Does Innovation System in Latvia Encourage Competence Building and Science – Industry Cooperation? Current Situation and Prospectives

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President of Latvian Innovators Union, Latvia

Baltic Dynamics, Riga, September 13, Riga, Latvia

Innovation Strategy of Latvia: Analytical Reports

- **Creating a 21st Century National Innovation System**
- **for a 21st Century Latvian Economy.** World Bank Policy Research Working Paper 3457, November 2004
-
- **RIS Latvia : The Latvian Innovation System – Strategy and Action Plan 2005-2010.**
- Latvia: **Innovation System Review – Draft for Discussion** ***(Technopolis group) Version 10 June 2013***
- ***and many other documents...***
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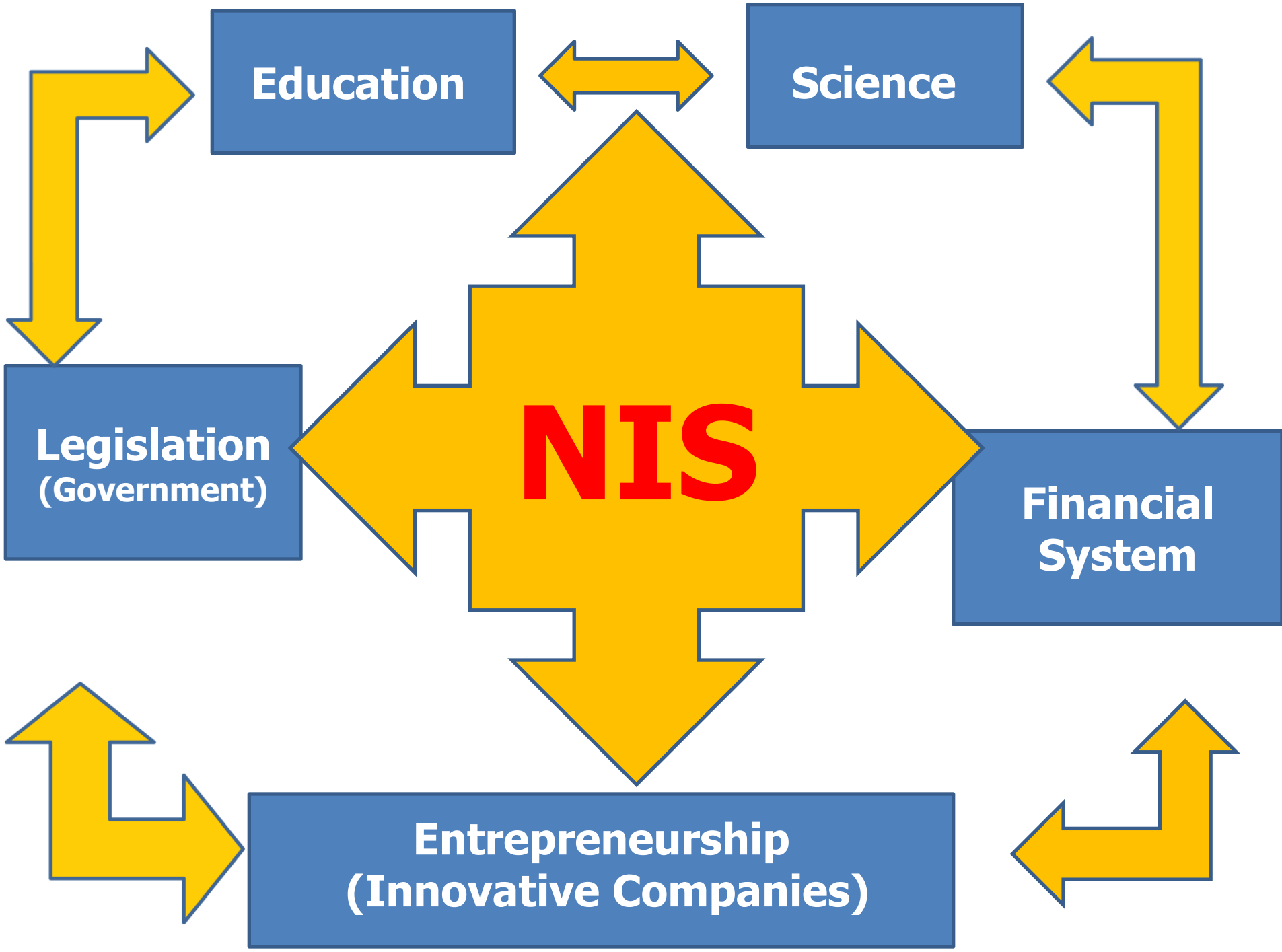
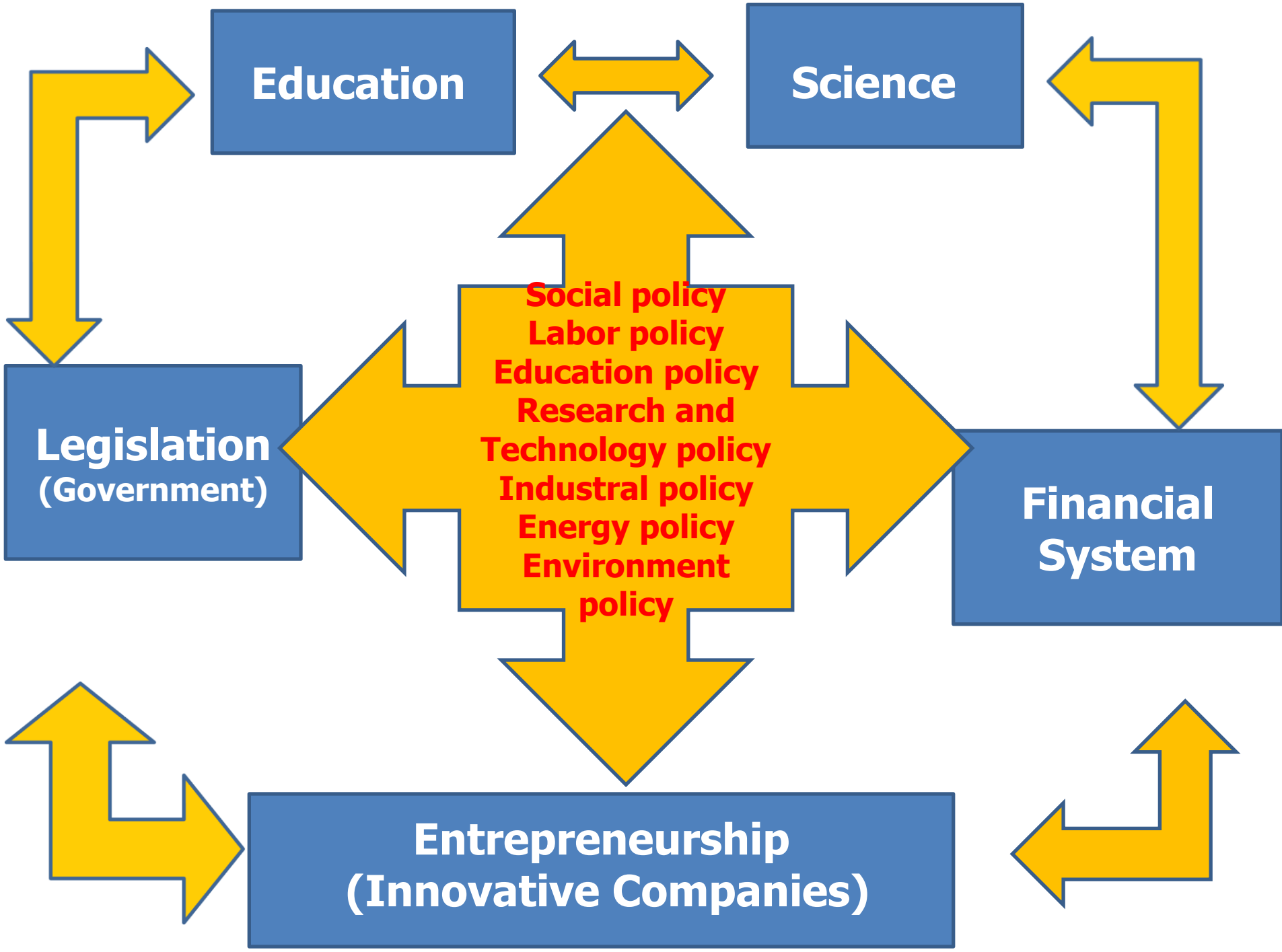
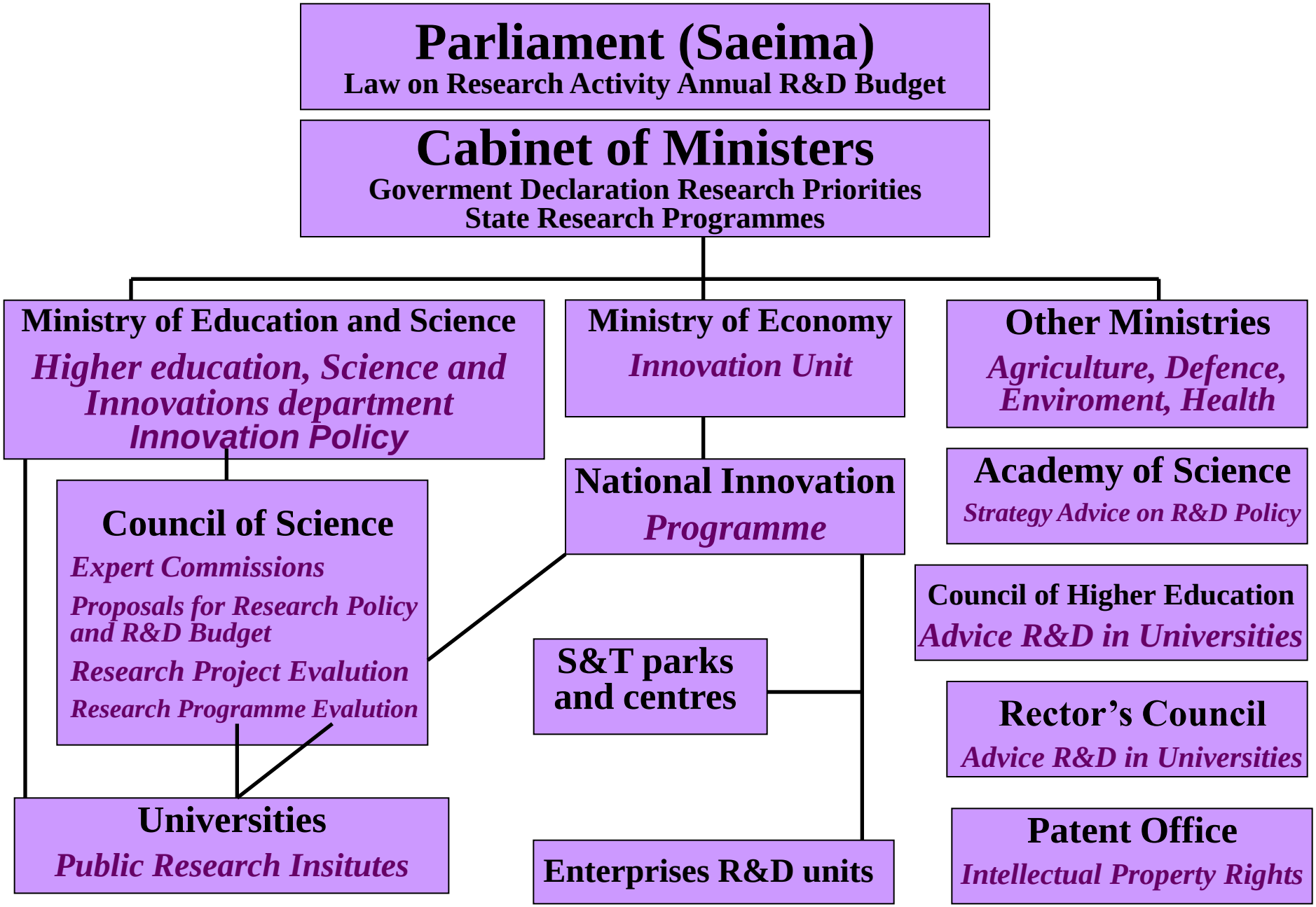
What should really funcionating National Innnovation System consist of?


