Agriculture Fair Workshop

Novi Sad, 16th May 2018
Modern Approaches to Technology Transfer for SMEs

Declan J. Troy, Assistant Director of Research, Teagasc, Ireland.
In 2015 Serbia accounted for more than 21% of entire world raspberry production.
Greater than 10 fold in value
Greater than 25 fold in value
Greater than 100 fold in value
Outline

- Introduction
- Global Dynamics
- Consumer Trends
- Technological Opportunities
- Modern Approaches to Effective TT in Food SMEs
- Actions and Responses
- Conclusions
“To support science-based innovation in the Irish food sector that will underpin profitability, competitiveness and sustainability”
Teagasc

- State Body providing integrated research, advisory and education services to the Irish agri-food industry
- Funded 70% by State Grant, with balance earned from competitive research contracts, extension fees etc. and trading income
“To support science-based innovation in the Irish food sector that will underpin profitability, competitiveness and sustainability”
Teagasc Goals

1. Improve the competitiveness of agriculture, food and the wider bio-economy
2. Support sustainable farming and the environment
3. Encourage diversification of the rural economy and enhance the quality of life in rural areas
4. Enhance organisational capability and deliver value for money.
140,000 Farmers

Cascade model

BETTER farms
Beef – 37
Sheep – 10
Dairy – 37

14,000 Discussion Group members

45,000 Clients

140,000 Farmers

Component research

Component research
Nutrition & Food Systems face "perfect storm" (Bell, 2016)
Some Current Challenges

- 50% increase demand by 2030, 100% by 2050
- 805 million still hungry (781m in developing countries)
- Vast majority live in rural areas with low income, poor infrastructure, excessive food waste, poor sanitation
- Land and water use limited
- Climate change affects these areas
- Animal based foods questioned
“there are also growing incomes, and an increasing sophistication of consumers with specific demands for food to deliver lifestyle benefits and innovative solutions for different life-stages”.
Food waste – latest estimate EU-28

- Equivalent of **20%** of all produced food in EU
- **143** billion euros
- ~ **304 Mt CO2 eq** (6% of total emissions of GHG in EU28)

EU-28 PRODUCES
88 MILLION TONNES
of food waste per year

amounting to an estimated
143 BILLION EUROS

173 kg pro-capita food waste

For more information on data and quantification, access the March 2016 FUSIONS reports “Estimates of European Food Waste” & “Food Waste Quantification Manual to monitor Food Waste Amounts and Progression”
Global food losses and waste: estimated at 1.3 billion tonnes / year

Source: FAO. 2011. Global food losses and food waste
1. Shifts in the balance of world economic power

The world economic order has changed. Economies in the South and East are now leaders in terms of GDP. China is ranked number 2 in the world, Brazil number 7 and Russia and India 9th and 10th respectively.
2. Increasing empowerment of women

Though inequalities remain, women are making huge strides in education, employment and commerce.

Two-thirds of the world’s 781 million illiterate adults are women.4
3. Global urbanisation

Urban living will increasingly be the norm across the world, raising issues about quality of life and community dynamics.

By mid-century, two-thirds of the world’s population will live in cities, compared with just over half today.

Rapid urbanization is accelerating the dietary transition.
4. Changing attitudes to ageing

Old age will be reinvented. Longer life expectancy will radically alter societal perceptions and priorities related to work, leisure and health.
5. Changing household structures and family roles

The concept of the ‘household’ will be more diverse and unconventional, and this will also be reflected in more fluid family roles and responsibilities.
6. Increasing economic inequality

The disparity between rich and poor — both within and across regions — is growing.

Globally, more than half of consumers say they’re angry that wealth is concentrated in the hands of the few.
Across the world, rising prosperity and modern conveniences are leading to a higher incidence of life-threatening health conditions such as obesity, diabetes and heart disease.
8. Rise in the use of mobile technology

Mobile technologies are rapidly becoming the preferred means of Internet access, especially for leapfrogging emerging markets.
Science and technology critical

Key transformative technologies
1. Plant and animal genomics and related technologies
2. Human, animal and soil microbiota
3. Digital technologies
4. New technologies for food processing
5. Transformation in the food value chain system

Linkages between these technologies obvious
Global Opportunities (examples)

- Gut Microbiome
- Develop healthy food products for different life stages
- New automation and IT-tools in food handling
- Improve food product shelf life
- Novel ingredients
- Sell sustainability
- Smart ingredients

Increasing need for technological solutions by industry and policy makers
But from change and challenge comes opportunity.

