



Science and Innovation everywhere and for everyone

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New trends in Science

- Democratisation – internet, IT, etc.
- Blurring of boundaries between disciplines with exciting advances at the boundaries / intersections
- Fast pace of discovery and translation
- Blurring of basic / applied, curiosity driven / use inspired
- Prioritisation
- Scale
- Value for money
- Increased funding and accountability
- Need to solve pressing societal / economic challenges

Embedded Scholarship or ABC (**A**ppplied and **B**asic **C**ombined)

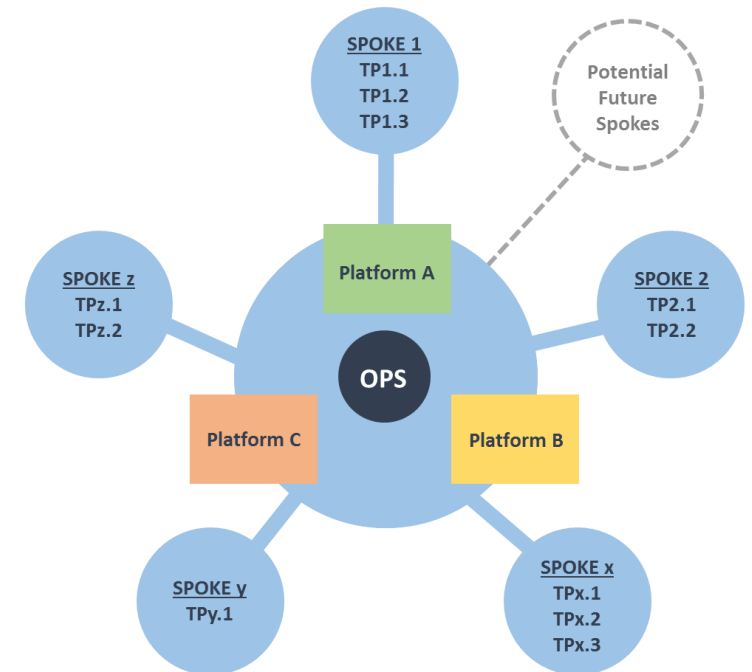
SFI Research Centres Programme

Key objectives:

- To develop a set of world-leading, large-scale research centres that will provide major economic impact for Ireland
- Achieve, maintain and enhance research excellence and leadership
- Increase the level of industrial and commercial investment in R&D activities with existing Ireland-based companies
- Attract large Foreign Direct Investments in corporate R&D centres
- Spin-out new, high-tech start-ups
- Leveraging of non-Exchequer funding

SFI Research Centres

- Largest ever state/industry co-funded research investment in Ireland
- €350m of new Exchequer funds from SFI for 12 World Class Research Centres over 6 years
- €190m co-investment by over 250 industry partners
- Supports key growth areas targeted in the NRPE and Action Plan for Jobs
- Targets research into major social challenges, including Health and Energy
- Directly supporting 1300 top-class researcher positions



SFI Research Centres

Phase 1 (2012)

7 Centres 2013-2019



Advanced Materials and BioEngineering



Alimentary Pharmabiotic Centre



Centre for Fetal & Neonatal Translational Research



Centre for Data Analytics



Irish Photonic Integration Research Centre



Marine and Renewable Energy Ireland



Synthesis & Solid State Pharmaceutical Centre

Software
Pharma
Nanotechnology
MEDICAL DEVICES
Applied Geosciences
Digital Content
Industry commitment of €190 million
€355 million from SFI
Telecommunications
PERINATAL Energy RESEARCH
Nano Materials
Functional Foods
FOOD FOR HEALTH
BIG DATA
Marine Renewable Energy

Phase 2 (2013)

