Stimulating Knowledge Transfer

OECD Workshop

8 Nov’17

José Carlos Caldeira
ANI - President
jcaldeira@ani.pt
FOREWORD - KNOWLEDGE & COLLABORATIVE INNOVATION:
At the heart of ANI Mission

Better Collaboration Between Business and Academia

Source: adapted from www.innovationpolicyplatform and avalancheinfographics.com
CHALLENGES AND OPPORTUNITIES
Critical Success Factors

KEY ENABLING TECHNOLOGIES: A VALUE CHAIN PYRAMID

Stimulating Knowledge Transfer
CHALLENGES AND OPPORTUNITIES
Critical Success Factors

KEY ENABLING TECHNOLOGIES: A VALUE CHAIN PYRAMID

CROSS FERTILIZATION
OPEN INNOVATION
N/R FUNDING

- research results
- production technology producer
- production company (end-user)
KNOWLEDGE & COLLABORATIVE INNOVATION: Challenges towards the 2020 milestone

RDI Ecosystem - Flow of Knowledge (and People)

LARGE COMPANIES
MID SIZE TECH. COMPANIES

MID SIZE COMPANIES
SMALL TECH COMPANIES

MICRO AND SMALL SIZE COMPANIES

DIFERENTIATION
OF INTERFACE SERVICES AND RELATED LEVEL OF SOFISTICATION

UNIVERSITIES
RESEARCH UNITS

INTERFACE
ORGANIZATIONS

ENGINEERING CENTERS

SECTORIAL TECH. CENTERS

INCUBATORS
SCIENCE PARKS

Stimulating Knowledge Transfer
KNOWLEDGE & COLLABORATIVE INNOVATION: Challenges towards the 2020 milestone

RDI Ecosystem - Flow of Knowledge (and People)

- LARGE COMPANIES
- MID SIZE COMPANIES
- MICRO AND SMALL SIZE COMPANIES
- UNIVERSITY RESEARCH UNITS
- INTERFACE ORGANIZATIONS
- ENGINEERING CENTERS
- SECTORIAL TECH. CENTERS
- INCUBATORS SCIENCE PARKS

Stimulating Knowledge Transfer
FUNDING AND FINANCING

INCREASE OF TECHNOLOGY DEVELOPMENT SPEED AND DIVERSIFICATION + PRODUCT AND SERVICE LIFECYCLE REDUCTION = HIGHER PRESSURE FOR R&D&I INVESTMENT (volume and ROI)

• Need to take advantage of all funding opportunities (international, national and regional)

• Need to combine and integrate complementary funding sources to cover the entire innovation cycle (different rules, time windows, etc.)

• One of the main challenges at European level
KNOWLEDGE & COLLABORATIVE INNOVATION:
Opportunities towards the 2020 milestone
Integrated approach to the R&I cycle

- Fundamental R&D
  - SAICT

- Applied R&D
  - SI Empresas - I&D
  - SIFIDE
  - SI Empresas - Inovação Empresarial
  - SI Empresas - Qualificação e Internacionalização

- Tech. Dev.
  - Marie Curie
  - ERC
  - FET
  - Research & Innovation projects
  - Innovation projects
  - SME Instrument
  - FastTrack to Innovation
  - Eurostars II

- Market
  - EIB

STIMULATING KNOWLEDGE TRANSFER
KNOWLEDGE & COLLABORATIVE INNOVATION:
Opportunities towards the 2020 milestone
Integrated approach to the R&I cycle

Development of a Highly Flexible Logistic System for Customized Products

IPP Pilot Plant
Shoe Sector
Vigevano – Italy
Funded by National Funds

Cross Fertilization
Metalworking Sector (Company)
Demonstrator
Porto – Portugal
Funded with Structural Funds

Stimulating Knowledge Transfer
KNOWLEDGE & COLLABORATIVE INNOVATION: Opportunities towards the 2020 milestone
Integrated approach to the R&I cycle

