





















### #1 pure player for Food Safety



Guaranteeing healthier, more sustainable and responsible nutrition.





To enable some 9.7 billion people on Earth to be healthy every time they eat a meal by 2050.





A NEW APPROACH TO A FOOD SAFE

**WORLD** 



Deploy our Corporate Social Responsability values



Performance improvement



Food safety

regulation



Work safety

### Understand our customers and their hygiene challenges

Kersia provides industry-leading hygiene products, services, and technical support to the farm, dairy, food, and beverage sectors globally.

With deep technical expertise, our experts understand customers' hygiene challenges and are able to offer tailored solutions. They combine technology and exceptional service to help businesses optimise hygiene practices while prioritizing sustainability and food safety.

We advise on product selection, application, dosing, hazard management, cleaning optimisation, documentation systems, we provide training, audits and technical reviews. Through strong relationships with clients and stakeholders, we deliver customised cleaning solutions and measurable results. Our advice consistently enhances customers' hygiene operations.

Guided by the philosophy of "doing what we say" and values of transparency, sharing, proficiency and foresight, we ensure excellence in every aspect of our work.



### **Extensive training** possibilities

Kersia proposes a largerange of comprehensive training programs that streamline employees competence and knowledge in terms of Food Safety. We offer everything from standard training to custom-designed expert services. Each training is adapted to the abilities, technical and professional level of the trainees.

Many formats and durations are available: for more information, feel free to contact us or consult our dedicated Training catalogue.



### An engineering expertise: Custom solutions for industrial food equipment

Our engineering service boosts your performance with tailor-made, flexible, and innovative solutions.

With extensive expertise in various fields such as mechanics, electricity, and automation, our specialists design, adapt, and improve equipment that will help you optimise your installations and maximise their efficiency.

Attentive to the needs of our clients, we are committed to providing the best possible solutions with state-of-the-art industrial equipment.

Our engineering service offers a personalised on-site audit to identify and precisely address your needs, while supporting you in the design or improvement of your equipment (turnkey projects).

We also offer installation, after-sales, and maintenance services to ensure full support throughout the life of your project.

All our equipment is designed to meet the highest standards of hygienic design, and our services are active for all types of Food and Beverage industries.

Our quotes are tailored and personalised to our clients' projects, so feel free to contact engineering@kersia-group.com or consult our catalogue.



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# SPRAY DETERGENCY TEST

### **CLEANING AND** DISINFECTION

**INSPECTION & MONITORING** 

### **SPRAY DETERGENCY TEST**



#### APPLICATION AREA









#### SCOPE

Challenge test to validate the mechanical efficacy of automatic cleaning systems:

- In washing tunnels in the food industry including cheese manufacturing and meat industry
- In filling machines in beverage industry

DESCRIPTION & BENEFITS

The equipment to be cleaned is coated with a colored substance before the automatic cleaning process is initiated. The presence or absence of residual coloration on the equipment provides clear visibility into the mechanical cleaning efficacy and highlights potential weak areas of coverage. The objective is to identify areas for improvement in the automated cleaning systems, which will positively impact hygiene KPI.

### **CLOSED CIRCUIT DETERGENCY TEST**







Challenge test to validate the cleaning efficacy in circuits without dismantling:

In closed loops in Food and Beverage industries, especially systems with heat exchangers (pasteurizer)

Circulation with chlorinated detergent and EDTA-based detergent is used to check for the presence of mineral or organic residues in the circuit (consumption of chlorine or EDTA indicates residues were present). This method saves time compared to inspection with dismantling. The detergency test only takes approximately 2 hours per equipment. The cleaning efficacy is validated using current parameters such as temperature, flow rate, concentration, and time.



#### Visualisation of low impact areas

Validation of mechanical efficiency in case of nozzle changes, modifications, new equipment, etc...



#### Low downtime of the installation

Simple and inexpensive method



On cleaned and dry molds, application by spray or brush of a colored marker directly on the material to be tested



#### Drying time of approximately 3 hours

Wash at the end of production or before emptying the baths

#### **Prerequisites**



Check the equipment to test: format, material colors, number, etc...



Define a suitable area to apply the colored solution and let the material dry



Carry out the operation at the end of production: emptying the tunnel or the cabinet at the end of the test

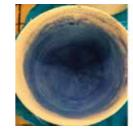
### **MECHANICAL IMPACT TESTING** IN TUNNEL **WASHING**

This diagnosis uses a specific marker to characterise the mechanical efficacy of a tunnel or cabinet type washing installation. The material is passed through the tunnel or cabinet.

