

Excellence & Impact : Scientific Research Programmes from Science Foundation Ireland

TILDA Conference – Tuesday 10th November 2015

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& Chief Scientific Adviser to the Government of Ireland



About SFI



Founded in
2000

Officially
established in
2003

€2.3bn

Commitment

by SFI since
2001 in

4,200
awards

As at 30th June 2015

752 Active Awards

with future commitments totaling

€447m

SFI Position in the Landscape



Department of Jobs, Enterprise & Innovation



Supporting Research and Innovation for the Future



Supporting Indigenous Irish Companies



Supporting Multinational Companies in Ireland

RDI Funding Spectrum

0. Idea	2. Technology formulation	4. Small scale prototype	6. Prototype system	8. First of a kind commercial system
1. Basic research	3. Applied research	5. Large scale prototype	7. Demonstration system	9. Full commercial application

SFI

EI

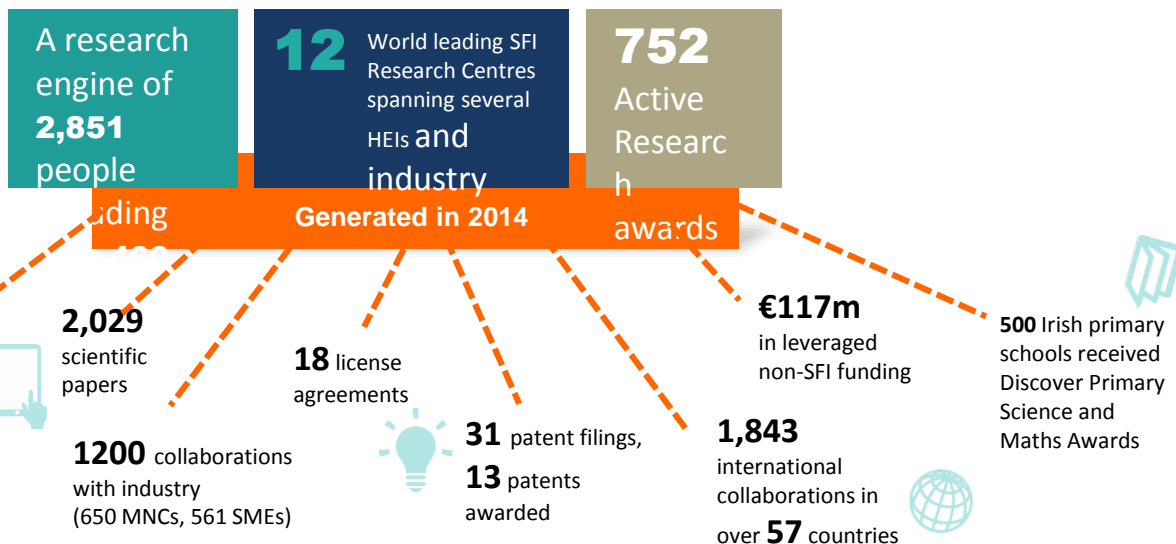
IDA

What SFI Actually Does



- Makes **grants** to Higher Education Institutes (HEIs) in Ireland
- Based on competitive, international merit review for scientific **excellence** and **impact**
- Trains **people**
- Builds **infrastructure**
- Produces **scientific results** and technology (Research Output)
- Transfer of the **Research Output** to existing and new companies for **economic and societal impact**
- Supply of appropriately trained people along the entire **science and technology pipeline**
- Significant industrial **collaboration** attracting, anchoring and starting companies
- **Leverages** other research funding e.g. Industrial / EU / Charitable / Philanthropic / International
- Fosters high levels of **collaboration** between academia, industry, charity, disciplines, sectors, institutions, people and countries
- Operates in an **open, agile** and **engaged** mode with a willingness to **seize** new opportunities

What SFI investment delivers -



SFI Strategic Plan: Agenda 2020

Excellence and Impact



1 To be the **Best** science funding agency in the world at creating **impact** from **excellent** research and demonstrating clear value for money invested

2 To be the exemplar in **building partnerships** that **fund excellent science** and drive it out into the market and society



