



PLANET  
INNOVATION

# PLANET INNOVATION

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MEAT PROCESSING INDUSTRY

# AREAS OF APPLICATION

IN THE MEAT PROCESSING INDUSTRY

Examples

MEAT CUTTING

SAUSAGE FACTORY

KNIFE DISINFECTION

BOX WASH

PERSONNEL HYGIENE

CIP AREAS (E.G. BLOOD DISINFECTION)

MEAT CHOPPING (MINCING AND MIXING)

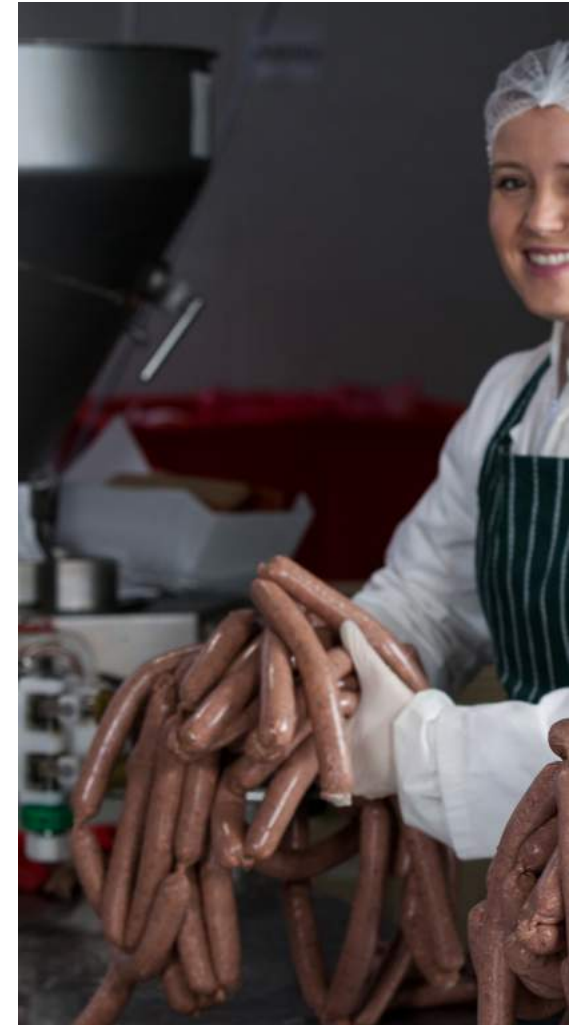
SMOKEHOUSE

MEAT BREWERY



# OBJECTIVE

- >> Significant time and cost savings due to less effort and personnel
- >> Reduction of energy costs
- >> Reduction of the cleaning time
- >> Less risk and more product and yield security
- >> Improvement of the water quality
- >> Removal of biofilms and organic contaminants without mechanical intervention
- >> Enable error-free/error-reduced production
- >> Reduction of undesirable bacteria, fungi, spores and viruses