Education
Science
Legislation
(Government)
NIS
Financial
System
Entrepreneurship
(Innovative Companies)

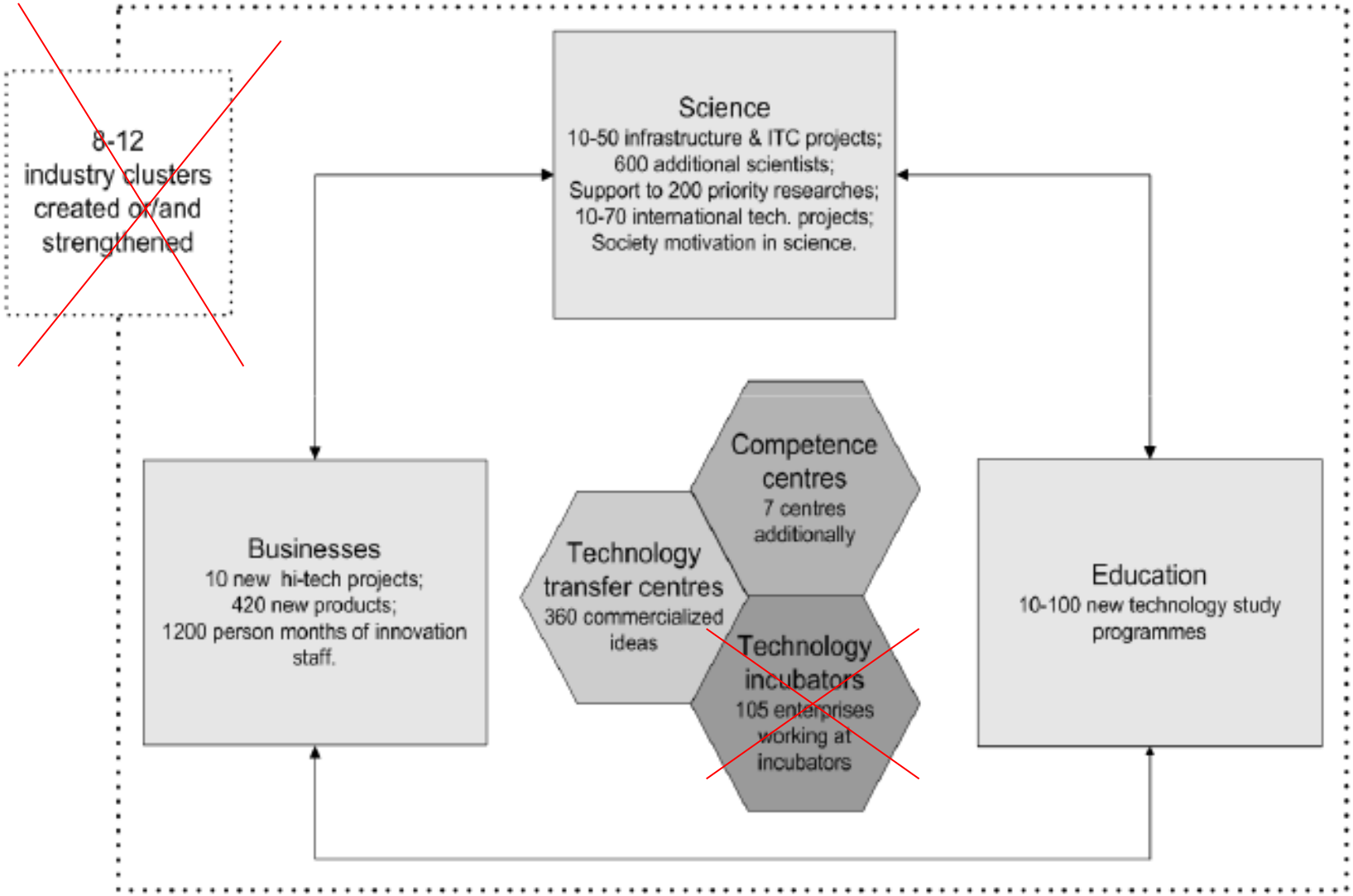

Education
Science
Social policy
Labor policy
Education policy
Research and
Technology policy
Industral policy
Energy policy
Environment
policy
Legislation
(Government)
Financial
System
Entrepreneurship
(Innovative Companies)

How governance of R&D+I in Latvia is organized?

Latvian Research and Innovation Governance Structure



Innovation System of Latvia 2007-2013



Science Infrastructure

Centres of scientific excellence

New materials
Institute of Solid State Physics of the University of Latvia

Biomedicine
Biomedical Research and Study centre

Pharmaceutical chemistry
Latvian Institute of Organic Synthesis

Information technologies
Institute for Mathematics and Informatics of the University of Latvia

Electronics
Institute of Electronics and Computer Science

Wood chemistry
Latvian State Institute of Wood Chemistry

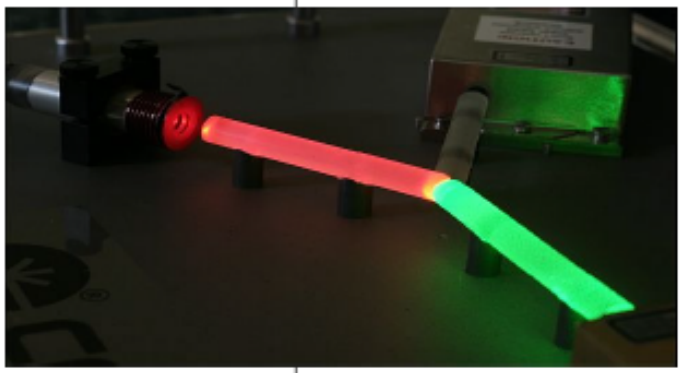
Magnetohydrodinamics
Institute of Physics of the University of Latvia

Space observations
Ventspils International Radio Astronomy Center

Riga Technical University and University of Latvia as main resource of scientific knowledge

Investments in infrastructure

- **2004-2006 more than 35 MEUR invested in modern research infrastructure**
- **2008-2013 additional 210 MEUR under disbursement**



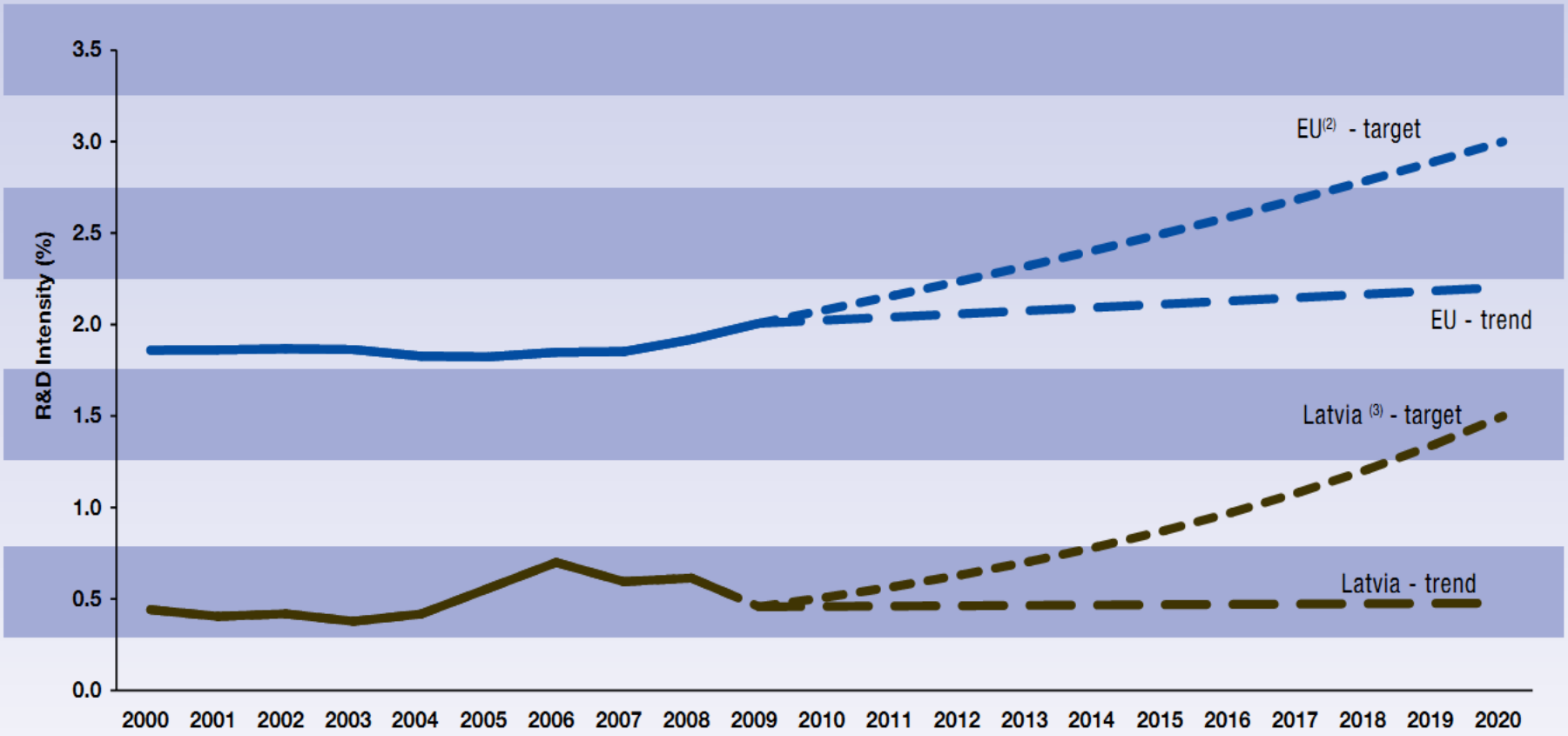
How R&D+I in Latvia is funded?

