

# Innovation in Practice: the Teagasc Model



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# Impressions of Finnish knowledge system

- Innovation deeply embedded in Finish political and economic system
- Innovation seen as required across all sectors ... broadly based
- Innovation seen as a continuum from capability ['R'] to product development ['D'] (e.g. Valio)
- Greater preponderance of research institutes with each having a sectoral focus
- Impressive formal collaborative networks between universities, research institutes and industry





## Agri/Food/Fisheries Sector

- Largest indigenous sector; 10% of the economy
- 170,000 jobs; 50% indigenous exports; 30% total net exports
- Every €100 exports adds €50 to GNP vs. €20 for pharma and ICT
- Rapid ascension of the value chain in recent years, e.g. IMF 16% global exports, high incidence of MNs
- Low level of R&D spend 0.2% to 0.3% of sales, high incidence of SMEs
- Big opportunities for growth, dairy sector



# Teagasc in brief

- Teagasc is the national public body providing integrated research, advisory and training services to the agriculture and food industry.
- Our Mission *is to support science-based innovation in the agri-food sector and wider bio-economy so as to underpin profitability, competitiveness and sustainability.*
- Functions: research in primary agriculture & food processing; knowledge transfer (primary agriculture); education (primary agriculture) & training (food processing)



# Innovation in agri-food key requirements (1)

- Integrated 'farm to fork' approach needed
- Primary sector critical ... food safety, sustainability, quality and cost efficiency ...
- Highest scientific quality a given ... international benchmarking
- Research role in the knowledge system ... 'provide, procure, adapt and transfer'
- Appropriate balance between the 'R' and the 'D'



# Innovation in agri-food key requirements (2)

- Collaboration and partnership essential ... disciplines and institutions ... public and private
- Development of professional 'knowledge transfer' capability ... neither automatic or costless ... investment required in personnel and systems ...
- Understanding knowledge customer needs ...
- Absorptive capacity of potential knowledge customers needs to be strengthened ...



# Features of Teagasc practice: primary production

- Integration of research, knowledge transfer and education functions
- Continuum from from component or project to systems (whole farm) research
- Structured connections between research demonstration farms (dairy and beef) and networked commercial farms
- Learning from our knowledge customers' needs 'Stakeholder Consultation Groups' (SCGs)
- Developing an innovation pipeline ... bioscience >> applied research >> on-farm application



# Features of Teagasc practice: food processing research

- Collaborations ... most recent ... Teagasc-UCC alliance ... single portal for dairy processing research
- Food for Health Ireland ... collaboration between Teagasc, universities and industry
- Valio-Ireland joint Ph.d. and researcher-exchange programme ...
- Moorepark Technology Ltd. ... a unique pilot plant resource for the dairy industry owned by Teagasc and the industry ...
- Our approach in summary >>> ...



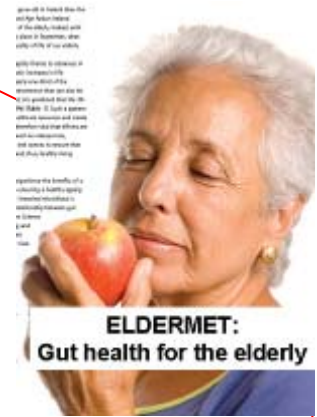




Alimentary Pharmabiotic Centre  
Interfacing Food and Medicine



THE DEPARTMENT OF  
AGRICULTURE & FOOD  
AN ROINN TALMHAÍOCHTA AGUS BIA



# Food for Health Research Collaborations



NutraMara



THE DEPARTMENT OF  
AGRICULTURE & FOOD  
AN ROINN TALMHAÍOCHTA AGUS BIA



Irish Phytochemical Food Network



THE DEPARTMENT OF  
AGRICULTURE & FOOD  
AN ROINN TALMHAÍOCHTA AGUS BIA

# Collaboration

UCC / Teagasc  
Strategic Alliance  
In  
Food Research



THE DEPARTMENT OF  
AGRICULTURE & FOOD  
AN ROINN TALMHAÍOCHTA AGUS BIA



"The abolition of quotas in 2015, in an increasingly deregulated market, presents a challenge to the industry to move up the value chain. Commitment to collaborative R&D, harnessing the collective strengths of the research institutes and industry, is essential in driving successful, market led, growth and I welcome this initiative."

Mr Kevin Lane, CEO  
Irish Dairy Board

University College Cork



Irish Agriculture and Food Development Authority





The logo for Moorpark Technology Limited features the letters 'mt' in a yellow cursive font inside a grey square. Below this, the word 'MOORPARK' is written in large yellow capital letters, and 'TECHNOLOGY LIMITED' is written in red and black capital letters. A grey horizontal bar is positioned below the text.