When it emerges, the presence of the due reveals areas of low mechanical impaction in the washing system.

This one pager is dedicated to tunnel application. For other applications, please contact your Kersia expert.

#### Examples of expected results









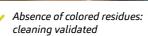














Presence of colored residues: X lack of mechanical action

### **CLEANING AND DISINFECTION**

#### **ENDOSCOPIC** INSPECTION

#### **SAMPLING PLAN SUPPORT**

### **CLEANING AND DISINFECTION**

APPLICATION AREA

#### **CIP MONITORING**



### **CIP QUALIFICATION**



#### APPLICATION AREA

























Monitoring of CIP parameters

for all closed circuits, including

and sterile tanks processes, as

well as membrane and other

filtration systems, and fryer

Beverage industries

evaporator, pasteurizer, sterilizer,

boil-out for all types of Food and



Add-on to the CIP Monitoring service to have a deep and comprehensive CIP qualification. Suitable for all types of Food and Beverage industries

# SCOPE

Internal inspection of all closed circuits & equipment for all types of Food and Beverage industries

Assistance and advice on internal validation of hygiene processes for all types of Food and Beverage industries

#### We provide assistance and advice on your internal validation of hygiene processes while you

carry out the actual validation. This service allows you to fully and effectively plan your validation process and develop a consistent and effective validation protocol document.

Additionally, it includes an independent and alternative review of swab point relevance, sample frequency, and follow-up actions.

### **DESCRIPTION &**

SCOPE

We focus on the process rather than end results assessment, ensuring that the CIP set operates as expected and achieves the desired parameters. This involves real-time monitoring and onsite observation to check flow rate, product concentration (conductivity and titrations), contact time, temperature, and more. Inspection of the CIP-set and the cleaned equipment by our experts is a separate service.

### BENEFITS

This service not only includes all the benefits of our CIP Monitoring service but also provides an extensive qualification of the CIP process to ensure it meets your expectations. We check dead-ends and flushes of double seat valves to quarantee optimal performance.

Additionally, our detailed reports highlight areas for improvement regarding CIP efficacy, helping you enhance your processes. This service requires several on-site visits to ensure complete evaluation. Please note that microbial analysis and visual inspection are not included in this service.

#### DESCRIPTION & BENEFITS

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Our service includes internal inspection of all closed circuits and equipment without complete dismantling. We detect hygienic deficiencies such as design flaws, poor welding, and organic or mineral deposits, and propose improvements to enhance overall hygiene and safety.





### CIP QUALIFICATION

**SERVICE TECHNICAL SHEET** 



Validate that a CIP station fulfills all the prerequisites, and all CIP parameters are meeting the required setpoints



Obtain a document to validate the CIP process with your auditors

Define an improvement trajectory



Checklist to be completed based on technical (office) and operational (field) criteria

2 to 4 hours, depending on the CIP



Allows you to obtain a compliance evaluation for each major CIP control criteria



Qualify that a CIP process will meet the expectations regarding efficacy



Obtain a detailed report highlighting areas for improvement

Define an improvement action plan



Check of operational (field) criteria to make sure the CIP parameters are correctly set and following best practices and that there are no dead ends

Several site visits, depending on the CIP



Ensure that the CIP process is tailored to the objects to be cleaned

#### **Prerequisites**



Collection of CIP information in the field and in existing documentation (registration documents, etc.).

Need for the presence and support of an internal person in the organisation with a good knowledge of CIP and its automated processes

#### **Prerequisites**



Collection of CIP information in the field and in existing documentation (registration documents, etc.).

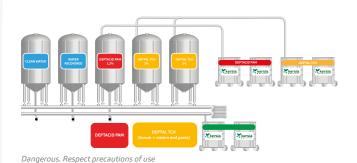


Need for the presence and support of an internal person in the organisation with a good knowledge of CIP and its automated processes

### **CIP MONITORING**

Monitoring of CIP parameters for all closed circuits, including evaporator, pasteurizer, sterilizer, and sterile tanks processes, as well as membrane and other filtration systems, and fryer boil-out.

This diagnosis is used to determine whether the Cleaning In Place station and recipe is capable of cleaning effectively and repeatedly.