Innovation Union Competitiveness Report 2011

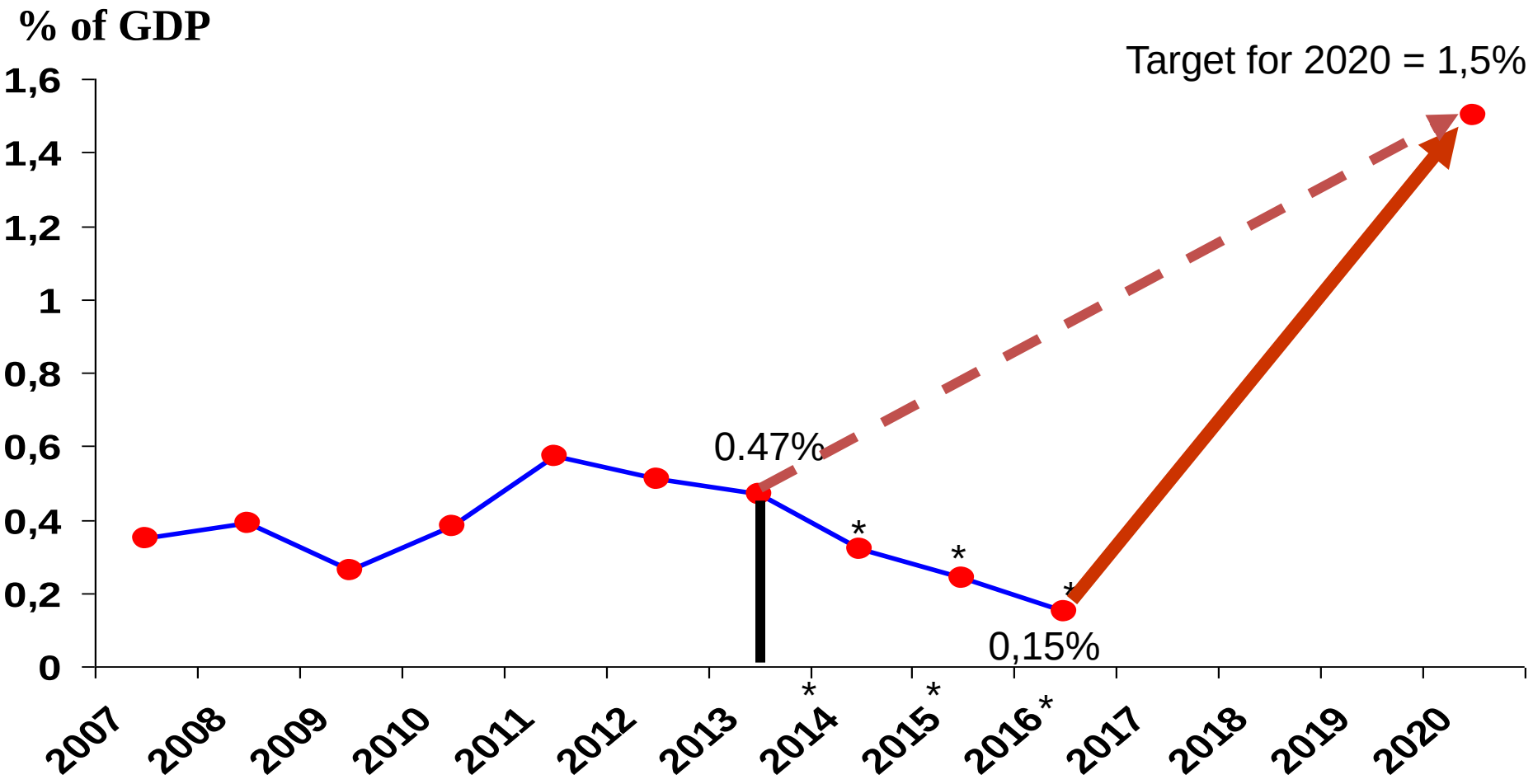
http://ec.europa.eu/research/innovation-union/pdf/competitiveness-report/2011/countries/latvia.pdf#view=fit&pagemode=none

LATVIA

R&D Intensity projections, 2000-2020[1]

