

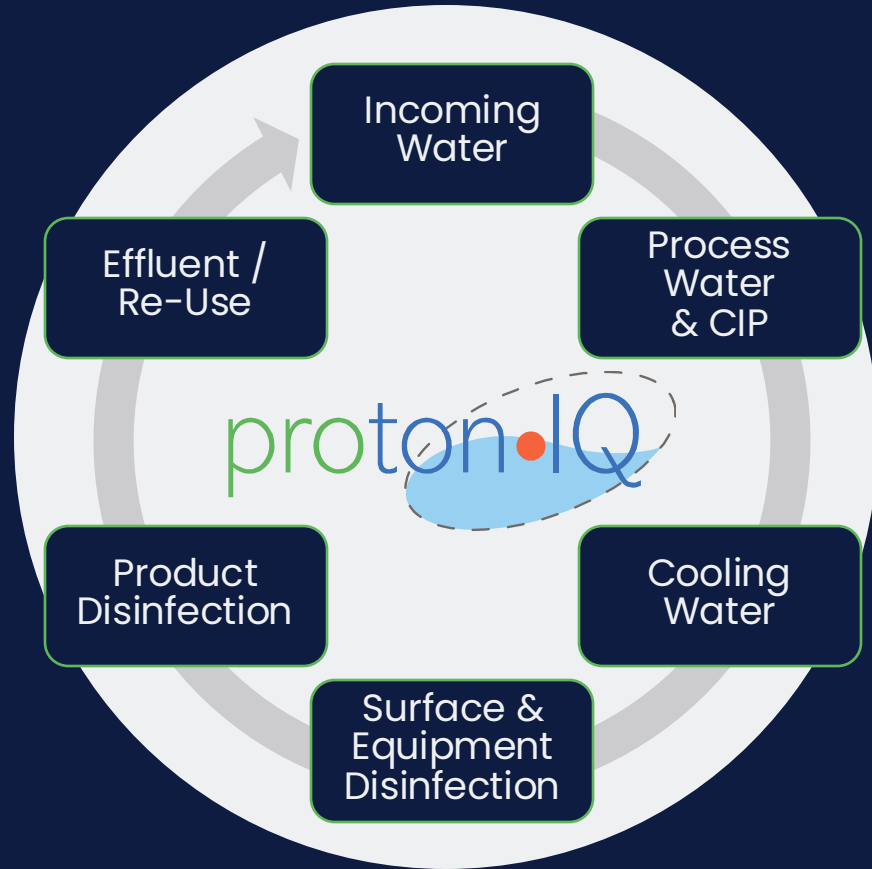


proton-IQ®

HYGIENE AS A SERVICE

Innovative Environmental Solutions for Industries and
Municipal Applications

ONE PLATFORM FOR ALL APPLICATIONS

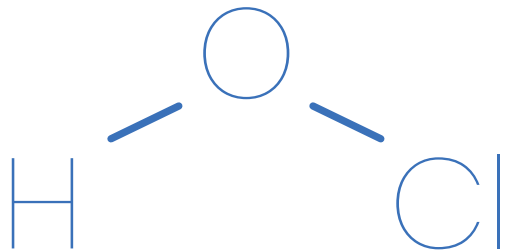


On-site,
On-time,
On-demand,
integrated solutions with
Hypochlorous acid.

INTEGRATED PLATFORM



ON-SITE, ON-TIME, ON-DEMAND, INTEGRATED SOLUTIONS WITH HYPOCHLOROUS ACID



Hypochlorous acid

- Purely made from **salt and water**
- **Safe to use** and **environmentally friendly**
- Broad **anti-microbial** against **bacteria, viruses** and **biofilm**
- Part of the **human immune system** to fight infections



