Danish Enterprise and Construction Authority

Business Symposium

Open Innovation in Global Networks

25 / 26 February 2008 - Copenhagen
Ireland – Policy Framework

Science Foundation Ireland (SFI) Vision 2004 - 2008

People, Ideas and Partnerships for a Globally Competitive Irish Research System
Ireland by 2013 will be internationally renowned for the excellence of its research and will be to the forefront in generating and using new knowledge for economic and social progress within an innovation driven culture.

- Competing in a highly competitive global market
- Earning a living in the knowledge economy
- Growing quality employment and productivity
- To give us high standards of living and services
- International profile for Ireland as a location for carrying out world class research
SSTI Focus

• Build a world class research system
• Increase transnational research activity
• Capture protect and commercialise ideas and know-how
• Drive growth through research and innovation in enterprise
• Ensure sound foundations in education
• Using focused research / knowledge to advantage across sectors - enterprise, health, agriculture, marine, energy, environment, geoscience
Government Strategy: SSTI and Role of SFI

- Move Ireland up value chain: research- and innovation-driven economy
- Attract, Grow R&D activities within Ireland
- Broaden the activities of MNCs within Ireland
- Be supportive of indigenous SMEs, start-ups
- Under the SSTI and the National Development Plan 2007 - 2013, the Government has committed €8.2 billion to scientific research

SFI is a key component in this strategy
- build research excellence & and human capital (# PhD’s x 2 by 2013!)
- foster academic-industry collaboration
SFI - A Few Facts and Figures

• Year of establishment: 2000

• Funded through Department (Ministry) of Enterprise, Trade and Employment

• Sister agencies: IDA Ireland, Enterprise Ireland, FORFAS

• SFI Divisions:
  • Life Sciences
  • Information Communication and Emergent Technologies

• Number of Employees: 43 (16 with PhD)

• Annual Research Budget: €172m (2008)

• Total Funding Commitment to date: >€1 Billion
Science Foundation Ireland

VISION:
• Through strategic investments in the people, ideas and partnerships essential to outstanding research in strategic areas, Science Foundation Ireland will help build in Ireland research of globally recognised excellence and nationally significant economic importance.

MISSION:
• SFI will build and strengthen scientific and engineering research and its infrastructure in the areas of greatest strategic value to Ireland’s long-term competitiveness and development.
Inverted Value Pyramid Model

Highest Quality Research

Highest Value Industry
Frontiers (academic) Research & Economic Output: Cause, Pause & Effect

Time

Output

research of…
globally recognised excellence

academic

research of…
nationally significant economic importance

economic
From Brains to Business

SFI Confidential

Technology Transfer

IDA

EI

SFI

Return €€€ €€€ €€€

Tech Transfer

HEIs

investment €€€

SFI Confidential
Team Ireland

IDA Ireland
SFI is not working in isolation

Active engagement of SFI with

SFI Confidential
A more detailed look at the SSTI Challenge

SFI Lifecycle: start-up, expansion, & steady state

Key message: we are transitioning to a new phase. The approach to expansion is different to start up.
SFI approach

- ‘Brains to Business’
- Research with consequences
- Research for Ireland’s future

SSTI – Building A World Class Research System
SFI Imperatives

• Build top quality R&D teams

• Attract and build industrial research

• Build on tradition of entrepreneurship

• Create culture of partnership – National and International
  • Inter-university
  • University-industry

Maintain momentum of economic growth
Funding Criteria

- Global / International Call for Proposals
- Funding available to independent researchers based at Irish Higher Education Institutes
- Research priorities mainly in BIO and ICT
- Competitive research proposals
- Quality/Excellence – International Peer Review
- Strategically important to Ireland
Industry / Academic Programmes

Suite of ‘industry-facing’ programmes now developed;

- **Smaller Scale; Single company – single Principal Investigator (PI)**
  - **PI Industrial Supplement Programme** – first awards 2004
  - €50k /year to supplement main project activity

- **Medium Scale; 2+ companies – 2+ PI’s**
  - **Strategic Research Clusters Programme** – first awards 2007
  - €1.5M /year programme (+ industry cost share in yrs 4&5)
  - 2+ academic groups clustering with industry partners in focused research project

- **Large Scale; Multiple Companies – multiple PI’s**
  - **CSET Programme** – first awards 2003
  - Large scale centres programme requiring significant industry commitment from inception
  - Up to €5M/ year + 25% industry cost-share (requirement)

- **In addition, Industry collaborations develop organically across all programmes**
What is an SFI CSET?