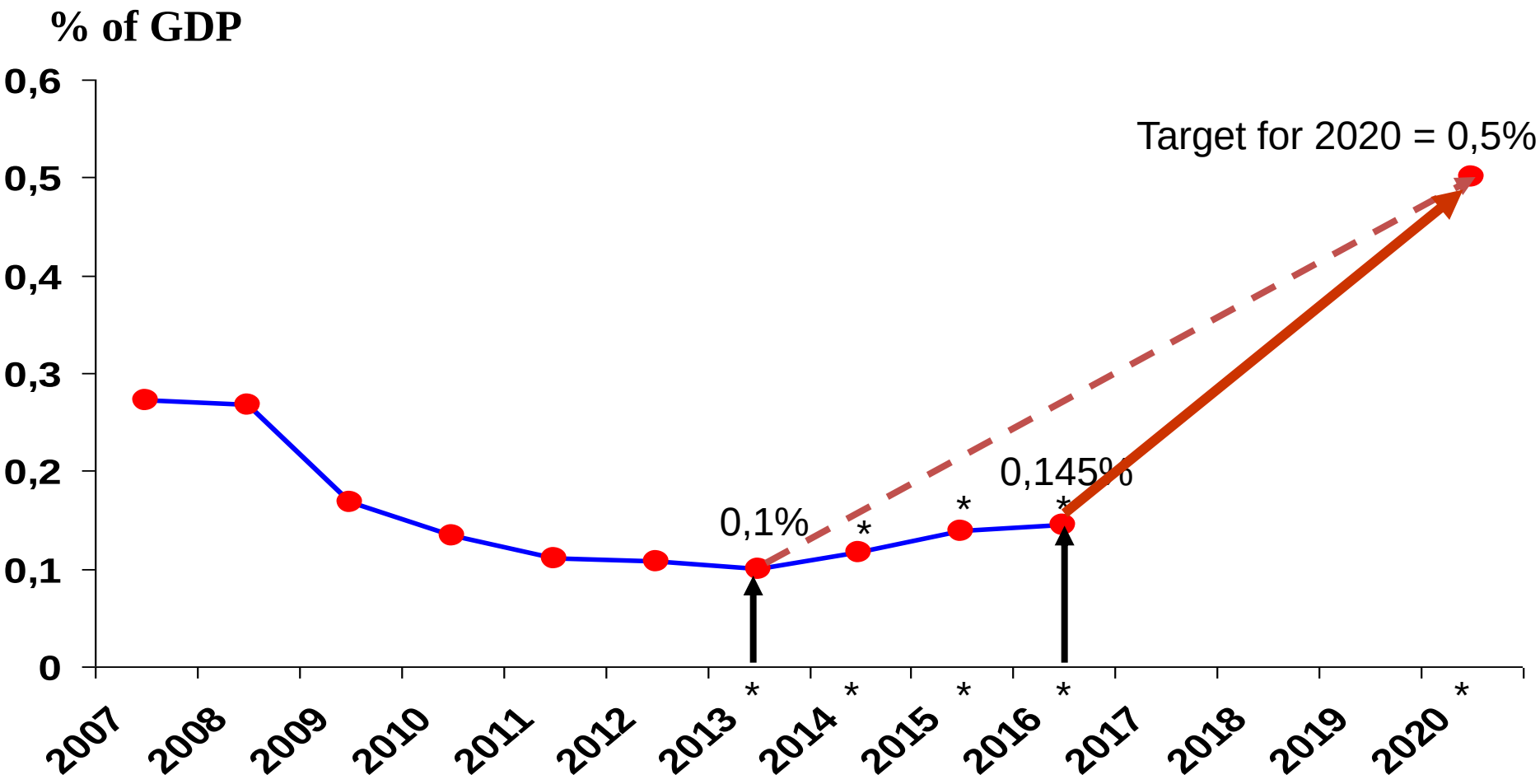


The allocation of funds for R&D+I in Latvia (in total)



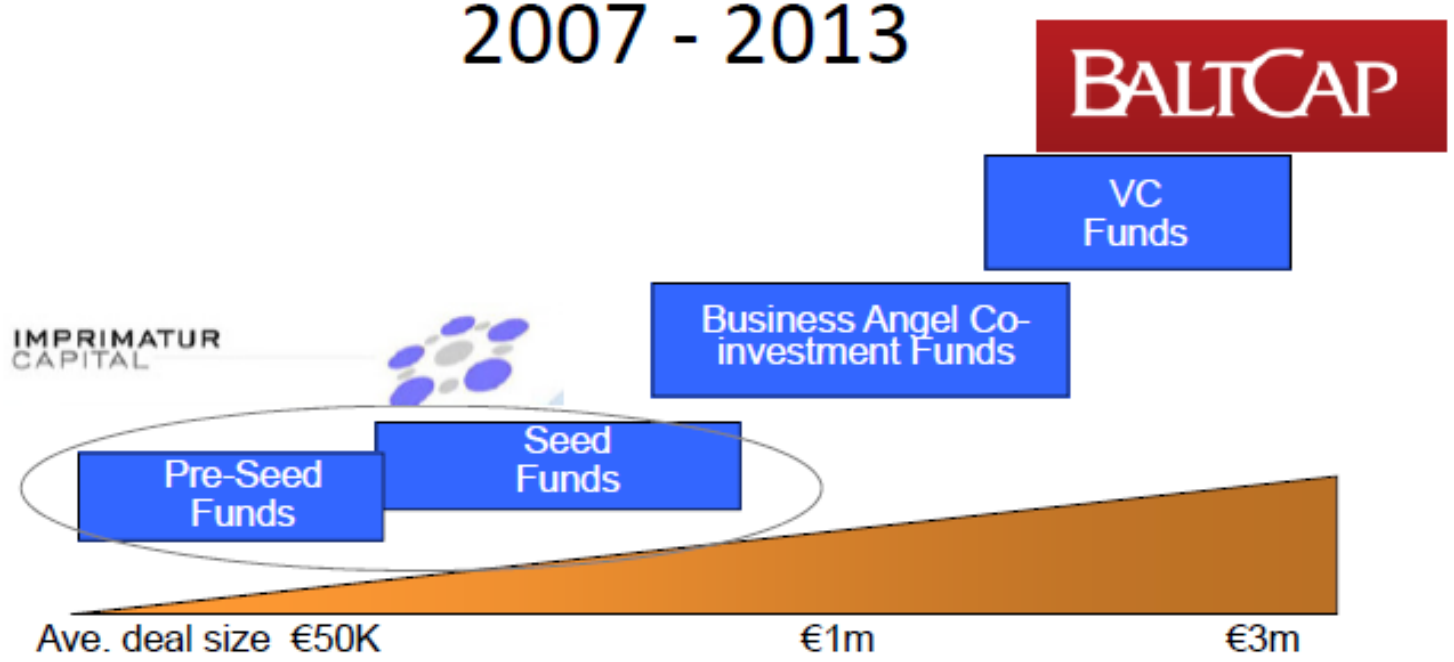
*) Planned, funding from EU programs (2014-2020) not included, because not allocated yet

The allocation of state budget funding for R&D+I in Latvia (in total)



*) Planned

Venture capital instruments 2007 - 2013



5 Pre-Seed projects (MolPort, Naco Technologies, BuzzPodium, E-Tag, Blue Bridge Technologies)

3 Investments (Primekss, EUROLCD, Oobelisk)

Key policy directions and support instruments 2007-2013

Key priority areas – Development of cooperation between enterprises and researchers & Support for development of innovative enterprises

Competence Centres (2010-2015)	6 projects 53 MEUR public financing + 30 MEUR private co-financing Pharma and Chemistry Competence Centre of Latvia Environment, Bioenergetics and Biotechnology Competence centre
Clusters (2012-2015)	11 projects 3,4 MEUR public financing + 1 EUR private co-financing Life Science Cluster of Latvia

