Research Funding System in Latvia: Request for Specific Support

Horizon 2020 Policy Support Facility
Specific Support to Latvia under the Horizon 2020 Policy Support Facility
Kick-off meeting, 3 February 2017
Outline

• Innovation system
  - Strengths and weaknesses
  - RIS3 strategy
  - Human resources

• Current policy measures
  - Chronological overview
  - Structural reform
  - Higher education funding reform

• Level and structure of research funding
  - EU vs. LV
  - Funding streams for research

• Forthcoming policy changes
• Expected results of the PSF
The Latvian R&D&I System

**Demand**
- Consumers (final demand)
- Producers (interim demand)

**Framework conditions**
- Financial environment, tax regime, entrepreneurship and innovation incentives, regulatory environment, State aid, mobility

**Industry system** (R&D FTE 981)
- Traditional economic sectors
- Future growth sectors with high added value
- Sectors with high horizontal impact

**System of Education and Science** (R&D FTE 4415)
- Research institutes, National Research Centers
- Competence Centers, Technology transfer structures
- Higher education and research
- Vocational education and training
- Research commissioned by the Public sector

**Political system**
- The Saeima, Cabinet of Ministers
- MoES, MoE, line ministries and gov., agencies
- R&D&I and Industrial policy, RIS3

**Infrastructure**
- Banks, venture capital
- Information
- R&D&I and business support instruments
- Research infrastructure
- Standards and requirements
Latvia’s innovation performance by dimension (LV vs. EU avg.)

Priority areas for policy intervention:

- Excellence of research system (research environment, quality and relevance)
- Cooperation and networking
- Government and business R & D spending
- Change of business model in companies
Human resources in R&D&I

More than 10 300 scientists are employed in R&D in Latvia, including 7 400 scientists in state established research institutions (universities, research institutes).

Employed in industry and business:
LV – 16%
EU avg. – 47%
RIS3: sustainable growth strategy

Objective: Transformation of economy towards higher added value, productivity and more effective use of resources.

Directions:

1. Structural changes of production and export in traditional sectors;
2. Growth in high added value sectors: new products and services;
3. Sectors with horizontal impact and contribution to economic transformation.

Priorities:

1. High added value products
2. Productive Innovation System
3. Energy Efficiency
4. Modern ICT
5. Modern education
6. The knowledge base
7. Polycentric development

Specialization areas:

1. Knowledge-based bio-economics
2. Bio-medicine, medical technologies, bio-pharmacy and biotechnologies;
3. Advanced materials, technologies and engineering systems
4. Smart energy
5. Information and communication technologies.

<table>
<thead>
<tr>
<th></th>
<th>Base 2013 (%)</th>
<th>2017</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>R&amp;D investment</td>
<td>0,6</td>
<td>1,2</td>
<td>1,5</td>
</tr>
<tr>
<td>Productivity</td>
<td>20 126</td>
<td>24 500</td>
<td>29 000</td>
</tr>
</tbody>
</table>
Boosting efficiency and effectiveness of innovation system: core principles of reforms

Knowledge base
  Sufficiently diverse (to serve five specialization areas)
  Focused and relevant (to ensure competitiveness)

(S&T) human capital
  Skilled (personal, technical, abstract)
  Locally embedded (to develop local industry)
  Globally connected (to reach out for opportunities)
  Links across sectors and disciplines
  (to benefit from cross-fertilization)

Institutions
  International peer-review
  Critical mass and capacity
  Entrepreneurial discovery
  Alignment of effort

Infrastructure
  Serves the creation of knowledge base and human capital
  Allows production of relevant knowledge
  Jointly used sectorally, nationally and internationally
  Supports conversion of tacit knowledge into innovation

New investment sources:
  Quality FDI
  Innovation procurement
  R&D of government enterprises

Talent:
  New fields and areas of knowledge
  Diaspora
  National and international
Chronological overview of policy measures

2012-2013  International research assessment excercise;

2014-2015  Structural reform of research sector - concentrating research resources in internationally competitive Research Institutes and Universities as Knowledge Hubs;

2014-2015  Reform of HE&R public funding system – introducing performance-based model, integrating higher education and research, and aligning with the needs of economy;


2016-2017  Incentives in R&D&I programs – introduction of specific mechanisms that change behaviour of RIs and industry organizations.
Structural reform of research sector

**Principle**: autonomy + self-initiated reforms, support for reforms, and regulatory changes

**Funding**: State budget and ESF for consolidation and excellence – 13MEUR (2015)

**Main measures introduced:**
1) + 10% basic funding to “competitive” Research Institutions from 2015;
2) 25/10/5 FTE from 2016;
3) Defines eligibility for support – Research Institutions evaluated as competitive - “4” & “5”, and Universities as “Knowledge Centers”.
4) From 2016 - no state funding to Research Institutions “1” & “2” outside the consolidation process.
Aim of structural reform:

