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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

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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

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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
- Higher education and research
- Competence Centers, Technology transfer structures
- 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

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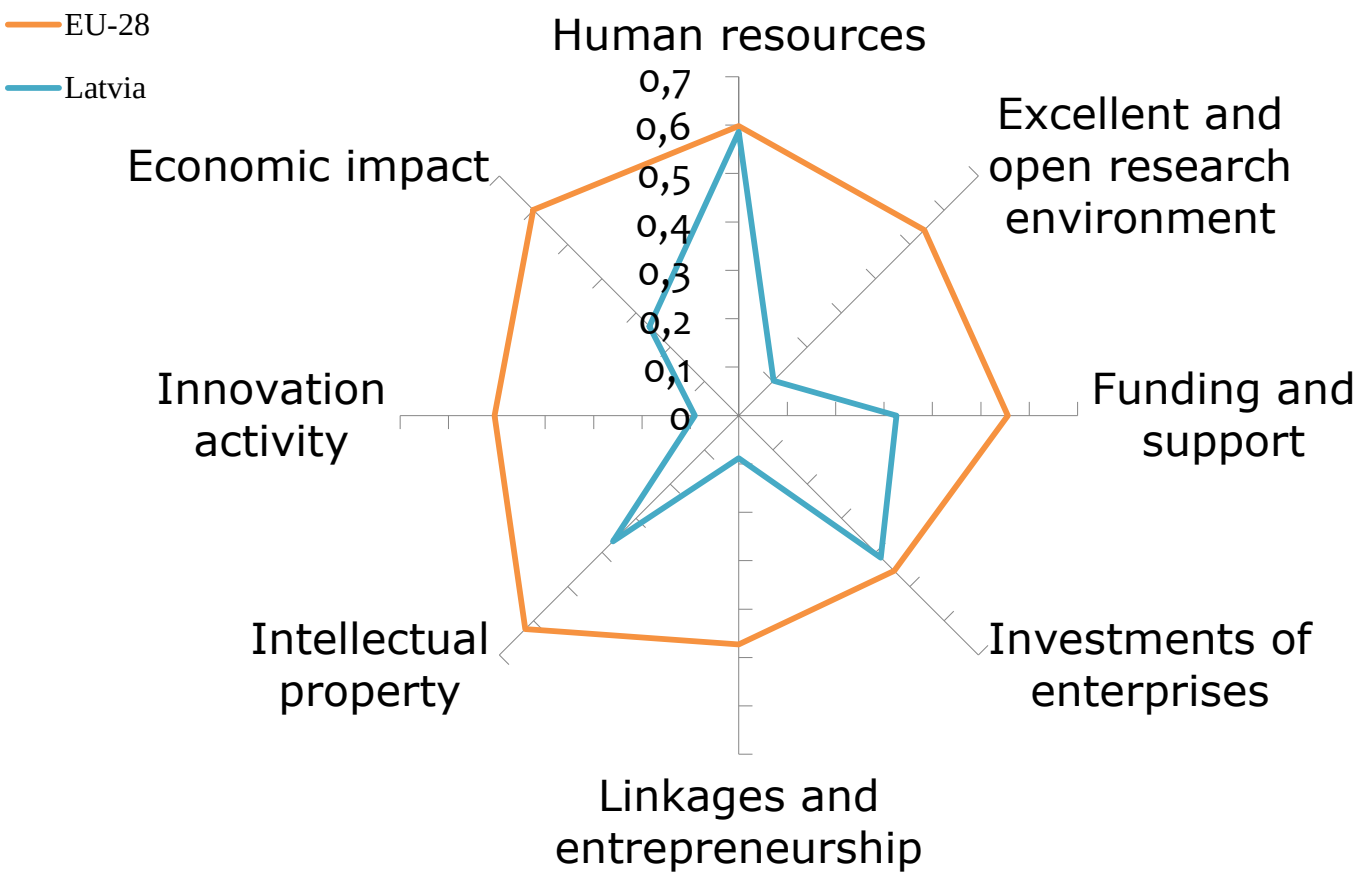
Latvia's innovation performance by dimension (LV vs. EU avg.)