Development of New Products and Technologies

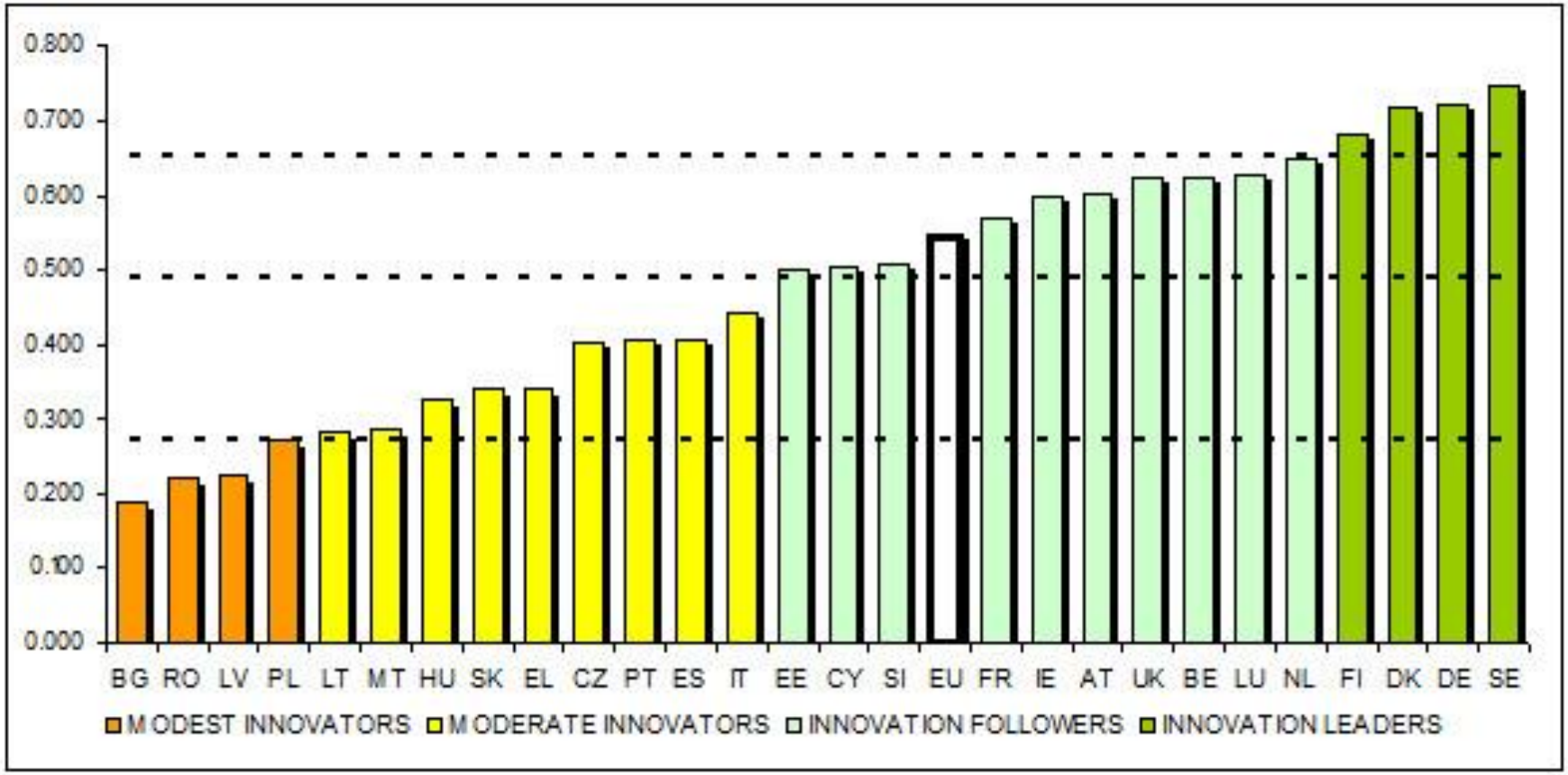
- **Objective**: to provide support for development of new and/or significantly improved existing products, services, or technologic processes, as well as to promote enterprises to invest in research and development (R&D)
- Program covers almost all new product development phases including the introduction of the on stream production of the product

	Total Amount (MLVL)	Max Support in MLVL	Submitted Projects (amount., MLVL)	Approved Projects (amount. MLVL)
Development of New Products and Technologies	8,3	0,350	291 (30.6)	120 (8)
Introduction of New Products and Technologies	38,0 34,0	0.350 1.0	91 (20.2) 183 (58.1)	56 (11.8) 113 (35.7)
Protection of Intellectual Property	0,17	0.020	32 (0.42)	17 (0.24)

How R&D in Latvia is linked to innovation?

EU Member States' innovation performance

2011



http://ec.europa.eu/enterprise/policies/innovation/facts-figures-analysis/innovation-scoreboard/index_en.htm

PROBLEMS AND CHALLENGES

- Low productivity level of enterprises and low share of innovative companies
- Lack of market-driven access to capital, difficulties to attract foreign direct investments
- Underdeveloped advanced business services and slow take-up e-commerce
- Fragmented RTD&I system
- Shortage of skilled labour
- Failings of the Latvian judicial system hindering business and economic activity
- Corruption

/Position of the Commission Services on the development of the Partnership Agreement and Programmes in Latvia for the period 2014-2020 (12.2012)/

Key policy directions and support instruments

2007-2013

- **DEVELOPMENT OF RESEARCH POTENTIAL**
- Support for doctoral studies and young scientists
- Support for fundamental and applied research (5 State research programmes)
- Support for scientific infrastructure development (9 National level research centres)

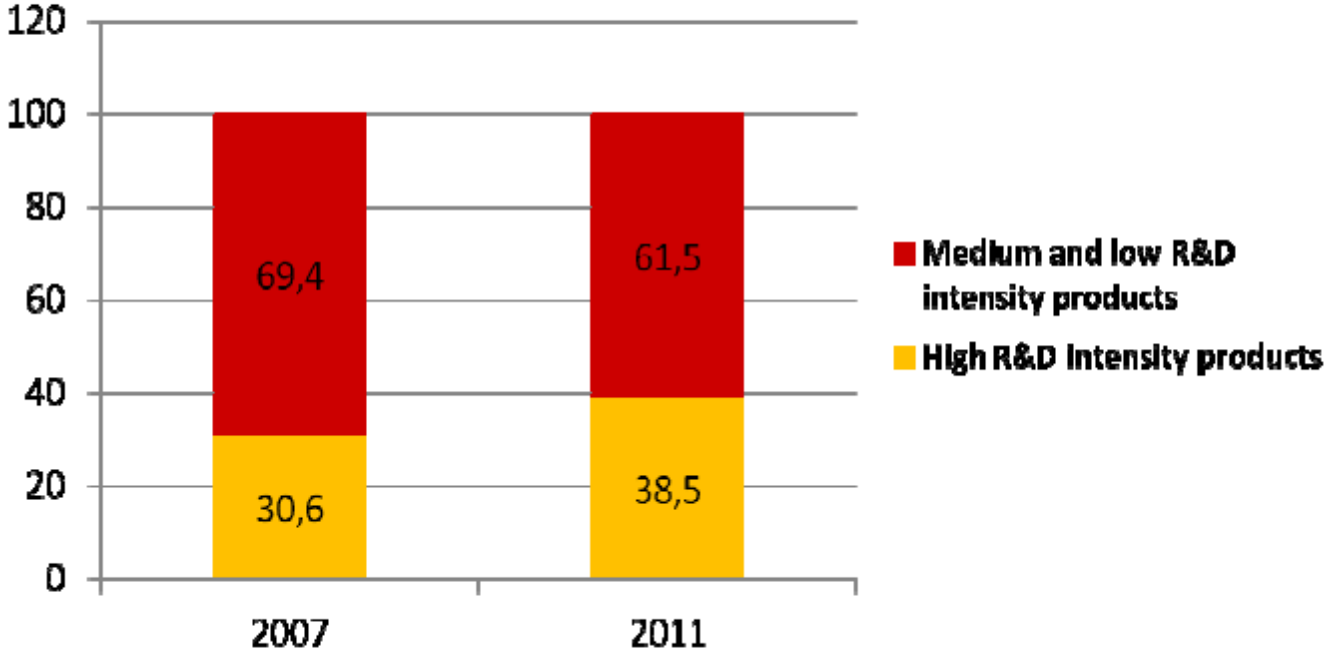
- **DEVELOPMENT OF COOPERATION BETWEEN ENTERPRISES AND RESEARCHERS**
- Support for knowledge-intensive industrial research and product development (6 Competence centres)
- Support for clustering (11 clusters)

