Romania – Getting Ready For The Innovation Union
OUTLINE

A. International Framework
B. Context
C. Challenges
D. Reform RD&I policy lines
   (Target 2020, Strengthen the capacity & performance of the RD&I system, Fostering innovation, Promote the European dimension in RD&I policy, programmes, and projects)
E. Common Strategic Framework for Research and Innovation
   (Common position paper of EU-12 MS, Romania non-paper on the future FP, Green Paper on the CSFRI)
A. International Framework

Stability & Growth Pact, Euro Plus Pact, European Semester:
- Among other goals: Fostering EU competitiveness

Europe 2020:
- 3% for R&D (GERD)
- Flagship initiative: Innovation Union

Instruments:
- Framework Program, Competitiveness and Innovation Program, Cohesion Funds

Monitoring:
- Innovation Union Scoreboard

National Program of Convergence: join Euro Zone in 2015?

National Reform Program: 2% for R&D in 2020 (GERD)

<table>
<thead>
<tr>
<th>PROVISIONED GERD EVOLUTION (%GDP)</th>
<th>2009</th>
<th>2011</th>
<th>2013</th>
<th>2015</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment in RD (public sources)</td>
<td>0.31</td>
<td>0.33</td>
<td>0.60</td>
<td>0.80</td>
<td>1.00</td>
</tr>
<tr>
<td>Investment in RD (private sources)</td>
<td>0.17</td>
<td>0.15</td>
<td>0.25</td>
<td>0.50</td>
<td>1.00</td>
</tr>
<tr>
<td>Investment in RD (public and private sources)</td>
<td>0.48</td>
<td>0.48</td>
<td>0.85</td>
<td>1.30</td>
<td>2.00</td>
</tr>
</tbody>
</table>

World Bank estimations: improving the quality and increasing aggregate R&D to EU 2020 target in Romania could raise the GDP by 12% above its baseline by 2025.
B. Context

Backward looking: - Current results
- Mid term review of National RD&I Strategy and Plan 2007-2013

Constraints: - GDP ↓ 1.3% (2010)
- Reimbursement of EU/ IMF loans
- National long run priorities: energy supplies, food security, climate changes,
- Fierce competition for Human Resources in S&T

Researchers: 30 645 (head counts, fall of 2009) + over 15,000 abroad

Source: Budget Laws 2007-2011

Source: Statistical Yearbook of Romania 2010

Source: Web of Science – ISI Thomson 2010

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## B. Context (continued...)

**Gaps compared to EU 27**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>RO</th>
<th>UE 27</th>
<th>Gap</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summary Innovation Index SII</td>
<td>0.236</td>
<td>0.513</td>
<td>&lt; 1/2</td>
</tr>
<tr>
<td>System Capacity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Researchers (share of total employment)</td>
<td>3.64%</td>
<td>9.20%</td>
<td>~ 1/3</td>
</tr>
<tr>
<td>RD Personnel (share of total employment)</td>
<td>5.04%</td>
<td>15.50%</td>
<td>~ 1/3</td>
</tr>
<tr>
<td>Human Res. in ST (share of total employment)</td>
<td>22.90%</td>
<td>39.25%</td>
<td>~ 1/2</td>
</tr>
<tr>
<td>Financial support</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GERD (% GDP)</td>
<td>0.48</td>
<td>2.00</td>
<td>~ 1/4</td>
</tr>
<tr>
<td>Public RD expenditure (% GDP)</td>
<td>0.33</td>
<td>0.75</td>
<td>&lt; 1/2</td>
</tr>
<tr>
<td>Business RD expenditure (% GDP)</td>
<td>0.15</td>
<td>1.25</td>
<td>~ 1/6</td>
</tr>
<tr>
<td>Economic Effects</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mid and HiTech Product Exports</td>
<td>50.14%</td>
<td>47.36%</td>
<td>No gap!</td>
</tr>
<tr>
<td>Knowledge Intensive Services Exports</td>
<td>44.91%</td>
<td>49.43%</td>
<td>Almost equal</td>
</tr>
<tr>
<td>Employment in knowledge intensive activities</td>
<td>6.16%</td>
<td>13.03%</td>
<td>~ 1/2</td>
</tr>
</tbody>
</table>

*Sources: INS, Eurostat, Innovation Union Scoreboard 2010*  

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C. Challenges

Policy Mix
Articulation of policy instruments under the responsibility of other ministries is still weak, as is the involvement of these ministries in the selection of R&I overall priorities.

Solution: Administrative coordination through an inter-ministerial body.

Adequacy of public funding
Fluctuations of the level of public funding despite trials for multiannual planning in the National Strategy 2007-2013.
Public investment in research, both in absolute and relative terms, is highly dependent on the state of the economy at a given moment.