MEAT PROCESSING INDUSTRY

# OUR SERVICE



ASSESSMENT AND DETERMINATION OF THE ACTUAL CONDITION

EVALUATION AND PROBLEM ANALYSIS OF POSSIBLE VULNERABILITIES

SOLUTION CONCEPT IN A HOLISTIC CONTEXT

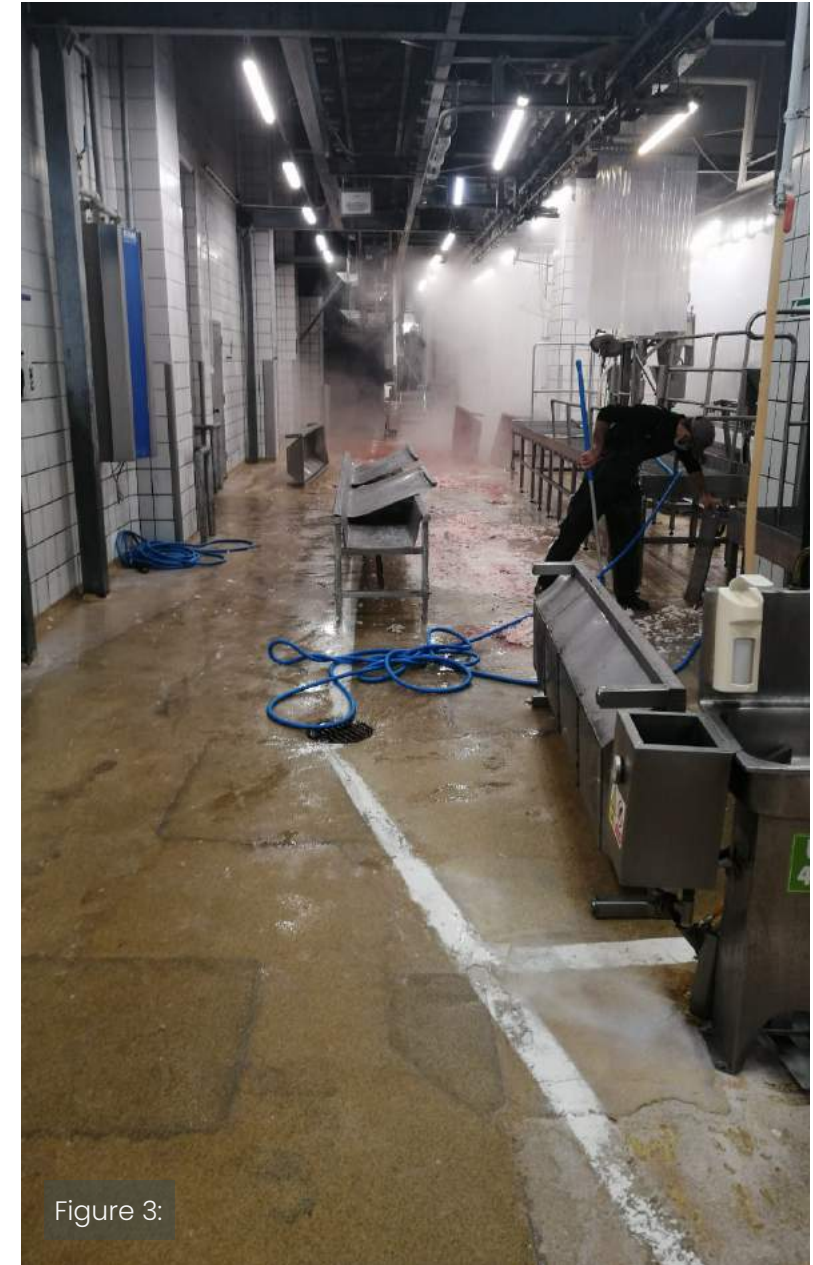
- >> Creation of individual cleaning plans (formulas)
- >> Training of employees on documenting processes and abnormalities in a protocol
- >> Regular service visits to the production site
- >> 24/7 Support (by phone and in person)
- >> Semi-annual employee training in the field of:

- >> Safe handling of chemicals
- >> Why clean?
- >> How do you clean properly?

## THE PRACTICE OF CIP AND FOAM CLEANING FROM PLANET INNOVATION

Figure 1 illustrates a typical soiling resulting from the slaughtering process. Figures 2 and 3 illustrate our application technician cleaning with our foam cleaner. The foam is distributed by a low pressure system with automatic admixing.

We would be pleased to develop a specific concept for your particular needs.



# BIOFILM REDUCTION AND PREVENTION BETWEEN THEORY AND PRACTICE

## WHAT IS ELECTROCHEMICAL ACTIVATION?

ECA stands for Electrochemical Activation. Our Planet products are electrochemically activated solutions produced using a specifically designed system. This involves passing a saturated, highly pure saline solution through a cell and converting the sodium chloride into hypochlorite through the process of electrolysis. Our Planet products have high level of antimicrobial efficacy.



The issue of biofilm formation plays a central role in the field of drinking water safety and food production. Complex structures composed of different microorganisms pose a significant challenge for cleaning agents and disinfectants. There is a significant risk of exposing people to a high microbial load of potentially harmful pathogens if these are not completely removed or if their development is not prevented.



# BIOFILM REDUCTION AND PREVENTION BETWEEN THEORY AND PRACTICE

The project "Prevention and Remediation of Drinking Water Contamination by Hygienically Relevant Microorganisms from Biofilms in Domestic Installations" funded by the Federal Ministry of Education and Research (Bundesministerium für Bildung und Forschung – BMBF) investigated the effectiveness of ECA products on biofilm removal.