**MOORPARK**  
**TECHNOLOGY**  
**LIMITED**

- A sophisticated pilot plant for product development and process scale-up.
- Jointly owned by Teagasc and Dairy Companies.
- A major asset for product and process innovation.
- Many ingredient successes:
  - Alpha lactalbumin for infant formula
  - Cheese and yogurt
  - Drying
  - Bioactives for functional foods
  - Food colorants





BIO-FUNCTIONAL  
FOOD ENGINEERING

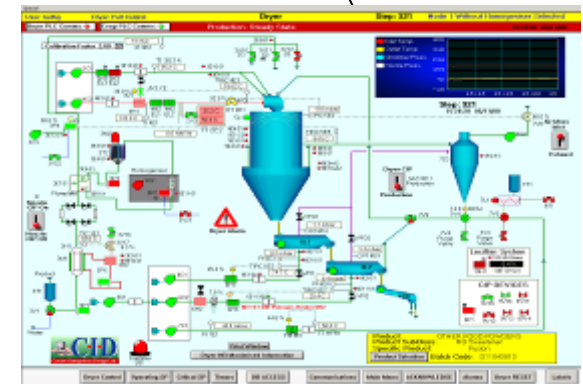


Wet Process Unit



Separation

*mt*  
**MOORE PARK**  
**TECHNOLOGY**  
**LIMITED**



Evaporation and Drying



Food Applications Unit



Fat Technology Unit



Cheese-making

# Delivering R & D solutions to the Food Industry

## In Cheese

Develop new varieties  
Develop Improved ingredient cheeses  
Improve efficiency and quality



## In Infant Formula

Develop new ingredients  
Improve safety  
Scale-up spray drying technology

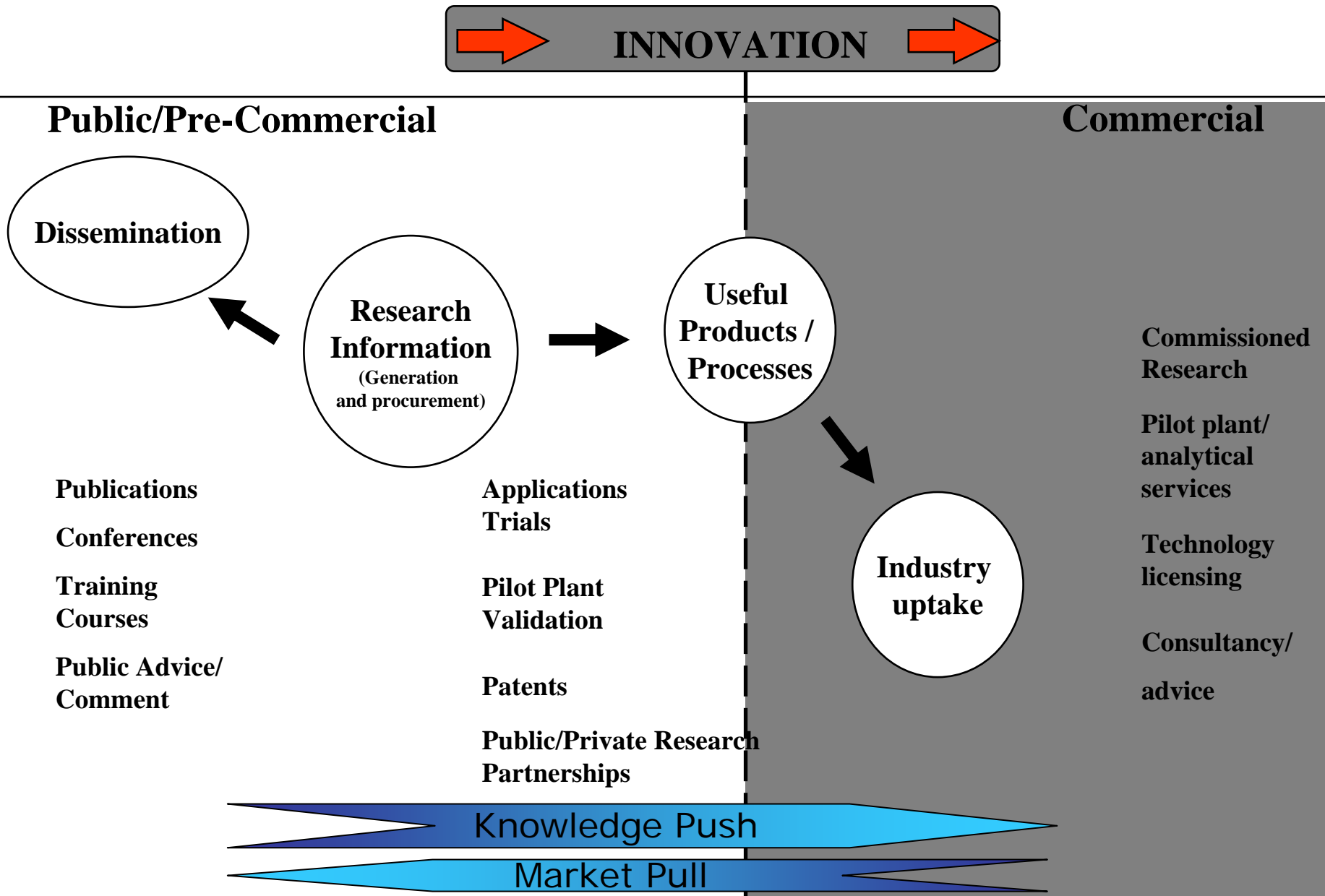


## In Food and Health

Improve dairy nutrition (salt, fat, protein)  
Develop new Functional Foods (probiotics, prebiotics, weight reduction)  
Innovate in NPD (vitamins, bars, lactose free, omega 3...)



# Teagasc Innovation Model in Summary





Thank You