

# Technology Transfer Office as a Support Structure for Innovation Management: The Experience of Latvia

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## ABSTRACT

The study describes a support structure – technology transfer office for knowledge and technology management in Latvia between 2007 and 2023. The analysis is based on the operational programme of the Latvia for 2007–2013, 2014–2020, and 2021–2027.

## KEYWORDS

Innovation management, Technology transfer office, TTO, Strategy.

## 1 INTRODUCTION

The analysis of the role of technology transfer offices in university-industry cooperation has received much attention in academic literature, especially as an interdisciplinary topic. It is important to point out that knowledge and technology transfer processes are influenced by personnel capacity and experience, university resources, legal framework, institutional arrangements, political and other issues [1].

In Latvia, technology transfer offices have existed for more than 15 years. The first six Technology Transfer Offices (TTOs) were already established in 2005, funded under the support programme established by the Ministry of Economics. Three years later, during the 2007–2013 programming period of the EU funds, the activities of the TTOs were supported by the Operational Programme “Entrepreneurship and Innovation”, under which eight TTO projects were approved and implemented in the period 2008–2013 in Latvian scientific institutions and universities [2]. The main performance indicators of the programme were related to the implementation of the classical forms of TTO tasks, such as the number of contracts for commissioned research, provision of research services and sale of industrial property or rights to use it, the number of applications for industrial property objects, the number of commercialisation offers, as well as revenues from contract research and/or licensing agreements [2].

At the end of the 2013 programming period, targeted public funding for TTO activities was reallocated to various activities to promote knowledge and technology transfer. During the programming period, a new support unit was created in the technology transfer system – Technology Scouts. The Scouts were active at the University of Latvia, Riga Technical University and in the following sectors: bioeconomy, smart materials and information and communication technology (the

following sectors were planned: bioeconomy, smart energy, biomedicine, smart materials, information and communication technologies). The aim of Technology Scouts is to foster cooperation between researchers and entrepreneurs by helping to find the right research organisation and researcher to solve a problem [3]. From the analysis of the programming documents, no information is available on whether the Scouts will be supported in the next programming period.

## 2 CASE STUDIES

In 2023, an analysis of the planning documents shows that in Latvia, technology transfer offices or more developed units of them are operating in science universities (in one case with transformation features). The objectives of the science university are also related to technology transfer – to develop research, study, innovation, technology transfer and business incubation processes that ensure dynamic development of the economy and the emergence of new, modern economic sectors [4].

The strategies of universities and research institutes indicate an important role for knowledge and technology transfer activities. Riga Technical University has indicated in its 2023–2027 Strategy that the development of the Science and Innovation Centre will be supported, including the scaling-up of the operational model by providing for a binding second-level strategic planning document – Innovation Development Strategy, the implementation of which is the responsibility of the Vice Rector of Innovations [5]. In turn, the 2021–2027 Strategy [6] of the University of Latvia sets out a number of tasks, such as: to establish a support system for know-how and technology transfer; to expand the involvement of entrepreneurs as research cooperation partners in all areas of science; to develop entrepreneurial skills and expand students' involvement in creating innovations; to develop an open science approach. It should be noted that the Institute of Solid-State Physics, University of Latvia, also pays significant attention to knowledge and technology transfer activities, which is also indicated in the 2017–2026 Strategy [7].

The 2022–2027 Strategy [8] of Rīga Stradiņš University states that the growth of internationally high-quality scientific results should be promoted by organising the development of research and innovation in research centres of excellence and innovation. As well as increasing the revenues of scientific activities from the private sector, from which the author concludes – both performance indicators of TTOs are included, as well as revenues

from the licensing or sale of contract research and industrial property.

On the other hand, the 2023–2027 Strategy of Latvia University of Life Sciences and Technologies describes technology transfer in this science university in great detail. Knowledge and technology transfer is one of the priority tasks for which a Knowledge and Technology Management Plan has also been developed, with tasks such as promoting the commercialisation of intellectual property through performance indicators, developing innovation and entrepreneurial skills of personnel [9].

The analysed science university strategies foresee knowledge and technology transfer activities which will be organised directly or indirectly by the relevant competent bodies – TTOs or similar innovation management structures. It is noticeable that in the 15 years of development of the TTO, there has been a significant accumulation of experience in the organisation of commissioned research with industry, in the marketing of science, in the development of a strategy for the commercialisation of scientific developments and in the organisation of the licensing process, including a strategy for the registration of intellectual property rights, in those scientific institutions that continued to fund TTO activities in the 2013–2017 programming period and beyond.

It is important to note that TTOs have established networks, e.g., the Baltic TTO Network was established in 2022 with the support of WIPO with the aim of promoting the exchange of knowledge and technology transfer experiences and practices between Latvia, Lithuania and Estonia, as, for example, the regulatory framework for knowledge valorisation is relatively similar.

However, during the development of the TTO, a stable funding stream is needed to enable the TTO to be self-financing after a certain period of time. As the implementation of RIS3 in Latvia also requires the development and accessibility of knowledge and technology transfer and the commercialisation of research results in all RIS3 specialisation areas and in the social sciences and humanities as an area with horizontal implications for RIS3 implementation, the Ministry of Education and Science ensures targeted investment in the development of the R&D system as well as RIS3 monitoring, while the Ministry of Economics should provide business sector analytics [10]. In parallel with the development of programmes for technology transfer, commercialisation of research results and development of new products and services, e.g., “Regulations for the implementation of measure 1.2.1.2 “Support for the improvement of the technology transfer system” of the specific support objective 1.2.1 “Increase private sector investment in R&D” of the Operational Programme “Growth and Employment”.

