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 >>> …

Food for Health Research Collaborations

science foundation ireland

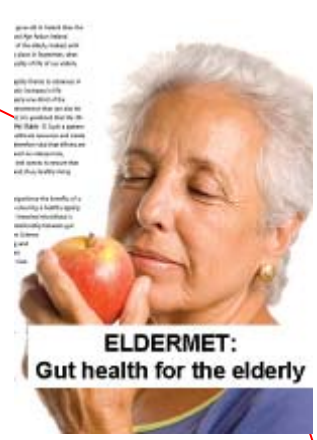
Alimentary Pharmabiotic Centre
Interfacing Food and Medicine

FOOD FOR HEALTH IRELAND

glanbia
Dairygold
KERRY
CARBERY

THE DEPARTMENT OF AGRICULTURE & FOOD
AN ROINN TALMHAÍOCHTA AGUS BIA

HRB
Health Research Board



NDP
NATIONAL DEVELOPMENT PLAN

Safe & Healthy Foods

teagasc
VISION

NutraMara

THE DEPARTMENT OF AGRICULTURE & FOOD
AN ROINN TALMHAÍOCHTA AGUS BIA

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AN ROINN TALMHAÍOCHTA AGUS BIA

Irish Phytochemical Food Network

Collaboration

UCC / Teagasc
Strategic Alliance
in
Food Research

THE DEPARTMENT OF
AGRICULTURE & FOOD
AN ROINN TALMHAÍOCHTA AGUS BIA

NDP
NATIONAL DEVELOPMENT PLAN

sfi
science foundation ireland

"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

Teagasc
Irish Agriculture and Food Development Authority

MOOREPARK 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

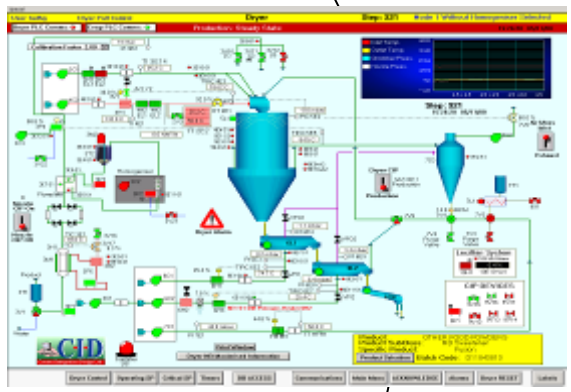
teagasc

Wet Process Unit

Separation

BIO-FUNCTIONAL
FOOD ENGINEERING

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

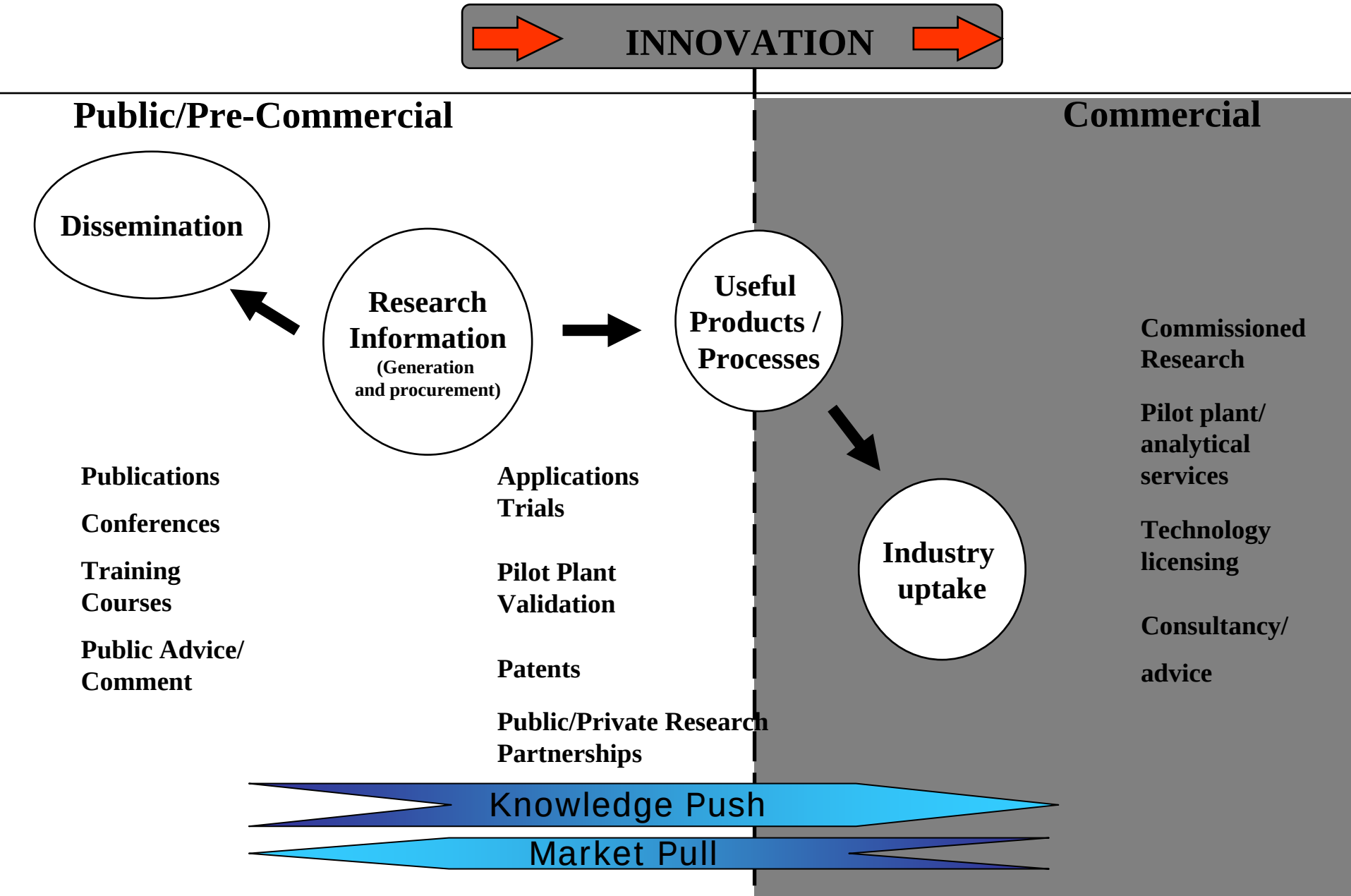
In Infant Formula

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