- **SUPPORT FOR DEVELOPMENT OF INNOVATIVE ENTERPRISES**
- Grants for enterprises in order to support industrial research, experimental work, prototyping and production equipment acquisition
- Seed and venture capital investment fund
- Innovation vouchers (NEW)
- Business incubation services for start-ups, in particular for green technology development (NEW)

Economic development trends

Qualitative changes in Latvian export structure

Share of high and medium-high R&D products in export (%)



How Latvia as a small economie can improve the competitivenes?

Recommendations of EU.

Recommended funding priorities for Latvia

- Innovative and competitive business and research environment
- Modern infrastructure for growth and jobs
- High employment, skilled people and inclusive society
- Energy efficiency and sustainable management of natural resources

Weakness of Latvia is low competitiveness and poor research and innovation performance

Task: to improove innovative and competitive business and research environment

Optimising RTD&I infrastructure and capacities and expanding international co-operation

- Further rationalisation, consolidation of RTD&I structures and activities on the basis of smart specialisation strategy
- Increase the participation of private sector in RTD&I
- Fostering links between research and industry
- Opening up the national RTD&I system for international co-operation, development of clusters and networks
- Highly qualified scientists and engineers

Low competitiveness and poor research and innovation performance

Innovative and competitive business and research environment

Optimising RTD&I infrastructure and capacities and enhancing SMEs competitiveness and innovation

- Increase competitiveness of primary producers - enhanced cooperation between enterprises and R&I
- Development of networks and cooperation (European Innovation Partnerships)
- Support to modernisation
- Business opportunities from resource efficiency

Low competitiveness and poor research and innovation performance

Innovative and competitive business and research environment

Strengthening private research and creating an innovation-friendly business environment in marine and maritime sectors

- Explore the potential for growth in marine and maritime sectors in line with the Blue Growth initiative
- Mature marine sectors with high potential if adapted to new challenges: coastal and cruise tourism, maritime transport.
- Sectors with high innovation and growth potential: biotechnology, blue energy

Chalanges for Latvia

- Today Latvia's economic development is driven by low wage cost FDI
- National Development Plan forseens to induce the change to high value added, knowledge-intensive development

- **<u>Unique Opportunity</u>: to promote and accelerate the economic growth, competiveness of Latvia by targeted investing in R&TD and innovation infrastructure both EU and national financial recources (2014-2020)**

BIRTI

What is needed to become smart and sustainable?

Large economies:

- are self-oriented (because big market volume)
- have high level of human and financial recources and therefore are polypotent (smart specialisation is not crucial)
- have high level research potential in comercial sector and therefore public support for R&TD+I is not cruccial

Small economies:

- have to be export-oriented even in R&D sector (because small home-land market volume),
- posesses limited level of human and financial recources and therefore smart specialisation and regional and international co-operation is necessary,
- have low level research potential in comercial sector, because lack of big enterprises with own research centres and therefore public support for R&D is cruccial

3S Strategy for future development

Latvia as a small economie has to identified R&DT+I areas, where we have scientific excelence, human and material recources, traditions and capacities for fast and extended growth and where a market niche in EU and world for our products and services can be developed and then to perform targeted investments to create a regional complementary infrastructure for R&D&I in these sectors

What Latvian scientists and innovative enterpreneurs suggested to do?

We recommend to create BIRTI platform

BIRTI means open access R&DT&I infrastructure, which is:

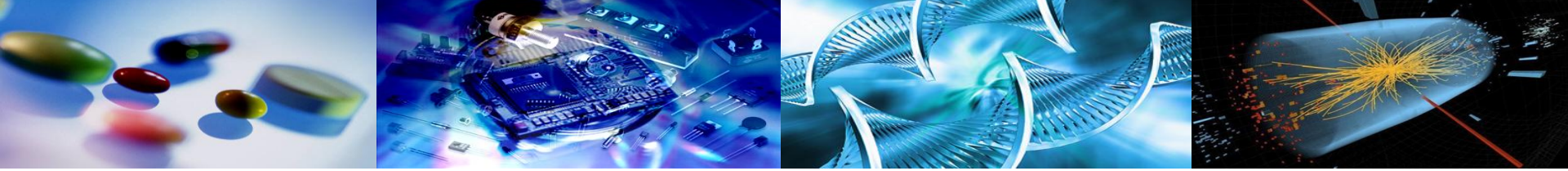
- innovation targeted,
- top level,
- complementary in Baltic region,
- supporting high tech and high added value production

“Baltic Institute of Research, Innovation and Technology”

Platform for synergestical development of RTDI infrastructure and technological cooperation in Baltics

BIRTI Platform in Latvia include three Clusters:

