



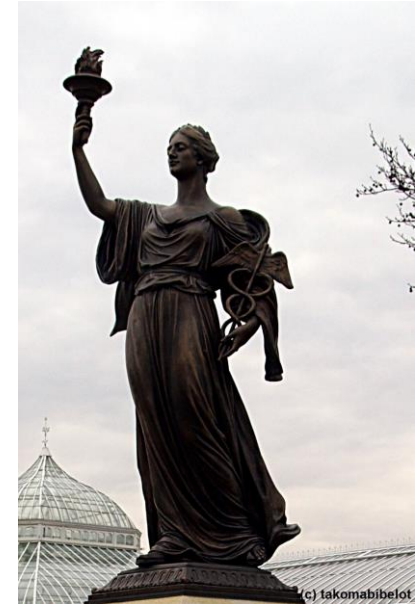
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FOOD SAFETY IN THE CATERING SECTOR

WHY IS HYGIENE SO IMPORTANT?

Hygiene – where does it come from?

- ancient Greek: *Hygeia*: goddess of health and cleanliness
- Hippocrates (~ 400BC): first person who taught the importance of hygiene
- middle of the 19th century: modern hygiene by I.P. Semmelweis (germ theory) and J. Lister (foundation of antiseptic surgery)
- Food hygiene, started 19th century: R. Koch discovered that specific organisms cause foodborne diseases.
- late 19th / beginning of the 20th century: identification and recognition of specific microorganisms as foodborne pathogens mark important milestones

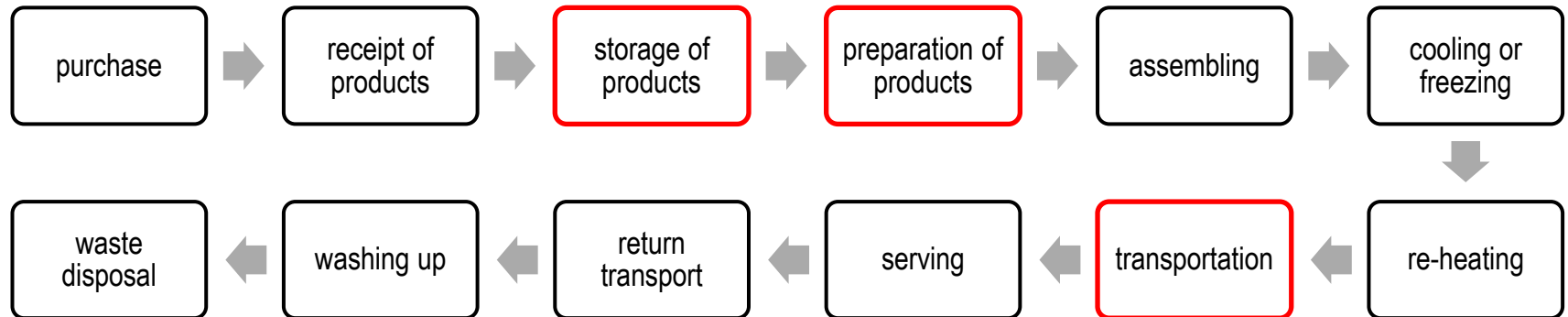


"Hygeia" Memorial To World
War Medical Personnel
(Pittsburgh, PA)

Source: flickr.com/takomabibelot

Process steps in a catering business

- Definition “catering”:
*the **preparation, storage** and where appropriate, **delivery** of food for consumption by the consumer at the place of preparation or at a satellite unit (CAC/RCP 39-1993)*
- catering sector is complex → different **types of food** & the sensitivity/needs of the food in **various processing stages**



may vary between businesses



Why is hygiene so important?

- due to complexity many outbreaks are caused by mass catering
- large-scale catering operations: particularly hazardous because of the way food is stored and handled
- persons fed by catering businesses (children or patients): often especially vulnerable
- outbreaks involve large numbers of people

➤ **Hygienic Design of Equipment improves the hygienic level in your business**

What is Hygienic Design?

- it's a design practice which aims to make machinery, equipment and components **as easily cleanable as possible** avoiding dead spaces and corners where food residues can be trapped and that are inaccessible or hard to reach.
- **Inspectability** and **easy access** to the product contact surfaces is a must for assuring continues cleaning success.
- hygienic aspects: details of the design
as the saying goes: “The devil is in the details.”
- the more sophisticated the equipment – the greater the design considerations





Covered by Hygienic Design: (examples)

Building Design

Risk Assessment

Air Handling

Electrical Installation

Pipes and pipe couplings

Conveyors

Valves

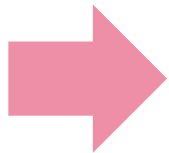
Lubricants

Sensors

Pumps

Material of
Constructions

Mechanical Seals



**Hygienic application of all segments will result in
hygienic manufacturing conditions.**

Advantages of Hygienic Design

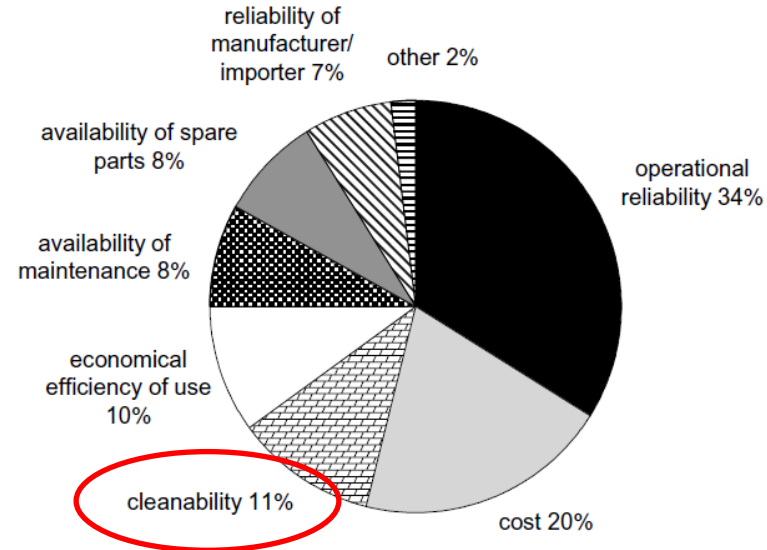
- reduction of microbial contamination → higher product quality and product safety
- shorter cleaning times and less maintenance → greater equipment availability
- less and/or easily accessible construction parts → lower maintenance costs
- reduction of cleaning and sanitation agents, fresh water, waste water and energy → lower running costs
- longer lifetime of machinery → sustainability
- compliance to EU regulation → no additional effort necessary

↳ **economic advantages (energy- and resource-efficient)**

↳ **increases of reputation**

Application of Hygienic Design

- Cleanability still only 3rd most important factor influencing investment decision!
- Simple constructions for easy dismantling increases cleanability (AARNISALO *et al.* 2006)
- Hygienic Design should be given input in the engineering process **as early as possible!**
- more sensitive the product is the more Hygienic Design is required



Aarnisalo *et. al* (2006)

Important to remember...



- catering sector is complex (different **types of food** and **various processing stages**)
- Hygienic Design to improve hygienic level!
- details of design are important but *the devil is in the details*
- **it pays off**: increased production, reduced cleaning time, reduction of costs and **increased reputation**
- should be considered in the engineering process as early as possible