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



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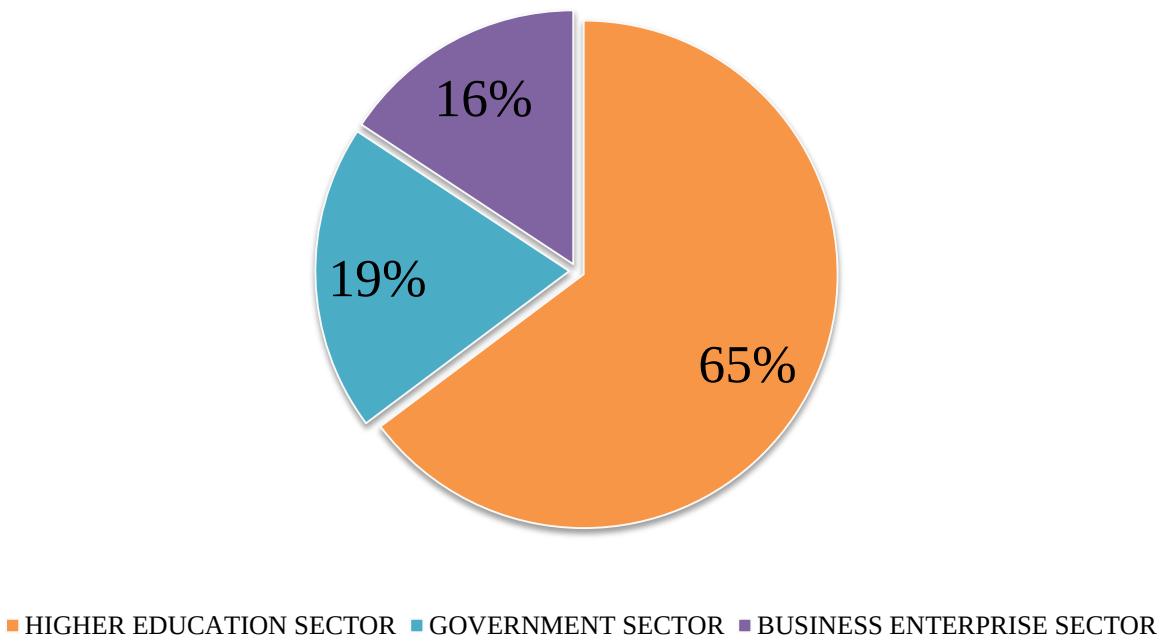
Human resources in R&D&I

R&D personnel (total FTE 5396)



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%

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RIS3: sustainable growth strategy

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

	Base	2017	2020
R&D investment (% GDP)	0,6 (2013)	1,2	1,5
Productivity (EUR/empl)	20 126 (2013)	24 500	29 000

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.

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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

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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	**Investment in research infrastructure –** modernization of infrastructure, development of institutional strategies. Second round of consolidation.
2016-2017	**Incentives in R&D&I programs –** introduction of specific mechanisms that change behaviour of RIs and industry organizations.

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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.

