



Innovation Northern Foods

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Agenda

Purpose

Background

Innovation in the Food Sector

Innovation at Northern Foods

Summary

Looking ahead



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Purpose

To share perspectives on Innovation from the Food Sector

Identifying areas of challenge and opportunity which could be addressed to drive higher levels of, and greater value from innovation.

Background



Food Manufacturing Sector



- Employs circa 650,000
- Single largest manufacturing sector
- c£66bn turnover
- Biggest consumer spending category of c£153.8bn
- c6,750 food & drink enterprises

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Northern Foods



- Employees circa 20,500 people in the UK and Eire
- £1.4bn turnover
- Supply to all of the major multiples
- Branded & own-label products
- 35 manufacturing sites across the UK and Eire
- Track record in innovation in a Challenging Environment

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Innovation in the Foods Sector

The Food Sector



Times have changed in Food

“The English only have three vegetables and two of them are cabbage”

Annon

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Innovation - Definitions

1. absolutely new – it changed the industry (eg new category, technology, invention, mega brand)
2. reasonably new – there is nothing very much like it in the industry
3. fairly new – there are some similar things in the industry
4. a little new – there are a small number of things that mark it out as different
5. not really new at all – it is basically a repackaged version of an already existing product or service (but still requires creative input, funding and resources)

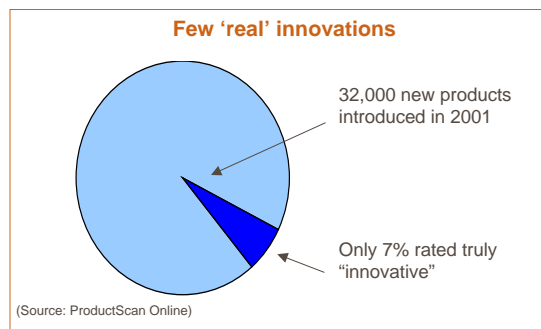


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Innovation in the Food Sector

- Food purchases decreasing steadily from c15% of annual expenditures in 1980s to c13.0% in 2000's
- Industry growth is projected at <1% annually to 2025
- Margin pressures
- Overseas manufacture
- Value is only created if new ideas are commercialised



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Innovation at Northern Foods

Innovation



Definition Scope :

- Exploiting Science & Technology
 - In Products & Process
 - To Deliver Points of Difference and / or “Breakthroughs”
 - Which when exploited effectively
 - Create Real Value

Not in Focus : Climates for innovation / Innovation Process / Skills issues

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Innovation

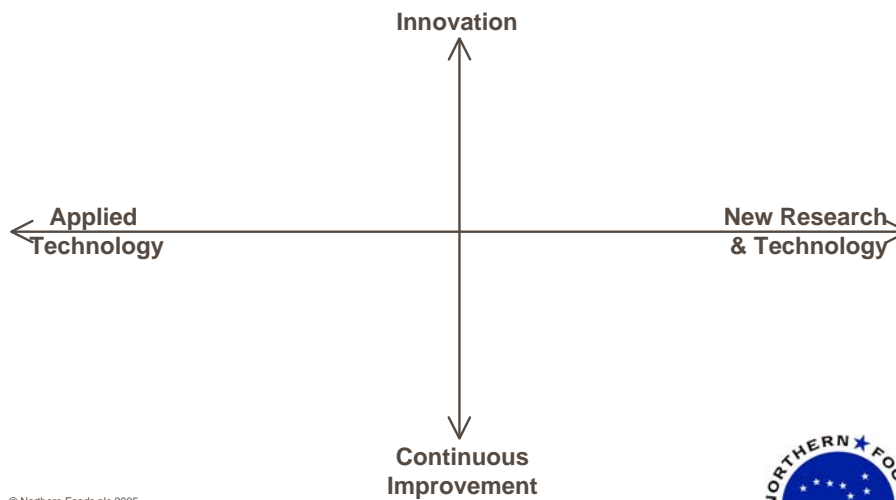


- Past
 - Induction Wok
- Present
 - M&S Melt in the Middle Puddings
- Future
 - Biocompostable packaging
 - Laser Sealing
 - Trigeneneration

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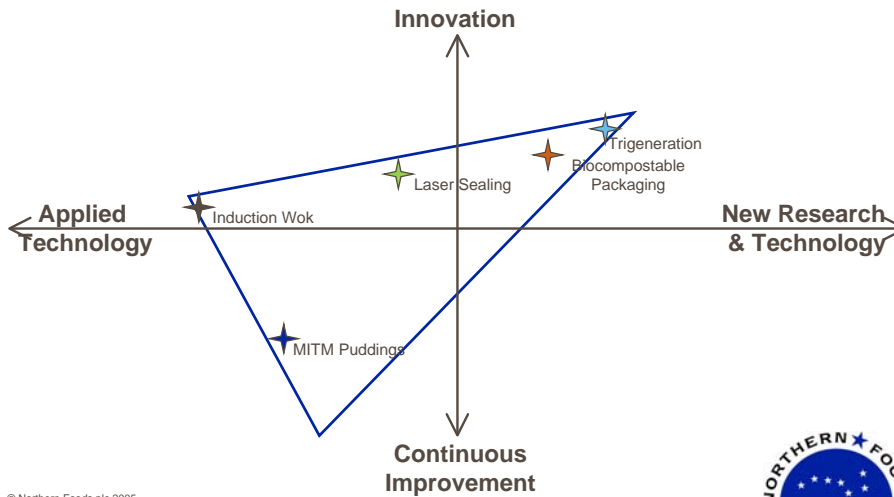
Innovation Map



