GIG Research Institute 95 years

InnoHEIs
Interreg Europe

European Union
European Regional
Development Fund

Regional Diagnosis Presentation

GIG Research Institute

Mariusz Kruczek

19 January 2021 InnoHEIs' 3rd semester meeting

Aim and scope of the study

Diagnose the state of the regional innovation ecosystem in the area of research and innovation infrastructure and to identify the main barriers to development and challenges in this area, together with recommendations for further actions.

The analysis carried out in the area of R&I infrastructure in the Silesia Voivodeship has enabled the identification of development challenges in this area

The study applied foresight research methods, referring to the procedures specified in the previously developed model of the Entrepreneurial Discovery Process of the Silesian Voivodeship (PPO WSL).

The surveys and in-depth interviews (IDI) were used. Special focus was put on the actors of the regional innovation ecosystem, i.e. representatives of the organizations of the Silesian Voivodeship that operate research and innovation infrastructure.

These methods have allowed to obtain relevant information on shaping regional innovation policy based on facts/evidence. Other methods used in this study are analysis of existing data, statistical analysis, case studies.

Research approach

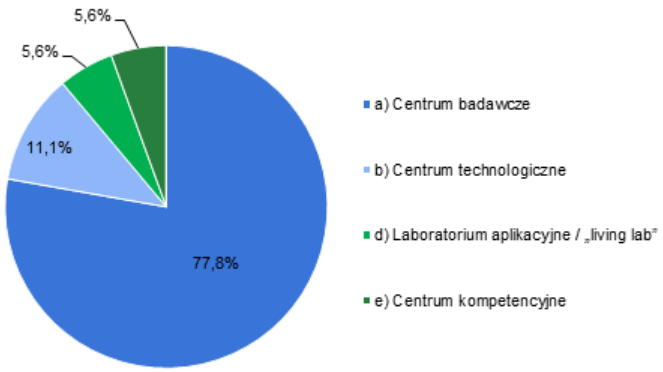
The study was conducted in the following steps:

- analysis and diagnosis of the current state of research and innovation infrastructure in the Silesia Voivodeship,
- identification of the gaps in research and innovation infrastructure in the Silesia Voivodeship,
- Identification of development challenges as well as opportunities of creating policies related to research and innovation infrastructure in the time perspective until 2030,
- analysis of key regional needs in the area of research and innovation infrastructure,
- evaluation of the Silesian Voivodeship potential in the area of research and innovation infrastructure.

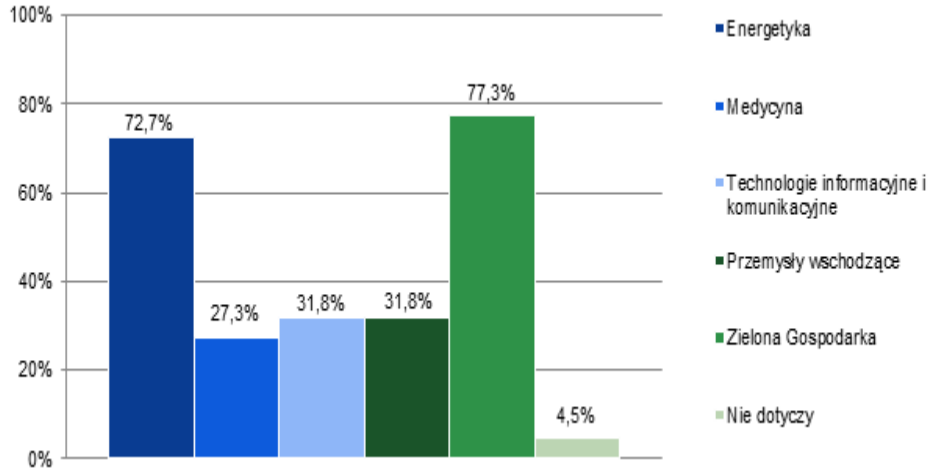
As a result of the diagnostic work, **a mapping of research and innovation infrastructures was performed**. It was based on the InnoHEIS Innovation Infrastructure Characteristics Matrix and qualitative research (surveys and IDI interviews) in order to obtain information about the state of research and innovation infrastructure directly from representatives of research organizations in the region that are in possession of it.