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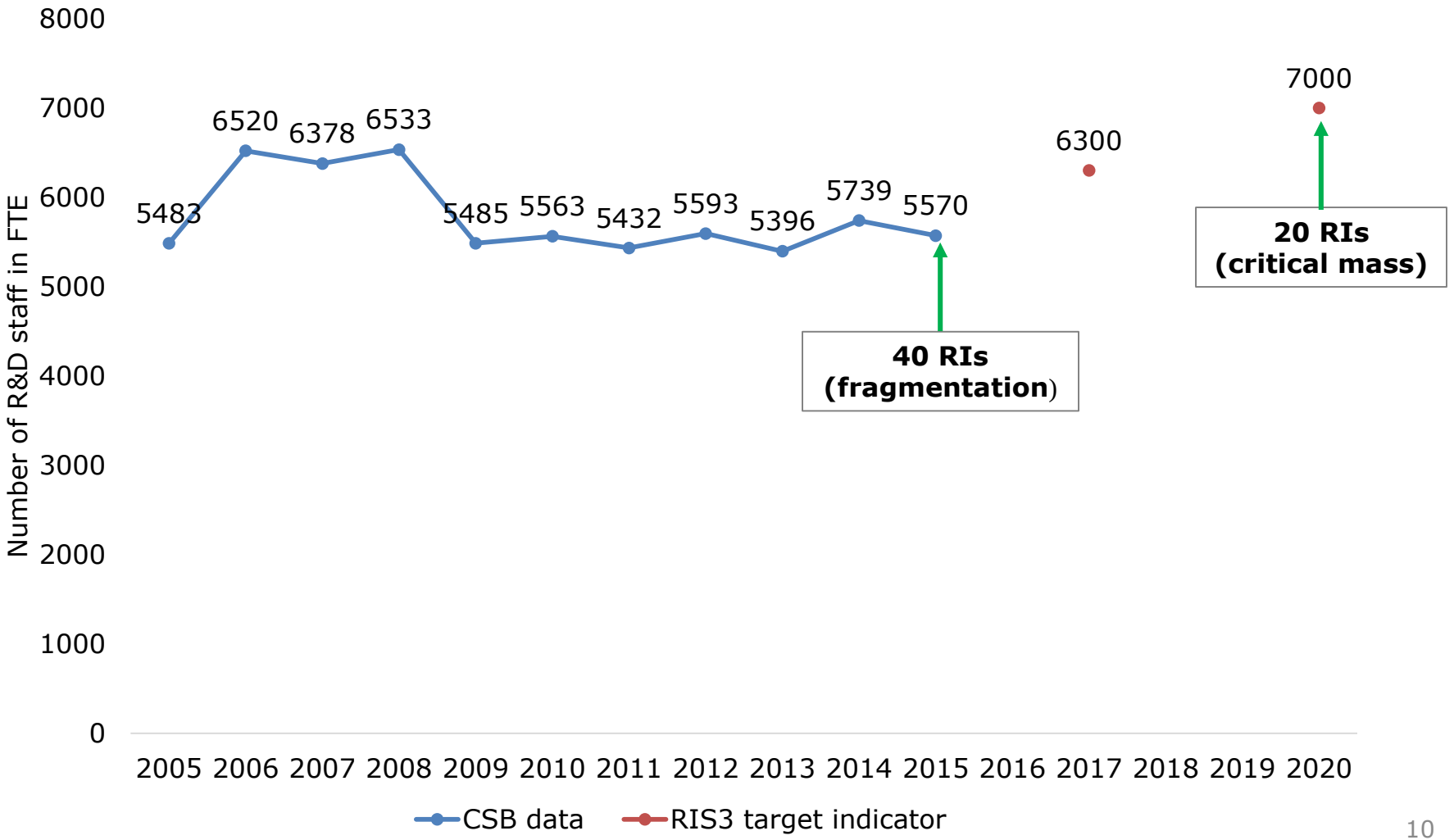
Planned results of structural reform

Aim of structural reform:

- Reducing the number of RIs;
- Increasing critical mass of RIs;
- Increasing the number of scientists (FTE);
- Enhancing cooperation and networking.



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Performance incentives: HE funding model

	pillar 1: basic funding	pillar 2: performance–oriented funding	pillar 3: innovation – oriented funding
teaching	• numbers of study places (per field) • cost oriented weight **Study funding 85 MEUR**	• Alignment of HE and R & D • Rewards past perfomance **Performance-based funding 6,5 MEUR**	**OP «Growth and Development» funding** profile-oriented target agreements teaching + research + third mission
research	• numbers of research staff (per field) • cost-oriented **Institutional funding for research at HEIs 12 MEUR**	• **Research staff FTE (MAs, PhDs)** • **Industry funded research;** • **International research.**	funding of centers of excellence

Competition and mission-oriented funding for research 8 MEUR

+

Izglītības un zinātnes ministrija

Incentives for integrating higher education and research (Pillar 2)

Performance criteria according to policy goals:

Building HR in research and technology development	International competitiveness of research	Industry relevance of research
• MA students, PhD students, young scientists engaged in research	• International funding for research and development projects (Horizon 2020 etc.)	• Contract funding by public and commercial entities; • Funding by local governments for regional research projects; • Funding for creative and artistic projects.

