

# Research Organisation-Industry Cooperation and State Aid Rules in Slovenia and Europe

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## ABSTRACT

This study provides an international comparative view on state aid regulation in infrastructure use and intellectual property rights transfer in cooperative research and development projects within the European Research and Innovation Ecosystem. Technology transfer officers or similar profiles at research organisations were interviewed. Additionally, a desk research was performed. Annual reports were studied in order to identify the differentiation of economic and non-economic activity as well as good practices. Desk research included also rulebooks and related Slovenian & EU legislature in the field of contract and collaborative research.

## KEYWORDS

research organisation – industry cooperation, research services, intellectual property rights transfer, state aid rules, Slovenian and European research organisations, research and innovation ecosystem

## INTRODUCTION

The European Commission has set specific rules in the field of research, development, and innovation (R&D&I) to prevent market distortion. These rules are described in the European Framework for State aid for R&D&I (2022/C 414/01 [1]) and relate to the Article 107 (1) Treaty on the Functioning of the European Union.

We believe that knowledge and implementation of state aid rules regarding research services (economic activity), collaboration projects (non-economic activity) and intellectual property rights (IPR) are insufficient and could be improved, which was identified also by other authors [2], [3].

## 1 METHODOLOGY

In order to understand how state aid rules in academia-industry cooperation work in practice, we have performed a detailed analysis with an international comparative view. Experience and

good practices have been collected from different types of groups, i.e. researchers, industry, technology transfer managers, contract research managers and accounting officers. We have focused on Slovenian research organisations, in addition to which we included two European research organisations in order to make international comparison. In spring 2024 we concluded 8 in-person or online semi-structured interviews with R&D managers from 7 research organisations.

## 2 DESK RESEARCH RESULTS

### 2.1 Share of economic activity, rulebooks and pricelists

Our study comprised 13 Slovenian, 1 Czech and 1 Italian public research organisation (Table 1). As foreseen in articles 16 (ff) and 19 of EC Communication (2022/C 414/01), the research organisation has to account for the costs and the revenues of the economic activities separately. Different practices on how to do this exist among European research organisations. It was observed that most research organisations generate up to 20% of their revenues from economic activities. This correlates well with the maximum 20% capacity limit as foreseen in 2022/C 414/01 (it should however be noted that % of income may differ from % of capacity, which is the actual threshold value).

Some organisations in the study have around 50% of their activities classified as economic in nature. They most likely surpass 20% of economic activities' capacity limit. For this reason, they as whole cannot be considered as research organisations according to 2022/C 414/01. Only departments, laboratories or similar subunits of such organisations which do not surpass 20% of economic activities' capacity limit can be considered 'research organisations'.

In Slovenia, the new Law on Scientific Research and Innovation Activities (ZZrID) entered into force on 1 January 2022 [15]. In the same period, a Rulebook on procedures for implementing the budget of the Republic of Slovenia was updated. Article 119(b) requires each public research organisation to have an internal rulebook and pricelist regarding sale of products and services, i.e. economic activity [16]. Up to date, several Slovenian research organisations have prepared their rulebooks and pricelists, while many have not yet (at least they are not publicly available).

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The sizes of analysed organisations vary a lot, i.e. from 58 to 9560 employees. This strongly affects the organisational structure and extent of experience in a specific organisation.

