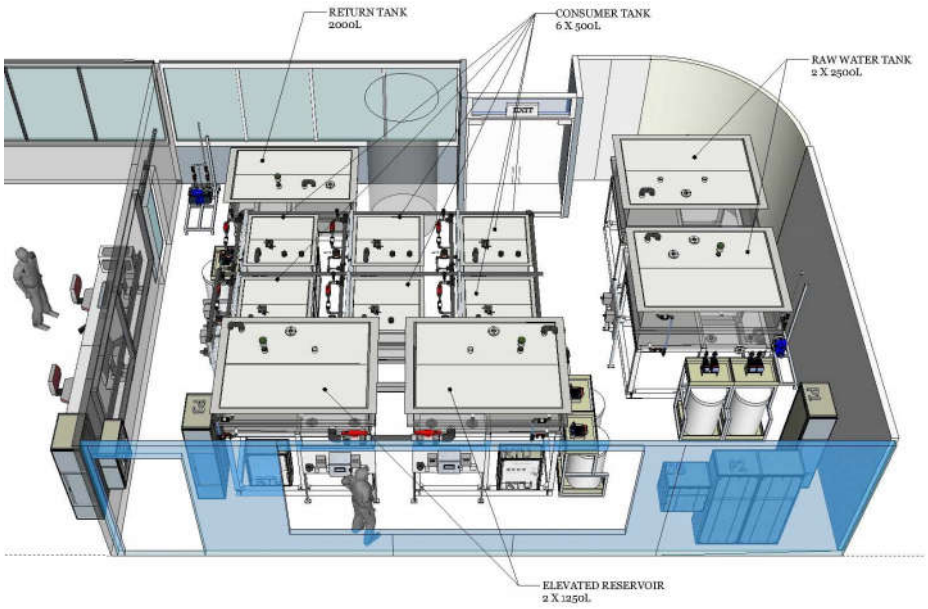
Water Distribution

Construction for the Water Distribution (WADI) testbed is now completed. It was officially launched on 26 Jul 2016. WADI is a natural extension of SWaT, comprising two elevated reservoir tanks, six consumer tanks, two raw water tanks and a returned tank. It also comes equipped with chemical dosing systems, booster pumps and valves, instrumentation and analysers.

WADI will take in a portion of SWaT's reverse osmosis permeate and raw water, thus forming a complete and realistic water treatment, storage and distribution network. The combination of these two testbeds allow researchers to witness the cascading effects of cyber attacks on one testbed to another.

In addition to attacks and defences being carried out on the PLCs and networks, WADI has the capabilities to simulate the effects of physical attacks such as water leakage and malicious chemical injections. Unlike a water treatment system plant which is typically contained in a secured location, a distribution system comprises numerous pipelines spanning across a large area. This highly increases the risk of physical attacks on a distribution network. Together with SWaT, WADI provides opportunities for researchers to work on a full spectrum of possible cyber and physical attacks on a water treatment and distribution plant.

In WADI, we consciously opted for a different PLC brand from SWaT, so that our researchers can verify our defence models on different PLC brands. Exposing our defence models to a variety of PLC brands helps us determine how robust our models are.



Layout/ diagram of WADI testbed

Research
‹ Projects
Publications
Reports
‹ **Testbeds**
Electric Power and Intelligent Control
Internet of Things Automatic Security Testbed
Secure Water Treatment
Water Distribution