5 Centres 2015-2021



Centre for Global Digital Content and Engagement



Future Networks and Communications



Centre for Research in Medical Devices



Irish Centre for Research in Applied Geosciences



Irish Software Research Centre

2016 Call Open – Full Proposal Deadline wk 1 November 2016

SFI Research Centres – KPI Performance

For the combined 12 Centres over a 30 month period

		Target	Result	
Academic	Journal Publications	1,220	2,278	✓✓✓
	Conference Publications	1,044	1,312	✓
Human capital	MSc/MEng Graduates	37	33	🏆
	PhD Graduates	61	158	✓✓✓
	% Trainee departures with industry as first destination	23.9%	26.2%	✓
Europe	Participations in major EU initiatives	108	91	🏆
	Coordinations in major EU initiatives	36	33	🏆
	ERC awards granted	11	16	✓✓
	Funding from non-exchequer, non commercial sources	€66,914,397	€79,880,758	✓✓
Industry co-fund	Cash in Bank (Minimum Target)	€12,843,099	€15,334,501	✓
	% Industry cost share (cash)	10.0%	11.9%	✓
	% Industry cost share (Total)	30.0%	24.0%	🏆
Entrepreneurial	EI commercialisation awards	78	197	✓✓✓
	Licence agreements	34	68	✓✓
	Spin out companies formed	7	11	✓✓

SFI Research Centres – ERC ‘hotbeds’

12 SFI Research Centres

- Large scale, globally-competitive, centres of research excellence in strategically important areas
- Investment of over **€350M** from SFI, co-funded by industry partners **€190M**

KPIs monitored includes ERC performance

Success

- **6/12 Centres**
- **18 researchers**
- **29 awards**



Centre	ERC awardees
<i>AMBER</i>	Prof Jonathan Coleman (StG 2010, AdG 2015, PoC 2011); Prof John Boland (AdG 2012); Prof Valeria Nicolosi (StG 2011, CoG 2015, PoC 2013, 2014 & 2016); Prof Wolfgang Schmitt (CoG 2014); Prof Daniel Kelly (StG 2010, CoG 2014); Prof Fergal O’Brien (StG 2009, PoC 2014); Prof Stefano Sanvito (StG 2012); Dr David Hoey (StG 2013); Dr Aidan McDonald (StG 2015)
<i>CÚRAM</i>	Prof Madeleine Lowery (CoG 2014); Prof Laoise McNamara (StG 2010); Prof Martin O’Donnell (StG 2014); Dr Martin O’Halloran (StG 2014)
<i>iCRAG</i>	Dr Maria McNamara (StG 2014)
<i>LERO</i>	Prof Bashar Nuseibeh (AdG 2012, PoC 2015)
<i>MaREI</i>	Prof Frederic Dias (AdG 2011)
<i>SSPC</i>	Prof Stephen Connon (StG 2007); Prof Martin Albrecht (StG 2007, CoG 2013, PoC 2012)

