# Celebrate *new innovations* in **water processing**

Electrochemically Activated Water (ECA) is used in a number of hygiene applications to remove unwanted microorganisms from contact surfaces in the food and beverage industry. The process uses a brine solution.

**WHEN PASSED THROUGH** a specialised reactor cell, it creates potent disinfectant and detergent solutions, which are highly effective in the fight against contamination in the food industry. The ECA generators used to make these solutions are highly specialised and tailored to suit applications and customers' requirements in product sensitive manufacturing environments. The technology has been commercially active for the past 10 years. 'Bigger beverage industry players, who initially bought into the technology, could pick from an array of ECA suppliers in the market with varying degrees of experience and reliability. This often cost the ECA brand a bit of its reputation,' says Nikki Wilson, vice president, marketing at Radical Waters. 'As suppliers to customers in 28 countries, we have taken the bull by the horns and reviewed our own ECA supply strategy and the quality of our products. We took the decision to align ourselves with ECA manufacturers, Envirolyte Technologies in Estonia, Europe.'

## New range of ECA generators available

The Neutral Oxidant Water (NOW) range caters for both small and large scale applications where microbial control is required. Radical Waters is able to cater for ECA solutions from as low as 20ℓ up to 6 000ℓ per hour of neutral pH ECA solutions with an FAC of 500ppm.

ECA generators use water, salt and electricity to produce its solutions. Residual chlorides are of a concern to highly sensitive product lines where corrosion could rear its head on expensive equipment. To address

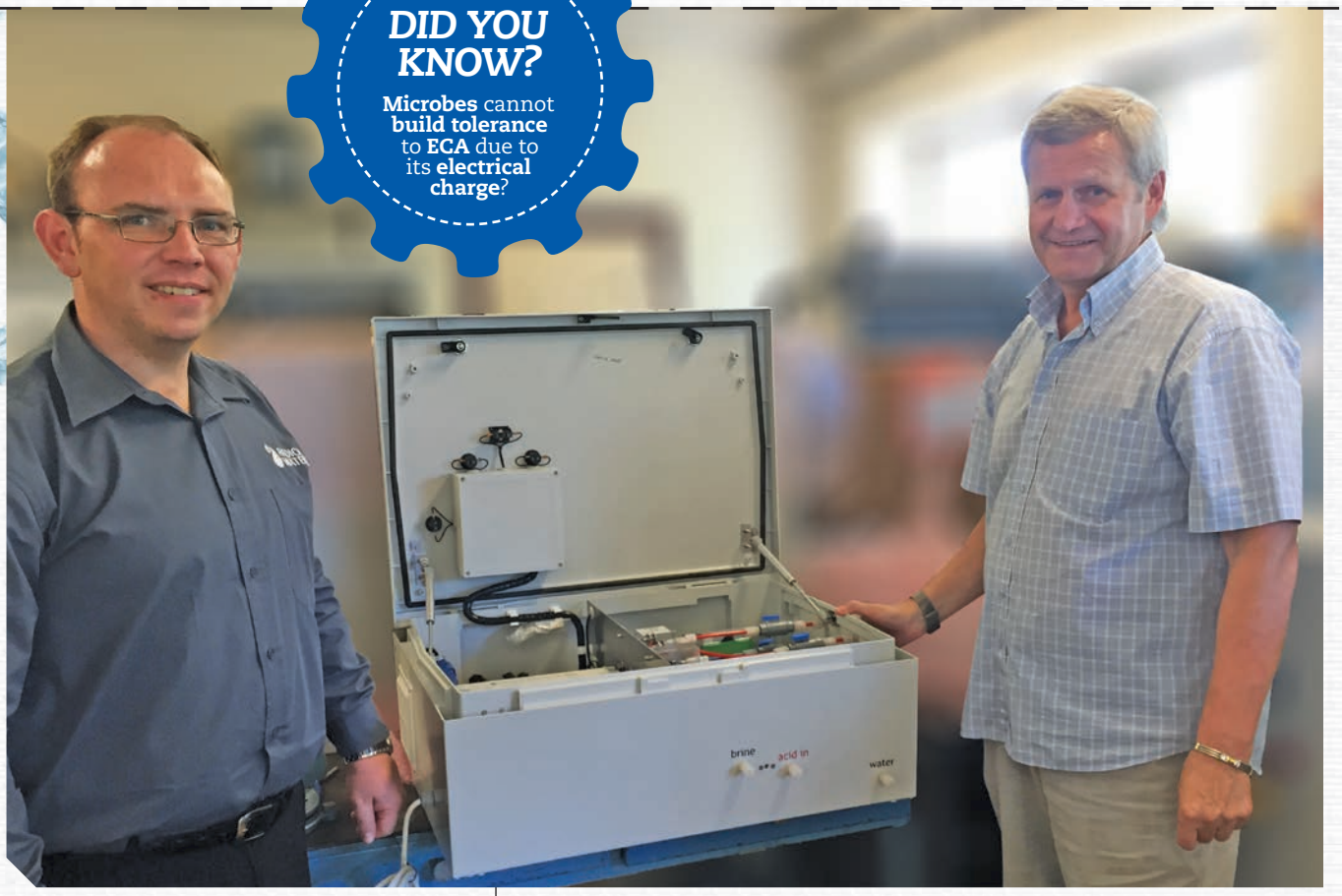
*Nikki Wilson and Valeri Ilchenko, CEO Envirolyte Technologies in Tallinn, Estonia*