Certified to
NSF/ANSI 61-G

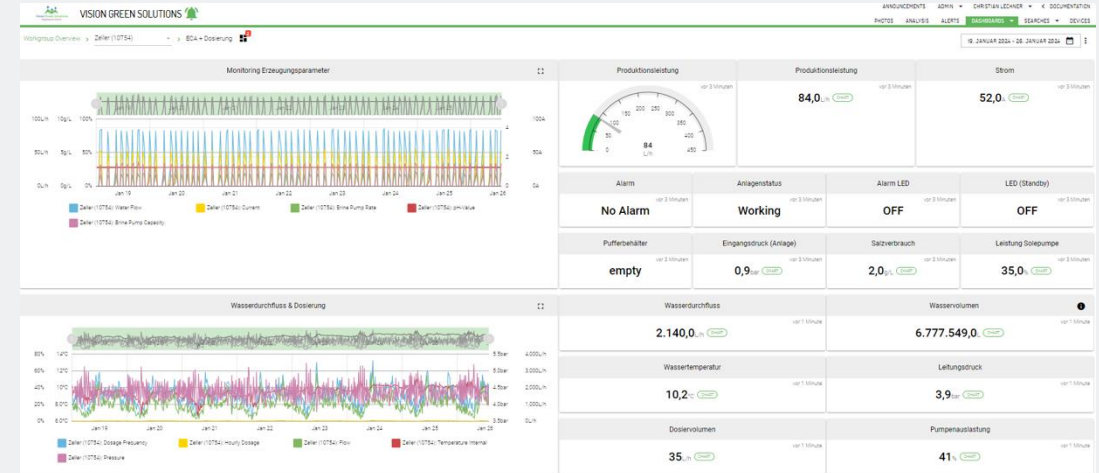




ON-SITE, ON-TIME, ON-DEMAND, INTEGRATED SOLUTIONS WITH HYPOCHLOROUS ACID

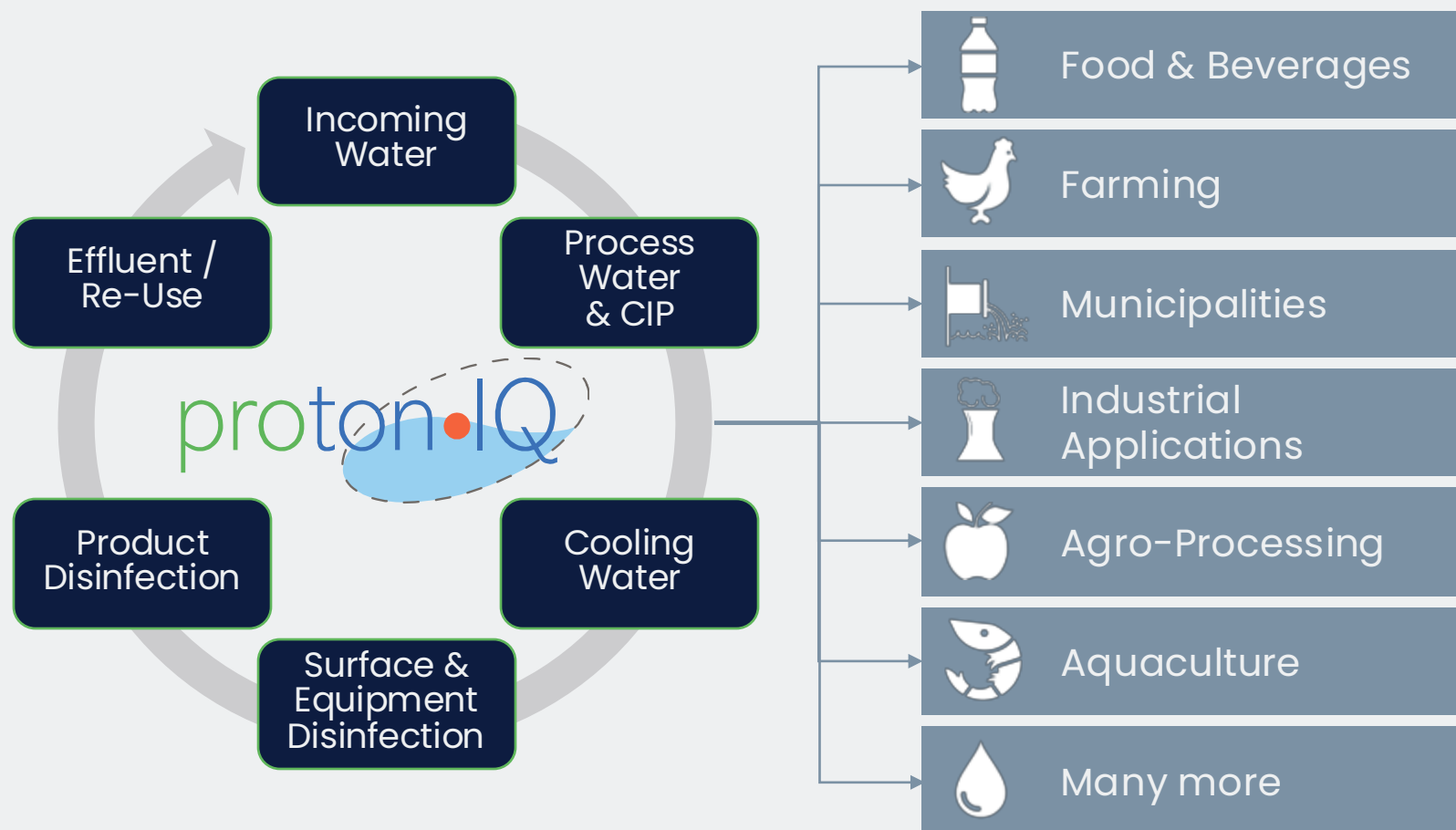
Think Hygiene – Think proton-IQ®

Our solutions are designed as **integrated platforms** consisting of **hardware, software** and **service**, tackling all **customer-specific disinfection** requirements at every steps of their individual value chain.





SEGMENT TAILORED SOLUTIONS BASED ON ONE INTEGRATED PLATFORM



INTEGRATED PLATFORM

- "1-Stop-Shop" substituting all previous disinfection steps into one platform
- "Digital twin" of hygiene processes with full **real-time transparency** of all relevant quality parameters
- **Most cost-efficient** and **easy-to-use** disinfection solution through **low-maintenance, fully automated operation**



WE DELIVER BENEFITS USING OUR PLATFORM SOLUTION

SUSTAINABILITY

no environmental requirements, optimized re-use, ensuring supplier independence