#### Example of a standard protocol

#### **CONTROLLED PARAMETERS**

Solutions temperature

Solution concentration

Auto controls

Flow rates

Batch capacities evaluation

Draining / Auto-cleaning CIP batch

Alarms management

Sensors locations

Metrology

Disinfection

### **CIP QUALIFICATION**

Add-on to the CIP Monitoring service to have a deep and comprehensive CIP qualification, with action on all types of deposits.

The KERSIA qualification document is based on objective and quantified criteria.



### **CLEANING AND DISINFECTION**

**CHEMICAL STORAGE SAFETY CHECK** 

#### **APPLICATION AREA**

















Detect shortfalls in safety provisions for all types of Food and Beverage industries

#### **DESCRIPTION & BENEFITS**

SCOPE

Review sites' chemical storage practices, including the separation of incompatible products, signage, usage and control measures, and first aid provisions. The aim is to prevent accidents, ensuring that chemical storage practices meet the highest safety standards and



## **HYGENIC DESIGN**



Focused review of food processing equipment to highlight hygienic design issues. Suitable for all types of Food and

Our Hygienic Design Assessment service meticulously examines potential hazards within buildings or equipment that might compromise the safety of the food produced. By identifying these hazards, we propose solutions based on hygienic design principles to either eliminate or mitigate them effectively. Additionally, we review existing maintenance programs to ensure they adequately manage any remaining risks, such as replacing seals and

design, our audit enables customers to minimise sources and harborage of contamination, plan for more thorough cleaning through increased dismantling, and reduce cleaning time through engineered modifications to equipment. This comprehensive approach ensures enhanced food safety, operational



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MEMBRANE SYSTEM DIAGNOSIS

### **CLEANING AND** DISINFECTION

TROUBLESHOOTING

### **MEMBRANE SYSTEM** DIAGNOSIS



#### **APPLICATION AREA**





#### SCOPE

Enzymatic cleaning to restore membrane performance while simultaneously diagnosing the root cause of the clogging, specifically for the dairy processing industry

#### **DESCRIPTION &** BENEFITS

Our enzymatic cleaning process is designed to restore membrane performance and diagnose the root cause of clogging. This unique method uses specialised enzymatic products to identify the cause of fouling.

By solving the clogging issue, we help you quickly regain productivity.

Additionally, we propose, based on the root cause analysis, a tailored cleaning program to prevent further blocking of the membranes.





Quickly unclog the system so that production can be restarted

Avoid premature membrane replacement and/or aggressive membrane cleaning

Circulation of different detergent solutions: concentrated enzymes and/or enzyme mixes



Monitoring of cleaning parameters to determine return to normal: pressure, flow rates, etc.

#### **Prerequisites**



Validate installation type: UF, RO, Nano Validate the system's looped volume



The service is carried out on a clean installation or at least after a cleaning process.

### **MEMBRANE MODULE CURATIVE TREATMENT**

This emergency curative treatment unclogs a completely or partially clogged membrane system.

The treatment consists of circulating one or more specific enzymatic solutions to restore the module's production performance.

#### Example of a standard protocol

#### Final cleaning and rinsing

#### Biofouling analysis

Verification of the presence of biofilm as the cause of the fouling.

(A microbiological analysis should ideally be carried out before and after this phase to confirm the presence of biofilm.)

#### Organic fouling analysis

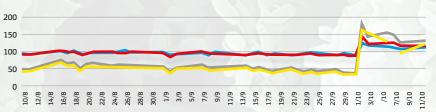
Identification of the nature of the fouling (protein-based, lipid based, or due to glucose residues)

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#### Inorganic fouling analysis

Detection of possible mineral deposits as the cause of the fouling

### Example of a flow graph requiring punctual adjustment





### **HAZARD CONTROL**

**AUDIT & RECOMMENDATION** 

#### **GOOD HYGIENE PRACTICES AUDIT**



#### **APPLICATION AREA**













#### SCOPE

Report on hygiene practices through observation during production, especially in processes involving manual operator interventions, such as in the high-risk, high-care ready-toeat industry. Suitable for all types of Food and Beverage industries

#### **DESCRIPTION &** BENEFITS

We review interim hygiene practices undertaken during production operations, including between product cleans and washroom cleaning activities, which are sometimes overlooked. This audit highlights potential cross-contamination risks and identifies deficiencies in cleaning and hygiene standards and practices. A detailed report is included, offering practical actions and recommendations to improve the hygienic operation of production processes.

