

# Aqualution Systems Ltd

**Case Study:** Winner of the Hydro Nation Water Innovation Award



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Aqualution Systems Ltd has developed technology to manufacture and stabilise hypochlorous acid, the molecule produced by the human immune system to defend itself against pathogenic microorganisms. Their cutting-edge solutions were inspired by the 'green chemistry' ethos of minimizing the use and generation of hazardous substances.

The Hydro Nation Water Innovation Award recognises businesses, partnerships and collaborations that have specifically developed innovative products, practices or services in the area of water treatment and water technology. The company demonstrated strong commitment to reducing the use of chemicals, water and electricity in the processing and packing of fruit, vegetables and salads. The judges felt the company best captured the breadth and ethos of Scotland's Hydro Nation Agenda.



Compared to the industry standard process the solution consumes 80% less chemicals, 80% less water and 85% less electricity while delivering as good as or better decontamination of the product. Chlorine is reduced from the conventional level of 100ppm to 20ppm. The stabilised hypochlorous acid can last 24 months and does not bio-accumulate or biodegrade.

## Highlights

- Manufacture hypochlorous acid from salt, water and electricity for washing fruit and vegetables etc.
- The solution consumes 80% less chemicals, 80% less water and 85% less electricity than the industry standard
- Reduction in chlorine from standard biocides, from 100ppm to 20ppm
- Installed systems for M&S in Africa – delivers water savings of between 400k-600k litres per week and reducing costs by £200k-£300k





Aqualution Systems' product is being used by M&S for decontaminating fruit, salads and vegetables. The system has so far been installed in three plants in Africa supplying M&S. It delivers water savings of between 400k-600k litres per week and reducing costs by £200k-£300k. The return on investment is around 12 months.

In addition to fruit, salads and vegetables decontamination, the product is used to treat drinking water for poultry and dairy cattle leading to a reduction in water usage and antibiotics.



The main cost savings and CO2 savings come from the reduction of water cooling requirements as water is now reused. The product also improves the health of the workers as it uses less chlorine. It was clear from the judging visit that Aqualution are fully committed to maximising the economic benefit of water resources.

The judges were particularly impressed with the improvements in environmental performance over comparable alternatives. Aqualution Systems evaluated a 400,000 litres/ week (26,000 m<sup>3</sup>/ year) water saving in one plant alone.



*We are delighted to have been recognised at this year's VIBES – Scottish Environment Business Awards in the Hydro Nation Water Innovation category. Collecting a VIBES Award is a real testament to the hard work and commitment from everyone in the small team at Aqualution and demonstrates that even very small companies can make a difference in environmental management and impact and be recognised for doing so. We are proud to take our place amongst many excellent companies developing technologies to support efficient water management in food production in Africa and the wider world. Hearing about the diversity of the applications that all the finalists have developed was very inspiring and demonstrated the many ways to improve activities and operations while benefitting the environment both at home and abroad. The wide range of the size of the companies present also shows that any business can commit to best practice and make a difference .*

- Nick Meakin, CEO of Aqualution Systems