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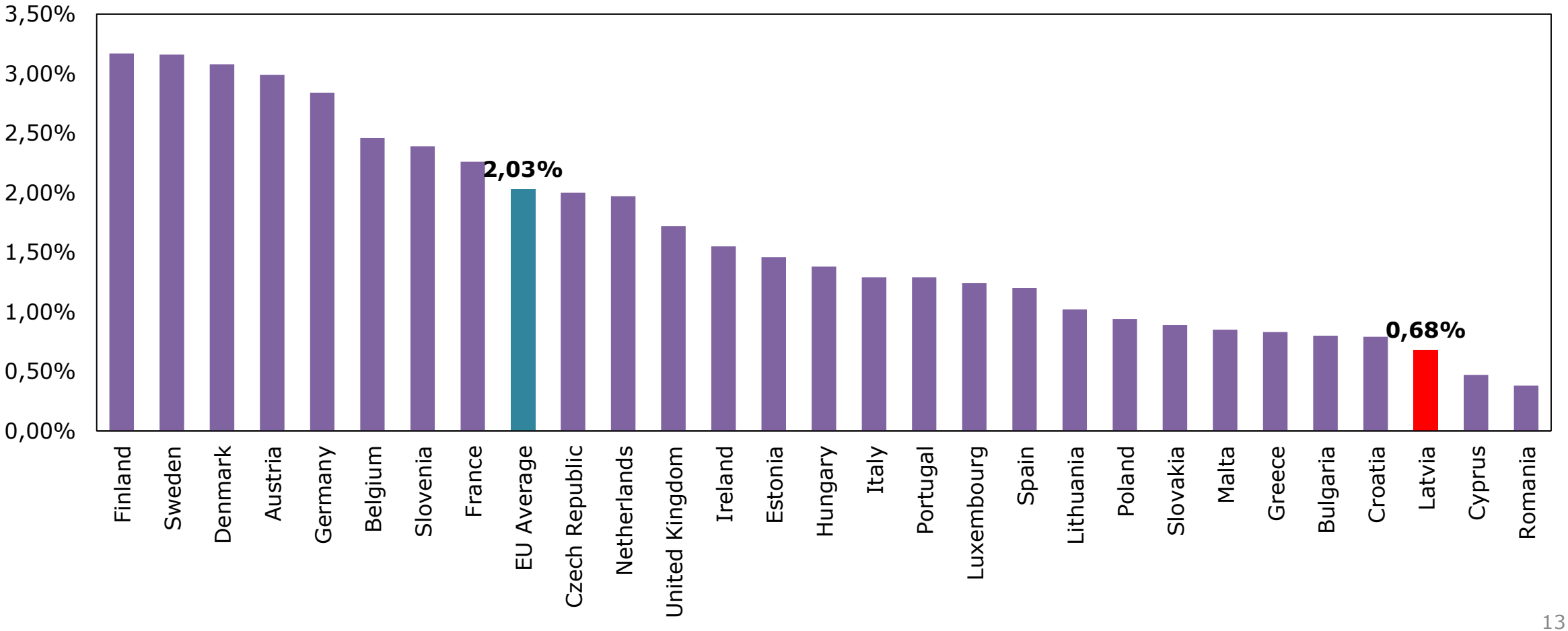
R&D funding in 2014 compared to other EU countries