SOME OF THE **BASIC CHARACTERISTICS** OF THE RADICAL WATERS' GENERATORS ARE:

- Less moving parts and control functions ensure greater reliability
- They use European quality components that are under warranty
- Robust devices developed for long term use
- New cell technology offers an expected cell life of five years (Reverse osmosis or soft water and good quality salt must be used)
- Remote monitoring via GSM or Ethernet can be included
- Simplified and operator user-friendly software
- Lower chlorides to meet stringent industry requirements
- Corrosion free generator enclosures.

**DID YOU KNOW?**

**Microbes** cannot **build tolerance** to **ECA** due to its **electrical charge**?




*Philip Nel, vice president technical and research development at Radical Waters with Valeri Ilchenko*

this, the NOW range of generators is available with low chloride technology where the corrosion causing residual chlorides measure in at 28 to 35ppm. This is well below the 55ppm allowable limit.

'Although our customer applications are quite diverse, they all require good quality ECA with minimal user intervention and low maintenance on equipment. We evaluated our application and intellectual property strengths, but also evaluated where our systems fall short. This put us on a path to seek a lasting and beneficial partnership, resulting in the signing of an original equipment manufacturers' agreement with Envirolyte. We can confidently say we are able to offer some of the best available ECA and equipment to the market at highly competitive prices. We are thrilled to be able to offer this. It's a new day for ECA,' enthuses Wilson.

The NOW range is available in two primary categories. The Impact range is used for larger scale operations where higher volumes are required. The Compact range is used where lower volumes of ECA solutions are needed. The generators are floor, wall or skid mounted and used in a variety of areas. ▪

**Radical Waters** – www.radicalwaters.com

**Table 1:** ECA eliminates all microorganisms and can be used in a variety of applications

| Application | Where ECA is used | Benefits of ECA |
|---|---|---|
| **Fish, chicken and beef products** | • On product<br>• In brine<br>• Cutting boards and surfaces<br>• Carcass spraying | • Microbial control<br>• Reduced product returns<br>• Extended shelf life<br>• Reduced carcass shrink<br>• Yield enhancement |
| **Fruits and vegetables** | • Washing<br>• Spraying onto plants<br>• Cutting boards and surfaces | • Microbial control<br>• Increased plant growth rate<br>• Fresher for longer |
| **Ice** | • Inclusion in ice | • Microbial control and extended shelf life of chilled product |
| **Beverage plant** | • Cleaning in place (CIP) | • Microbial control<br>• Reduction in CIP costs |
| **Sauce manufacture** | • Bottle rinsing and water product mix | • Microbial control<br>• Reduced product returns |
| **Grain decontamination in mills** | • Inclusion into grain conditioning | • Microbial control<br>• Reduced product returns |
| **Water treatment (food and beverage)** | • Pre carbon column treatment<br>• Carbon column | • Microbial control<br>• Replacement of chlorine<br>• Rehabilitation of carbon column (GAC) |
| **Water treatment (municipal and other)** | • Cooling towers<br>• Municipal water treatment plants<br>• Cruise liners and hotels | • Legionella control<br>• Microbial control |