Understanding consumer trends is the key to unlocking that opportunity.
Future profitability and viability will be driven by productivity improvements through the adoption and application of cutting-edge sustainable processes and technologies.
National Strategy

Exports

€19bn

<table>
<thead>
<tr>
<th>€million</th>
<th>2007-2009</th>
<th>2012-2014 Baseline</th>
<th>2025</th>
</tr>
</thead>
<tbody>
<tr>
<td>8,000</td>
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<td></td>
<td></td>
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<tr>
<td>12,000</td>
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<td></td>
<td></td>
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<tr>
<td>16,000</td>
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<td></td>
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<tr>
<td>20,000</td>
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</tbody>
</table>
Points of Focus

Diagram showing the timeline of cumulative profits and losses, with stages including research, development, technology transfer, product launch, valley of death, commercialisation, and success as a business.
Innovation Eco-system

1. Idea
2. Concept Developed
3. Proof of Concept
4. Technology Validation in Lab
5. Technology Validation in Relevant Environment
6. Demonstration in Relevant Environment
7. Demonstration in Operational Environment
8. System Complete and Qualified
9. Successful Mission Operations

Public Funded Pre-competitive Research
Industry Funded Competitive R & D

Public Research Performer: FINS
Businesses

University of Novi Sad
INSTITUTE OF FOOD TECHNOLOGY IN NOVI SAD
Teagasc-industry engagement model
Impact of collaborative research between industry and PRO.
Innovative Technologies at Farm Level

Drones with Sensors attached for monitoring health and wellbeing.
Precision Livestock Farming

Areas to Monitor a Dairy Cow

Bewley et al., 2014
Example in meat

- Animal Cleanliness
- Hide/Fleece removal
- Evisceration
- Carcass interventions
- Carcass chilling
- Aerial decontamination
- Boning out
- Meat packaging and distribution
- Meat: In pack interventions
- Spoilage bacteria impacting on shelf-life
- Quality factors impacting on shelf-life
- Shelf life prediction models
Processing technology

Past

- Chemical additives
- Chilling
- Freezing
- Pickling/Curing
- Dehydration
- Smoking
- Irradiation
- Aseptic Processing
Novel food processing technologies
@Teagasc Food Research Centres

Non-thermal Technologies

- Ensure food safety
- Improved shelf life
- Nutrient retention
- Environmental friendly
- Process efficiency

High pressure processing

Ultrasound Processing

Microwave plasma

Airborne acoustics

Cold Plasma

Ozone processing
High Pressure Processing

Pressures of up to 1000 MPa (typical pressure range: 300 to 700 MPa) is applied to foods to extend the shelf life.
### Who do we trust?

