



# Weekly Briefing

**Latvia economy briefing:**  
**The science and technology innovation mechanism of Latvia**  
**Nina Linde**

## **China-CEE Institute**

Kiadó: Kína-KKE Intézet Nonprofit Kft.  
Szerkesztésért felelős személy: Chen Xin  
Kiadásért felelős személy: Huang Ping

 1052 Budapest Petőfi Sándor utca 11.  
 +36 1 5858 690  
 office@china-cee.eu  
 china-cee.eu

## The science and technology innovation mechanism of Latvia

The aim of the Science and Technology Innovation Mechanism in Latvia is to provide a **knowledge base for the transformation of the national economy to higher added value**, which was reflected in the Guidelines for Science, Technology Development and Innovation (hereinafter - STI) for 2014-2020.

In the period of 2014-2020, the development of the STI policy was closely related to the development of the National Industrial Policy in relation to the establishment of the national innovation system for the structural transformation of the Latvian economy into higher added value. Furthermore, the tasks were to concentrate resources in the strongest scientific institutions and to align research with the priorities of Latvia's smart specialization. During this period, the development of universities as centres of knowledge, technological development and innovation was started by integrating scientific institutes into universities and setting innovation-related goals. In the field of science policy management, the evaluation of research project applications in accordance with the standards of the European Union was introduced, and the basic principles of funding and strategic management of scientific institutions were based on performance.

Within the framework of the Latvian National Industrial Policy, innovation and increase of its capacity is one of the main pillars to improve the competitiveness of Latvia's industrial sectors and increase productivity and export volumes. The guidelines set out four equally important elements for the development of the Latvian innovation system - **knowledge capacity, innovation supply, innovation demand, transfer system**.<sup>1</sup>

Currently, the work of institutions on the new document - the draft guidelines for the development of science and technology for 2021-2027 is underway.<sup>2</sup> The document defines Latvian research and innovation as an integral part of the European and world common research

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<sup>1</sup> <https://innovation.lv/inovacija/inovacijas-politika-latvija/>

<sup>2</sup> <https://izm.gov.lv/lv/aktualitates/4188-aicina-iesaistities-zinatnes-tehnologijas-attistibas-un-inovacijas-pamatnostadnu-2021-2027-gadam-sabiedriskaja-apsprisanu>

area, therefore its development must be directed considering both national development priorities and international processes and global challenges. Comparing to the previous programming period, the new document focuses more on **promoting research excellence and increasing the social and economic value of research**. The low level of R&D investment remains a challenge to ensure the long-term development of excellent research and innovation. Both an increase in state budget funding for research and the amount of investment in the business sector would be needed.

The strategic overarching goal of the STI policy is to promote the development of a smart, technologically developed and innovative society in Latvia, three goals have been set to achieve it:

- 1) to develop **research excellence and international cooperation**;
- 2) increase **innovation capacity and the social and economic value of knowledge and research**;
- 3) to improve the **efficiency of the management of the R&D** system.

In order to develop research excellence and international cooperation and for Latvia to fully integrate into the European and world research area, it is necessary to create an environment that stimulates the development of talents and supports the formation of purposeful and motivated research human capital in the long run. Achieving the goal requires stable and sustainable **scientific funding, and competent academic staff** with extensive networks.

Public funding for science in Latvia is still insufficient. Investment in science still does not exceed 50-million-euro threshold. The funding of the science base is unchanged from 2017 to 2022 - slightly over 27 million *euro*. Funding for public research programs is declining sharply, and the budget plans to halve it (see Table 1).

**Table 1.** State funding in the budget program “Science” of the Ministry of Education and Science”<sup>3</sup>

	2017	2018	2019	2020	2021	2022
Investment in science	47 917 797	51 046 323	49 636 054	49 947 565	49 703 576	50 937 391
Provision of scientific activity	4 912 518	12 296 785	12 511 033	13 120 468	14 620 468	16 120 468
Science base funding	27 187 532	29 484 155	27 866 590	27 786 688	27 636 444	27 636 444
National research programs	8 880 940	3 151 396	3 745 778	4 368 041	2 874 010	2 874 010
Ensuring the operation of the Latvian Science Council	99 128	99 367	99 894	99 894	99 894	99 894
Participation in EU research and technological development programs	5 334 897	4 708 556	4 208 971	3 368 686	3 267 483	3 001 298

The scientific excellence of the Latvian R&D system is insufficient for rapid smart growth, and this is directly related to low R&D investment, which in the 2014–2020 programming period ranged from 0.44 to 0.69% of GDP with a low share of private investment (National target for 2020 - 1.5% of GDP).