#### **AERO-CONTAMINATION AUDIT**







Factory airflow analytics and microbial testing, suitable for all types of Food and Beverage industries. Can be used in combination with Good Hygiene Practices Audit to deep dive in your potential contamination routes

Our Aero-Contamination Audit service provides comprehensive factory airflow analytics and microbial testing. Kersia provides in-depth and valuable insights into the factories' air movements and contamination potential. This service includes:

- Detailed airflow diagrams to visualise and understand air movement within the facility
- Total flora analysis to assess the overall microbial load in the air
- Optional analysis of specific microorganisms of interest, tailored to your needs

By using this service, you can identify potential contamination sources and take proactive measures to ensure a safer and more hygienic production environment.

#### **SERVICE TECHNICAL SHEET**



#### Methodical review of following elements

Interim Clean Objective

Interim Cleaning **Process** 

Wash Area Set

Wash Area Cleaning Methodology

Hygiene Equipment

Housekeeping

Barrier Controls

#### **Prerequisites**

Collecting information in the field and in existing documentation

Need for the presence and support of an internal person in the organisation

### **GOOD HYGIENE PRACTICES AUDIT**

To determine if the hygiene practices employed during production hours, such as between product changeovers and washroom cleaning activities, are sufficient in helping to avoid crosscontamination and are maintaining a hygienically clean environment.

#### Protocol



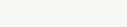
#### **Benefits / Outcomes:**

- Focused observations of hygiene duties sometimes overlooked
- Ensures cleaning objectives are correct and understood by operators
- Highlights cross contamination potential as well as a lack of suitable cleaning standards
- Review of off-line hygiene processes in washrooms
- Assessment of washroom flow and design

### **HAZARD CONTROL**

TROUBLESHOOTING

APPLICATION AREA





**DESCRIPTION &** BENEFITS

### **BIOFILM DETECTION CIP**







Combined detection and removal of biofilm in closed circuits for all types of Food and Beverage industries

Our service combines the detection and removal of biofilm in closed circuits for all types of Food and Beverage industries. We identify the presence of biofilm in the circuits, which poses a contamination hazard, and simultaneously remove it. After this step, we validate the complete removal of the biofilm and provide recommendations to prevent future biofilm issues.

#### **BIOFILM DETECTION SURFACES**











Detection of biofilm presence on open surfaces and filling machines for all types of Food and Beverage industries

Our service offers the detection of biofilm presence on open surfaces and filling machines for all types of Food and Beverage industries. Following a specific protocol, we identify the presence of biofilm or organic and mineral residues after a complete cleaning and disinfection process. These residues can harbor microorganisms that may form biofilm if not eliminated promptly, posing a contamination hazard. After this step, we provide recommendations to address current biofilm issues and solutions to prevent future occurrences. This protocol also allows us to validate the successful removal of biofilm.

#### **SERVICE TECHNICAL SHEET**





Targeted treatment of a closed circuit having non-conformities in their microbiological results.

Detect biofilm presence

#### **Prerequisites**





Quick resolution of a microbiological crisis. Identification of the problematic equipment.



In a pre-cleaned circuit, circulation of an enzymatic solution, followed by a pH increase for a better enzyme activation and a thorough disinfection.



Suspicion validation thanks to 5 to 6 samples of solutions for BART-Test analysis.



Downtime: 4 to 6 hours



Closed circuit put into circulation

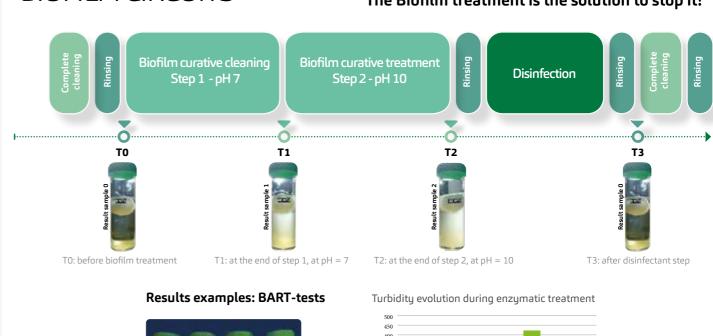


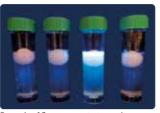
Pump presence for adding the products. Rental an option

### **DETECTION & TREATMENT BIOFILM CIRCUITS**

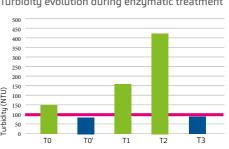
Random drifts in your microbiological swabs? Contamination peaks?