_Courtesy of Food RisC Project_

#### Lack of trust – who are the weakest links?

<table>
<thead>
<tr>
<th>Country</th>
<th>Trust in food chain</th>
<th>Trust in regulators</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Farmers</td>
<td>Food manufacturers</td>
<td>Supermarkets</td>
<td>National government</td>
<td>European institutions</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>67%</td>
<td>43%</td>
<td>48%</td>
<td>52%</td>
<td>48%</td>
</tr>
<tr>
<td>EU</td>
<td>61%</td>
<td>38%</td>
<td>35%</td>
<td>52%</td>
<td>65%</td>
</tr>
<tr>
<td>France</td>
<td>62%</td>
<td>26%</td>
<td>27%</td>
<td>39%</td>
<td>56%</td>
</tr>
<tr>
<td>Germany</td>
<td>43%</td>
<td>23%</td>
<td>27%</td>
<td>47%</td>
<td>51%</td>
</tr>
<tr>
<td>Italy</td>
<td>58%</td>
<td>41%</td>
<td>47%</td>
<td>46%</td>
<td>64%</td>
</tr>
<tr>
<td>Latvia</td>
<td>62%</td>
<td>26%</td>
<td>25%</td>
<td>23%</td>
<td>62%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Country</th>
<th>Trust in informers</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>physician, doctors, health professionals</td>
<td>friends and family</td>
<td>information found on the internet</td>
<td>consumer organisations</td>
<td>environmental protection organisations</td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>90%</td>
<td>79%</td>
<td>35%</td>
<td>70%</td>
<td>61%</td>
<td></td>
</tr>
<tr>
<td>EU Mean</td>
<td><strong>87%</strong></td>
<td>85%</td>
<td><strong>42%</strong></td>
<td><strong>74%</strong></td>
<td><strong>70%</strong></td>
<td></td>
</tr>
<tr>
<td>France</td>
<td>92%</td>
<td>79%</td>
<td>29%</td>
<td>85%</td>
<td>76%</td>
<td></td>
</tr>
<tr>
<td>Germany</td>
<td>75%</td>
<td>82%</td>
<td>45%</td>
<td>81%</td>
<td>79%</td>
<td></td>
</tr>
<tr>
<td>Italy</td>
<td>75%</td>
<td>81%</td>
<td>44%</td>
<td>71%</td>
<td>69%</td>
<td></td>
</tr>
<tr>
<td>Latvia</td>
<td>76%</td>
<td>94%</td>
<td>38%</td>
<td>51%</td>
<td>57%</td>
<td></td>
</tr>
</tbody>
</table>
### Consider Sources Trustworthy for Food Production Information

<table>
<thead>
<tr>
<th>Source</th>
<th>Consideration Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Friends/Family</td>
<td>66%</td>
</tr>
<tr>
<td>USDA</td>
<td>59%</td>
</tr>
<tr>
<td>FDA</td>
<td>57%</td>
</tr>
<tr>
<td>Medical Community</td>
<td>57%</td>
</tr>
<tr>
<td>Farmers/Ranchers</td>
<td>53%</td>
</tr>
<tr>
<td>Academic Community</td>
<td>51%</td>
</tr>
<tr>
<td>Grocers/Food Retailers</td>
<td>32%</td>
</tr>
<tr>
<td>Mass Media/News Organizations</td>
<td>21%</td>
</tr>
<tr>
<td>Bloggers/Social Media</td>
<td>18%</td>
</tr>
<tr>
<td><strong>Food Companies/Manufacturers</strong></td>
<td><strong>17%</strong></td>
</tr>
<tr>
<td>TV Shows</td>
<td>13%</td>
</tr>
<tr>
<td>Animal Pharmaceutical Companies</td>
<td>10%</td>
</tr>
<tr>
<td>Politicians</td>
<td>8%</td>
</tr>
</tbody>
</table>
New Food Technologies (NFTs)

- NFTs are scientific and technological developments that may be adopted by industry to enhance the way food is produced or processed.

- They may or may not result in differentiated products for consumers.

- New technologies are not equally acceptable.

- The public are not homogenous in their evaluations of them.

- Appreciating the determinants of public evaluations of NFTs prior to product development and market commercialisation is necessary to guide food firms’ strategies and inform government policy.
Important Factors for Acceptance

- Initial evaluations (and thus attitudes) are generally negative and not stable.
- Technologies that are viewed as tampering with nature result in more emotional responses.
- People seek products with observable and unique benefits of significance and are cautious in the face of perceived risk/uncertainty.
- Consumer acceptance is an evolutionary views, rather than a revolutionary process.
Innovations in the food industry are often not well received by the market, partly due to a phenomenon known as neophobia, which is the rejection that some people present towards new or unfamiliar foods.
A psychometric tool was developed by Cox and Evans (2008) to identify neophobia in relation to food technology: Food Technology Neophobia Scale (FTNS).

This instrument was constructed to establish the acceptance limits of foods produced by new technologies, by identifying segments of the population that have greater or lesser neophobia.

The ability to determine groups that are willing to accept innovative food produced by new technologies can be helpful, especially when such foods provide benefits.

"Risk perceptions together with food safety are major determinants of consumer resistance to food technologies."

### Food Technology Neophobia Scale

Averages values and standard deviation (SD) of familiarity and willingness to try foods produced by different technologies.

