

# Diversey



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## Intelligent CIP

# Uncover the true operation of your CIP System

Ensuring food safety, quality and traceability while dealing with continuous cost pressures, changing production demands and a huge amount of data are typical challenges faced within cleaning in place (CIP) management in the food and beverage industry.

The effectiveness of each CIP run is buried within the automation system or manually tracked through documentation. Knowing if cycles are using excess resources, or have the potential to cause a contamination risk because hygiene parameters were not met, is largely unexplored.

Diversey Intelligent CIP translates CIP measured data into visual, easy to understand, actionable information. The curtain is removed and the details of each CIP run are discovered, providing proof of compliance and indicators of where to optimize.

## With Diversey Intelligent CIP you can:



FOOD SAFETY

- Verify that the cleaning parameters of each CIP run were met.
- Keep track of what has been cleaned.



OPERATIONAL EFFICIENCY

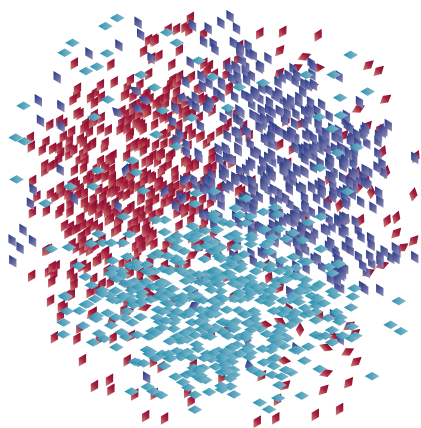
- Determine if each cleaning run has met target efficiency parameters.
- Uncover and prioritize areas for improvement.
- Statistically evaluate each cleaning recipe.



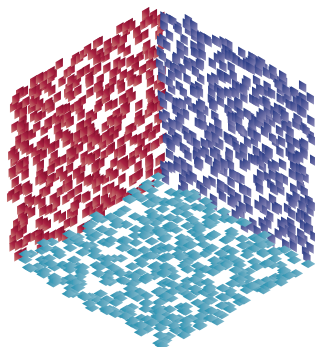
SUSTAINABILITY

- Track and report on water, energy and chemical consumption.
- Optimize CIP recipes to improve sustainability and reduce cycle time.

## CIP DATA

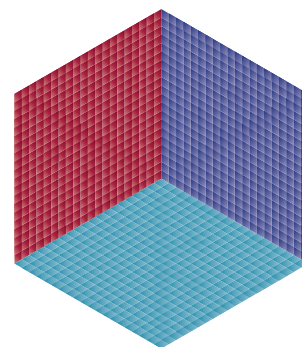


## ANALYTICS



## DECISIONS

- Focused Projects for Optimizations
- Real-time Compliance



# Easy and immediate access to your CIP performance

## Process, analyze, monitor and compare all your CIP data points to truly understand if your process is in control

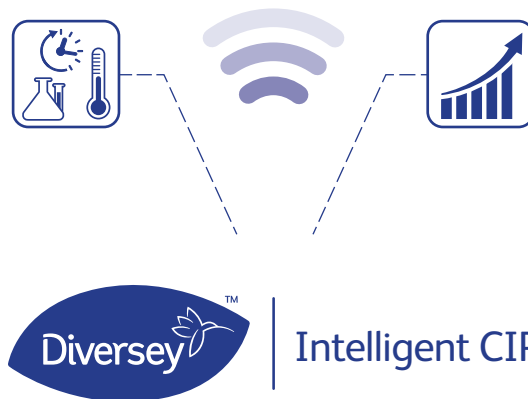
### Hygiene

- Evaluates each CIP Cleaning process.
- Computes effective cleaning times within the recipe's cleaning protocols and visualizes results.
- Helps compare the same program on multiple objects.
- Facilitates object-based CIP program customization.
- Repeatability control

### Efficiency

- Finds overshooting on the actual CIP program.
- Evaluate step times, rinse water usage and rinse time.
- Pinpoint chemical use and losses.
- Improve energy loss and maintenance by addressing overheating (flagged temperatures).