Results

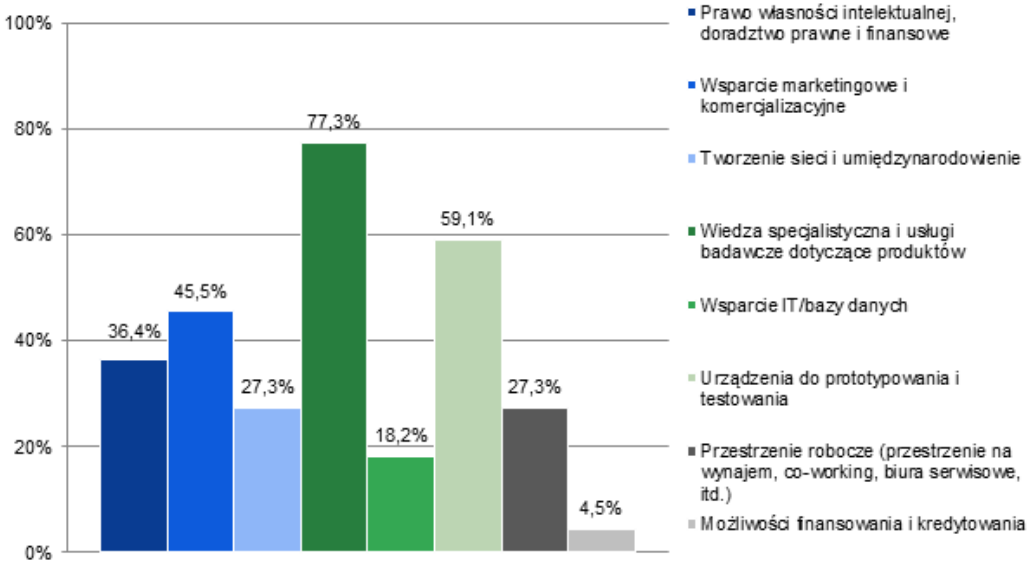
Type of research and innovation infrastructure



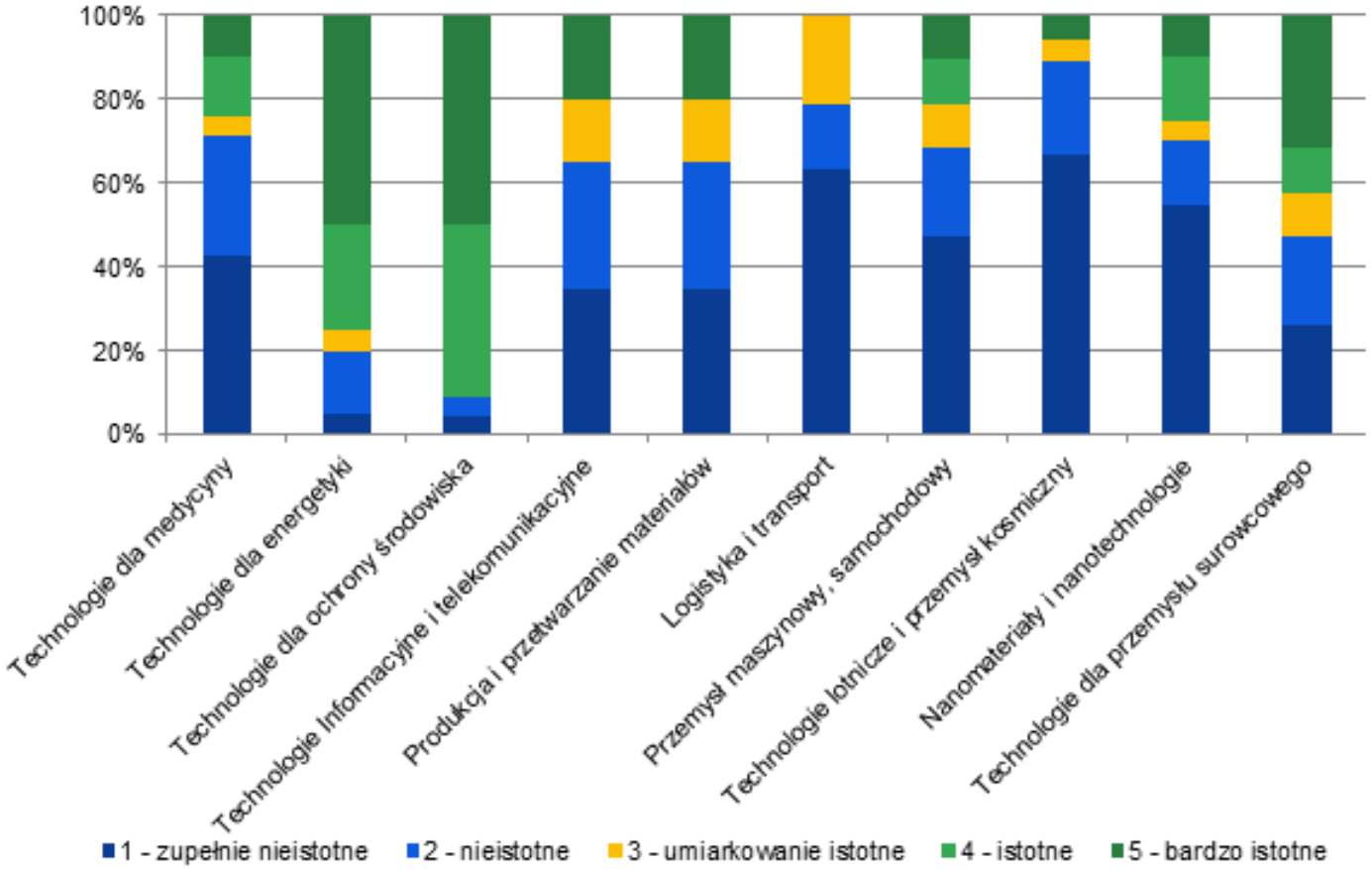
Research and innovation infrastructure and smart specialisations of the Silesia region



