Digital Technologies for Manufacturing Innovation: Embracing Industry 4.0

Nottingham - 30th of Nov. 2015

Project Outline

Aims set by Innovate UK

Enhancing Manufacturing through Automation

COMPETITION FOR COLLABORATIVE R&D FUNDING
JANUARY 2013

DISCOVER

DEVELOP

DEPLOY

3P innovation

Mondelēz International

mtc Manufacturing Technology Centre

Project Outline

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Our Objectives

- **Partnership** between UK business
- **Improve** recipe control & Reduce waste
- Enable product **innovation**
- **Standardise** our process
- Scope the capability of **simulation**

Ambition

Concept Deliverables

- Accelerate & simplify our **changeover**
- Allow the use of an **infinite variety of ingredients**
- Reduce our process **limitations**

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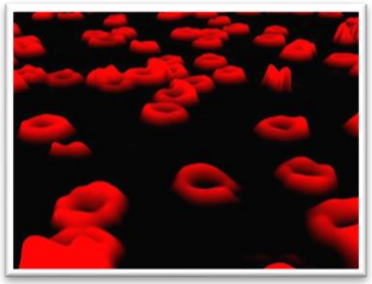
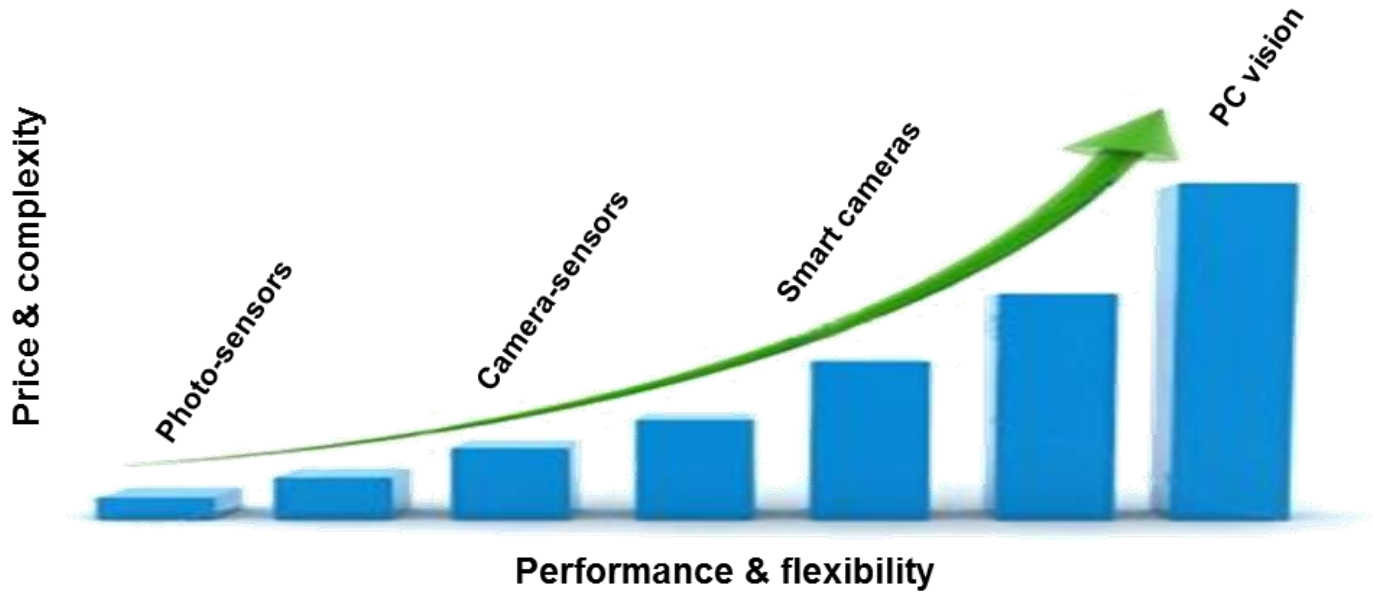
Digital Technology – Machine vision solution



The vision application solutions originate form a wide range of industries such as:

- Medical diagnostics
- Automotive
- Quarry industry

Scoping the technology level



Each family presents its own advantages and disadvantages.

Correct comprehension, technology selection and supplier engagement is critical to success.