### Intelligent CIP receives data from your CIP



### Intelligent CIP converts data into actionable information

### Continuous process monitoring

- Uncover and troubleshoot outliers and process deviations.
- Program and cleaning statistics.
- Repeatability analysis per object / object group / per program /program step.
- Permanent process validation.

### KPI Management

- Track and report utility use (time, energy, water and chemistry) to help manage and control costs.
- Documented cleaning compliance enabling traceability and audit requirements.
- Record food safety, efficiency and quality improvements using a statistical process.

### Compliance at a Glance

- At your desk – have a quick view of your CIP process for any date range, specific unit, CIP circuit, or recipe.
- Drill down to a specific cleaning run and view or download a compliance report that compares the site's quality standard protocols vs actual data. The report highlights hygiene concerns or efficiency opportunities.

### Continuous Improvement

- Know if your process is in control.
- Learn which CIP recipes can be effectively optimized to operate more sustainably.
- Compare each cleaning run of a specific recipe using a six sigma distribution curve.

# Intelligent CIP Remote Monitoring and Analysis Platform

## Remote Monitoring

The optimized user interface provides an overview of chemical and utilities consumption; access to a quick view of your CIP processes for any date range,

specific unit, CIP circuit, or recipe; and enables responsive action when compliance with the defined (validated) parameters have not been met.

OVERVIEW
COMPLIANCE
HELP ?

v CIP Units  
SELECT

v CIP Units  
SELECT

v CIP Units  
SELECT

v CIP Units  
SELECT

v CIP Units  
SELECT

### Production

Average cleaning run duration  
1hrs 5min 51s

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Cumulative cleaning duration  
3 579hrs

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Number of cleaning runs  
3304

### Compliance

Compliant runs  
85%

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Hygiene risks  
13%

---

Cost risk  
20%

Show all issues >

### Consumption

Acid (g)	Water (m <sup>3</sup> )
16 520	12 000
Alkali (kg)	Electricity (kWh)
33 040	5 415
Time (h:m:s)	Thermal (kWh)
01:05:51	207 045

### Costs

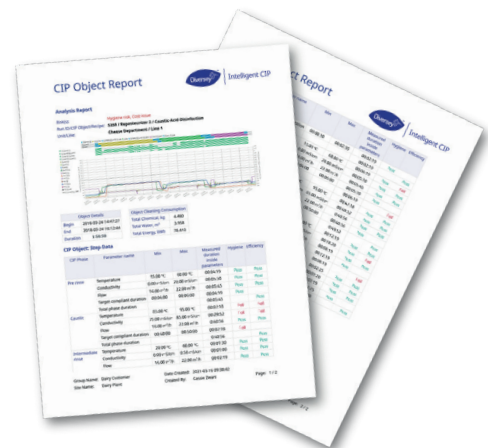
18 62 EUR

Acid (EUR)	Water (EUR)
12 390	30 000
Alkali (EUR)	Electricity (EUR)
19 824	380
Time (EUR)	Thermal (EUR)
01:05:51	6 211

Each cleaning run is automatically evaluated by comparing the company's defined quality standards with the data being received in real-time<sup>1</sup>.

Corrective action is by exception with non-compliant elements of the process being highlighted for further investigation.

CLEANING RUN COMPLIANCE REPORT						
CIP Phase	Parameter name	Min	Max	Measured duration inside parameters	Hygiene	Efficiency
Pre rinse	Temperature	15.00°C	60.00°C	00:04:19	Pass	Pass
	Conductivity	0.00 mS/cm	20.00 mS/cm	00:05:30	Pass	Pass
	Flow	16.00 m <sup>3</sup> /h	22.00 m <sup>3</sup> /h	00:05:45	Pass	Pass
	Target compliance duration	00:04:00	00:06:00	00:04:19	Pass	
	Total phase duration			00:05:45		Pass
Caustic	Temperature	85.00°C	95.00°C	00:07:18	Fail	Fail
	Conductivity	75.00 mS/cm	85.00 mS/cm	00:29:52	Fail	Fail
	Flow	16.00 m <sup>3</sup> /h	22.00 m <sup>3</sup> /h	00:40:56	Pass	Pass
	Target compliant duration	00:40:00	00:50:00	00:07:18	Fail	
	Total phase duration			00:40:56		Pass



<sup>1</sup> Typical time-lag between data being collected at site and becoming visible in Intelligent CIP portal is 3 minutes however internet speeds, processing capacity, site firewalls and other aspects could impact this response time.