- Reducing the number of RIs;
- Increasing critical mass of RIs;
- Increasing the number of scientists (FTE);
- Enhancing cooperation and networking.
### Performance incentives: HE funding model

#### pillar 1: basic funding
- Numbers of study places (per field)
- Cost oriented weight

**Study funding**
- **85 MEUR**

#### pillar 2: performance–oriented funding
- Alignment of HE and R & D
- Rewards past performance

**Performance-based funding**
- **6.5 MEUR**

#### pillar 3: innovation–oriented funding
- OP «Growth and Development» funding
  - Profile-oriented target agreements
  - Teaching + Research + Third mission

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### Teaching
- Numbers of study places (per field)
- Cost oriented weight

#### Institutional funding for research at HEIs
- **12 MEUR**

### Research
- Numbers of research staff (per field)
- Cost-oriented

#### Research staff FTE (MAs, PhDs)
- Industry funded research;
- International research.

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**Competition and mission-oriented funding for research**
- **8 MEUR**
Incentives for integrating higher education and research (Pillar 2)

Performance criteria according to policy goals:

### Building HR in research and technology development
- MA students, PhD students, young scientists engaged in research

### International competitiveness of research
- International funding for research and development projects (Horizon 2020 etc.)

### Industry relevance of research
- Contract funding by public and commercial entities;
- Funding by local governments for regional research projects;
- Funding for creative and artistic projects.
R&D funding in 2014 compared to other EU countries

Finland: 2,03%
Sweden: 0,68%
Denmark: 0,00%
Austria: 0,50%
Germany: 1,00%
Belgium: 1,50%
Slovenia: 2,00%
France: 2,50%
EU Average: 3,00%
Czech Republic: 3,50%
United Kingdom: 0,00%
Netherlands: 0,00%
Ireland: 0,00%
Estonia: 0,00%
Hungary: 0,00%
Italy: 0,00%
Portugal: 0,00%
Luxembourg: 0,00%
Spain: 0,00%
Lithuania: 0,00%
Poland: 0,00%
Slovakia: 0,00%
Malta: 0,00%
Greece: 0,00%
Bulgaria: 0,00%
Croatia: 0,00%
Latvia: 0,00%
Cyprus: 0,00%
Romania: 0,00%

Ministry of Education and Science
Republic of Latvia
Structure of R&D funding 2003-2014 (% of GDP)

Investment in R&D total - 0,62% of GDP (in 2015)
Policy goal: increased and restructured R&D funding

<table>
<thead>
<tr>
<th>Year</th>
<th>International funding</th>
<th>Business investment</th>
<th>State budget</th>
<th>HEIs funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>24%</td>
<td>22%</td>
<td>3%</td>
<td>3%</td>
</tr>
<tr>
<td>2020</td>
<td>24%</td>
<td>50%</td>
<td>24%</td>
<td>2%</td>
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</table>

139.5 MEUR / 0.6% of GDP \( \times 3.5 \) \[ \text{500 MEUR / 1.5% of GDP} \]
Key players and competences

**Strategic planning and supervision**
- Ministry of Finance (MoF), Ministry of Education and Science (MoES), Ministry of Economics (MoE), sectoral ministries

**Research administration and expertise**
- Central Finance and Contracting Agency (CFCA), Study and Research Administration (SRA), State Education Development Agency (SEDA), Latvia Council of Science (LCS)

**Research performance**
- Public and private research institutions, HEIs

**TOP DOWN**
- Strategy and regulation;
- Target indicators;
- Monitoring of progress.

**BOTTOM UP**
- Critical research areas;
- Scientific challenges, directions and impact.
## State funding for research (I)

<table>
<thead>
<tr>
<th>Funding flow (programme) and total amount</th>
<th>Goal</th>
<th>Allocation method and interval</th>
<th>Criteria and conditions</th>
<th>Operator(s)</th>
<th>Recipients</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Basic Research Funding (institutional funding)</strong></td>
<td>Institutional stability and continuity of research activity</td>
<td>Formula based on input and output indicators</td>
<td>CoM regulation: Minimum FTE 25/10/5 Minimum assessment: «3» &lt; + 10% to «4» and «5»</td>
<td>Central planning by MoF: budget appropriation Direct administration by MoES: calculation, allocation performers</td>
<td>State established, registered research institutions: - Research institutes - Higher education institutions</td>
</tr>
<tr>
<td><strong>27 MEUR (per budget year)</strong></td>
<td></td>
<td>Research of academic staff (1/8 of professors work load) Yearly allocation</td>
<td></td>
<td>Central planning by MoF: budget appropriation Direct administration by MoES: calculation, allocation performers</td>
<td>State established, registered research institutions: - Research institutes - Higher education institutions</td>
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<tr>
<td>Government Research Programmes</td>
<td>High-impact, industry-relevant research in priority areas of national development (mission-oriented)</td>
<td>14 GRP (2014-2017) Open call and selection every 4 years Yearly allocation per programme</td>
<td>CoM regulation: - Corresponds to national priorities - Scientific and practical relevance - Scientific novelty</td>
<td>Central planning by MoF Selection and supervision by MoES Expertise by LCS Administration by SRA</td>
<td>State established research institutions: - Research institutes - Higher education institutions</td>
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<tr>
<td>4-5 MEUR (per budget year)</td>
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# State funding for research (III)

