LET´S MAKE FOOD SAFER
TOGETHER

FactoryClean
Challenges to quality management systems now and in the future?
Manual review of all HACCP documentation and cleaning plants
Tracability and supplier management

4.5 days

8 days

18 days

3.5 days
Results after several days of research
FactoryClean
Paperless Quality Management System

VS

Organisiert und Audit bereit
FactoryClean
Use on Smartphone and Tablets
Factory Clean - all in one

- Document Storage
  - All in one Place
  - Certificates
  - Lab results
  - Employee Trainings

- Measuring & Control
  - Temperature
  - Humidity
  - Camera
  - Air quality

- CCP Management
  - Dokumentation CCPs

- Cleaning
  - Instructions
  - Cleaning Documentation

- Safety and work instructions

Additional Modules
- Pest control management
- Benchmark System
- Food Safety Newsletter
- Alarm Function
- SAP Connection
- Food Safety Index
- Audit ready
- Traceability
- Food safety KPIs
- Training Mode
- And much more
Factory Clean - all in one

Document Storage
- All in one Place
- certificates
- Lab results
- Employee Trainings

Measuring & Control
- Temperature
- Humidity
- Kamera
- Air quality
- NIR systems

CCP Management
- Dokumentation CCPs
- Instructions
- Cleaning Documentation

Cleaning
- Safety and work instructions

Safety and work instructions
- Pest control management
- Benchmark System
- Food Safety Newsletter
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- Training Mode
- And much more
Intelligent cleaning process optimization

Climate conditions

Sensor datas

Datas Controlsystem

Pest Control Management
FactoryClean
Integration cleaning robots
Automatic review function with dashboard

Overdue (Jobs)

Overall Food Safety Index: 72%
Benchmark Industry: 78%

Temperatur and Luftfeuchte

22\degree C 23\degree C

Lab results for each order

Complaints

Critical control Points Monitoring

CCP Weight
CCP Sieve
CCP metal check

Five ill in English E. coli O157 outbreak; source not identified
By News Desk on August 15, 2019

Five people were part of a national E. coli O157 outbreak in England earlier this year.

At least six people became sick from food that had been consumed by the five people. The source of the outbreak is not yet identified, but it is thought to have been linked to romaine lettuce.

FDA romaine testing downplayed facilities that chopped the heads
By Coral Beach on August 15, 2019

See clarification note at bottom.

Today, the FDA released findings of a special testing program sponsored by the deadly 2018 E. coli outbreak linked to romaine lettuce. It showed somewhat similar results to the outbreak...
**FactoryClean**

*Makes the difference*

- Better hygiene
- Higher efficiency
- Always transparent
- Tracable at any time

*Time = Costs*

**Sanitation level**

- High
- Low

**Current methods**

**FactoryClean**

*Makes the difference*
Practical examples
Automatic Cleaning Robots

Name: Kari

Since 3 months in operation in Swissmill in Zürich
Heat Treatment for flour silos

Advantages:

- 100% free of poison
- No official permission required
- No annual trainings required
- Flexible for each silos size
- One treatment for all development stages
- No product contamination
- Higher uptime, treatment completed in 12-48 hours
Installation of Silo Heating System

Connection of flexible duct

Man hole cover

Heater Placement

Installation Process
Silo THT in Operation

Treatment duration 6-48 hours
Heat Treatment Services
Recirculation air method

Advantage:
Approx. 3 lower energy costs compare with Pressurized method
Initial Stage

- Room temperature: 35°C
Practical Case

After 48 hours

- Room temperature: 55°C

All pests in the plant are Dead
Practical Case

After 48 hours

- Room temperature: 55°C

All pests in the plant are Dead
Practical Results after 48 hours
Wingmen Energy Consulting
Strategic Partnership Announcement for energy consulting

- Global process experts in the milling industry.
- Hands on process experience
- Wide network the global milling industry

- Wide range of industrial reference industries
- Over 1000 energy improvement projects
- Certified auditors for ISO 50001
- 60 employees in 5 countries

First Energy consulting alliance specifically for the flour milling industry
What are we offering?

- Consulting for energy optimization of new plants
- Optimization and auditing of existing plants
- Improvement proposals with ROI calculation
Electricity Price development within 10 years

Development of electricity prices for household consumers, EU-28 and EA, 2008-2018
(EUR per kWh)

34% increase in 10 years
What can I save with an initial project consultation?

• Example:
  • Greenfield flour mill with a capacity of 500 tons per day
  • 220 Operation days per year
  • Electricity cost 0.10 USD per KW/h
  • Power consumption per ton of wheat: 70KW/h
  • Power consumption after project review: 66 KW/h

Annual Savings:

44.000,- USD
Base and Peak load analysis

Load profile analysis
Typical load profile

Load peaks

Base load
The mill pneumatic is one of the biggest power consumers in a flour milling plant. Most the pneumatic systems are already equipped with a frequency converter control and no additional investment is therefore required. With our Wingmengroup energy adjustments flour mills can save up to 30% energy.
Practical result of a 250 ton flour mill in Thailand

<table>
<thead>
<tr>
<th></th>
<th>Motor load</th>
<th>KW/h</th>
<th>Savings in %</th>
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</thead>
<tbody>
<tr>
<td>Initial Condition</td>
<td>178,5 Ampere</td>
<td>92,7KW</td>
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<tr>
<td>Best Condition</td>
<td>129 Ampere</td>
<td>67,3 KW</td>
<td>37,6%</td>
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<tr>
<td>Final Adjustment</td>
<td>138 Ampere</td>
<td>71,7 KW</td>
<td>33,5%</td>
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</table>

Electricity Cost per KW/h: 0,12 USD

Annual Savings: 17.800,- USD
Reduction of 1.6KW per ton of processed wheat
Motor loads and efficiency classes

- Efficiency of four different types of electric drives
### Compressed Air, cost through air leakages

<table>
<thead>
<tr>
<th>Leakage diameter (mm)</th>
<th>Energy consumption (kW/h)</th>
<th>Costs (USD/a)</th>
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Thank you

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