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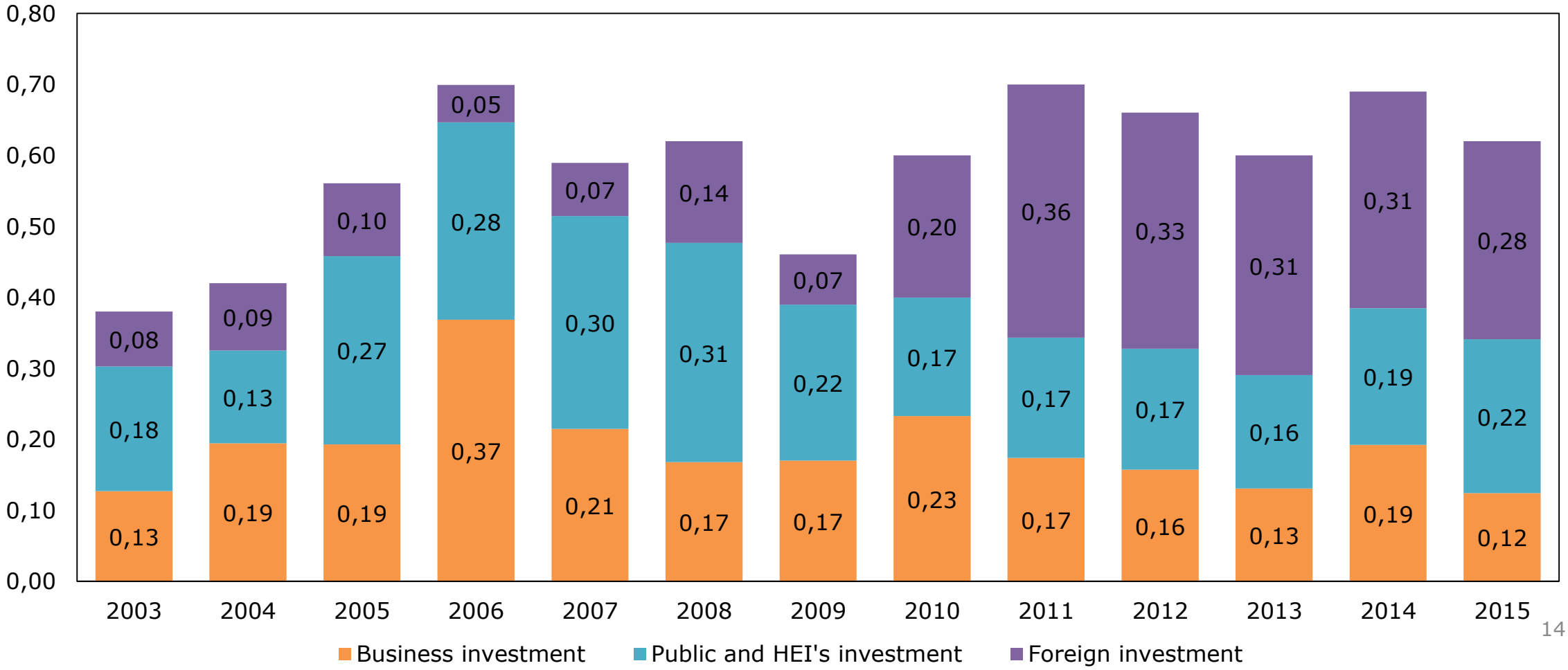
Structure of R&D funding 2003-2014 (% of GDP)

Investment in R&D total - 0,62% of GDP (in 2015)