Innovation 2020



Challenge Based Funding

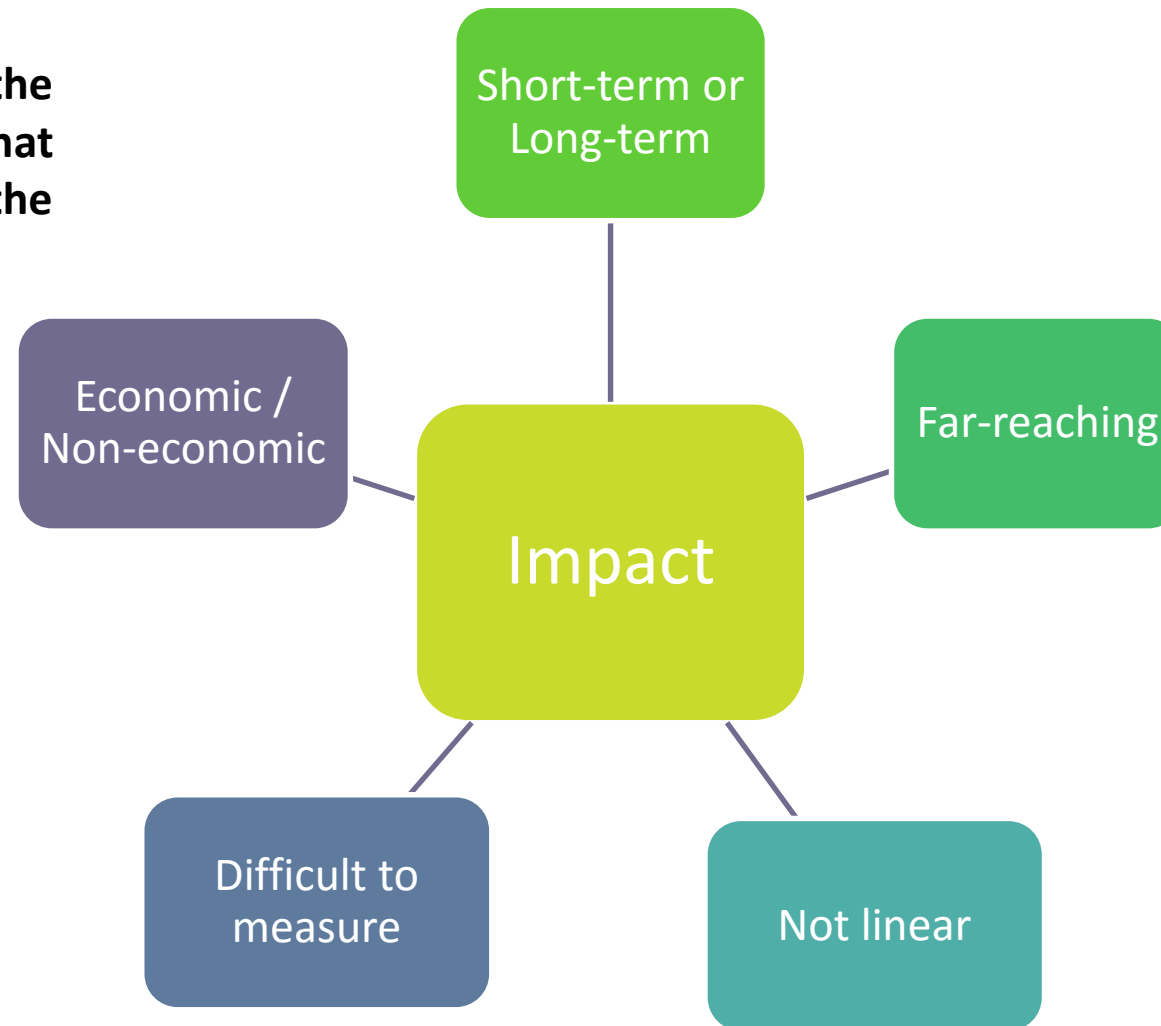
Seeking Insights & Ideas from Different Places



From Nesta

What is Impact?

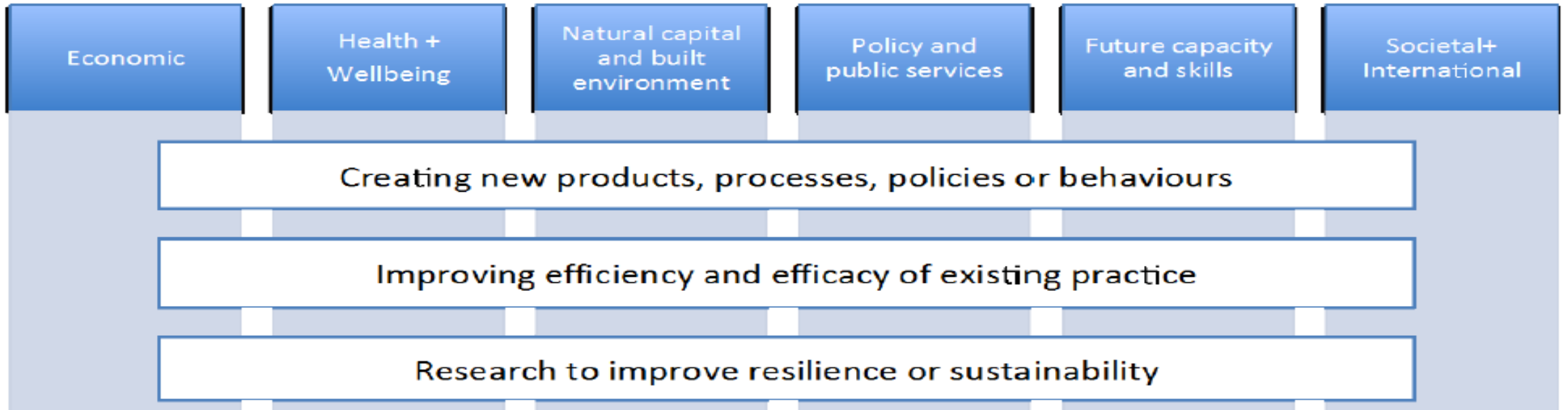
Impact can be described as “**the demonstrable contribution that excellent research makes to the economy and society**”.