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Innovation Map – Northern Foods



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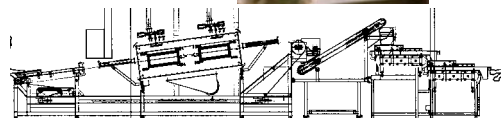
Past Innovation



Case Study: Ready Meals

Eg Induction Wok

- What was the Challenge?
 - To replicate authentic Chinese food
- What was the innovation?
 - An Induction Wok
 - Uses a microwave/steamer
 - Uses electrical induction
 - A step change
- How was it developed?
 - Driven jointly by the customer and a X functional team
 - A bespoke engineering company
 - A pilot machine was built and extensively tested



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Present Innovation

Case Study: Puddings

Eg Melt in the Middle

- What were the Challenges?
 - To simulate the “fondant puddings” found in restaurants in a factory friendly and food safe way
- What was the innovation?
 - A chocolate pellet
 - We were the first to market
- How was it developed?
 - Utilisation of an existing process
 - Developed in close partnership with a supplier
 - Extensive process & product trials



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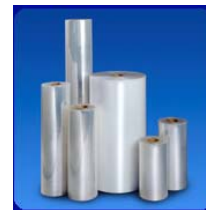


Future Innovation

Case Study: Packaging

Eg Biocompostable Packaging

- What were the Challenges?
 - To create a cost effective, environmentally friendly packing material
- What was the innovation?
 - A biocompostable material derived from wheat starch
 - A food safe film for cold wraps
- How was it developed?
 - In partnership with M&S, Brunel University and DEFRA LINK
 - Northern Foods contributed insights into food safety, manufacture, quality and product application



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Future Innovation

Case Study: Packaging

Eg Laser Sealing

- What is the Challenge?
 - To increase the flexibility of our sealing machines, reduce waste and changeover times
 - What is the innovation?
 - Using lasers and cameras the pots are film sealed
 - The patented camera design tests the seal integrity of each pot
 - How was it developed?
 - A DEFRA LINK project led by Loughborough University in collaboration with, a film, sealer and laser manufacturer
 - Northern Foods contributed insights into food safety, manufacture, quality and trial products
- The pilot machine has been proved



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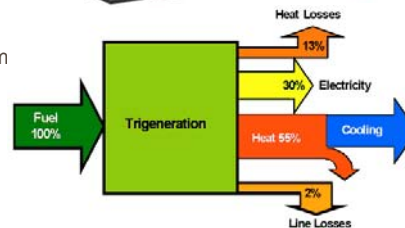


Future Innovation

Case Study: Energy

Eg Trigenation

- What are the Challenges?
 - To utilise the heat produced as a by-product of energy creation
- What was the innovation?
 - The simultaneous production of electricity, heat and cooling through novel technologies
- How was it developed?
 - In partnership with Food link & Nottingham Universities
 - Northern Foods is contributing insights into the use and size of refrigeration in the food industry
 - Research project

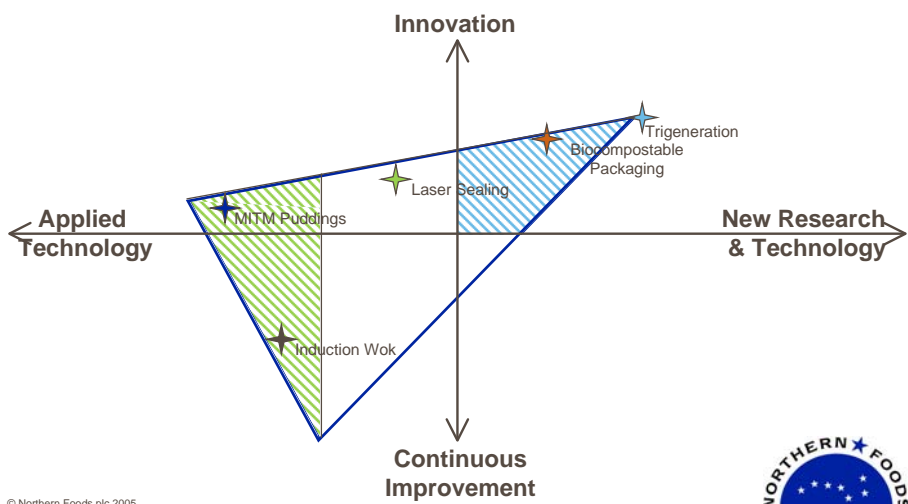


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Summary



Innovation Map – Northern Foods





Summary

- Historically of all new products only 7% were truly innovative
- However companies do have proven track record in innovation
 - Working with Brunel, Nottingham & Loughborough Universities
 - Utilising Food link and DEFRA Link opportunities
 - Partnerships with other manufacturers and suppliers
- Our innovation footprint is currently more applications biased
- There is an opportunity to creatively utilise existing technologies through focused (University) Innovation in the Applications area
- There are opportunities to explore truly innovative, research lead initiatives, but this innovation is difficult to realise full benefit (time / cost)

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Looking ahead

Looking ahead Challenges for Northern Foods



- Improved NPI Process
- Clearer communication of value creation opportunities with retailers
- Clear strategy to leverage the value from innovation through partnerships with suppliers, retailers, the Government and universities

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Looking Ahead



Challenges

How do we as the largest manufacturing sector in the UK spend more time on truly innovative technological research?

Opportunities

- Nutritional/Health
- Environment
- Value Engineering

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Questions