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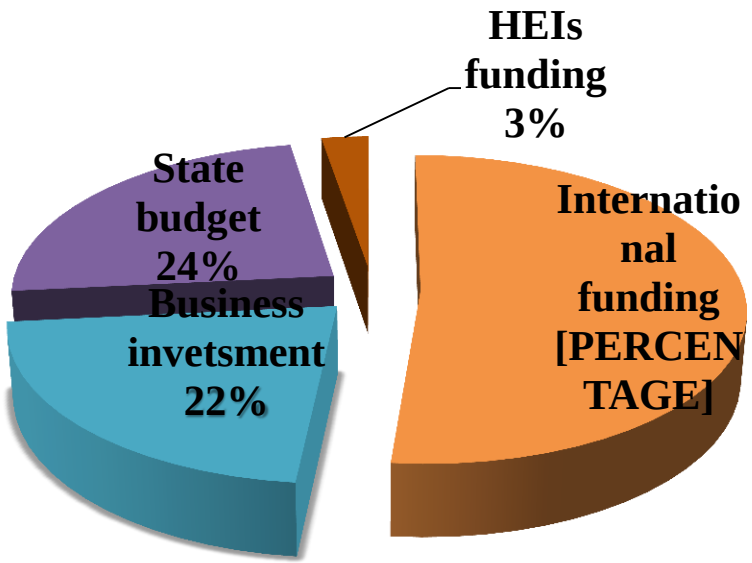
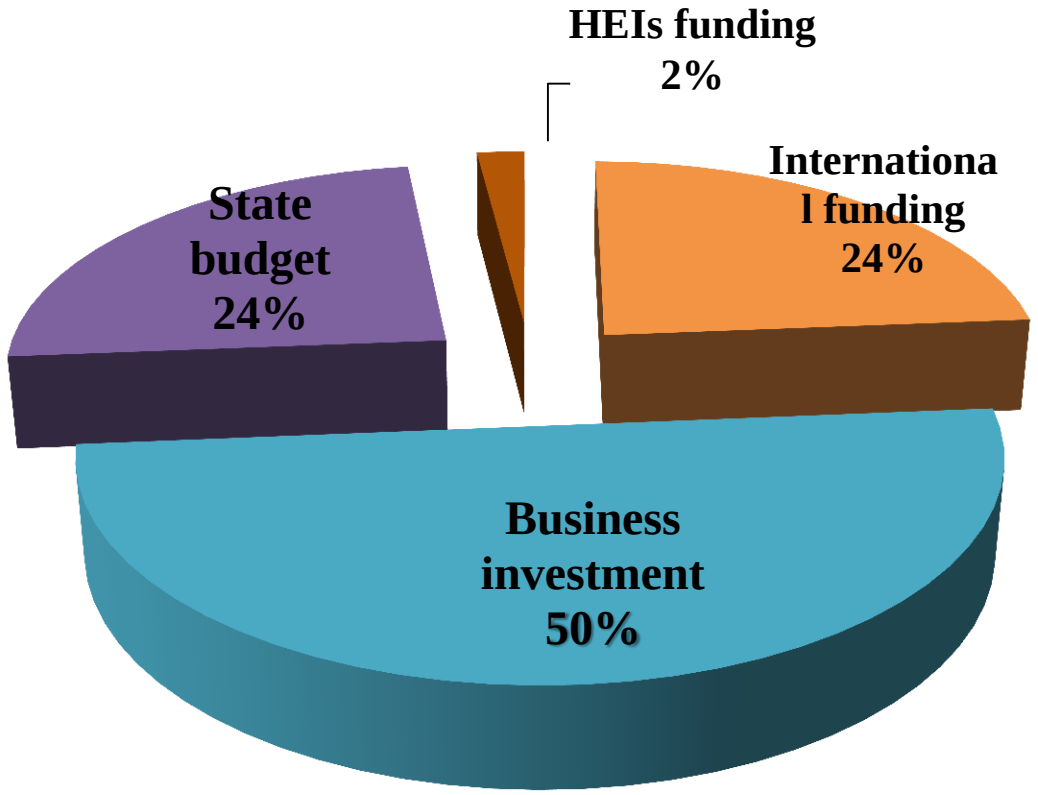
Policy goal: increased and restructured R&D funding

139.5MEUR/ 0.6% of GDP → x 3.5 → **500MEUR**/ 1,5% of GDP

2013



2020



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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)

Funding flow (programme) and total amount	Goal	Allocation method and interval	Criteria and conditions	Operator(s)	Recipients
Basic Research Funding (institutional funding) **27 MEUR (per budget year)**	Institutional stability and continuity of research activity	Formula based on input and output indicators Research of academic staff (1/8 of professors work load) Yearly allocation	CoM regulation: Minimum FTE 25/10/5 Minimum assessment: «3» < + 10% to «4» and «5»	Central planning by MoF: budget appropriation Direct administration by MoES: calculation, allocation performers	State established, registered research institutions: - Research institutes - Higher education institutions

State funding for research (II)

Funding flow (programme) and total amount	Goal	Allocation method and interval	Criteria and conditions	Operator(s)	Recipients
Government Research Programmes **4-5 MEUR (per budget year)** **27 MEUR (2014-2017)**	High-impact, industry-relevant research in priority areas of national development (mission-oriented)	14 GRP (2014-2017) Open call and selection every 4 years Yearly allocation per programme	CoM regulation: - Corresponds to national priorities - Scientific and practical relevance - Scientific novelty	Central planning by MoF Selection and supervision by MoES Expertise by LCS Administration by SRA	State established research institutions: - Research institutes - Higher education institutions

State funding for research (III)

