



# Case Study Cleaning-in-Place Beverage

*An Alternate Disinfection Solution for your facility.*

## At a glance

Radical Waters approached SABCO Coca Cola bottling plant in Polokwane in 2007 to test the efficiency of ECA technology for application within CIP, as an alternative to conventional CIP chemicals. The ECA produced Anolyte and Catholyte solutions showed a wide range of benefits over the conventional CIP methods.



**GREEN**  
Technology



**REPLACE**  
Harsh Chemicals



**PROFITS**  
Increased

## EXECUTIVE SUMMARY

Since the success of ECA CIP achieved at the then SABCO facility in Polokwane, the ECA technology was presented to the international Coca Cola bottling audience and as a result it was implemented and tested in many Coca Cola bottling plants world wide. SABCO Polokwane also permanently implemented the ECA CIP technology and the facility remained one of the leading infrastructures where ECA CIP was developed and fine tuned.

In 2017 the CCBSA (Coca Cola Bottling South Africa) Group was created to obtain all Coke bottling facilities within South Africa and Southern Africa. The CCBSA group purchased all co-packer facilities from various companies such as SABCO and ABI in the region and also inherited the ECA systems that was installed and utilised at some of these facilities including Polokwane and ABI Phoenix in Durban.

The various ECA CIP systems within Southern Africa's Coca Cola bottling plants, now owned by SABCO, was seen as the ideal larger scale & long term testing field where the new CCBSA group could get feedback on the viability of the new ECA CIP technology. This was a critical exercise for CCBSA in order to determine if the ECA CIP technology will be part of the group's cleaning regime moving forward.

Based on the assessment by CCBSA along with Radical Waters' assistance and improvements on the ECA CIP technology, the data showed that there was indeed many benefits that CCBSA group could reap by approving and implementing the technology into more of their facilities.

As a result the decision was made by CCBSA to continue the use of ECA CIP within the Polokwane plant, and their original ECA generator was upgraded to the new N.O.W Model ECA generators in 2019, thus making the Coke Polokwane bottling facility the plant which has been using ECA as their cleaning solution for the longest duration of 14 years up to date.

Subsequently CCBSA upgraded other ECA systems within their region and also started to implement the technology into more packaging facilities by installing the N.O.W generators.



25 Silverstone Crescent - Kyalami  
Business Park - South Africa.



[www.radicalwaters.com](http://www.radicalwaters.com)



South Africa



# Case Study Cleaning-in-Place Beverage

*An Alternate Disinfection Solution for your facility.*



## INITIAL CHALLENGES



- To validate the implementation of ECA according to Coca Cola Internal standards for acceptable Cleaning in Place. Achieve the required micro results, prevent any flavour carry over between products and ensure no product spoilage due to implementation of ECA.
- Effectively Integrate ECA into the existing CIP and production system.

## RESULTS

The results, as is clearly evident in the outcome, surpassed all expectations, even those of the Radical Waters pioneering team themselves. The results were so extraordinary that it led to a global change in the way that Cleaning in Place was to be performed.

## IMMEDIATE BENEFITS



1

### Green, Safe Technology

Made from Salt+Water and through a controlled process known as Electrochemical Activation; ECA produces HOCl, that is safe on Food and safe for humans and animals

2

### Time, Energy and Water Savings

Shorter ambient CIP's resulted in substantial savings in the time it took to perform CIP's, and the amounts of water used.

3

### Total Microbial Control

After the implementation of ECA CIP, microbial loads on Lines 1, 3 & 4 were reduced from average 400 cfu's / ml to less than 25.



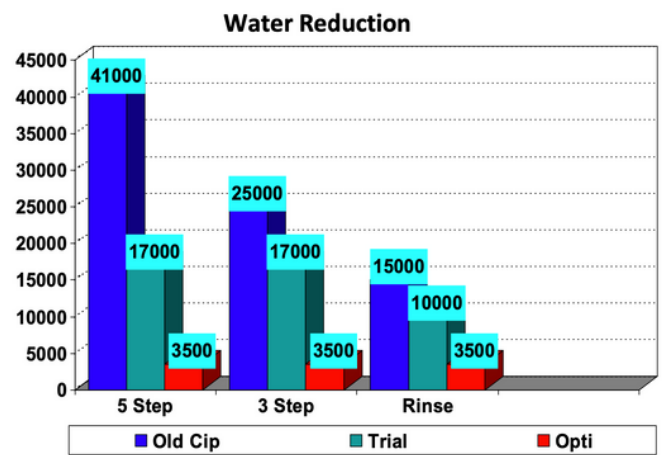
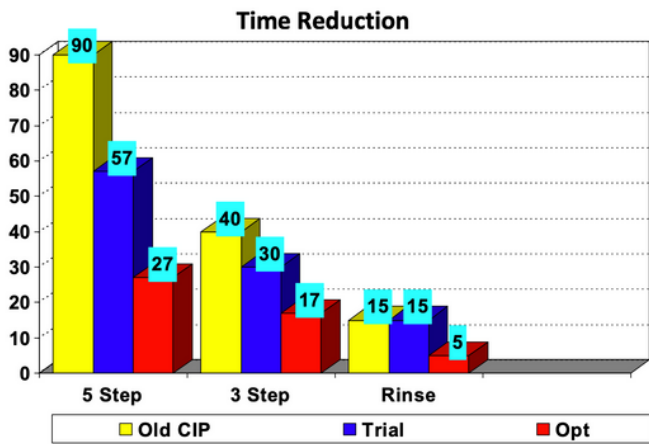
25 Silverstone Crescent - Kyalami  
Business Park - South Africa.