#### The Biofilm treatment is the solution to stop it!





Example of fluorescence tests results







Characterise the presence or absence of a biofilm in a very precise and visual way

Rapid diagnosis enabling procedures to be adapted to the soiling (curative/ preventive treatment) Easy and inexpensive to implement



On surfaces that have been previously cleaned and descaled

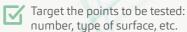


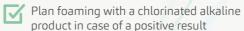
Procedure for characterising the type of soiling present (biofilm, stubborn organic or mineral contamination)

#### **Prerequisites**



Immobilisation time: 15 min per checkpoint

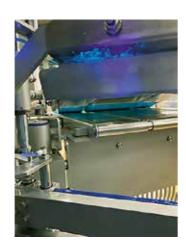


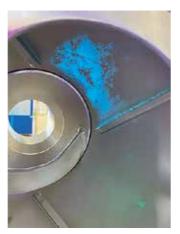


### **BIOFILM DECTECTION SURFACES**

This diagnosis enables the **presence of biofilm** or other soiling on accessible surfaces to be identified and characterised.

#### Example of expected results









### **HAZARD CONTROL**

TROUBLESHOOTING

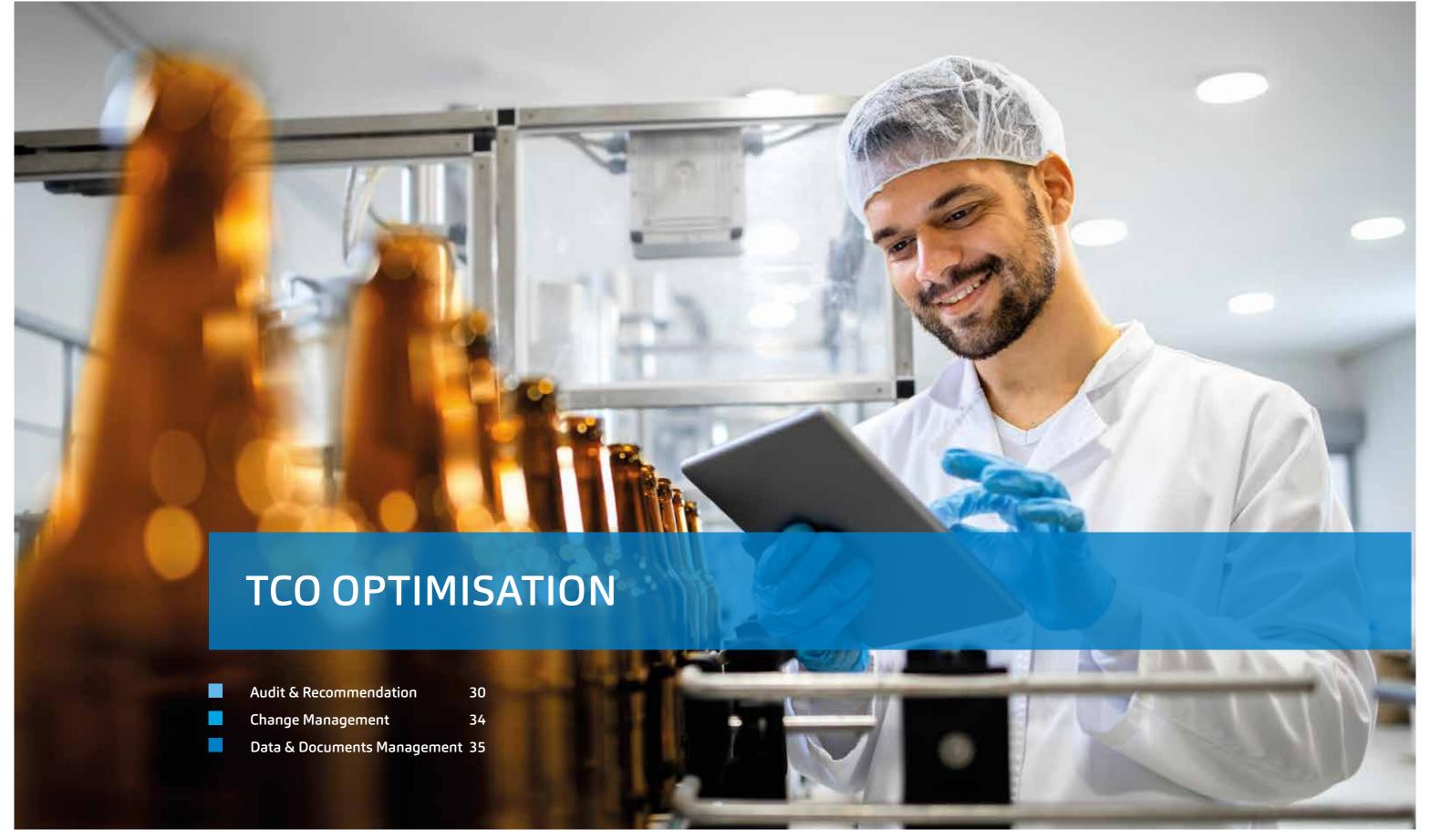
**PATHOGEN AND SPOILAGE CONTAMINATION AUDIT** 

#### APPLICATION AREA





Service designed for critical problem SCOPE resolution related to pathogen and spoilage contaminations. Suitable for all types of Food and Beverage industries Our pathogen and spoilage contamination audit service is specifically designed for critical problem resolution. We provide a thorough review of your **DESCRIPTION &** site structure, workflow, manufacturing **BENEFITS** practices, and controls to identify potential contamination routes. We assist in detecting the root cause of pathogen contamination and conduct sample analysis to identify specific microbial strains. Our expert team helps pinpoint the exact sources of contamination, allowing you to implement targeted corrective actions and prevent future issues. Understanding the critical nature of contamination troubleshooting, we strive to react quickly and provide you with solutions as fast as possible.



# TCO AT KERSIA: A GLOBAL APPROACH FOR OPTIMAL **PERFORMANCE** Water Energy Time Waste CO, impact Safety **Environment** Equipment shelf life



As a pure player and expert across the entire food value chain, we have developed a **360**° **program** based on 3 pillars to help food industries improve their **operational performance** and address global challenges related to **food safety**, **people protection**, and environmental sustainability.

#### **Food safety**



Protocols based on best practices and adapted to the specific features of production sites (type of industry, geographical context, type of equipment...).