Funding flow (programme) and total amount	Goal	Allocation method and interval	Criteria and conditions	Operator(s)	Recipients
Fundamental and Applied Research Grants **aprox. 4 MEUR (per budget year)** **20 MEUR (2014-2017)**	Scientific and technological advances, solutions in topical research areas	Competitive, project-based Open call and selection every 4 years Yearly allocation per project	CoM regulation: - Scientific potential and quality - Impact and international competitiveness - Scientific novelty	Central planning by MoF Appropriation by MoES Selection and supervision by LCS Administration by SRA	State established and private research institutions: - Research institutes - Higher education institutions - Scientists, scientist groups

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Structural Funds for Research nd Innovation (2014-2022)

Funding flow (programme) and total amount	Goal	Allocation method and interval	Criteria and conditions	Operator(s)	Recipients
Structural funds for R&D (ESF, ERDF) … MEUR (total per 2014-2020 planning period)	Programme-specific: strategic development, improvement of governance, modernization of infrastructure, renewal of human capital, etc.	Project –based competitive funding 2-3 open calls per implement-ation period	Eligibility criteria devised depending on the programme goals	Central planning by MoF Selection and supervision by MoF, MoES etc. Administration by CFCA or SEDA	State established and private research institutions: - Research institutes - Higher education institutions

EU Structural funds Programmes for Research and Innovation 2014-2022

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

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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?

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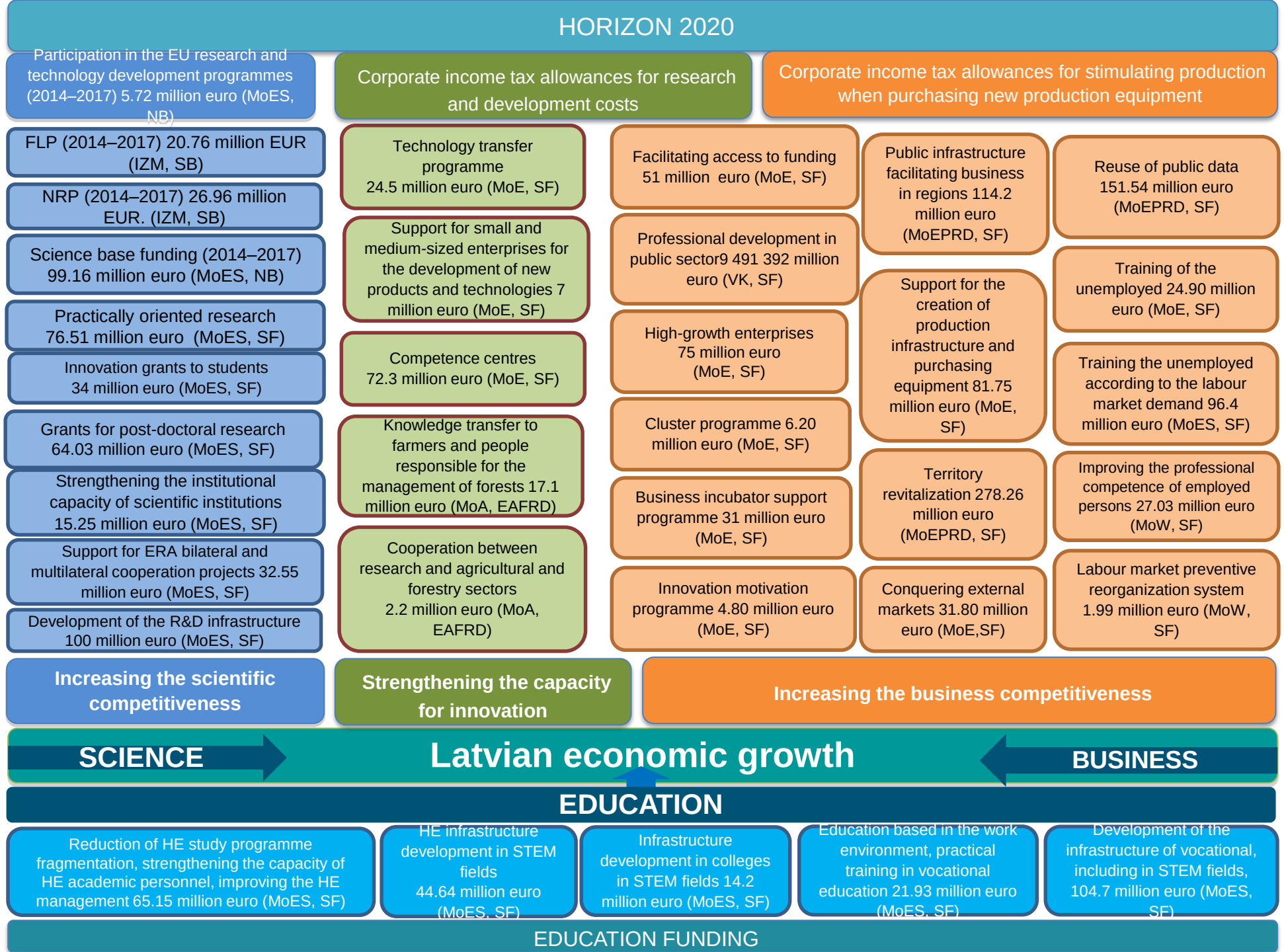
Goal and expected outcomes of the PSF