[www.radicalwaters.com](http://www.radicalwaters.com)



South Africa



## SIGNIFICANT ENERGY AND TIME REDUCTION

Due to ECA CIP being applied at ambient temperature, the CIP energy usage was reduced by 90%.

### CIP time reduction

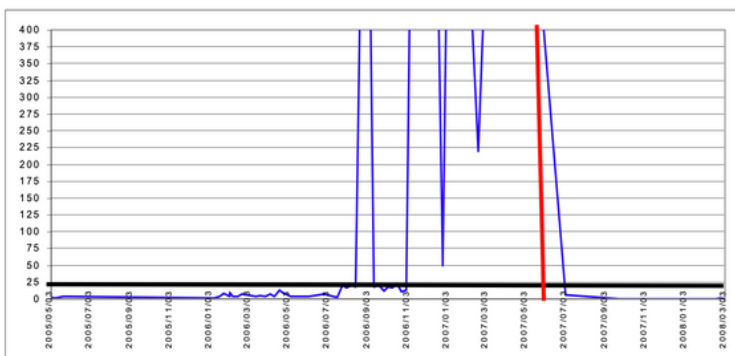
- 5 step was reduced from 90 to 27 minutes
- 3 step was reduced from 40 to 17 minutes
- Final rinse was reduced from 15 to 5 minutes

## WATER REDUCTION

Due to the ability of ECA CIP solutions to be effectively recovered, CIP water loss was reduced:

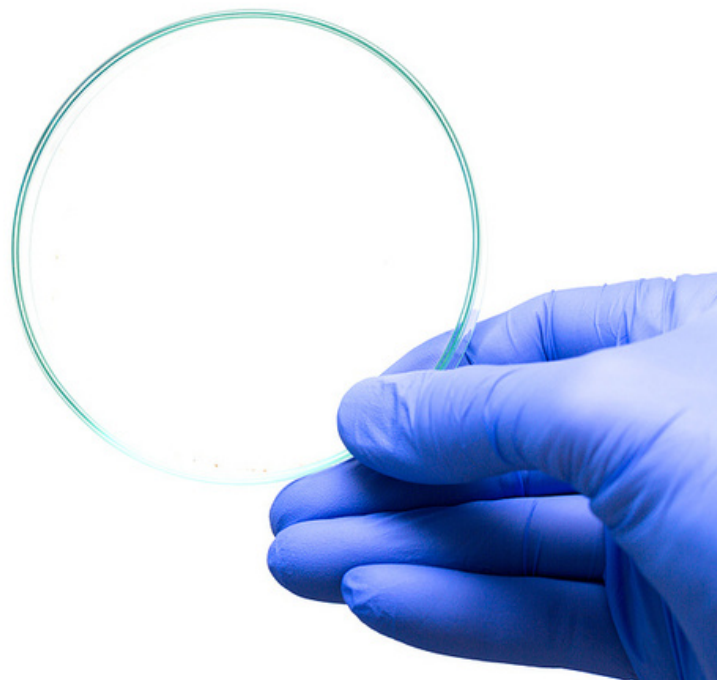
- 5 step was reduced from 41 to 3.5m<sup>3</sup>
- 3 step was reduced from 25 to 3.5m<sup>3</sup>
- Rinse was reduced from 15 to 3.5m<sup>3</sup>
- The elimination of the intermediate rinse changed a 5 step to 4 steps

### Microbial Reduction



## EXCELLENT MICROBIAL RESULTS

Excellent Microbial Results  
After the implementation of ECA CIP, microbial loads on Lines 1, 3 & 4 were reduced from average 400 cfu's / ml to less than 25.



# SUPERIOR, NEW GENERATION ECA TECHNOLOGY

# ROBUST, INDUSTRIAL DESIGN FOR EASE OF USE

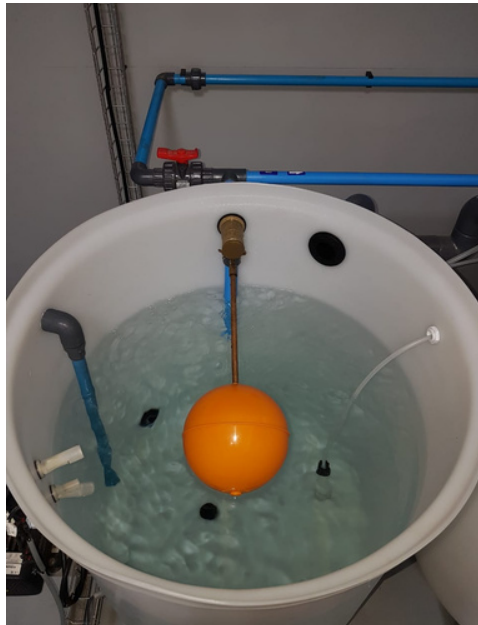
## N.O.W IMPACT ECA GENERATOR

This N.O.W Fully Automated ECA Hygiene Generator is installed at the Coca Cola Polowane Plant. This unit, produces 300L Anolyte and 300L of Catholyte Per Hour. The ECA Solutions are stored on site, in buffer tanks ready to be used. CE Quality Marked.

N.O.W Generators are available in Smaller and Larger Sizes.

**Both the Coca Cola Devland Plant, and Valpre (Coca Cola Water Bottling Brand) has since upgraded to the new technology, having previously only relied on ECA for their CIP requirements.**

The N.O.W ECA Generators are Manufactured in Europe for Radical Waters, under strict quality standards, and come with a 1 year Manufacturers Warranty.

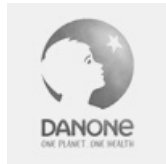


*Coca-Cola*





# Our Customers



[www.radicalwaters.com](http://www.radicalwaters.com)