At present, the number of people employed in research in Latvia is still critically low (both in terms of the total number and the share in the total structure of the country's workforce), reaching only ~ 50% of the EU average. The share of innovative small and medium-sized enterprises in Latvia is one of the lowest in the EU - 30.3% (EU average 49.1%). The structure of Latvian industry is mainly characterized by low-tech companies. Latvian companies have insufficiently developed intersectoral and intersectoral co-operation, especially co-operation with research institutions in Latvia and abroad, as well as a weak capacity for commercialization of research results. Knowledge-intensive services account for almost 50% of total service exports. The share of medium and high technology products in total exports is 34.7% (EU average - 56.7%).

<sup>3</sup> <https://www.izm.gov.lv/lv/zinatne/zinatnes-finansejums>;  
[https://titania.saeima.lv/LIVS13/saeimalivs13.nsf/webAll?SearchView&Query=\(Title\)=\\*par+valsts+bud%C5%B Eetu+2020.gadam\\*\)&SearchMax=0&SearchOrder=4](https://titania.saeima.lv/LIVS13/saeimalivs13.nsf/webAll?SearchView&Query=(Title)=*par+valsts+bud%C5%B Eetu+2020.gadam*)&SearchMax=0&SearchOrder=4);  
[https://titania.saeima.lv/LIVS13/saeimalivs13.nsf/webAll?SearchView&Query=\(Title\)=\\*par+valsts+bud%C5%B Eetu+2019.gadam\\*\)&SearchMax=0&SearchOrder=4](https://titania.saeima.lv/LIVS13/saeimalivs13.nsf/webAll?SearchView&Query=(Title)=*par+valsts+bud%C5%B Eetu+2019.gadam*)&SearchMax=0&SearchOrder=4)

R&D&I<sup>4</sup> development and investment, as well as the creation of new businesses, are hampered by existing market failures in the availability of finance for economic operators at all stages of development.

As academic and research staff form intellectual capital to develop the capacity of all sectors of the Latvian economy, Latvia is implementing measures that provide high-quality and internationally competitive academic and research career development opportunities, stimulate and provide opportunities for the involvement of bachelor's and master's students, doctoral students and young researchers in research work in scientific institutions, companies, public administration and public institutions, public organizations and promote mobility for the circulation of knowledge.

In order to strengthen scientific excellence and international cooperation, it is necessary to develop appropriate research, including digital infrastructure that promotes the quality of higher education and research. In order to improve international competitiveness and recognition, the involvement of Latvian researchers in strategically important cooperation networks and research consortia with other European and world countries should be promoted, including by using the opportunities provided by cooperation partners and the Latvian diaspora worldwide.

Excellence-oriented research infrastructure, funding and competent academic staff are prerequisites for the development of excellent and internationally competitive research, the creation and transfer of knowledge, as well as the provision of high-quality, research-based higher education and the training of highly qualified professionals.

Latvia still needs to **develop digital competences and skills**, as it limits the potential for innovation in companies, as well as hinders participation in lifelong learning and the participation of the unemployed in active employment measures. Latvians lack digital skills at all levels and the share of ICT specialists in the workforce is low. Only 43% of the Latvian population aged 16-74 have basic digital skills (58% in the EU as a whole), and ICT

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<sup>4</sup> R&D&I – Research and Development and Innovation

professionals make up a small part of the workforce (1.7% compared to 3.9% in the EU, while ICT professionals as a percentage of employed women) is only 0.5% compared to 1.4% in the EU).<sup>5</sup>

## Conclusions

Therefore, the ability to add value from knowledge is directly linked to **the competences and capacity of those working in research, the demand of the private and public sectors for research and the amount of funding allocated to research and innovation**. In order to reap the long-term return on investment in research and technological development, targeted measures are needed to develop public and private sector research and innovation capacity, as well as cooperation, ensuring both the development of basic science and the digital transformation of R&D systems and open science culture. Furthermore, the transfer between research and the business environment, the public sector and society at large, at national, regional and international levels.

The development and availability of an open, secure and interoperable public data infrastructure for research and innovation, as well as the transformation of traditional economic sectors in the regions towards greater resource efficiency and productivity, the creation of higher value-added products and services, are also essential for an efficient knowledge and technology transfer system. As well as, technologically intensive, internationally competitive, incl. niche markets, the development of innovation. The value of science as a socially and economically important field of intellectual activity lies in the direct social, economic and measurable benefits of research, as well as the diverse knowledge and understanding of wider interconnections and processes. In order to increase the value of knowledge and research in society, it is essential to create public awareness of the research and knowledge creation process, as well as to provide wider opportunities for public involvement in scientific research activities, creation and use of research data, incl. within the framework of amateur science initiatives.

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<sup>5</sup> Digital Economy and Society Index 2020