**Table 1: Selected Slovenian and European research organisations and their info on economic activities.**

Organisation	Country	Share of economic activity in 2023	Rulebook for sale of products and services	Pricelist of products and services	Number of employees in 2023	Source
Slovenian National Building and Civil Engineering Institute	SI	53.6%	16.08.2022	11.01.2022	254	[4], [5]
University of Ljubljana, Faculty of Medicine	SI	48.2%	unpublished / under preparation	unpublished / under preparation	829	[4]
Agricultural Institute of Slovenia	SI	23.7%	unpublished / under preparation	28.11.2023	258	[4], [6]
Geological Survey of Slovenia	SI	15.0%	11.08.2022	23.02.2023	124	[4], [7]
Institute of Metals and Technology	SI	14.9%	unpublished / under preparation	unpublished / under preparation	58	[4]
University of Ljubljana, Faculty of Electrical Engineering	SI	12.0%	unpublished / under preparation	unpublished / under preparation	362	[4]
Jožef Stefan Institute	SI	10.2%	under preparation	unpublished, to be updated	1206	[4]
University of Ljubljana, Faculty of Mechanical Engineering	SI	10.0%	unpublished / under preparation	unpublished / under preparation	433	[4]
National Institute of Biology	SI	8.7%	3.11.2023	9.02.2023	194	[4], [8]
Czech Academy of Sciences	CZ	7.4%	different guidelines, decentralised	not identified, decentralised	9560	[9], [10]
University of Ljubljana, Faculty of Pharmacy	SI	6.2%	unpublished / under preparation	unpublished	199	[4]
National Institute of Chemistry	SI	5.0%	24.08.2022	24.08.2022	437	[4], [11]
University of Maribor	SI	4.5%	unpublished / under preparation	6.11.2023 (UM-FVV), decentralised	2121	[4], [12]
Consiglio Nazionale delle Ricerche	IT	0.47%	not identified, decentralised	not identified	8457 (year 2022)	[13], [14]
Faculty of Information Studies in Novo mesto	SI	0.03%	under preparation	under preparation	82	[4]

## 2.2 Good and bad examples of transparent bookkeeping and economic activity management

The transparency of studied research organisations is good. Yearly reports support this observation. However, due to differentiation in the reports' structure, the comparison is sometimes difficult. An additional challenge is the lack of standardisation in terminology.

One of the important messages of EC Communication 2022/C 414/01 is the requirement to differentiate economic (such as research service) and non-economic activities (such as collaborative research and knowledge transfer activities). It should be noted that in the Slovenian legislature and consequently other documents, terminology 'market activity' is used, which is not well defined. Sometimes it is used as 'economic activity' and sometimes as activity on the 'market', with again different interpretations ('market' as everything

outside Slovenian Research and Innovation Agency – ARIS; or everything related to for-profit organisations).

Several Slovenian institutes, such as National Institute of Biology, Institute of Metals and Technology, Slovenian National Building and Civil Engineering Institute, National Institute of Chemistry, and Agricultural Institute of Slovenia present their contract and collaborative research activities well. Some unclarity persists, which is also highlighted below in the translated sections of the annual reports. We assume that this is caused due to the use of vague terminology, as explained above, and the lack of differentiation between economic and non-economic activities.

The Consiglio Nazionale delle Ricerche defines its income and outcome well, but unlike other annual reports, its annual report is not supplemented with qualitative description. The annual report of the Czech Academy of Sciences (CAS) is very informative. Subunits (i.e. institutes of CAS) have their own

annual reports, which present their technology transfer activities well, while contract and collaborative research are inadequately described. Additionally, the financial part contains non-machine readable text, which cannot be easily translated.

### Examples

At the Jožef Stefan Institute, Horizon 2020 and Horizon Europe projects were classified as market projects, which were changed in 2022. From the total number of market activities' income, it was thus unclear which activities were economic and which non-economic.

At the National Institute of Chemistry, royalties and other revenues from patents are classified as a group of market revenues instead of a group of non-economic activities. In the case that market revenues are considered economic activities, this classification is false.

At the National Institute of Biology as well as some other Slovenian research organisations, collaboration projects with industry such as ARIS applied projects (TRL1-4) are classified

as a market activity in the annual report 2023. However, it is not clear from the annual report that this is a non-economic activity.

In Table 2, we can see a very good delimitation between contract research ('laboratory services') and collaborative research ('research projects with industry'). However, these two categories are later wrongly joined into one category, 'income from goods and services on the market' (Table 3). We believe this is not an isolated case among research organisations.

**Table 2. Income from market activity of the Institute of Metals and Technology (IMT). Annual report of IMT for 2023, p. 99 [1].**

	2023
Laboratory services	326,756.14
Research projects with industry	325,486.68
The rest	9,267.83
Market together	661,510.65

**Table 3. Statement of income and expenses of the Institute of Metals and Technology (IMT). Annual report of IMT for 2023, p. 80 [1].**

Breakdown of subgroups of accounts	Account subgroup name	Label for AOP	Amount	
			AMOUNT-income and implementation expenses public services	AMOUNT-income and sales expenses goods and services on the market
1	2	3	4	5
	A) INCOME FROM BUSINESS (661+662-663+664)	660	3,668,755	652,828
760	INCOME FROM THE SALE OF PRODUCTS AND SERVICES	661	3,668,755	652,828
	INCREASE IN THE VALUE OF INVENTORIES OF PRODUCTS AND WORK IN PROGRESS	662	0	0

## 3 QUALITATIVE ANALYSIS

Awareness and knowledge about state aid legislation varied among the interviewees. Most of them are well acquainted with EC Communication 2022/C 414/01, especially those whose main profession is technology transfer or accounting. In accounting, managers get familiar with state aid rules when there are investments in bigger infrastructure and financier monitors the economic/non-economic activities of the unit using the infrastructure.