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.


HORIZON 2020
Participation in the EU research and technology development programmes (2014–2017) 5.72 million euro (MoES, NB)
Corporate income tax allowances for research and development costs
Corporate income tax allowances for stimulating production when purchasing new production equipment
FLP (2014–2017) 20.76 million EUR (IZM, SB)
NRP (2014–2017) 26.96 million EUR. (IZM, SB)
Science base funding (2014–2017) 99.16 million euro (MoES, NB)
Practically oriented research 76.51 million euro (MoES, SF)
Innovation grants to students 34 million euro (MoES, SF)
Grants for post-doctoral research 64.03 million euro (MoES, SF)
Strengthening the institutional capacity of scientific institutions 15.25 million euro (MoES, SF)
Support for ERA bilateral and multilateral cooperation projects 32.55 million euro (MoES, SF)
Development of the R&D infrastructure 100 million euro (MoES, SF)
Technology transfer programme 24.5 million euro (MoE, SF)
Support for small and medium-sized enterprises for the development of new products and technologies 7 million euro (MoE, SF)
Competence centres 72.3 million euro (MoE, SF)
Knowledge transfer to farmers and people responsible for the management of forests 17.1 million euro (MoA, EAFRD)
Cooperation between research and agricultural and forestry sectors 2.2 million euro (MoA, EAFRD)
Facilitating access to funding 51 million euro (MoE, SF)
Professional development in public sector9 491 392 million euro (VK, SF)
High-growth enterprises 75 million euro (MoE, SF)
Cluster programme 6.20 million euro (MoE, SF)
Business incubator support programme 31 million euro (MoE, SF)
Innovation motivation programme 4.80 million euro (MoE, SF)
Public infrastructure facilitating business in regions 114.2 million euro (MoEPRD, SF)
Support for the creation of production infrastructure and purchasing equipment 81.75 million euro (MoE, SF)
Territory revitalization 278.26 million euro (MoEPRD, SF)
Conquering external markets 31.80 million euro (MoE,SF)
Reuse of public data 151.54 million euro (MoEPRD, SF)
Training of the unemployed 24.90 million euro (MoE, SF)
Training the unemployed according to the labour market demand 96.4 million euro (MoES, SF)
Improving the professional competence of employed persons 27.03 million euro (MoW, SF)
Labour market preventive reorganization system 1.99 million euro (MoW, SF)
Increasing the scientific competitiveness
Strengthening the capacity for innovation
Increasing the business competitiveness
SCIENCE
Latvian economic growth
BUSINESS
EDUCATION
Reduction of HE study programme fragmentation, strengthening the capacity of HE academic personnel, improving the HE management 65.15 million euro (MoES, SF)
HE infrastructure development in STEM fields 44.64 million euro (MoES, SF)
Infrastructure development in colleges in STEM fields 14.2 million euro (MoES, SF)
Education based in the work environment, practical training in vocational education 21.93 million euro (MoES, SF)
Development of the infrastructure of vocational, including in STEM fields, 104.7 million euro (MoES, SF)
EDUCATION FUNDING

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Thank you!

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