Select the optimal technology

Camera Sensor

Measuring surface coverage

Integration
Configuration
Cost

Limited functionality

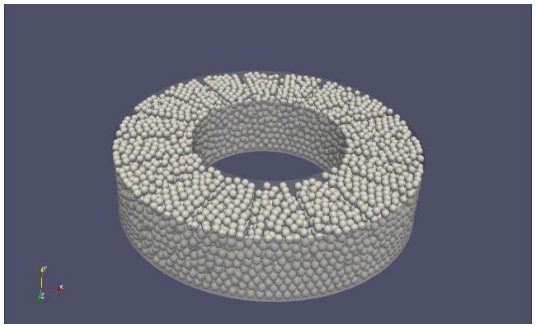
PC vision solution

Measuring volume flow

Full functionality
Highly configurable
Expandable

Requires system integrator
Capital & development cost

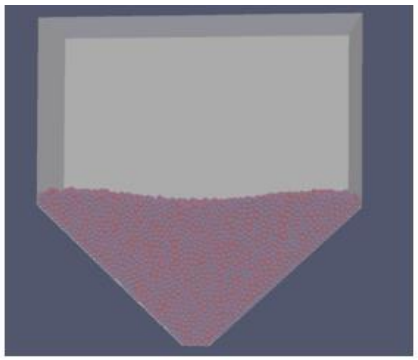
Digital technology – Explore Simulation

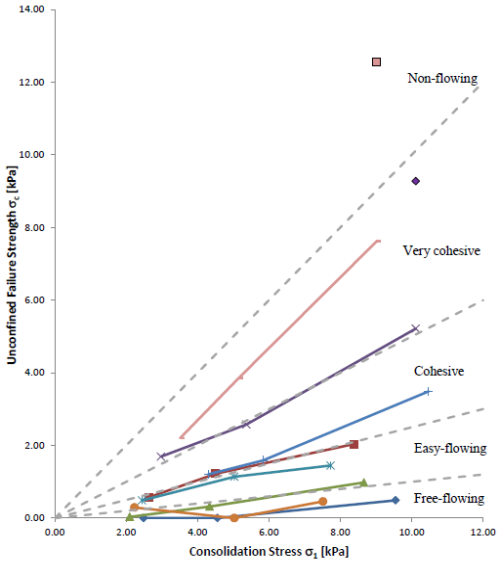


Discover ingredient properties.

Discover software capabilities.

Develop system.





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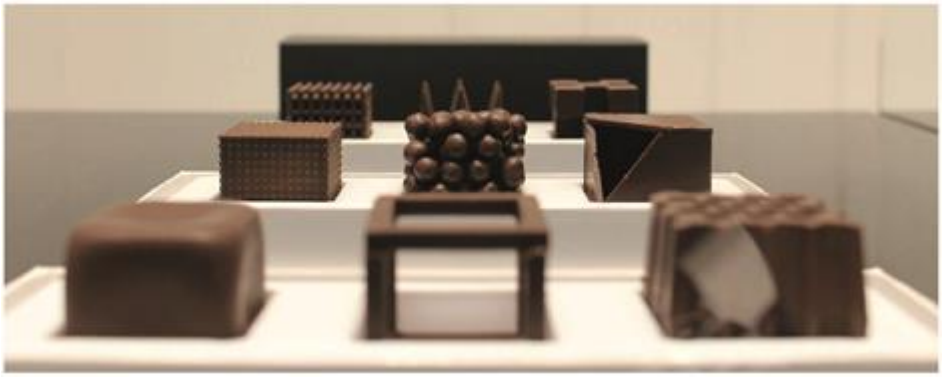
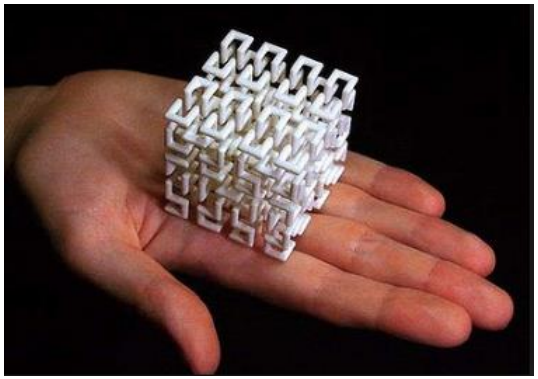
Digital Technology - 3D Printing

Accelerate the route from an idea to a Product or a Process.



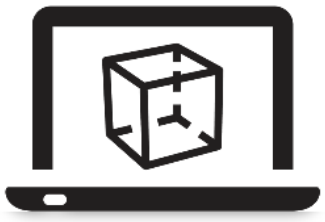


Provides proof of principle at lower cost.

Validate a Design.

Communication - Excellent to showcase a concept.

The challenges & opportunities



Breaking the empirical systematic approach using simulation.

The challenges & opportunities

Better understanding of the fundamentals.

The challenges & opportunities

Deliver R&D project faster whilst pursuing

long term process project development.

Future challenges & opportunities

Flexibility

Automation

Bringing new players in

Design ownership

Contact details

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