• Centre of scientific/engineering excellence
  • Whole is greater than sum of the parts

• Competitive on a worldwide basis
  • potential to be the best in the world
  • “edge” – unique feature(s) distinguishing centre from int’l competition

• Importance of Director
  • Intellectual leader and driver of scientific activities
  • Demonstrated ability/potential to lead major campus-industry centre

• Industrial partnerships
  • Intellectually engaged and committed industrial partners

• Value to Ireland
  • Strategic impact on Ireland (e.g. potential economic impact via partnerships with industry in Ireland, etc)

• Truly national centre
  • Appropriate optimization of talent in small country
SFI CSET Definition and Objectives

- SFI CSETs – large scale academic/industry research centres
- Up to €25M over 5 yrs with opportunity to extend
- Industry cost-share of 25% (of SFI direct costs) required from inception

- SFI CSETs require outstanding research quality, intellectual breadth, active collaboration, flexibility in responding to new research opportunities, and integration of research and education in fields that SFI supports.
- 8 SFI CSETs funded to date (5 ICT & 3 BioT)
What is a Strategic Research Cluster?

SFI Strategic Research Clusters (SRC’s) will:

• help link outstanding research scientists and engineers in partnerships across academia and industry,

• address crucial research questions,

• foster the development of new and existing Irish-based technology companies,

• provide time and resources to attract and cultivate strong campus-industry partnerships that can inform and enhance research programmes,

• make an important contribution to Ireland and its economy.

<table>
<thead>
<tr>
<th>Program</th>
<th>PI Program</th>
<th>Typically 1 Investigator</th>
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<tbody>
<tr>
<td>SRC;</td>
<td>2+ Investigators + industry partner(s)</td>
<td></td>
</tr>
<tr>
<td>CSET:</td>
<td>Multiple Investigators + industry partner(s)</td>
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</tbody>
</table>
SRC- Strategic Research Clusters

- Up to €7.5M over 5 years of funding available (3 + 2)
- 2+ senior researchers, 1+ company; Cost-share (25%) required in yrs 4 and 5
- SRC’s are expected to grow over time

- 12 projects funded in 2007
- Approx 490 highly skilled personnel including senior PIs, Post docs and PhD Students
- Extensive academic collaboration with an average of > 3 HEIs per cluster
- 48 companies engaged in projects, again both Irish SMEs and MNCs
### SFI CSET and PI Industry Collaborations

![Graph showing interactions over years]

#### Total PI and CSET awardees Collaboration with Industry

<table>
<thead>
<tr>
<th></th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
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<tr>
<td>Indigenous Irish</td>
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<td>24</td>
<td>46</td>
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<td>MNC Irish Base – Irish Collaboration</td>
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<td>17</td>
<td>60</td>
<td>65</td>
<td>73</td>
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<tr>
<td>MNC Irish Base – Overseas Collaboration</td>
<td>0</td>
<td>6</td>
<td>12</td>
<td>36</td>
<td>29</td>
</tr>
<tr>
<td>Overseas Collaboration</td>
<td>3</td>
<td>14</td>
<td>68</td>
<td>80</td>
<td>89</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>7</strong></td>
<td><strong>61</strong></td>
<td><strong>186</strong></td>
<td><strong>231</strong></td>
<td><strong>264</strong></td>
</tr>
</tbody>
</table>
Who we work with via CSETs/SRCs:
International Collaborations

- International Scientific Cooperation Agreements with India and China.
- SFI International Partnership Supplement
- US / Ireland R&D Partnership
SFI – Is it working?

- Increase in quality/quantity in human capital
- Increased international visibility through programmes
- Increased industry collaboration (CSETS/SRC/PIs)
- Coordinated Inter Agency implementation
- Strategic plan in place and operational
- Industry focus; Internal reorganisation in place, planning & strategy implementation
- Increased emphasis on visibility by Stakeholders, i.e., society, industry, scientists, HEIs
SFI Stakeholders

Researchers

State Agencies

International

Business Community

HEIs

Industry

DETE

Public

Government/Politicians

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