Small Advanced Economies Initiative

- Collaboration of seven advanced economies of similar scale population:
Ireland, New Zealand, Finland, Israel, Denmark, Singapore, later joined by Switzerland.
- *“Broadening the Scope of Impact: Defining, assessing and measuring impact of major public research programmes, with lessons from 6 small advanced economies” (2015)*

6 Pillars of Impact and 3 Cross Cutting Themes



From Inputs to Impact...



Inputs

Funding/Support
Infrastructure
People



Activities

Awards granted
Teams established
Research undertaken
Education



Outputs

Publications
Networks
Conferences
Pre-Commercial
Outputs
Funding
diversification
Events



Outcomes

Research capacity/leaders
Research
quality/productivity
Sustainability
Recruitment of
researchers
Industry more
competitive



Impact

Increase RTDI capacity
Established international STI
profile
Transformational change in
industry e.g. new or
improved product/process
Improved international
competitiveness
Increased employment and
economic growth
New or improved public
policy
Improved health outcome
Reduced environmental
pollution
Introduction of new or
improved service

Though not necessarily linear!

Ex-Ante Evaluation of Impact

- Impact Statements in Applications for Funding
- Researchers asked to articulate the value of their research to Ireland
 - Encourages researchers to think about how to maximise impact and how to engage users of their research
- Detailed guidelines provided
 - Plain English
 - How will you engage users / beneficiaries of your research
 - Implementation plan
 - Milestones / deliverables
 - What does a good / poor impact statement look like?

International Peer Review: Impact Review Criterion

- The **impact review criterion** is:
 - *Quality, credibility and relevance of the impact statement, including the likelihood, scale and value of societal and economic effects on Ireland as a result of the proposed research.*
- The impact statement should answer the following questions
 - **Who** will benefit from this research?
 - **What plans** will you put in place to **increase the chances of economic and societal impacts** from the proposed research?
 - Over what **timeframe** might the benefits from your research be realised?

How assess Impact?

Review

- (i) Scientific peer review using only distinguished international scientists for excellence of scientific research

Only scientifically excellent projects shortlisted. Then:

- (ii) International review and ranking of scientifically excellent projects by impact using a separate impact panel consisting of:
Company R&D Directors, Heads of Translational Institutes,
Senior Technology Transfer Professionals, Investors in
scientific / technology early stage companies.

Excellence is required but not sufficient

Annual Reporting

- Quantitative and Qualitative
- Key Outputs imported from annual research outputs survey, with additional narrative
- Impact Declarations – 10 statements to rank up to 5, with further commentary required.
- Sample statements:
 - The research conducted through my award has attracted developing and nurturing businesses, through for example, the licensing of technologies [*Economic and Commercial*]
 - The research conducted through my award has attracted international scientists and talented people [*Human Capacity; International Engagement*]
- Researchers expected to reference any outputs that show progress on the pathway to impact.
- Option to declare that no impact has yet been realised.
- All impact statements relate back to the 8 pillars of the Impact Framework
- Impact Tracker for development of case studies



Thank You