Ministry of
Education and Science
Republic of Latvia

# RIS3 in Latvia

**EmpInno project meeting**

**14.09.2016.**

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# RIS3 process

**Bringing together research and industry organizations, HE institutions and policymakers for setting priorities, designing policy instruments and monitoring progress**

- Unprecedented collaboration and coordination between 6 line ministries
- Engagement and support from industry organizations and planning regions
- Engagement and support at the political level
  - Establishment of ministerial level Strategic Innovation Council chaired by Prime Minister
  - Multiple hearing at the Parliament

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# RIS3 process

**Thorough and honest assessment of existing knowledge base, S&T human capital, institutions and innovation system**:

- international evaluation of research institutions (2012-2013)
- **first round** of discussions that identified potential specialization areas (spring 2013)
- **second round** of discussions for validation of identified potential specialization areas with industry (summer 2013)
- **development of RIS3 strategy (autumn 2013)**
- **third round** discussions for validation and further development of specialization areas (2014)
- **fourth round** of discussions to prioritize investment programs and to devise instruments (2015)

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# “Hybrid strategy” of specialization and diversification

**RIS3 strategy aims** at creating future domestic capability and comparative advantage and that integrates frontier technology research

**Activities**

- aim at development sufficiently diverse knowledge base and boosting innovation capacity of firms, and embedded and connected S&T human capital
- target whole innovation cycle
- remove obstacles and support development of productive innovation system

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# Smart Specialization Strategy for Latvia

**Objective:** Transformation of economy towards higher added value, productivity and more effective usage of resources

## Directions:

1. Structural changes of production and export in the traditional sectors of the economy;
2. Growth in sectors where there is or is likely to create products and services with high added value;
3. Branches with significant 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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# Implementation of RIS3

**role of universities – knowledge hubs**

- **to develop** sufficiently diverse **knowledge base**
  - sufficiently diverse (to serve five specializations)
  - focused and relevant (to ensure competitiveness)
  - embedded in S&T human capital

- **to boost innovation capacity** of firms thru provision of human capital and access to knowledge
  - locally embedded (to develop local industry)
  - globally connected (to reach out for opportunities)
  - links across sectors and disciplines (to benefit from cross- fertilization)

- **to pool resources across sectors and regions** (innovation ecosystem)

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# Implementation of RIS3

**role of research institutes** – to develop relevant knowledge

**role of industry** – to innovate

**role of government** – to enable, to set structure of incentives, correct market and policy failures

**role of planning regions** – cooperation and partnerships

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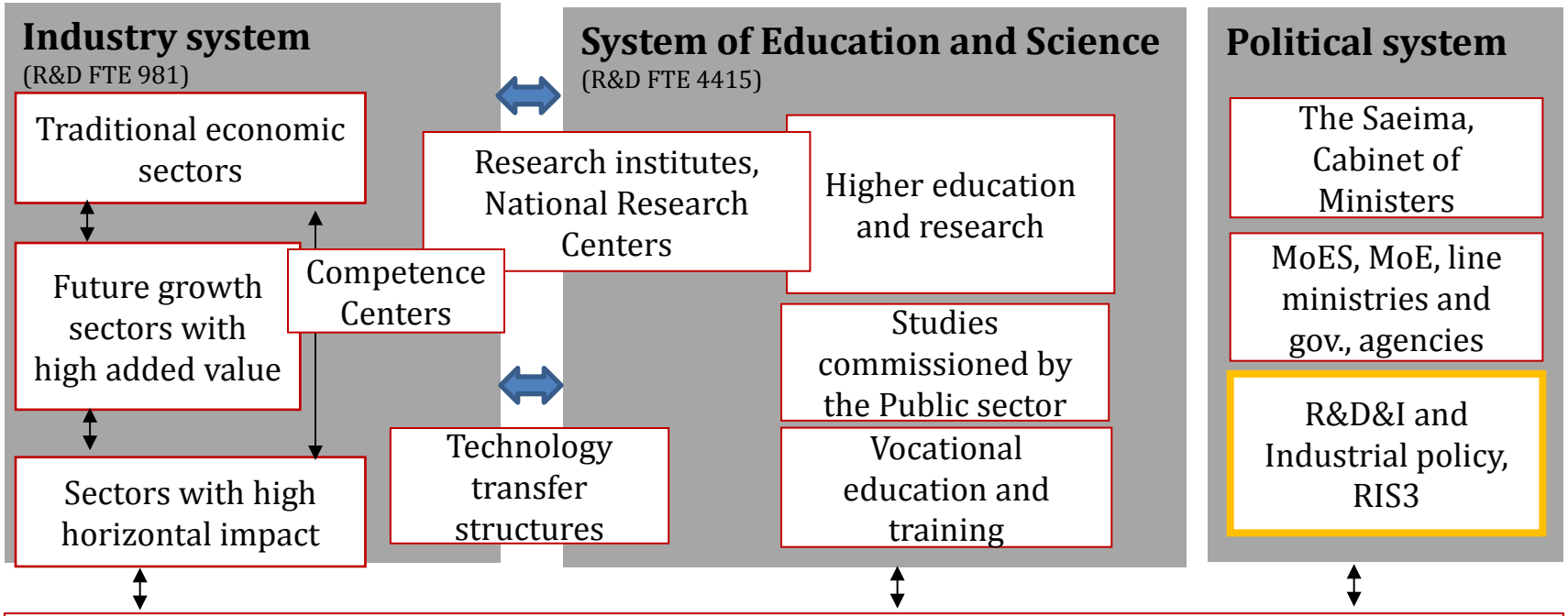
# Latvian R&D&I System