Solution: Need to an sustained continuity of policy decisions.

Attractiveness of research careers - Number of researchers (FTE) per thousand labour force much lower (2.0) compared to the EU average (6.30)
Low level of salaries and not so friendly research environment discouraging skilled young people to remain in the system and enabling brain drain.

Solutions: Increased collaboration with top Romanian researchers in diaspora, maintaining a base of mid-level researchers with already recognised results but still with professional challenges ahead, investing in top level research infrastructures to create opportunities. Various legal frameworks for researchers in different research institutions (very few universities have FTE researchers despite their ambitions of reaching the top 500 universities worldwide).
D. RD&I policy - reform lines

1. Strengthen the **capacity & performance of the RD&I system**

2. Fostering **innovation**

3. Promote the **European dimension** in RD&I policy, programmes, and projects
D. RD&I policy - reform lines

1. Strengthen the capacity & performance of the RD&I system

- **Legal improvements in ST Policy making**

- **Government level**
  - National Council for ST Policy to build an overall national vision/strategy where each policy area would find its clear place and would have defined structural/functional links with other policy areas
  - Advisory College for Research, Development and Innovation Policies and Strategy
  - National Council for Scientific Research Program management
  - National Council for Development and Innovation Program management

- **Advisory bodies**
  - Promoting the international project evaluation
  - Promoting the excellence via the National Plan Programmes Human Resources (docs, post-docs, young teams) and Ideas

- **Increasing the quality of the publicly funded research**
D. RD&I policy - reform lines

2. Fostering innovation

• Financial support for innovative companies
  - Inno-vouchers to overcome the under-use of the research infrastructures.
  - Targeted operations supported by SOP-IEC Axis 2 in order to boost the access to private loans and to public markets by local SMEs and especially start-ups.
  - Fiscal incentives for intramural i.e. “in house” RD (+20% deductibility of RD expenses) because it is low and decreasing.

<table>
<thead>
<tr>
<th>Year</th>
<th>Intramural RD</th>
<th>Extramural RD</th>
<th>Acquisition (software, machinery)</th>
<th>Acquisition (knowledge)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>13.6</td>
<td>9.1</td>
<td>74.9</td>
<td>2.4</td>
</tr>
<tr>
<td>2008</td>
<td>8.5</td>
<td>5.7</td>
<td>84.5</td>
<td>1.3</td>
</tr>
</tbody>
</table>

D. RD&I policy - reform lines

2. Fostering innovation (cont.)

- **Top-down approach for a National Strategy for Innovation**
  - Building an entrepreneurial environment: new National Council for Development & Innovation to associate the enterprises to identifying of the RD&I priorities;
  - Support for establishing technology clusters (e.g. Magurele) for developing better cooperation between industry and public R&D sector.
  - Launching foresight studies in key technologies (currently running Nanotech., Green Energy, Cell Therapy, Science Services) in line with Key & Future Enabling Technologies.

- **IPR regulation (patent owner)** to complying to the requests of the main investors that enable access to the markets.

- **Relaxing the rules of public procurement** for new local firms.

- **New entry** in the occupation classification: innovation broker.
D. RD&I policy - reform lines

3. Promote the European dimension in RD&I policy, programmes, and projects

- Participation to **pan-European infrastructures**: ESFRI projects (*Extreme Light Infrastructure - ELI, FAIR, CERN, ESA*)

- Participation **JTIs**: ENIAC, Clean Sky, Fuel Cells, IMI, ARTEMIS.

- Support **EU Strategy for the Danube Delta – Black Sea Region**.

- **Bilateral Programs** *(active: Austria, Bulgaria, Belgium, Cyprus, China, France, Germany, Japan, Moldova, Slovenia, Slovak Republic, South Africa, South Korea, Turkey; in preparation: Greece, Hungary, India, Italy, Switzerland, Ukraine)*

- **Intention to take part in Joint Programming** *(Health, Agriculture, Climate change, Water management, Urban Europe, Cultural heritage)*

- **Focus on participation in FP7**, preparation for the next *Common Strategic Framework on Research and Innovation*. The level of Romania’s participation in FP7 compared to EU average is weak:
  - 4% of the European funded projects are with Romanian participation
  - 0.4% of the E.C. funds are granted to Romania i.e. 62,5 mil.€ contribution (E-CORDA, Nov. 2010).

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D. RD&I policy - reform lines

4. Policy assessment: Mid-term evaluation - what would we like to learn

- A realistic report on the accomplishment level of the objectives of the National RD&I Strategy and the appropriateness of the actions undertaken through the National Plan 2007-2013: What is good? What we’re doing wrong?