Within the framework of the Recovery and Resilience Facility activity 5.1.1.1.i. “Development and continuous operation of a fully-fledged innovation system governance model”, the project implements a new innovation governance model in RIS3 areas, fostering the development of innovation ecosystems in RIS3 areas, for example by fostering knowledge and technology transfer between ecosystem actors, i.e., through triple-helix, which led to the creation of 5 RIS3 Steering Groups in October 2022: Biomedicine, Medical Technologies, Pharmaceuticals; Information and Communication Technologies; Photonics, Smart Materials, Technologies and Engineering Systems; Knowledge Intensive Bioeconomy; Smart Energy and Mobility, aiming to create a dialogue between stakeholders in the RIS3 value chain ecosystems – companies, research organisations,

policymakers (sector ministries) and implementers, industry associations, various networks, investors, universities, etc.[11].

In view of the above, a direct publicly funded support mechanism for TTO and technology scouting activities in scientific institutions is not planned to be introduced in the planning period from 2024, thus leaving the maintenance of administrative activities for knowledge and technology transfer to the responsibility of scientific institutions.

### 3 CONCLUSIONS

In Latvia, there is a very pronounced institutional gap in the organisation of knowledge and technology transfer processes. Strong innovation management centres are emerging in some universities and research institutions, combining publicly funded support instruments with private institutional resources to develop organisational and legal issues of knowledge and technology transfer, build a strong panel of experts, and develop international relations with the industry. In scientific institutions and universities without the financial resources to provide focal points, the coordination of TTO activities is reallocated within existing human resources, thus not creating strong centres for TTO development.

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### REFERENCES

- [1] Bonaccorsi, A., & Piccaluga, A. (1994). A theoretical framework for the evaluation of university—industry relationships. *R&D Management*, 24, 229–247
- [2] Ekonomikas ministrija, 2016. 1.2.1.specifiskā atbalsta mērķa „Palielināt privātā sektora investīcijas P&A” 1.2.1.2.pasākuma “Atbalsts tehnoloģiju pārneses sistēmas pilnveidošanai” Sākotnējais novērtējums. Available at <https://www.em.gov.lv/en/media/10104/download>, Retrieved 2023/09
- [3] Investment and Development Agency of Latvia, Tehnoloģiju skauti. Available at <https://labsoflatvia.com/tehnologiju-skauti>, Retrieved 2023/09
- [4] The Saeima has adopted and the President has proclaimed the following law: Law on Higher Education Institutions. Available at <https://likumi.lv/ta/id/37967-augstskolu-likums>, Retrieved 2023/09
- [5] Riga Technical University, 2023. RTU Stratēģija 2023. - 2027. gada. See [https://files.rtu.lv/public/ortus/Strategija\\_RTU.pdf](https://files.rtu.lv/public/ortus/Strategija_RTU.pdf), Retrieved 2023/09
- [6] University of Latvia, 2021. University of Latvia Strategy 2021–2027, adapted version. Available at [https://dspace.lu.lv/dspace/bitstream/handle/7/61905/LU\\_strategija\\_buklets\\_2021.pdf?sequence=1&isAllowed=y](https://dspace.lu.lv/dspace/bitstream/handle/7/61905/LU_strategija_buklets_2021.pdf?sequence=1&isAllowed=y), Retrieved 2023/09
- [7] Institute of Solid State Physics, University of Latvia, 2017. Latvijas Universitātes Cietvielu fizikas institūta Stratēģija 2017–2026. Available at [https://www.cfi.lu.lv/fileadmin/user\\_upload/lu\\_portal/projekti/cfi/Citi\\_dokumenti/LU\\_CFI\\_Strategija\\_2017-2026.pdf](https://www.cfi.lu.lv/fileadmin/user_upload/lu_portal/projekti/cfi/Citi_dokumenti/LU_CFI_Strategija_2017-2026.pdf), Retrieved 2023/09
- [8] Rīga Stradiņš University, 2021. “Rīgas Stradiņa universitātes attīstības stratēģijas 2022.-2027. gadam izstrāde. Available at [https://www.rsu.lv/sites/default/files/docs/rsu\\_strategija\\_2027\\_kopsavilkums.pdf](https://www.rsu.lv/sites/default/files/docs/rsu_strategija_2027_kopsavilkums.pdf), Retrieved 2023/09
- [9] Latvia University of Life Sciences and Technologies, 2022. Latvijas Biozinātņu un tehnoloģiju universitātes attīstības stratēģija 2023.-2027. gadam. Available at [https://www.lbtu.lv/sites/default/files/2023-01/LBTU\\_Attistibas\\_Strategija\\_2023-2027\\_gala.pdf](https://www.lbtu.lv/sites/default/files/2023-01/LBTU_Attistibas_Strategija_2023-2027_gala.pdf), Retrieved 2023/09
- [10] Ministru kabineta rīkojums Nr. 246 Par Zinātnes, tehnoloģijas attīstības un inovācijas pamatnostādņu 2021.-2027. gadam; Rīgā 2021. gada 14. aprīlī (prot. Nr. 33 19. §). Available at <https://likumi.lv/ta/id/322468-par-zinatnes-tehnologijas-attistibas-un-inovacijas-pamatnostadnem-2021-2027-gadam>, Retrieved 2023/10
- [11] Investment and Development Agency of Latvia (LIAA). RIS3 vadības grupas - RIS3 pārvaldības operacionālais līmenis. Available at <https://www.liaa.gov.lv/lv/ris3-vadibas-grupas-ris3-parvaldibas-operacionalais-limenis>, Retrieved 2023/10