### Industrial performance

Complete systems to reduce overall consumption and relative costs.





#### **Environmental performance**

Solutions to reduce the environmental footprint of cleaning protocols.





#### User performance

Solutions to protect the health and safety of operators, but also equipment integrity.

# TCO OPTIMISATION

AUDIT & RECOMMENDATION

APPLICATION AREA

SCOPE

DESCRIPTION & BENEFITS

#### **TCO AUDIT**













Check of parameters, previously defined with the client, to optimise the global cost performance of hygiene in closed circuits, including evaporators, pasteurizers, sterilizers, tank processes, and membrane systems for all types of Food and Beverage industries

By checking parameters previously defined with the client, we provide a comprehensive analysis of current practices. The service offers detailed reporting on potential cost savings related to water, energy, chemicals, and time. Additionally, it includes a tailored action plan to achieve these objectives.

- Cost Savings: Identify and implement strategies to reduce expenses on water, energy, and chemicals.
- Efficiency Improvements: Streamline cleaning processes to save time and enhance productivity.
- Customised Action Plan: Receive a detailed plan tailored to your specific needs and objectives.
- Advanced Analysis: Benefit from a thorough evaluation of your current practices by our experienced sales team.

Please note that the on-site implementation of the plan is not included in this service.

# TCO SAVINGS IMPLEMENTATION













Add-on to the TCO Audit. Suitable for all types of Food and Beverage industries

Please note that this service is an ADD-ON to the TCO Audit. After checking parameters and providing detailed reports on potential cost savings related to water, energy, chemicals, and time, our experts will implement their recommendations on-site to help you achieve your savings objectives. They will follow up on KPIs to ensure that the objectives are met and stabilise your Hygiene plan under these new conditions. Detailed reports on savings achieved will be provided.







cite interior



### **CIP TCO AUDIT**

#### Resource utilisation

Minimise use of water, thermal and electrical energy and labour by streamlining processes

#### Product optimisation

Optimise the use of detergents and disinfectants

#### Maximise sustainability

Minimise CO, contributions and maximise use of Kersia's sustainable product range