SAFETY

food-safe, non-corrosive, no influence on product taste or odour, non-hazardous, robust



EFFICIENCY

automated on-demand disinfection, minimal operational cost, low maintenance



EFFECTIVENESS

on-time, on-site production avoids degradation, no waste materials, seamless process integration

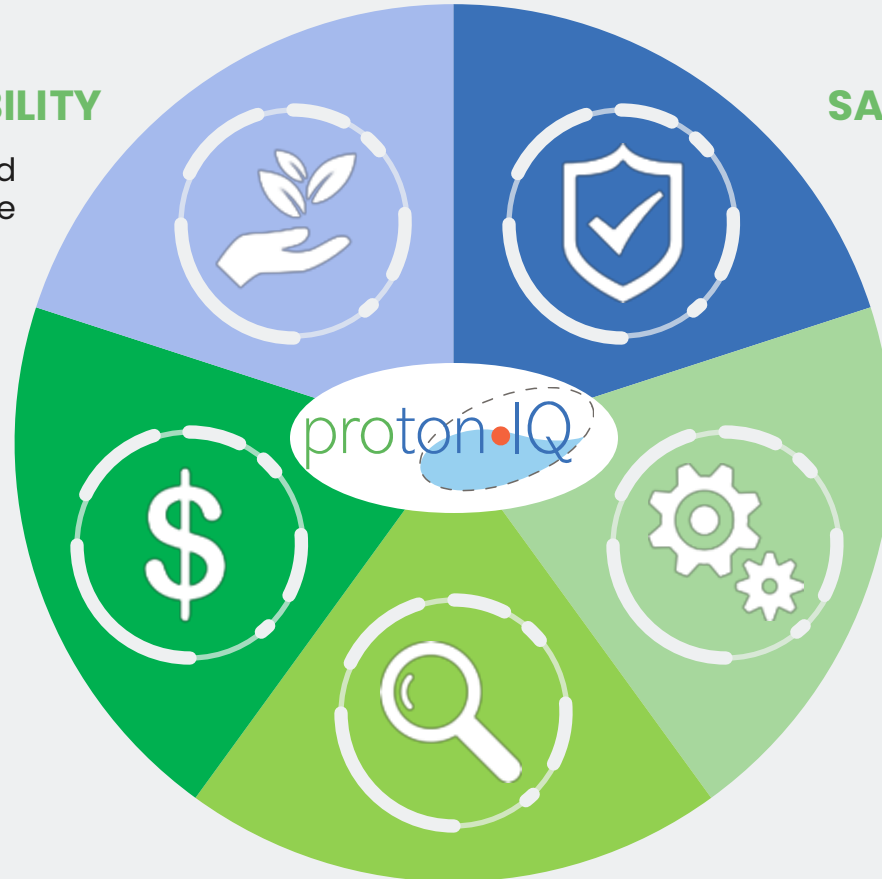


TRANSPARENCY

remote real-time monitoring to ensure continuously meeting customer-specific quality requirements



proton.iQ





VOICE OF THE CUSTOMER FEEDBACK



"70% less excess mortality and 50% less medication cost benefits farmers, animals and consumers"

Leading turkey farmer, Germany



"One platform that consolidates all our disinfection requirements saves cost and complexity"

Technical Manager, Mineral water producer and brand bottler, Germany



"Transparent, demand-based disinfection control ensures unimpaired drinking water quality for our citizens at all times."