Table 1 illustrates that with continuous disinfection with 0.3 mg/l (according to the German Drinking Water Ordinance, 2001) in a system with a 2-year-old biofilm, no further colony-forming units can be detected within 70 days (0 CFU/cm<sup>2</sup>). System disinfection using 25 mg/l resulted in no colony-forming units being detected after 6 hours. (1, Page 205)

Type	Concentration [mg/l]	Application time	CFU/cm <sup>2</sup> (after application)	TCC/cm <sup>2</sup> (after application)
Initial values			> 10 <sup>6</sup>	> 10 <sup>7</sup>
Continuous	0,3	70 days	u.N.	4,0 x 10 <sup>5</sup>
Plant disinfection	1	6 hours	2,5 x 10 <sup>4</sup>	5,3 x 10 <sup>6</sup>
	10	6 hours	5,2 x 10 <sup>1</sup>	6,1x10 <sup>4</sup>
	25	6 hours	u.N.	u.N.

Table 1 Efficacy testing of an ECA procedure

# BIOFILM REDUCTION AND PREVENTION BETWEEN THEORY AND PRACTICE

## SUMMARY OF THE RESULTS OF THE CHEMICAL DISINFECTION PROCEDURES

When handled correctly a reduction of CFU/cm<sup>2</sup> up to the detection limit is possible with all of the products tested.

However, at the concentrations tested, the TCC/cm<sup>2</sup> could only be minimally reduced in most cases.

A reduction of TCC/cm<sup>2</sup> up to the detection limit "could only be achieved using chlorine from the ECA process at a concentration of 25 mg/l...". (1, page 205) Figure 1 shows a 2-year-old biofilm and the reduction achieved using the ECA product. (1, Page 209)

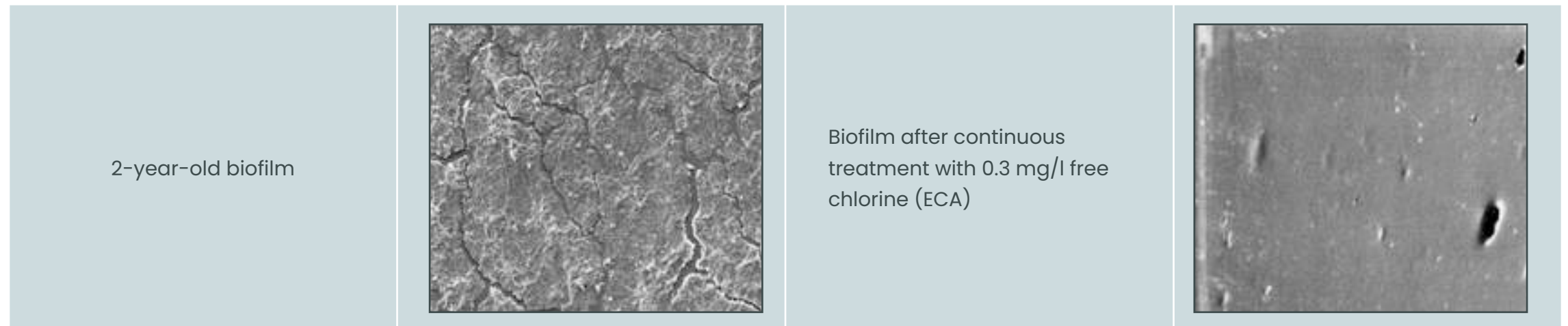


Figure 1 Scanning electron microscopic images of silicone tubing surfaces (magnification 1,000x)

Source: [https://www.cleaner-production.de/fileadmin/assets/02WT0832\\_-\\_Abschlussbericht.pdf](https://www.cleaner-production.de/fileadmin/assets/02WT0832_-_Abschlussbericht.pdf) (Stand April 2021)

Publisher Umweltbundesamt Fachgebiet III 2.4 (Waste technology, Waste technology transfer)

Wörlitzer Platz 1, 06844 Dessau-Roßlau, Germany

CFU = colony-forming units

TCC = total cell count

(No difference between living and dead cells)



# PLANET STRONG

LIQUID DISINFECTION WITH A SANITISING PROPERTIES

**Planet Strong** is a highly effective and efficient broad-spectrum disinfectant concentrate with a water base from active chlorine released from sodium hypochlorite. Planet Strong also has sanitising properties and is very effective against biofilms. It is ideal for use in the meat industry in sausage fillers, cutters, blood lines, knife disinfection and on all surfaces used for processing. The disinfecting component has a broad efficacy spectrum against gram-negative and gram-positive bacteria. Planet Strong demonstrates excellent results particularly with listeria, salmonella and E. coli. It is a very effective penetrator enabling disinfection in places that are normally not accessed by conventional disinfectants (e.g. porous surfaces).