Types of innovation services provided by the institutions surveyed



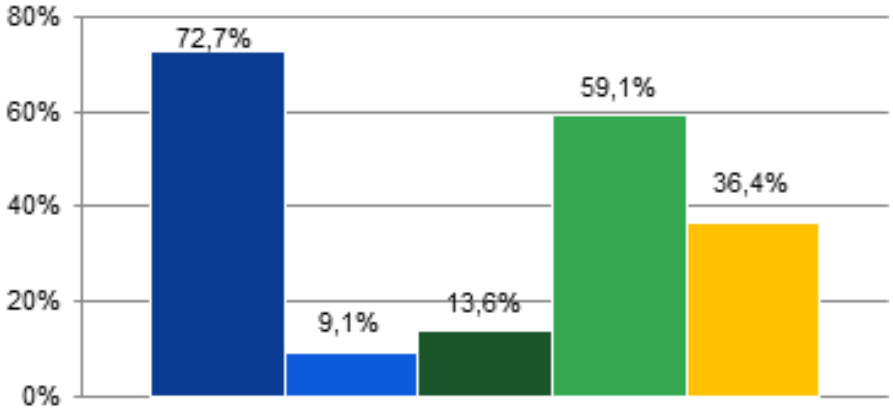
Results



Assessment of the impact of existing research and innovation infrastructure on the development of research and innovation in specific technological areas

Almost 80% of the surveyed organisations conduct industrial research (TRL)
TRL 2: Technology concept / finding technology applicability,
TRL 3: Research to validate the concept,
TRL 4: Verification of technology under laboratory conditions
TRL 5: Testing (verification) in an environment simulating real world conditions,
TRL 6: Demonstration of the prototype in near real world conditions.