<table>
<thead>
<tr>
<th>Technology</th>
<th>Familiarity</th>
<th>Willingness to try</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional</td>
<td>6.2 (1.3)(^a)</td>
<td>5.9 (1.5)(^{ab})</td>
</tr>
<tr>
<td>Pasteurisation</td>
<td>4.9 (2.1)(^b)</td>
<td>5.4 (1.7)(^b)</td>
</tr>
<tr>
<td>Organic</td>
<td>3.0 (2.1)(^c)</td>
<td>6.0 (3.6)(^a)</td>
</tr>
<tr>
<td>Genetic modification (GM)</td>
<td>2.0 (1.4)(^d)</td>
<td>3.6 (2.1)(^c)</td>
</tr>
<tr>
<td>Bioactives</td>
<td>3.2 (2.2)(^c)</td>
<td>5.7 (1.7)(^{ab})</td>
</tr>
<tr>
<td>Nanotechnology</td>
<td>1.9 (1.4)(^d)</td>
<td>3.9 (2.1)(^c)</td>
</tr>
</tbody>
</table>

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Lessons from Irish Survey Results

- Campaigns that incorporate improved convenience, naturalness, taste and benefit for the consumer could have a positive impact on consumers food choice, particularly when the message is concise and from trusted sources.

- Consumer acceptance is driven by risk perception rather than the technical risk estimates provided by experts.

- Women are more concerned, less positive, and likely to perceive fewer benefits of novel food technologies than men.
Role of Labels

Consumers' food purchase behavior is influenced by label information displayed on the product. However, consumers vary in their label knowledge, affecting their individual product quality perception. Enhanced label knowledge increases consumers' visual attention to labels with a possibility of translation into positive purchase behavior.

If you must explain you’re losing!!!
Terminology Important eg PEF

- ‘Micro pulse’ creates better associations than pulsed electric field.
- The terminology ‘minimally processed product’ used on the label induces negative feelings in the consumers and means that the product was not ‘well processed’

Innovation is a key driver of growth

- **Innovation** – the introduction of a new or significantly improved product (good or service), process, or method
- **Entails investment** aimed at producing new knowledge and using it in various applications
Innovation will be one of the keys to accelerating recovery and putting countries back on a path to sustainable – and smarter – growth.

Yet the crisis itself poses a number of serious risks and challenges to the innovation ecosystem.
Why innovate??

- **Quality**
  - Develop better products and services

- **Costs**
  - Develop products and services cheaper

- **Time**
  - Develop products and services faster

**Improve competitive position**

**Enhance profitability, strengthen stability**
Requirements for Innovation

- Strong infrastructures that support innovation including human capital and physical resources
- Public and private investment
- Linking mechanisms that help match supply and demand
- Scientific and technological platforms
- Well educated personnel
Innovation Ecosystem

The innovation ecosystem is a connection between the generation of knowledge and the application of that knowledge on a commercial basis.
Specific Issues in Food Innovation

- Food is perishable
- Part of a complex chain
- Seasonable
- Consumer awareness
- Fragmented industry
- Retailer dominance
- Don’t touch my food (highly regulated)
- Conservative industry
- Low absorption capacity and low research and development spend of food sector
- Food innovation is highly contextual
- Must meet a consumer demand
- Consumer and industry conservatism
Issues that Need to be Addressed

- Greater understanding of knowledge transfer is required between researchers and industry in order to commercialise research outcomes.
- Potential opportunities are not always recognised by either party.
- Researchers and industry have different agendas where research is concerned.
- For researchers, success is often regarded as producing publications and winning new grants, this does not necessarily incentivise them to focus on translating their research into business opportunities.
- Both are approaching research with two very different mandates requiring expectations to be managed.
- Extent of direct personal involvement (relational intensity).
- The relative importance of transfer channels varies.