Manager Municipal Water Treatment, South Africa



"Reliable prevention of biofilms is a crucial risk measure for us for save and compliant operations"

Operations Manager, leading salt producer, Germany



Selected References



Germany: Mineral Water Producer

Platform Solution for Disinfection & Cleaning in Place



CUSTOMER INITIAL SITUATION

The German **beverage producer** fills 35,000 bottles per hour with mineral water, soft drinks, fruit blends, and more. Incoming water from two wells is used for supply of drinking, product and process water. Repeated cases of **contamination before bottle filling** led to loss of product and additional sanitation and trouble-shooting. The overall disinfection management was fragmented and **extremely energy-intensive**. Objective was to **consolidate** the previous methods **on one platform**. Mandatory requirement is the **residual-free product quality**, in compliance with German Ordinance for Mineral Water and **confirmed** by external food **laboratory testing**.



SOLUTION AND CUSTOMER BENEFITS

- Treatment of well water directly at point of entry to ensure **depot effect** within entire network
- **Substitution of peracetic acid** in bottle washing process
- **Substitution of sodium hypochlorite** in tunnel pasteurization
- **Substitution of energy-intensive** thermal disinfection **processes**
- **Real-time** and transparent **process quality monitoring** and control

TECHNICAL DATA

- Water supply: Own wells
- Water consumption for the entire facility: 150 m³/d
- Target value in treated water: 0.3 mg/L
- Continuous dosing (24/7) into process water
- Periodic dosing in tunnel pasteurization





South Africa: Fruit Juice Producer

Food-safe and Reliable Process Water Quality



CUSTOMER INITIAL SITUATION

The **leading fruit juice producer** in South Africa supplies its production with borehole water. The company is faced with the challenge of ensuring **hygiene** throughout the **manufacturing process**, despite **fluctuating quality** of incoming water and varying production volumes.

Additionally, **multiple disinfection steps** in the manufacturing process, which currently require **manual effort**, need to be automated and brought onto a common platform. The targeted scope includes the treatment of **incoming water**, **process water** and **the cooling system**, up to the treatment and **reuse** of wastewater.

SOLUTION AND CUSTOMER BENEFITS

- proton-IQ® SECURO for **central, demand-driven production** of the disinfectant solution
- **Platform solution** with dedicated dosing points at points-of-use for multiple applications
- Real-time monitoring of **customer-specific quality parameters** with proton-IQ® CONNECT as the control variable for disinfection

TECHNICAL DATA

- Water demand (process water): 15 m³/h
- Target value in treated water: 2 mg/L
- Multiple measuring points for quality parameters after injection and before entering production



Germany: Dairy Farm

Integrated Platform Solution for Drinking and Process Water



CUSTOMER INITIAL SITUATION

Our customer runs a dairy farm with over 100 cows and its own automated milking systems. Due to the farm's remote location, the entire water supply for **drinking water, animal troughs** and **process water** is coming from its own well. Process water is used for cleaning and rinsing equipment and surfaces, including milking robots and tanks. The produced milk is provided to renowned brand-name dairy producers. To ensure **uncompromised milk quality** regular tests at food laboratories are carried out.



SOLUTION AND CUSTOMER BENEFITS

- **Various applications on one platform** for drinking water, animal feed water and process water treatment
- On-demand production of the disinfectant at **point-of-use**
- **Improved milk quality** with reduced bacterial and somatic cell count
- **Reduced cleaning effort** for pipes and drinking troughs
- Substitution of previous milk tank cleaning process led to **significant energy and cost saving**



TECHNICAL DATA

- Water supply: Own well
- Permanent dosing (24/7)
- Total water requirement: approx. 20 m³/d
- Application-specific target levels: 0.3 mg/L (farmhouse), 10 mg/L (animal barn), 25 mg/L (process water)



South Africa: Municipal Drinking Water

Reliable Drinking Water Quality for remote Water Treatment Plant



CUSTOMER INITIAL SITUATION

The **municipal water treatment plant (WTP)** in the Western Cape receives its drinking water from several boreholes. **Inconsistent disinfection** together with high ambient and pipe temperatures lead repeatedly to **formation of biofilm** and **harmful microorganisms** in the drinking water system. The plant's **remote location** makes the **manual measuring** and **adjustment** of disinfection substantially **difficult**.