<table>
<thead>
<tr>
<th>Funding flow (programme) and total amount</th>
<th>Goal</th>
<th>Allocation method and interval</th>
<th>Criteria and conditions</th>
<th>Operator(s)</th>
<th>Recipients</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fundamental and Applied Research Grants</strong></td>
<td>Scientific and technological advances, solutions in topical research areas</td>
<td>Competitive, project-based; Open call and selection every 4 years; Yearly allocation per project</td>
<td>CoM regulation: - Scientific potential and quality - Impact and international competitiveness - Scientific novelty</td>
<td>Central planning by MoF; Appropriation by MoES; Selection and supervision by LCS; Administration by SRA</td>
<td>State established and private research institutions: - Research institutes - Higher education institutions - Scientists, scientist groups</td>
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<tr>
<td><strong>aprox. 4 MEUR (per budget year)</strong></td>
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<td><strong>20 MEUR (2014-2017)</strong></td>
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<tr>
<td>Funding flow (programme) and total amount</td>
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<tr>
<td><strong>Structural funds for R&amp;D (ESF, ERDF)</strong></td>
<td>Programme-specific: strategic development, improvement of governance, modernization of infrastructure, renewal of human capital, etc.</td>
<td>Project –based competitive funding</td>
<td>Eligibility criteria devised depending on the programme goals</td>
<td>Central planning by MoF</td>
<td>State established and private research institutions:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2-3 open calls per implementation period</td>
<td></td>
<td>Selection and supervision by MoF, MoES etc.</td>
<td>- Research institutes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Administration by CFCA or SEDA</td>
<td>- Higher education institutions</td>
</tr>
<tr>
<td><em>... MEUR (total per 2014-2020 planning period)</em></td>
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</tbody>
</table>
## EU Structural funds Programmes for Research and Innovation 2014-2022

<table>
<thead>
<tr>
<th>Programme</th>
<th>Total funding per planning period, MEUR</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1.1. Grants for applied research projects</td>
<td>76,5 incl. SF 65,0</td>
<td>Selection</td>
</tr>
<tr>
<td>1.1.1.2. Grants for postdoctoral research</td>
<td>64,0 incl. SF 54,4</td>
<td>Implementation</td>
</tr>
<tr>
<td>1.1.1.3. Innovation grants for students</td>
<td>34,0 incl. SF 28,9</td>
<td>Planning</td>
</tr>
<tr>
<td>1.1.1.4. Support for the development of R&amp;I in RIS3 areas and capacity building of research institutions (including HEIs)</td>
<td>115,3 incl. 98,0</td>
<td>Preparation</td>
</tr>
<tr>
<td>1.1.1.5. Support for international cooperation projects in R&amp;I</td>
<td>32,6 incl. SF 27,7</td>
<td>Planning</td>
</tr>
<tr>
<td>1.1.1.6. Support for RIS3 governance</td>
<td>indicative 2,5</td>
<td>Planning</td>
</tr>
</tbody>
</table>
Forthcoming policy changes in the research funding system

- Defining the priority directions of science for 2018-2021;
- Introducing new regulation for the selection, financing and implementation of Governmental Research Programmes and Fundamental and Applied Research projects;
- Revision of competences and functions of institutions involved in research administration and financing (as stipulated by Law on Scientific Activity);
- Diversification of research funding - additional funding from sectoral ministries, state enterprises and private contractors;
- Enhancing synergy of governmental research programmes with structural funds programme criteria;
- Reinstating market-oriented research?
Optimization of governance and organization of research funding system in the way that it would be:

• Organized efficiently and would allow meeting goals of the three types of competitive research funding programs stipulated by the Law of Scientific Activity;

• Fair and effective funding of research according to international standards of science funding, given the size of Latvian research system;

• With potential to raise additional funds for the purposes of financing those research programs;

• Innovative and forward thinking.
Thank you!

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