“Capture latent value in stranded projects, and accelerate the path to market for innovation.”
Barriers to effective TT

- Lack of spend by companies
- Talent investment
- **Absorption capacity**
- **Assimilate and understand new information**
- Cost and risk of getting involved
- Lack of time
- Innovation before its time.
- Fragmented industry and research community
- **Lack of effectiveness of interactions with scientists**
- **Lack of market knowledge**
- Lack of senior management commitment
Key People and Supports Needed

- Researcher – fully committed, aware of technological opportunity and our strategy, customer friendly and focused, entrepreneurial skills
- Industry - fully committed, solution focused, appropriate absorption capacity
- TTO - fully supportive, coordinated, empathic, time conscious, IP identification and management, a conduit to bring funded projects to commercialization stage, clear process, use of ICT
Industry Perspectives

- Financial bottlenecks
- High risks
- Shortage access to skilled personnel
- Limited internal management
- Market knowledge
- Lack of IP rights
- Complex IP negotiations with PROs
## New look at TT Metrics

<table>
<thead>
<tr>
<th>Mechanism of Knowledge Transfer</th>
<th>Measures of Quantity</th>
<th>Measures of Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Networks</td>
<td># of people met at events which led to other Knowledge Transfer Activities</td>
<td>% of events held which led to other Knowledge Transfer Activities</td>
</tr>
<tr>
<td>Continuing Professional Development (CPD)</td>
<td>Income from courses, # of courses held, # people and companies that attend</td>
<td>% of repeat business, customer feedback</td>
</tr>
<tr>
<td>Consultancy</td>
<td># and value/income of contracts, % income relative to total research income, market share, # of client companies, length of client relationship</td>
<td>% of repeat business, customer feedback, quality of client company, importance of client relative to their company</td>
</tr>
<tr>
<td>Collaborative Research</td>
<td># and value/income of contracts, market share, % income relative to total research income, length of client relationship</td>
<td>% of repeat Business, customer feedback, # of products successfully created from the research</td>
</tr>
<tr>
<td>Contract Research</td>
<td># and value/income of contracts, market share, % income relative to total research income, length of client relationship</td>
<td>% of repeat Business, customer feedback, # of products successfully created from the research</td>
</tr>
<tr>
<td>Licensing</td>
<td># of licenses, income generated from licenses, # of products that arose from licenses</td>
<td>Customer feedback, quality of licensee company, % of licenses generating income</td>
</tr>
<tr>
<td>Spin-Outs</td>
<td># of spin-outs formed, revenues generated, external investment raised*, market value at exit (IPO or trade sale)</td>
<td>Survival rate, quality of investors, investor/customer satisfaction, growth rate</td>
</tr>
<tr>
<td>Teaching</td>
<td>Graduation rate of students, rate at which students get hired (in industry)</td>
<td>Student satisfaction (after subsequent employment), employer satisfaction of student</td>
</tr>
<tr>
<td>Other Measures</td>
<td>Physical Migration of Students to Industry, Publications as a Measure of Research Output</td>
<td></td>
</tr>
</tbody>
</table>

*external investment raised*: raise in value of company, not necessarily due to innovation
Teagasc Technology Transfer Channels

- IP Exploitation (patents, licenses, spin outs)
- Collaborative Research Agreements
- Contract Research
- Strategic Partnerships
- Training
- Services
- Pilot Plant Leasing
- Partnerships
- Workshops
- Demonstrations
- Placements (in-company or in Teagasc)
- New!! Food Innovation Hub
Overall objective

“To implement a systematic, effective and flexible technology transfer process which supports commercial exploitation of our research outputs and scientific capability through various channels”

Central proposition: every researchers’ responsibility
The Portfolio is updated on a six monthly basis and is re-issued before a Food Innovation Gateways event.

The feedback in relation to our Portfolio from companies is very positive.

Web based, hard copy, USB, DVD forms available.

The potential to develop an app and also to engage in more social media are being explored.
Teagasc Gateways Events

- Four themed events (2 per year)

Brexit Challenge
Brexit Technological Response

- Shelf life
- Add value
- Waste streams
- Implement new technologies
- Clean labels
- Lean
- Reformulation
- Diversification
- Food for life stages
- New product development
Customer Relationship Management (CRM)

- The purpose of CRM is to efficiently and effectively increase the acquisition and retention of important customers by selectively initiating, building and maintaining appropriate relationships with them.