SHORT APPLICATION TIME

BROAD EFFICACY SPECTRUM

FIGHTS BIOFILMS

ELIMINATES ODOURS

PRODUCT	PRODUCT DESCRIPTION
TFA 200	<ul style="list-style-type: none"> <li>• Alkaline foam cleaner</li> <li>• Excellent foam formation</li> <li>• Removes difficult soiling, such as burnt starch and grease</li> <li>• Mainly used for cleaning smoking chambers.</li> </ul>
TFA 400	<ul style="list-style-type: none"> <li>• Highly alkaline cleaning agent with de-foamer</li> <li>• The product is particularly suitable for hot cleaning</li> <li>• Does not foam above 40°C even during spray application</li> <li>• Good conductivity control.</li> </ul>
TFS 100	<ul style="list-style-type: none"> <li>• Strong acid foam cleaner</li> <li>• Is a universally applicable</li> <li>• Contains an optimised combination of effective surfactants, emulsifiers and mineral acids</li> <li>• Removes difficult stone deposits, grease and proteins</li> <li>• Easy to rinse off and achieves bright surfaces</li> </ul>
TFA 202 CL	<ul style="list-style-type: none"> <li>• Alkaline foam cleaner with active chlorine</li> <li>• For large-scale removal of organic dirt residues</li> <li>• Develops a stable foam with very good grease dissolving power</li> <li>• Suitable for all water hardnesses and can be rinsed off easily.</li> </ul>

OVERVIEW OF THE CLEANING AGENTS AND AREAS OF APPLICATION

	Planet Strong	Planet FOAM	alkaline		acidic	chlorine
			TFA 200	TCA 400	TFS 100	TFA 202 CL
Picks	✓	✓			✓	
Stunner	✓	✓			✓	
Curing machine		✓			✓	
Cutter	✓	✓			✓	
Mincer	✓	✓			✓	
Bone thresher	✓	✓			✓	
Smoker oven			✓	✓		
Smoker trolley			✓	✓		
Box wash	✓			✓		
Cold storage	✓	✓			✓	
Cutting boards	✓	✓				✓
Knives etc.	✓					
Personnel hygiene	✓					
CONTAINER SIZES						
Canister	✓	✓	✓		✓	✓
Barrel	✓		✓	✓	✓	✓
IBC	✓					

# CERTIFICATES

## DERMATEST



PLANET STRONG

## KOSHER



TCA 400	TFA 200	TFA 207 CL	TMA 13
TCA 402	TFA 201	TFA 208	TME 5
TCA 403	TFA 202 CL	TFS 100	TMS 1
TCS 300	TFA 203 CL	TFS 101	TXN 950
TCS 301	TFA 204	TFS 102	TXN 951
TDA 800	TFA 205	TFS 203	TXN 952
	TFA 206	TMA 11	

## HALAL



PLANET STRONG

PLANET CIP

PLANET FOAM



TCA 400	TFA 200	TFA 207 CL	TMA 13
TCA 402	TFA 201	TFA 208	TME 5
TCA 403	TFA 202 CL	TFS 100	TMS 1
TCS 300	TFA 203 CL	TFS 101	TXN 950
TCS 301	TFA 204	TFS 102	TXN 951
TDA 800	TFA 205	TFS 203	TXN 952
	TFA 206	TMA 11	

## IHO



PLANET STRONG



GET TO KNOW US

## THE PLANET INNOVATION

Planet Innovation GmbH considers itself a cross sector system provider and, in cooperation with technical experts, develops genuine alternatives to alcohol based disinfection and cleaning products that are beneficial to the environment, humans and animals.

We offer our customers an innovative and sustainable hygiene and safety concept, as well as preventive infection control, which fulfils the requirements of present-day conditions, regulations and all those involved.



[www.planet-innovation.de](http://www.planet-innovation.de)



**PLANET**  
INNOVATION

WE'RE HERE FOR YOU!

**OUR ADDRESS**

Planet Innovation GmbH  
Brokeloher Straße 8-12  
31628 Landesbergen

**E-MAIL**

[info@planet-innovation.de](mailto:info@planet-innovation.de)

**TELEFON**

+49 5025 892 30