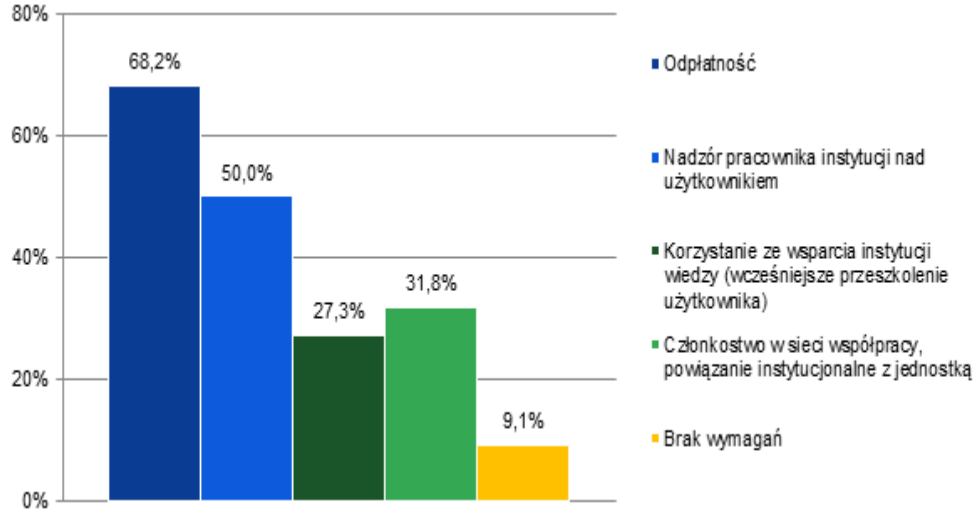
Results

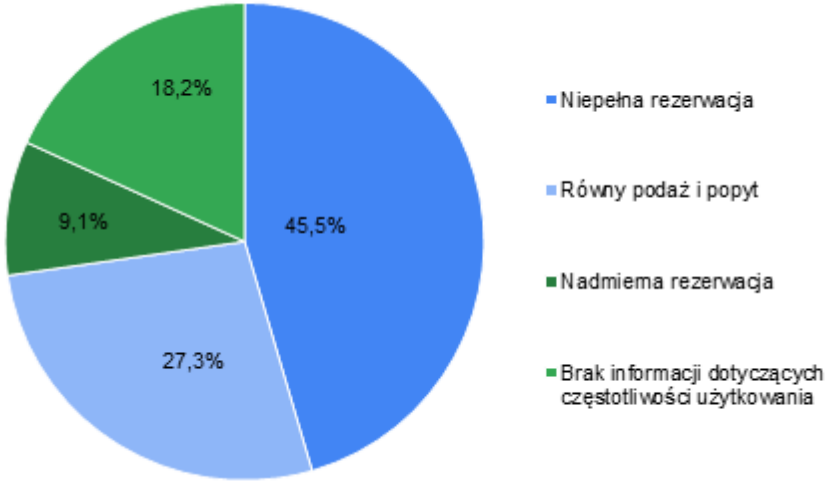


Directions of research and innovation infrastructure use

Degree of usage/occupancy of research and innovation infrastructure

Dostęp do infrastruktury badawczej i innowacyjnej