MICROGRIDS (EU Project)
KNOWLEDGE & COLLABORATIVE INNOVATION: Opportunities towards the 2020 milestone
Integrated approach to the R&I cycle

National Project (Pilot > 33,000 consumers)
ANI: Value creating integrative approach to the R&I cycle

incentives | services
financial/tax - internationalization - support
## KNOWLEDGE & COLLABORATIVE INNOVATION: Challenges towards the 2020 milestone

**PT2020 FUNDING INSTRUMENTS (2014-2020)**

<table>
<thead>
<tr>
<th>Incentive Systems for companies (Areas)</th>
<th>Project Typologies</th>
<th>Contract</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Research and Technological Development (R&amp;TD)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Companies – R&amp;TD</td>
<td>Consortium/Individual</td>
</tr>
<tr>
<td></td>
<td>Pilots and Demonstrators (<strong>new</strong>)</td>
<td>Consortium/Individual</td>
</tr>
<tr>
<td></td>
<td>Large scale mobilizing projects</td>
<td><strong>Consortium</strong></td>
</tr>
<tr>
<td></td>
<td>R&amp;TD Teams in enterprises (<strong>new</strong>)</td>
<td>Consortium/Individual</td>
</tr>
<tr>
<td></td>
<td>Protection of intellectual and industrial property (<strong>new</strong>)</td>
<td>Consortium/Individual</td>
</tr>
<tr>
<td></td>
<td>R&amp;TD Internationalisation (<strong>new</strong>)</td>
<td>Consortium/Individual</td>
</tr>
<tr>
<td></td>
<td>R&amp;TD Voucher</td>
<td>Individual</td>
</tr>
<tr>
<td><strong>Entrepreneurship and Business Innovation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Productive innovation for non-PME's</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Productive innovation for PME's</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Qualified and creative Entrepreneurship</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Entrepreneurship Voucher</td>
<td></td>
</tr>
<tr>
<td><strong>Qualification and Internationalisation of SMEs</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Internationalisation of SMEs</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Qualification of SMEs</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Internationalisation and Innovation Vouchers</td>
<td></td>
</tr>
</tbody>
</table>
Technological Interface Centers (CIT)

- Mapping of national technological infrastructures
- New dedicated funding programme under development:

**Pillar A**
- Capacity building to CITs – infrastructure and activities
- **A1** - Creation, strengthening and/or strategic reorientation
- **A2** - Basic funding
- **A3** - New Activities funding

**Pillar B**
- Capacity building to CITs and business community – human resources
- **B1** – Integration of highly qualified human resources in CITs
- **B2** – Integration of highly qualified human resources in companies

**Pillar C**
- Energy efficiency and the circular economy
- **C1** – Projects targetting energy efficiency in companies
- **C2** – Integration and scaling-up of new available technologies
KNOWLEDGE & COLLABORATIVE INNOVATION:
Challenges towards the 2020 milestone

RDI Ecosystem

LARGE COMPANIES
MID SIZE TECH. COMPANIES

MID SIZE COMPANIES
SMALL TECH COMPANIES

MICRO AND SMALL SIZE COMPANIES

DIFERENTIATION OF INTERFACE SERVICES AND RELATED LEVEL OF SOFISTICATION

UNIVERSITIES
RESEARCH UNITS

INTERFACE ORGANIZATIONS

ENGINEERING CENTERS

SECTORIAL TECH. CENTERS

INCUBATORS
SCIENCE PARKS

COLLABORATIVE LABORATORIES

Stimulating Knowledge Transfer
CHALLENGES AHEAD

- Reinforce investments in knowledge creation and education and training (no knowledge and human resources -> no innovation)

- Boost the transfer (EXCHANGE) of knowledge and people along the entire innovation value chain

- Bring more actors to the innovation eco-system (companies and research organizations) and push for more collaboration

- Diversify funding sources (mainly in the case of Universities and Polytechnics), including international ones.
Thank you!
José Carlos Caldeira
jcaldeira@ani.pt