3 To have the most engaged and **scientifically informed public**

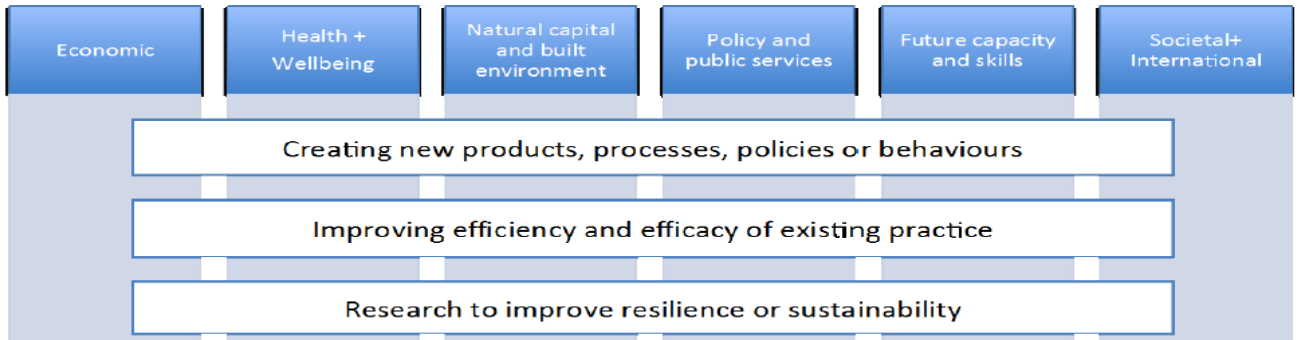
4 To represent the **ideal modern public service organisation**, staffed in a lean and flexible manner, with efficient and effective management.



What is Impact?

The demonstrable effect that
excellent research makes to
society and the economy

6 Pillars of Impact and 3 Cross Cutting Themes



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



- **ADAPT** – Centre for Digital Content Platform Research
- **AMBER** – Advanced Materials and BioEngineering Research Centre
- **APC** – Alimentary Pharmabiotic Centre
- **CONNECT** – Future Broadband, Cellular and Internet of Things networks
- **CÚRAM** – Centre for Research in Medical Devices
- **iCRAG** – Irish Centre for Research in Applied Geosciences
- **INFANT** – Irish Centre for Fetal and Neonatal Translational Research
- **INSIGHT** – Centre for Data Analytics
- **IPIC** – Irish Photonic Integration Research Centre
- **LERO** – Irish Software Research Centre
- **MaREI** – Marine Renewable Energy Ireland
- **SSPC** – Synthesis & Solid State Pharmaceutical Centre

7x 2013 Research Centres

Cumulative (24 months from June 2013 – June 2015)



KPI	Target	Result
Journal Publications	760.5	1,460
Conference Publications	507.5	709
MSc/MEng Graduates	20.5	22
PhD Graduates	29	87
% Trainee departures with industry as first destination	18.80%	20.00%
Participations in major EU initiatives	52	70
Coordination in major EU initiatives	16	19
ERC awards granted	6	8
Funding non-exchequer, non commercial sources	€40,100,000	€47,225,397
Cash in Bank (Minimum Target)	€8,061,615	€9,380,063
% Industry cost share (cash)	10.00%	11.60%
% Industry cost share (Total)	30.00%	24.40%
EI commercialisation awards	45	122
Licence agreements	16	56
Spin out companies formed	2.5	7

Academic

Human capital

Europe

Industry co-fund

Entrepreneurial

5x 2014 Research Centres

KPIs	Lifetime Target
Journal Publications	1,741
Conference Publications	2,611
MSc/MEng Graduates	167
PhD Graduates	505
% Trainee departures with industry as first destination	49.70%
Participations in major EU initiatives	122
Coordination in major EU initiatives	61
ERC awards granted	18
Funding from non-exchequer, non commercial sources	€100,900,000
Cash in Bank (Minimum Target)	€17,048,797
% Industry cost share (cash)	10.00%
% Industry cost share (Total)	30.00%
EI commercialisation awards	127
Licence agreements	120
Spin out companies formed	39

SFI Programmes for Industry

SFI Research Centres

- World leading, large scale Centres with major economic impact for Ireland
- Funding of between €1m and €10m per year in direct costs over six years
- SFI funds up to 70%. Minimum 30% industry investment at least one third of which must be cash
- Twelve Research Centres already funded representing €335m Exchequer funding and €190m industry investment by over 200 partners