# Intelligent CIP Remote Monitoring and Analysis Platform

## Data Analysis

Applying statistical analysis to the CIP datasets means that improvement decisions can be made faster and with confidence that there will be no negative effect on the cleaning result. Tools and algorithms built into the Diversey Intelligent CIP platform enable the CIP

process data to be visualized and interrogated to better understand what is happening during each phase or each cycle and uncover any anomalies such as high variance among a set of automated processes.



The Intelligent CIP platform provides a digital history of your CIP operations and gives deeper insight and intelligence of CIP processes beyond compliance.



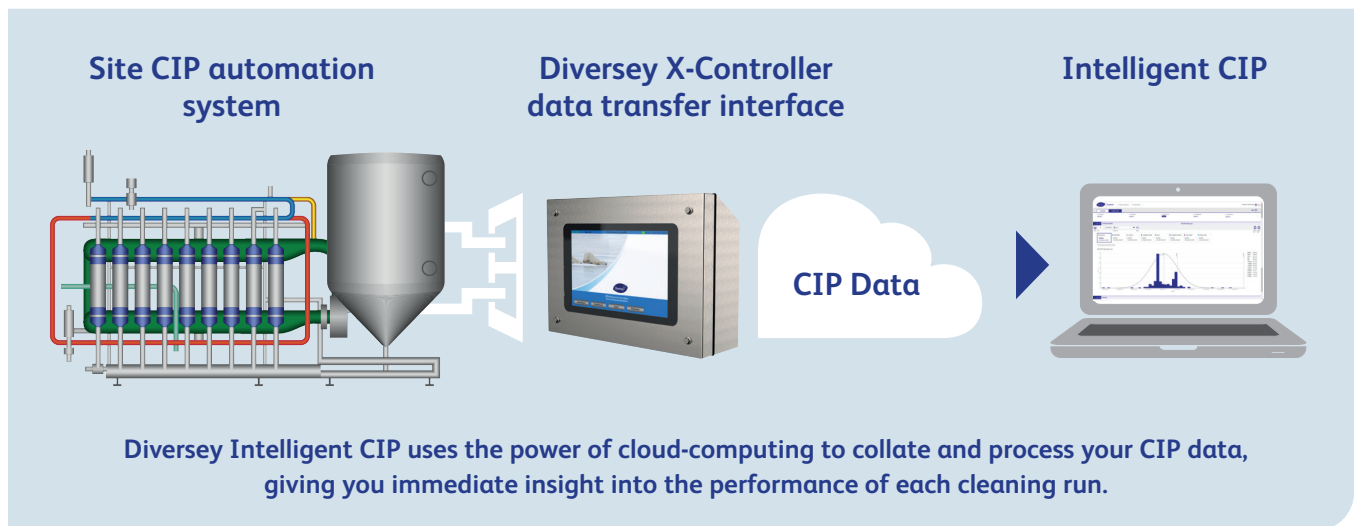
# Technical Information

*Intelligent CIP is a secure, cloud-based, data analytics platform. It processes CIP data being collected onsite and makes it easy to access and review.*

Intelligent CIP is not a CIP control system or replacement for CIP automation.

## Minimum Requirements

- PLC Communication (Automation) system
- Installation of X-Controller with Intelligent CIP software
- Sensors installed for each line:
  - Flow
  - Conductivity
  - Temperature





Taking care of what's precious™

Diversey's purpose is to go beyond clean to take care of what's precious through leading hygiene, infection prevention, and cleaning solutions. We develop and deliver innovative products, services, and technologies that save lives and protect our environment. For over a century, the Diversey brand has become synonymous with product quality, service, and innovation.

Our fully-integrated suite of solutions combines patented chemicals, dosing and dispensing equipment, cleaning machines, services, and digital analysis. We are a trusted partner; serving more than 85,000 customers in over 100 countries with a network of almost 9000 employees globally.

For more information, visit [www.diversey.com](http://www.diversey.com) or follow us on social media.