During the semi-structured interviews, the organisational structure of academia – industry cooperation management was discussed. Intellectual property management (patenting, licensing etc.) is often centralized, even at large research organisations such as Consiglio Nazionale delle Ricerche, University of Ljubljana and University of Maribor. On the contrary, contract research is decentralised and managed in smaller units. Comprehensive and standardised management, established rulebooks and pricelists often lack at the institutions that have a very low percentage of contract research. The management is often left to departments which leads to different approaches in price setting etc. Interestingly, there are still some researchers that are surprised to hear that economic activity is

allowed to be performed, and accountants that believe there should be no margin included in prices of public research organisations' services.

### 3.1 Contract research

Different approaches to establish a pricelist of services and goods exist. They can be structured using either a cost based approach or market based approach. In a market based approach, organisations observe the prices of other service providers, while in a cost based approach, the costs are summed up and a margin is added.

In a cost based approach, direct costs are sometimes joined in cost blocks composed of work costs, depreciation of the cost of the infrastructure, costs for maintenance and running of the infrastructure (electricity, water, heating, ventilation ...) and materials. Such cost blocks are then multiplied based on the number of samples or complexity of the task. Some organisations add direct costs in % of work, while others in % of all direct costs. Both options can be found in public funded calls.

Prices are often established and then regulated by the inflation rate or other changes in cost structure. Sometimes this does not take place, especially when the activities are less important for the department or institute.

### 3.2 Intellectual property in collaboration projects and start-up companies

Management of intellectual property rights (IPR) in collaboration projects was discussed with technology transfer managers. In most cases it is advised to discuss and agree to IPR in advance. Sometimes even the IPR price is evaluated in advance. Internal policy of one interviewed research organisation regarding the 2022/C 414/01 article 29(c) is that a company can be co-owner of invention or other IPR only when they provide intellectual contribution, not financial or other in-kind contribution such as equipment usage. Another research institute has interpreted this article in a way that a financial contribution of the company to the project, for example 25% in cash, can result in an automated 25% co-ownership of IPR, generated in the project. It is important to note that this institute has a policy that in case of IPR exploitation, the co-owner has to (financially) compensate the other co-owner(s).

The most common procedure to conclude a licence or sale agreement is thus to use arm's length negotiations – article 30(c). The licence agreement commonly involves lump sum and royalties. One research organisation mentioned that they negotiate with their spin-out companies in the same manner as with other companies, which is fair. However, the specific characteristics of start-up companies should be taken into consideration.

With the implementation of the new Law on Scientific Research and Innovation Activities, research organisations in Slovenia are now permitted to establish spin-off companies, which they enter into ownership with equity. To our knowledge, no such companies have yet been established in Slovenia. In the last 2 years, CAS has established 5 such companies encountering many difficulties throughout the process. One of the main concerns is the accuracy and changeability of IPR price.

## 4 CONCLUSIONS

Differentiation between contract research and collaborative research in Slovenian research organisations is not well known and could be improved. There are many projects between research organisations and companies that fall somewhere between contract research and collaborative research. For example, different methodologies in literature were tested ([17], [18]), which produced two different results for the same project. Nevertheless, due to the obligation to account for the economic activities separately, each such project should be labelled as either (i) a contract research or (ii) a collaborative research. According to our discussion, this happens only rarely. As discussed above, the activities in Slovenia are divided into public service and market activities which makes it more complicated to introduce another set of classification. Label 'economic activity' or 'non-economic activity' should be assigned during the process of bookkeeping, i.e. when the invoice is issued or contract concluded. A more significant, but important change of replacing wording 'public service/market activity' with 'economic/non-economic activity' in Slovenian legislation should be made. We communicated this with representatives

from the Slovenian Ministry of Higher Education, Science and Innovation, which will consider this recommendation.

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