- It allows us to:
  - Understand key customer groups
  - Define what customers need and value
  - Target customer groups
  - Tailor products and services for customers
  - Refine channel strategies
  - Measure customer activity in relation to marketing campaigns, new product introductions, etc.
FOOD WORKS
CREATING GLOBAL FOOD ENTREPRENEURS

Bord Bia
Irish Food Board

Enterprise Ireland
where innovation means business

Teagasc
Agriculture and Food Development Authority

FoodWorks
Ornua opens new €20m cheese plant in Saudi Arabia

As well as supplying Saudi, the facility will serve as hub for MidEast and North Africa region.

Eoin Burke Kennedy

Sunday Business Post

Ornua invests €20 million in Saudi Arabian cheese manufacturing facility

RTE News

Ornua opens €20m Cheese facility in Saudi Arabia
Teagasc Collaborating Universities in China

- Fujian Agriculture and Forestry University, China
- Fuzhou University, China
- Shanghai Ocean University, China
- Zhejiang University, China
- Zhejiang Gongshang University, China
- Northeast Agriculture University, China
- Jimei University, Xiamen, China
- Soochow University, China
- Wuhan University of Technology, China
- Jiangnan University, China
- China Agricultural University, China
- Taiwan Ocean University
Issues that Need to be Addressed

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Modern Technology Transfer Offices

Too much bureaucracy kills innovation
Pushing Research to Achieve Economic Impact

- Excellent Science
- Innovative Knowledge Transfer
- Value Creation
- Responsive Service
- Strong Government
- Institutional Support
- International Benchmarking
- Market-Focused Research
- Industry Led
- € Impact

Relationship Building
Conclusions

- Complexity in system – Gateways Portfolio, CRM
- People focused- trustworthy, measures and incentivises, leadership development
- Dialogue initiated- Gateway events, accessibility of resources, promote awareness and successes, shared vision, increase mobility including students
- The “Valley of death” – collaborate with industry
- TTO bureaucracy – need to deliver impact, pro-active, easier to do business with, translational metrics
- National innovation landscape- collaborate with other agencies
- Senior management support and buy-in
Teagasc Innovation Actions

- Develop an industry-based student exchange scheme to enhance the scientific absorption capacity of the food SME sector.
- Teagasc to develop proposals for a Food Innovation Hub to deliver a step change in innovation activity in the food industry.
- Teagasc will lead research in collaboration with other research institutions and industry to derive applications from the significant state investment in foods for health.
- Teagasc and the dairy industry to complete the €10 million upgrade of Moorepark Technology Limited pilot plant.
- Exploit potential of genomics to add value at farm level
- Establishment of the Meat Technology Centre
- Create a virtual multi-campus centre of excellence for seafood development in Ireland.
Executive Summary

Vision

We have built a strong research and innovation base in Ireland
We will become a Global Innovation Leader
We will increase public and private investment in research and development
We will enhance the impact of research and innovation for enterprise
We will ensure that education drives innovation
We will focus research and innovation activity on social and economic development
We will support Innovation through the protection and transfer of knowledge
We will engage with the rest of the world in becoming a Global Innovation Leader
We will effectively implement this strategy to become a Global Innovation Leader

EXCELLENCE TALENT IMPACT
Ireland’s strategy for research and development, science and technology
Innovation Serbia Project

€8.4 million, financed by the EU through Instrument for Pre-Accession Assistance (IPA) funds and administered by the WB

- **C1**: Capacity building of the Innovation Fund
- **C2**: Piloting financial programs supporting enterprise innovation
- **C3**: Provision of technical assistance to selected Research and Development Institutions (RDI)
Conclusions

Business needs to proactively engage with knowledge providers with capability

Knowledge providers need to make it easy / easier to do so.

Big drivers and trends make this more urgent

Research and development landscape can be exploited

Identification of business opportunities is critical

Increased technological absorption capacity by companies is essential

Sectoral opportunities needs to be articulated especially in the PCF sector, joint agency / industry effort needed
Conclusions

- Farmer, processor, retailer, consumers and scientists **communication must improve**
- **All players have a responsibility** to implement best practice based on good science
- It is our job to ensure that all players are aware of quality issues
- Degree of trust, collaboration, and interaction among players sharing a common knowledge base.
- Presence and quality of specialised education and training institutions supplying skilled human resources to work with and develop meat science.
- **Be a more proactive industry together**
- Develop a strategic partnership with the research world at senior management level of all players
Modern Approaches to Technology Transfer for SMEs

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