SOLUTION AND CUSTOMER BENEFITS

- **Reliable water quality** treatment of **municipal drinking water system**
- **On-demand application** of the disinfectant directly **at point-of-use**
- Substantial improvement of **handling safety for plant operations staff** (substitution of Chlorine gas)
- proton-IQ® CONNECT for **real-time online monitoring** of relevant **performance parameters**

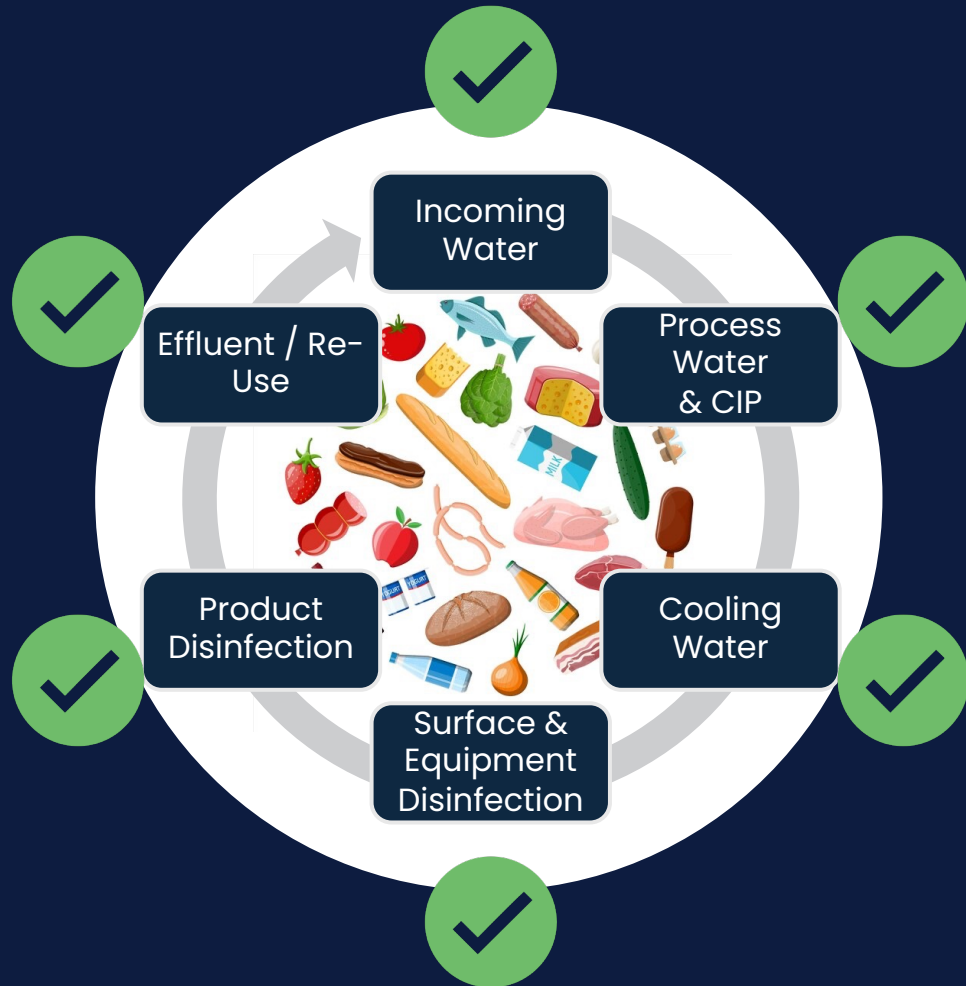


TECHNICAL DATA

- Water source: blend of multiple boreholes
- Drinking water requirement: approx. 130 m³/d
- Permanent dosing (24/7)
- Target value in treated water at municipal checkpoint: 0.5 mg/L



CUSTOMIZED SOLUTIONS ALL ON ONE PLATFORM



DRINKING, PROCESS AND EFFLUENT



FARMING AND AGRO-PROCESSING

