EHEDG/3A - Hygienic Engineering and Design: Value for Food Processors

Patrick Wouters – Cargill and VP EHEDG
May - 2017
AGENDA

- Importance of hygienic engineering and design in food safety management at Cargill

- Role EHEDG and 3-A Standards Inc.

- EHEDG news update
Cargill …our diverse stakeholders

Customers
Suppliers
Consumers
Candidates
Investors

Governments
Employees
NGOs
Communities
Our Purpose:

To be the leader in nourishing the world in a safe, responsible and sustainable way.

Our Vision:

To be the most trusted partner in agriculture, food and nutrition.
With 150,000 employees

Located in 70 countries

Speaking 65+ languages

And 151 years of experience
Markets we serve

- Food and Beverage
- Animal Nutrition
- Foodservice
- BioIndustrial
- Agricultural
- Meat & Poultry
Why Hygienic Design?
Hygienic Design – Key to Ensure Food Safety by Design
Purpose of Hygienic Design

Various types of production processes: Open - Dry - Wet - Closed

Deliberate application of design measures to minimise risk of contamination by **biological**, **chemical** and **physical** hazards.

**Design requirements must be established on risk based decisions.**
More Reasons for Hygienic Design

BESIDES MANAGING FOOD SAFETY HAZARDS

- Prevention of product quality issues
- Equipment reliability - maximising production time and reduced life cycle costs
- Process and occupational safety
- Sustainable operations
- Regulatory compliance
Hygienic Design as Best Available Technique (BAT) in EU

Hygienic design mentioned in new 2017 draft Reference document on BAT for sustainable operations

Best Available Techniques (BAT) Reference Document in the Food, Drink and Milk Industries
How do I achieve Hygienic Design?
For new or upgrading legacy food manufacturing plants

Project

Operation

Concept

Installation

Detailed Engineering

Construction
Risk-Based Designs

- To avoid **under** design to prevent Food Safety scares
- To avoid **over** design to prevent spending too much money and complexity in operating plant

Multiple skills and capabilities are required to determine **what is right** for specific manufacturing process and associated risks.

Cargill’s zoning model and Manufacturing Technology packages aim to support (together with HACCP) how to determine what is needed in a systematic way.

**What else.....**
Industrial Collaboration is Important

Best practice discussions to ensure Food Safety by design

Expert input in designing new hygienic processing machinery

Discuss and share best practices for building / process / utility design

Engineering Best Practices

Cleaning Design

Discuss and agree cleaning and sanitization / disinfection design and procedures

Participation in industry networks like EHEDG (European Hygienic Engineering Design Group)

Risk Assessments, Qualification, Validation

Hygienic Equipment Design
Industrial collaboration

- EHEDG / 3A important partners in **setting minimum requirements** and defining guidelines and solutions for hygienic design

- EHEDG / 3A **guidelines**, provide basis for hygienic building, process, equipment, and utility design

- EHEDG / 3A **certification schemes** providing guidance in choosing hygienic equipment and components

- EHEDG / 3A Working Groups, perfect occasion to **exchange knowledge and experience** with experts and to come to industrial best practice guidelines for hygienic design to ensure food safety and quality
HD Capability Building
Of critical importance that various functions have right HD capabilities
Both A3® and EHEDG provide an important contribution in this
EHEDG Update
Advance Position of EHEDG in Food Safety/Quality Management

Various projects initiated to increase ‘pull’ for hygienic design

WHAT

HACCP

Pre-requisite Programs “Standards”

EHEDG Guidelines “Good Practises”

HOW

WHAT

HACCP

Pre-requisite Programs “Standards”

EHEDG Guidelines “Good Practises”

HOW
Membership Development - Continuous Increase!

<table>
<thead>
<tr>
<th>Year</th>
<th>Institutes</th>
<th>Companies</th>
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<tbody>
<tr>
<td>2008</td>
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<td>2016</td>
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<td>2017</td>
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</table>
Global Network

- The “Big 50” global member companies
- 80% equipment & machinery manufacturers and 20% food producers
- Established in 31 geographical regions including 17 EU countries
A global network

Existing Regional Sections Europe (22)

Armenia
Austria
Belgium
Croatia
Czech Republic
Denmark
France
Germany
Italy
Lithuania
Macedonia
Netherlands
Nordic (FI, NO, SE)
Poland
Romania
Russia
Serbia
Spain
Switzerland
Turkey
UK & Ireland
Ukraine
A global network

Existing Regional Sections America (4) & Asia (5)

Argentina
Brazil
Mexico
Uruguay

China
India
Japan
Taiwan
Thailand
## The Core Product Portfolio

<table>
<thead>
<tr>
<th>Guideline Development</th>
<th>Equipment Certification</th>
<th>Training &amp; Education</th>
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<tbody>
<tr>
<td>Published: 43</td>
<td>Valid certificates: 512</td>
<td>Authorized trainers: 30</td>
</tr>
<tr>
<td>Active working groups: 21</td>
<td>Expected certificates: 30</td>
<td>Advanced training courses: 25</td>
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</tbody>
</table>
EHEDG Working Groups

Active:
- Air Handling (Update of Doc. 30)**
- Bakery Equipment
- Cleaning in Place
- Cleaning Validation *
- Cleaning & Disinfection
- Dry Materials Handling
- Fish Processing
- Food Refrigeration *
- Foreign Bodies
- Heat Treatment (Update of Doc. 1 and 6)*
- Hygienic Systems Integration *
- Hygienic Design Principles (Update of Doc. 8)*
- Materials of Construction in Contact with Food (update of Doc. 32)*
- Mechanical Seals*
- Seals
- Sensors *
- Tank Cleaning
- Test Methods
- Training & Education
- Valves*
- Water Management
- Welding**

Projected:
- Meat Processing

* = Update of existing documents
** = Draft under final review / subject to publication

Today: > 400 voluntary experts actively involved in 21 Working Groups
EHEDG in summary

• Strong product portfolio and expertise with global presence specialised on food industry

• Unique and reliable equipment certification program to ensure that equipment is cleanable by design

• Procedures to improve quality of pre-requisite programs which are fundamental to ensure right safety and quality of products every day

• Provide a unique international stakeholder platform for collaboration, knowledge exchange and networking
EHEDG is committed

• Develop competencies and capacity building in hygienic design and engineering to support food safety and quality management

• Manage costs, sustainability and improving operational efficiency
Global Information Channel – New Look
www.ehedg.org
You are welcome to join us!

Online Registration:
www.ehedg.org > Membership > Company Membership or
> Institute Membership

Thank You!
Thank you!

More INFORMATION

www.ehedg.org