SFI Research Centres Spokes

- Opportunity to become a new Industry or Academic Partner of an existing Centre
- Allows existing Centres to grow and evolve
- Fixed call: competitive assessment, 30% industry contribution
- Rolling call: proposals assessed on own merits, 50% industry cash contribution
- Minimum project size €400k, no maximum award size

Programmes for Industry

SFI Industry Fellowship

Personnel Exchange



SFI Partnerships

Collaborative research
projects of scale



SFI Research Centres

Supports large scale Research
Centres in areas of economic
importance

SFI Spokes

Supports growth of Research
Centres

Industry Fellowship

- Funds salary, travel and subsistence of an academic researcher to spend up to one year full time or two years part time in any industry, anywhere in the world
- Funds travel and subsistence of Industry personnel to spend up to one year full time or two years part time in academia in Ireland
- No limit on the number of Fellows in any company
- Open to all companies : International
- No requirement for academic Fellow to return to the Research Body
- Up to max of €120k per Fellowship
- Open rolling call with defined evaluation times

SFI Partnerships

- Flexible Mechanism to support ambitious research projects of scale between industry and academia
- SFI matches the investment by industry
- (i) Competitive Joint Funding Partnership Programme:
SFI-Industry co-funded, competitive call to research community for proposals
- (ii) Strategic Partnerships: proposal submitted to SFI jointly by academic researcher and company following an EoI stage

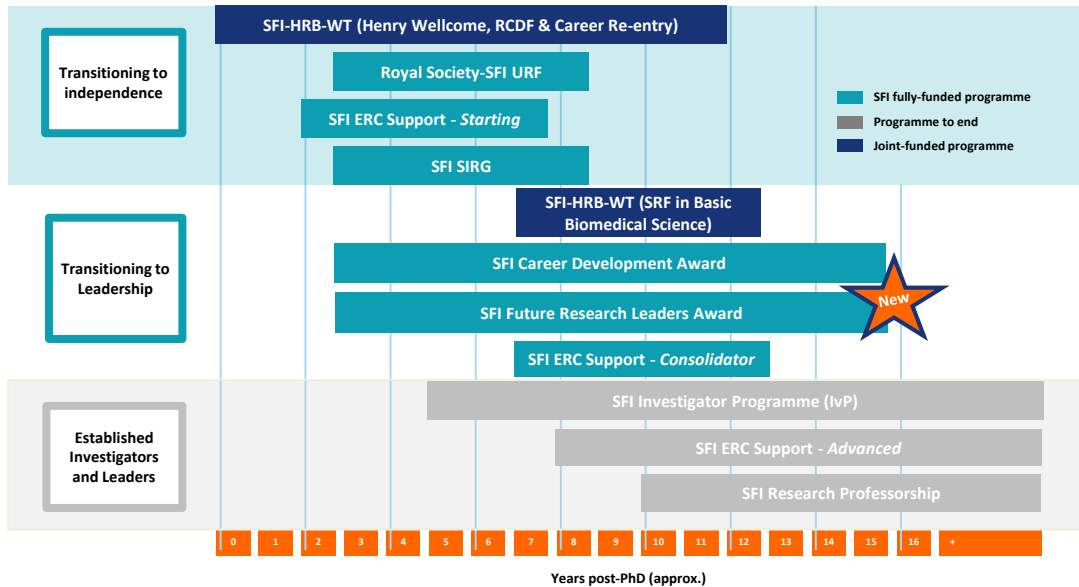
Research Professorships

- SFI Research Professorship Programme assists research bodies in the recruitment of world-leading researchers for Professorial Chairs, or similar research leadership positions in targeted scientific areas
- €5m laboratory set-up costs over 5 years
- The programme may also act as a mechanism to support the recruitment of individuals who possess a strong industry background
- The Targeted Research Professorship Programme seeks to build capacity in key areas of economic importance
- One of the objectives of the RP Programme is to enable partnership funding with industry
- Applicants are specifically asked how their research could impact on the development of the Irish economy, competitiveness and development

TIDA

- Opportunity for researchers to focus on the first steps of commercialisation
- Demonstrates the commercial feasibility of innovative ideas/techniques/technologies for further commercialisation
- Awardees engage in 'commercialisation training' (DCU Ryan Academy)
- Typical projects are at a pre-Enterprise Ireland Commercialisation Fund stage
- One fixed call per year, funding of up to €100k per project