#### **Prerequisites**



Collecting information in the field by monitoring current processes



Details of site based resource consumptions and costs



Proposed amendments to the cleaning protocol should be validated to ensure cleaning efficacy is achieving the relevant assessment criteria



### **CIP TCO AUDIT**

The CIP TCO audit identifies potential savings and inefficiencies in the current hygiene process to allow strategic improvements to be made, reduce your resource usage or optimise your process

#### Protocol

Collect readings of current hygiene parameters and observe cleaning practices



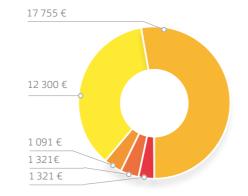
Compile data into our costing analysis tool Compare against suggested process and parameter adjustments



Results in potential saving projections and immediately allows quick wins in resource savings

#### Results examples

### Summary of Anticipated Annual Savings (€)





### **TCO OPTIMISATION**

**CHANGE MANAGEMENT** 

#### **PROJECT CONSULTING**









SCOPE

APPLICATION AREA

#### **DESCRIPTION & BENEFITS**





We participate in customer task forces (Plan - Do - Check - Act) within predefined projects aimed at achieving specific objectives such as process improvement, addressing food safety issues, driving innovative projects, and managing change

Project consulting allows you to have the support of a dedicated food safety expert throughout your project, ensuring expert guidance and insights. You can improve project results through collaborative work with our specialists, leveraging their expertise to achieve superior outcomes. Additionally, you will develop a better understanding of your hygiene processes, enabling more effective management and optimisation.

You will also benefit from our extensive network of experts in food safety, biocidal regulations, sustainability, and innovation. Moreover, you will have continuous support from a dedicated contact who will assist you from start to finish, ensuring seamless project execution.

### **TCO OPTIMISATION**

**DATA & DOCUMENT MANAGEMENT** 

### **AUTOMATED PRODUCT STOCK MANAGEMENT**

APPLICATION AREA

















Monitor stock volumes and calculate the daily consumption of Kersia bulk products on-site. For all types of Food and Beverage industries

**DESCRIPTION & BENEFITS** 

SCOPE

This service utilises Staal sensors to provide precise measurements of bulk product volumes and automatically calculate and report daily consumption rates these bulk products. The service includes an intelligent alarm feature to notify you when it's time to reorder products, ensuring you never run out of essential supplies. It aids in reducing logistic and transport costs by optimising stock management, increasing efficiency, and reducing waste. Additionally, it identifies deviations in product consumption patterns, helping to prevent potential issues and maintain optimal operations.

Please note that while our service offers comprehensive monitoring and alerting, it does not include the automatic ordering of products. Users will need to manually submit their orders.

### **TCO OPTIMISATION**

**DATA & DOCUMENTS MANAGEMENT** 

#### **DIGITAL TOOLS**



#### APPLICATION AREA

















SCOPE

Online tool allowing sites quick and easy access for creating and amending Cleaning Instruction Cards

#### **DESCRIPTION & BENEFITS**

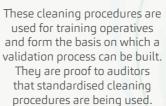
Improved access, logging and traceability of the hygiene sign off process. GATEWAY is an intuitive online system that allows to easily create online procedures. Each procedure is built up on a step by step basis and can be saved at any point. The procedure can include multiple cleaning methods, cleaning tools, Kersia chemicals and photos.

#### **SERVICE TECHNICAL SHEET**



### **GATEWAY**







Two complementary modules for the planning and validation of cleaning and disinfection, respecting your hygiene program



Gateway can also automatically generate supporting documentation that can help with the management of the cleaning process



Time-saving for quality managers, easier collection of cleaning data (paperless) and time-saving for audit preparation

#### **Prerequisites**



Visit the plant with Kersia representative to collect necessary data



Need for the presence and support of an internal person in the organisation with a good knowledge of cleaning procedures

### **GATEWAY**

Gateway is Kersia's online system for the generation and maintenance of cleaning procedures for Food and Beverage processors. Gateway has the ability to add photos, cleaning frequencies, strip down procedures, key inspection points, personal protective equipment, Kersia chemicals and cleaning

### Example Cleaning Procedure created on Gateway



#### **Protocol**

In collaboration with the internal hygiene team, on-site data collection

With the data collected, Kersia's representative can design each cleaning procedure on Gateway

The internal hygiene team is trained on the system and can review the procedures

Continuous monitoring: before, during and after Gateway system installation