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

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




**Infrastructure**

Banks, venture capital | Information | R&D&I and business support instruments | Research infrastructure | Standards and requirements

Adopted from Erik Arnold and Stefan Kuhlman, *RCN in the Norwegian Research and Innovation System*, Background Report No 12 in the Evaluation of the Research Council of Norway, Oslo: Royal Norwegian Ministry for Education, Research and Church Affairs, 2001

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# Monitoring RIS3

| OVERALL GOALS (3) | Base value | 2017 | 2020 | Data source |
|---|---|---|---|---|
| **(1)** Investment in R&D (% from GDP) | 0.6 (2013) | 1.2 | 1.5 | CSB |
| **(2)** Position in the EU Innovation Union Scoreboard | modest (2013) | modest | follower | EC |
| **(3)** Efficiency in the processing industry (EUR per employee) | 20,126 (2013) | 24,500 | 29,000 | CSB |
| **MACRO LEVEL INDICATORS (6)** | | | | |
| **(1)** Private sector investments in R&D (% of total investments) | 21.8 (2013) | 46 | 48 | CSB |
| **(2)** Proportion of innovative companies (% of all companies) | 30.4 (2012) | 35 | 40 | CSB |
| **(3)** Proportion of high-technology and medium-high-technology sectors in the export of Latvian goods (%) | 23.8 (2012) | 27 | 31 | CSB |
| **(4)** The number of R&D personnel (public, private sector) | 5593 (2013) | 6300 | 7000 | CSB |
| **(5)** A smaller number of stronger publicly-funded scientific institutions | 42 (2013) | 30 | 20 | MoES |
| **(6)** Proportion of graduates (ISCED level 5 and 6) in the STEM fields from the total number of graduates, % | 19 (2012) | 25 | 27 | MoES |

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# Monitoring RIS3

| RIS3 MICRO LEVEL INDICATORS (14)<br>*O – Output, R – Result; I – Impact indicator* | | Programmes that contribute towards achieving the investment indicator | |
|---|---|---|---|
| | | SF | National budget |
| ***R*** | **(1) INCOME** from licences/patents of scientific institutions (EUR) € | Research and R&D infrastructure programmes, Competence centre and Technology transfer programme | Base funding; National research programmes |
| ***O*** ***I*** | **(2)** Business **CO-FUNDING** of R&D projects (EUR) € | Research and R&D infrastructure development programmes | Base funding; National research programmes |
| ***O*** | **(3) NUMBER of companies** that have received support for introducing new products or technologies | Support programme for introducing new products/technologies | Corporate income tax allowances |
| ***I*** | **(4)** Company **INCOME** from new products or technologies introduced (EUR) € | Competence centre programme | - |
| ***I*** | **(5)** New companies established by scientific institutions (**SPIN-OFFS**) | Technology transfer support programme | Base funding, Higher education funding |
| ***O*** | **(6)** The amount of **LOANS** granted to micro and small enterprises (EUR) € | Financial instrument support | - |
| ***O*** | **(7)** Number of businesses that have received preparation and start-up **CAPITAL SUPPORT** in early development phase, risk capital funding in the expansion phase | Financial instrument support | - |

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# Monitoring RIS3

| RIS3 MICRO LEVEL INDICATORS<br>*O – Output, R – Result; I – Impact indicator* | | Programmes that contribute towards achieving the investment indicator | |
|---|---|---|---|
| | | SF | National budget |
| *O* | **(8)** The number of **NEW SCIENTISTS** supported for implementing post-doctorate research | Post-doctorate support programme | - |
| *O*<br>*I* | **(9)** Newly created **JOBS**, including the jobs for scientists in public sector/business sector | Competence centre programme, Post-doctoral support, Business incubators | - |
| *R*<br>*I* | **(10) FUNDING** from H2020 approved projects (LV part; EUR) | Support for international cooperation in R&I | "Baltic Bonus" initiative |
| *R* | **(11)** Scientific **ARTICLES** published in the international data bases *(Scopus, Web of Science)* | Practical research, Competence centre programme | Base funding; National research programmes, HE funding, Fundamental & practical research support |
| *R* | **(12)** Employees trained | Training support programmes | - |
| *O* | **(13)** The number of MA students and doctoral students involved in R&D projects | Practical research programme, Competence centre programme | National research programmes, HE funding |
| *O* | **(14)** The number of new scientists supported for implementing post-doctorate research | Post-doctorate support programme | - |