- A range of potential corrective measures required for the remaining interval until 2013: How to fix what is wrong?

- Suggestions to increase the effectiveness of the public policies in science and technology to reach the levels of developed European countries: What can be done better and how?

- Ideas/suggestions for the next strategic framework – i.e. the National RD&I Strategy 2014-2020 and the National RD&I Plan 2014-2020: What should we do different in future?
E. Common Strategic Framework for Research and Innovation – CSFRI (1)

**Common Position Paper of the EU-12 Member States**

Changing the concept of the new F.P - Inclusive solutions for a more integrated ERA

- **The next FP should address the needs of all EU Member States**
  - Towards completion of ERA by boosting excellence and unlocking the full potential of all the regions and Member States in the EU

- **Common priorities**
  - Raise capacity and competitiveness of EU-12 MS up to the standards of excellence
  - Promote internal dimension of ERA
  - Identify more inclusive and flexible instruments

- **The principle of excellence should continue to be the cornerstone criterion for the next Framework Programme**
  - Other principles to be taken into account: inclusiveness, cost-efficiency, relevance of research and contribution to growth and jobs

- **Selection process of evaluators and experts**
  - More transparent and balanced participation of all MS in the evaluation process, preparation of strategic documents and other governing processes and bodies

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Key messages

Better coordinated and stronger EU-wide research and innovation policies with greater impact in the EU economy and higher leverage effects of public and private R&D investments.

Excellence as a cornerstone criterion BUT complemented by other principles like inclusiveness, cost-efficiency, relevance of research to growth and jobs.

Spreading excellence across Europe for a homogeneous and balanced development of ERA, thus reducing actual gaps in terms of research capacity between MS.

Better valorization of human and physical assets of entire Europe for an efficient exploitation of all available resources in ERA and use of competitive advantages that exist in all European regions.

Key role of innovation in attaining European competitiveness, responding to grand challenges, enhanced participation of SMEs as a key driver of innovation.

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Some ideas for the structure of FP

<table>
<thead>
<tr>
<th>COOPERATION</th>
<th>IDEAS</th>
<th>PEOPLE</th>
<th>CAPACITIES</th>
<th>INNOVATION</th>
</tr>
</thead>
</table>
| • A specific theme dedicated to “Regional projects with European impact”  
• Promotion of transnational clusters with sectorial profile (with mandatory participation from EU12) | • Support for less successful regions of EU: Mentoring activities and Twinning mechanisms  
• Frontier-research projects in the newly created ESFRI infrastructures | • Professionalize the career of early stage researchers with an increased budget and particular attention paid to EU-12 human resources  
• Involvement of industry in early stages of researchers’ career (industrial PhDs) | • Support for the development of high performance infrastructures in EU12: instruments to promote synergies between FP and structural funds  
• Stronger support for spreading of excellence in less developed EU regions: more resources earmarked for Regions of Knowledge and Research Potential |

INNOVATION

Should be constantly reflected in an embedded way across all structures and instruments
An integrated community instrument focused on high-tech products & emerging technologies and covering the full innovation chain

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The main challenge: make available adequate public funding to the development and use of R&D infrastructures in the Union, when governments are currently facing severe budget constraints

EU has to play a very important role: to define and support, as it is doing with ESFRI, a coherent strategic approach for research infrastructures in Europe

EU and its Member States must pool resources for the better development and use of research infrastructures at EU and international level

Special attention should be paid to support the operation, ensure open competitive access and promote the attractiveness of the European Research Infrastructures Consortia. The Regional Partner Facilities will play a key role in research and innovation in NMS and existing instruments (e.g. RegPot and RoK) must be improved in order to catalyze their activities for better use and coordination. Allocation of appropriate budgets must be based on an investment model seeing the Regional Partner Facilities as a key driver to a more balanced development of ERA, and to the “circulation of knowledge” throughout Europe, thus converting “brain drain” to “brain gain”.

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Response of ANCS to the E.C. Green Paper “From Challenges to Opportunities: Towards a Common Strategic Framework for EU Research and Innovation Funding:”

**Key messages**

- Spreading excellence in the entire ERA should become one of the prime aims of the CSFRI.
- The right balance between the continuation of measures which proved to be successful and the new ones needed as a consequence of creating of one stop shop for research and innovation.
- The principle of mutual trust should have a greater importance.
- The simplification process should be linked with the evaluation of all existing financial instruments of FP7, EIT, CIP and structural funds.
- There is a need for flexible yet harmonized implementing regulations in order to take into account different needs of the whole range of participants to the CSF and address the full innovation cycle.

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Thank You!