAL IMPACT

NEWT has great potential to create disruptive technology that protects global health, enhances human capacity and improves quality of life. This technology will provide water to billions of people in need, including about 43 million Americans in areas without access to municipal water systems. Here are some examples:



OIL AND GAS FIELDS

Drilling for natural gas and oil will be more sustainable and most cost-effective with regards to its water footprint, both onshore and offshore, even without electricity.



RURAL COMMUNITIES

Modules will remove suspended solids, microbes and dissolved contaminants like pesticides and salts. Convert any groundwater, pond water or seawater into drinking water using solar-based processes.



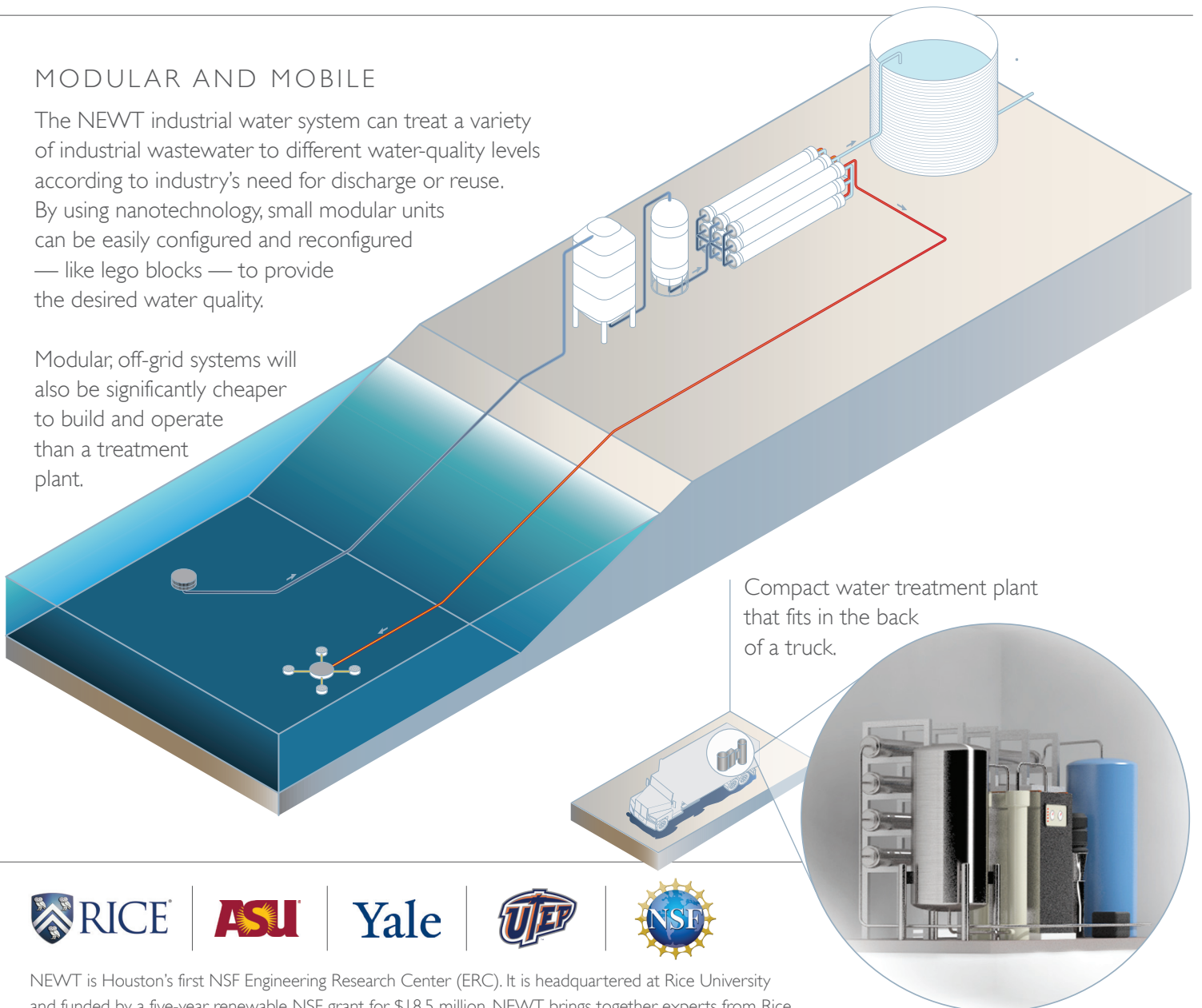
DISASTER RELIEF

Airlift compact, solar-powered systems to make clean water in disaster zones, refugee camps and remote outposts.

MODULAR AND MOBILE

The NEWT industrial water system can treat a variety of industrial wastewater to different water-quality levels according to industry's need for discharge or reuse. By using nanotechnology, small modular units can be easily configured and reconfigured — like lego blocks — to provide the desired water quality.

Modular, off-grid systems will also be significantly cheaper to build and operate than a treatment plant.



Compact water treatment plant that fits in the back of a truck.



NEWT is Houston's first NSF Engineering Research Center (ERC). It is headquartered at Rice University and funded by a five-year renewable NSF grant for \$18.5 million. NEWT brings together experts from Rice, Arizona State University, Yale University and the University of Texas at El Paso to work with more than 30 partners, including Shell, Baker Hughes, UNESCO, the U.S. Army Corps of Engineers and NASA.