Researcher Career Development



SFI Programme Groups



RECRUITMENT

- SFI President of Ireland Young Researcher Award
- SFI Research Professorship Scheme / SFI Targeted Research Professorship
- SFI Starting Investigator Research Grant
- ERC Development Programme
- ERC Support Scheme
- SFI Fellowship Programme

EARLY and MID-CAREER RESEARCHERS

- SFI President of Ireland Young Researcher Award
- SFI Starting Investigator Research Grant
- SFI Career Development Award
- SFI-Royal Society University Research Fellowship Scheme
- ERC Development Programme
- ERC Support Scheme
- Employment Based PhD Programme (IRC)
- SFI Science Policy PhD Fellowship Programme
- SFI STEM PhD Programme
- SFI-NSF-Graduate Research Opportunities Worldwide (GROW)
- Wellcome Trust Schemes
- SFI Fellowship Programme

OUTSTANDING INDIVIDUALS

- SFI Investigators Programme
- SFI Research Professorship Scheme / SFI Targeted Research Professorship
- SFI President of Ireland Young Researcher Award
- SFI-HRB-Wellcome Trust Biomedical Research Partnership
- ERC Development Programme
- ERC Support Scheme

SFI International Programmes



INTERNATIONAL

- US-Ireland R&D Partnership Programme
- SFI Industry Fellowship
- SFI Partnerships
- SFI Investigators Programme (IvP) joint with N.I. (and likely BBSRC (UK) and NNSF (China))
- SFI-NSF-Graduate Research Opportunities Worldwide (GROW)
- SFI St. Patrick's Day Science Medal
- SFI Conferences and Workshops
- International Strategic Cooperation Award (ISCA)

SFI-HRB-Wellcome Trust Partnership

Three awards made in Ireland in 2015

- Brian McStay (NUIG) – Investigator Award
- Dermot Cox (RCSI) – Seed Award
- Dervla O’Malley (UCC) – Seed Award



Partnership renewed for 5 more years & extended to include new schemes:

- Collaborative Awards
- Seed Awards
- WT Centres

WT visits to Dublin and Galway in March 2015



SFI Targeted Research Professorship Call

- Award to be announced shortly in area of Advanced Manufacturing
- ~15 applications under review in areas including:
 - Medical Devices, Manufacturing, Immunology, Digital Platforms, Biomedical Engineering, Energy, Agri-Food
- Open for applications under the rolling call



Attention all Eminent Researchers – Ireland seeks World-Class Research Talent

The SFI Targeted Research Professorship Programme 2014 will provide competitive research funding from SFI of up to €5 million (\$6.7 million) in direct costs, salary and physical accommodation will be provided by the universities.



SFI-BBSRC Joint Funding



- BBSRC Responsive Mode programme open to joint UK-Ireland collaborative proposals
- Covers BBSRC and SFI remit
- A single collaborative application submitted and assessed; BBSRC the lead agency
- If successful, BBSRC pays UK costs and SFI pays Irish costs (BBSRC and SFI award contracts)
- Maximum SFI award of €500k
- Three deadlines annually (Jan, April, Sep); next deadline 4pm 13th January 2016
- <http://www.sfi.ie/funding/funding-calls/open-calls/bbsrc.html>
- BBSRC visits to Dublin in October 2015



US Ireland Partnership

- To date, **25 successfully-funded projects** in:
 - Sensors (**5**), Nanotechnology (**8**), Health (**4**), Telecommunications (**2**) Energy & Sustainability (**6**)
 - Investment across 3 jurisdictions: **approx. €40M**
 - **90 investigators** from 8 Research Bodies in Ireland, 2 Northern Ireland universities & 28 US institutions
 - Training (NI and RoI): 60 Postdocs, 57 PhD and MSc students, 11 Research assistants/technical posts
- **2015 awards**
 - 6 awards to date
 - 2 in Nanotechnology & 1 in each other thematic area
- Two Centre-to-Centre Partnership awards to be announced shortly between SFI Research Centres and NSF Engineering Research Centres (ERC) and partners in NI



Thank you

www.sfi.ie