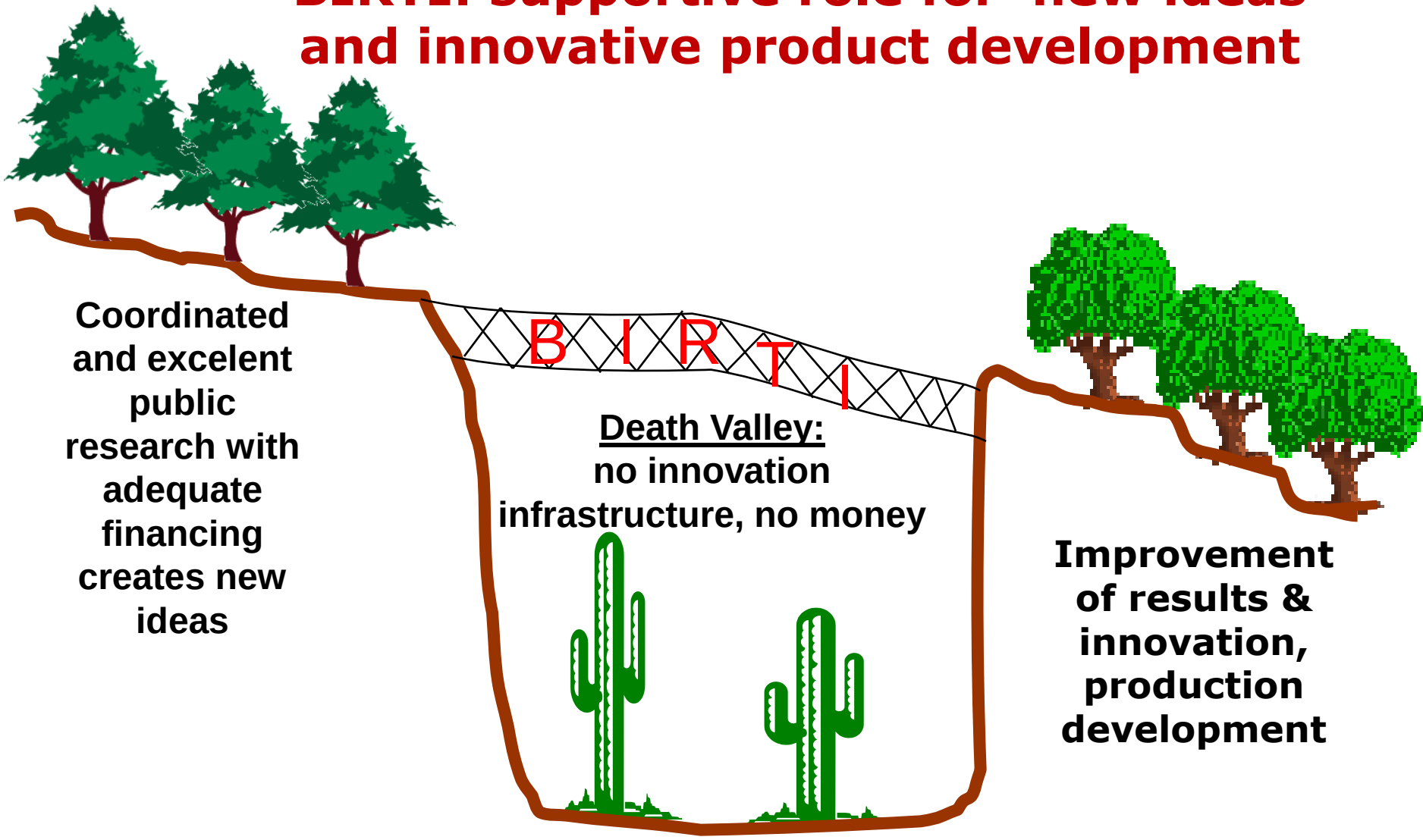
- Biopharmacy and Organic Chemistry, BioPharmAlliance;
- Nanostructured Materials and High Energy Radiation, NanoTechEnergy;
- Smart Technologies in Engineering a ICT, BaltSmartTech.



Key points of BIRTI activities

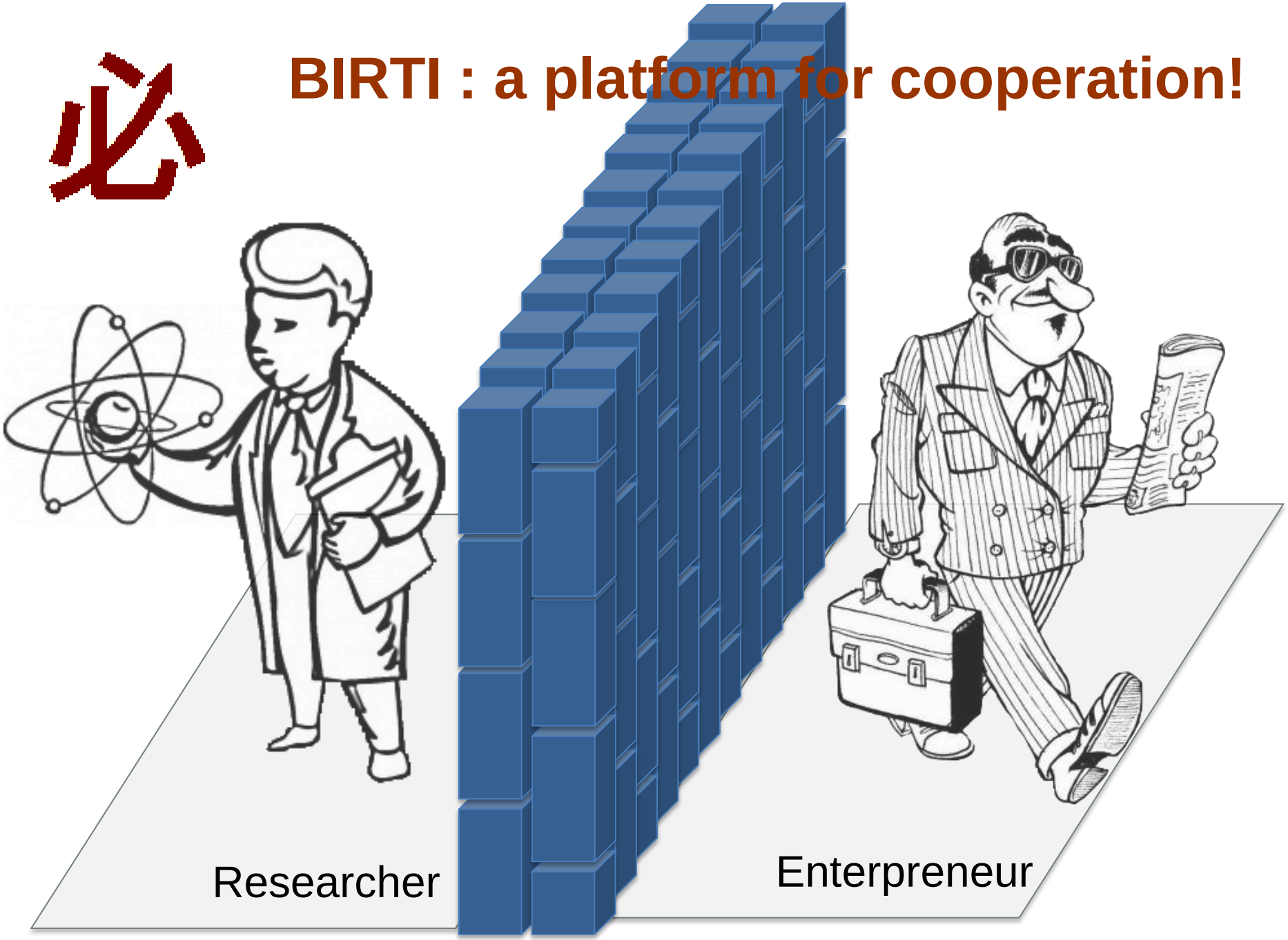
- **Research:** upgraded laboratories in the universities, research institutes and hospitals, where innovation potential is created. Also study and lifelong learning is provided;
- **Technology development and transfer:** research and technology park structures with multiple support any possibilities for prototype development, possibilities for approbation and scaling of new innovative products` or services` development;
- **Innovative business:** experimental plants and enterprises where internationally competitive goods and services with added value are produced.

BIRTI: supportive role for new ideas and innovative product development



Modified: Dr. Charles Wessner, USA

BIRTI : a platform for cooperation!



BIRTI : a platform for cooperation!

Researcher

Enterpreneur

BIRTI platform

Challenges for R&DT+I in Latvia!

2013. **2015.** **2020.**

Thank you for attention!