Innovation in Food Factory Design
Introduction

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- Who are Arctica?

- What is innovation?
- What is design?
- How do these terms influence architectural design?
- What can you take away as a toolbox today?
Company Background

• Founded March 2001
• Multi-disciplinary consultancy
• Highly experienced in food processing sector offering expertise in architectural, process, cost and project management services
• Started as an architectural practice and still architecturally led
• Able to offer a unique one-stop shop service
Company Culture

- Passion for accuracy and thoroughness
- Bottom out issues before they become problems
- “Can-do” approach
- Provide architectural, process and cost excellence
- Maintain focus on programme, budget, health and safety
- Independent professional service
- Client’s objectives take precedence over the designer’s dream
Innovation in Food Factory Design

- What is it?
- What do we mean by the use of this term?
- How do we give form to an abstract concept?
- What factors might help us achieve what we are looking for?
What is Innovation?

• a new idea, more effective device or process
• the application of better solutions that meet new requirements, needs, or existing market needs
• something original and more effective and, as a consequence, new, that "breaks into" the market or society
• a process that brings together various novel ideas in a way that they have an impact on society
• the use of a better and, as a result, novel idea or method
• differs from improvement in that innovation refers to the notion of doing something different rather than doing the same thing better

• In short – “think differently”
What is Design?

- the creation of a plan or convention for the construction of an object or a system
- a roadmap or a strategic approach for someone to achieve a unique expectation defining the specifications, plans, parameters, costs, activities, processes and how and what to do within legal, political, social, environmental, safety and economic constraints in achieving that objective
- realization of a concept or idea into a configuration, drawing, model, mould, pattern, plan or specification (on which the actual or commercial production of an item is based) and which helps achieve the item's designated objective(s)
- In short “turning ideas into reality”
Definition Analysis

• So what do the definitions of innovation and design tell us?

• Innovation is about ideas
• Design is the translation of ideas into a physical solution

• Therefore if we want innovative design we need to think differently
Factor 1 – Think Differently

- So how do you think differently?
  - Be strategic; consider the bigger picture – don’t be narrow minded
  - Think about the future
  - Dream it big
  - What else can you spin into the project – can you kill 2 birds with one stone?
  - Allow time for free thinking and set a culture that encourages it
  - It doesn’t matter if the strategic vision changes in the future
  - Reality can come later
  - It’s not about “bigging” the job up, it’s about making informed decisions
Factor 1 – Example 1

- iPad
- Purpose: to provide truly mobile computing
- Launched 3 April 2010
- Over 700,000 apps now available
- Likely to outsell PC’s this year
Factor 1 – Example 2

- Mu Folding Plug
- Purpose: to reduce the bulk of a standard plug for mobile devices
- Original BS 1363 3 pin plug was designed in 1947
- Launched 2012
Factor 1 – Example 3

- Salad Factory Bin Wash
- Original client request was for a lean-to
- Client agreed to master plan the whole site
- Revised design produced a much better solution
- Also increased space for processing by 107%
Factor 1 – Example 3
Factor 1 – Example 3

Existing

Processing Area

Proposed

Bin wash
Factor 2 – The Detail Matters

• Grand vision / strategic thinking at macro level is important but the devil is in the detail
• Be aware of what's out there - building products or equipment
• Look for solutions that can give you more for the same money or less
• Reinvent the wheel if the wheel is broken or is not right - don't be afraid to innovate but understand the risks
• Pay attention to historical data - find out where the maintenance budget is being spent
• Look at cost in use, not just lowest cost
Factor 2 – Example 1

- Silicone seal failure

- Arctica developed a special detail to the top of a stainless steel kerb to retain the silicone seal to the w/wall panel and prevent it being dislodged during hygiene wash-down.
Factor 2 – Example 2

- EHEDG drainage components
- Arctica have helped ACO to develop their range of EHEDG certified food factory drainage gullies and channels
Factor 2 – Example 3

- Freezer Environment
- -28c Coldstore with 60,000 pallets capacity
- Clad-rack construction
- How do you fire protect the boundary wall?
- Use Oxygen depletion
Factor 3 – Industry Trends

- Future-proofing
- Sustainability
- Hygienic design
- Food safety
Factor 3 – Example

- Wilkin and Sons Ltd., Tiptree
- New HQ / processing facility
- Incorporates sustainable strategies but not “green bling”
- Future-proof design
- One of the first major food processing facilities to use Glulam beams
Factor 3 – Example
Summary

- Innovative design is about thinking differently
- Allow time for thinking
- Think big and strategically
- Can you do more with less?
- Don’t forget the detail
- Be cognisant of industry trends but only consider those that are relevant to your project