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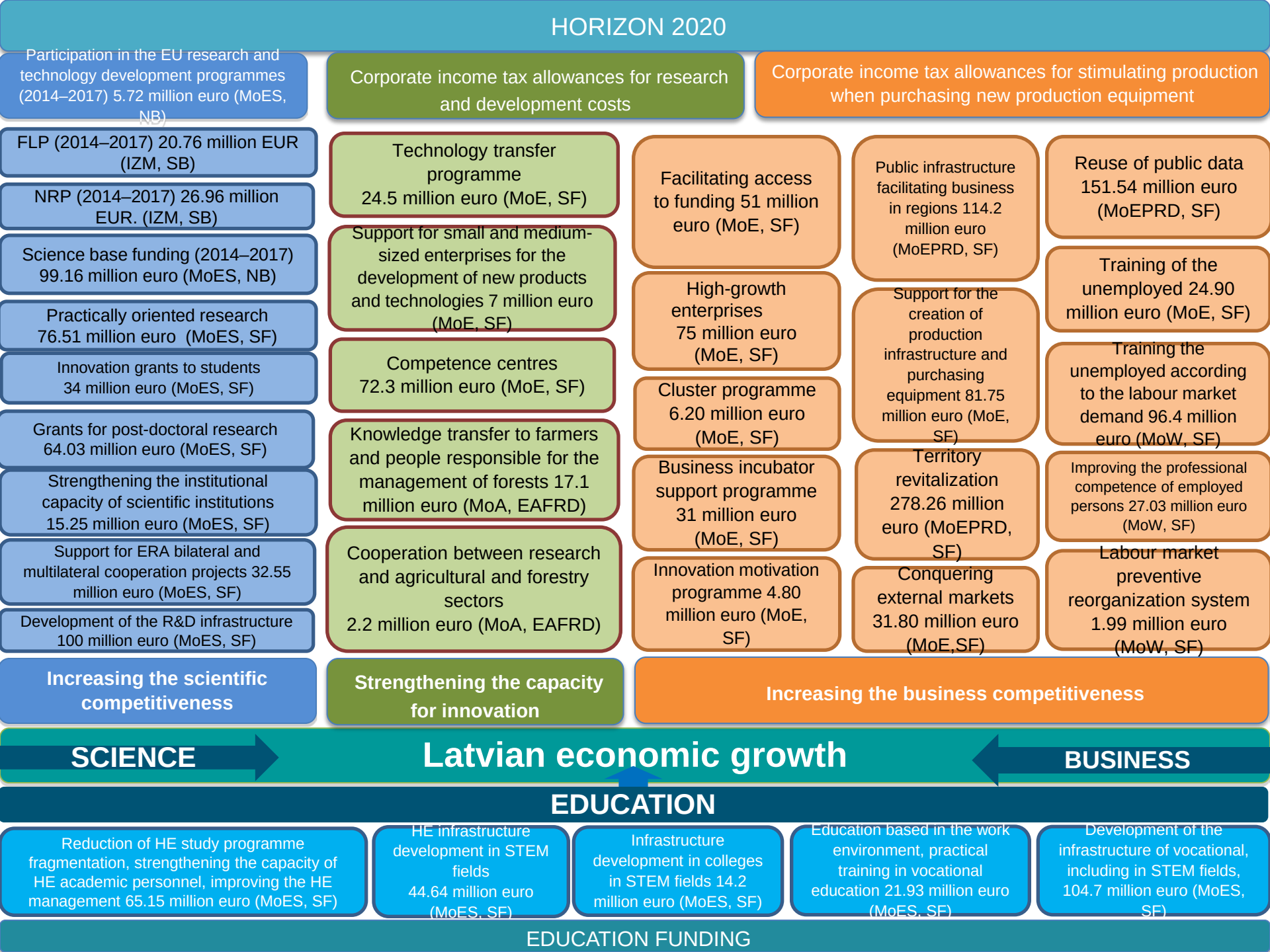
HORIZON 2020
Participation in the EU research and technology development programmes (2014–2017) 5.72 million euro (MoES, NB)
Corporate income tax allowances for research and development costs
Corporate income tax allowances for stimulating production when purchasing new production equipment
FLP (2014–2017) 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)
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 (MoW, 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