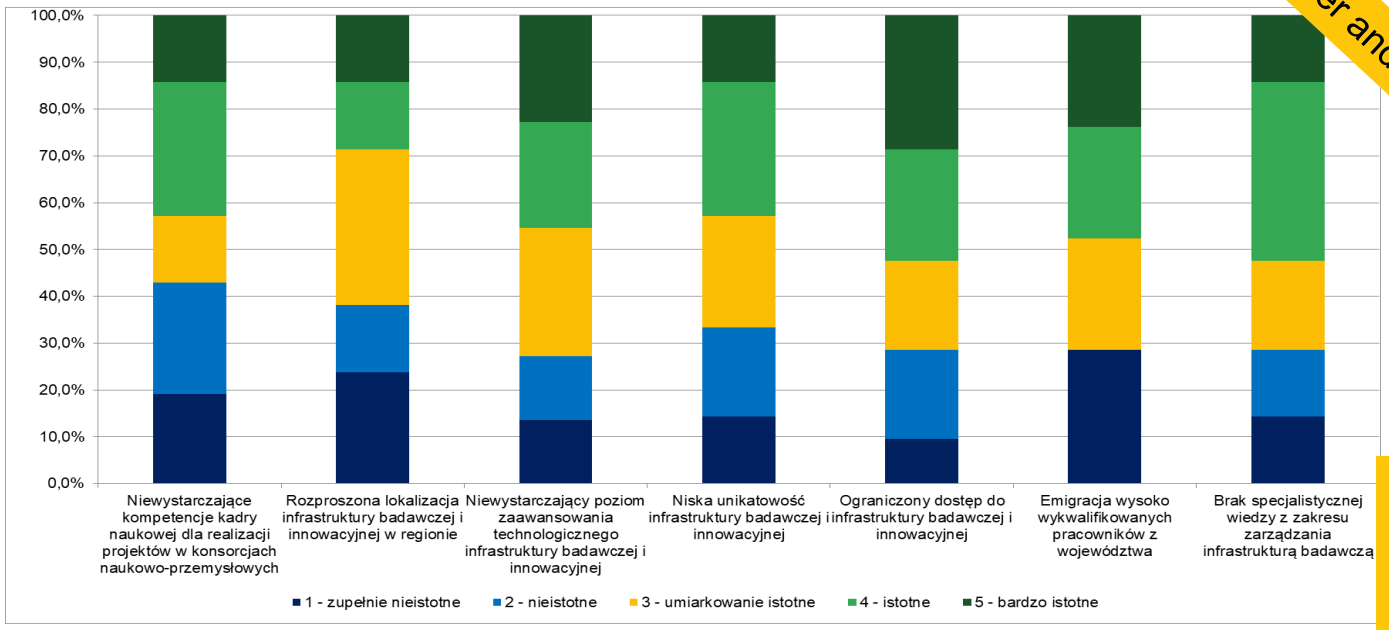


The following problem areas were identified among the potential barriers:

- offer and availability of existing infrastructure,
- existing support mechanisms,
- resources, activities,

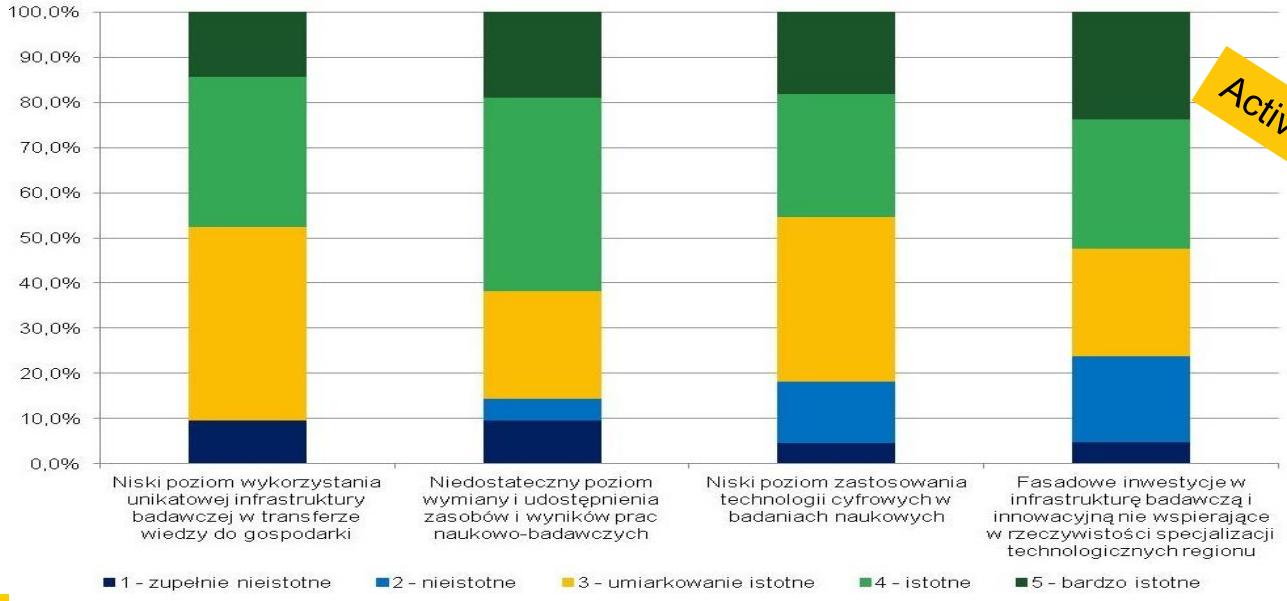
Results

offer and availability



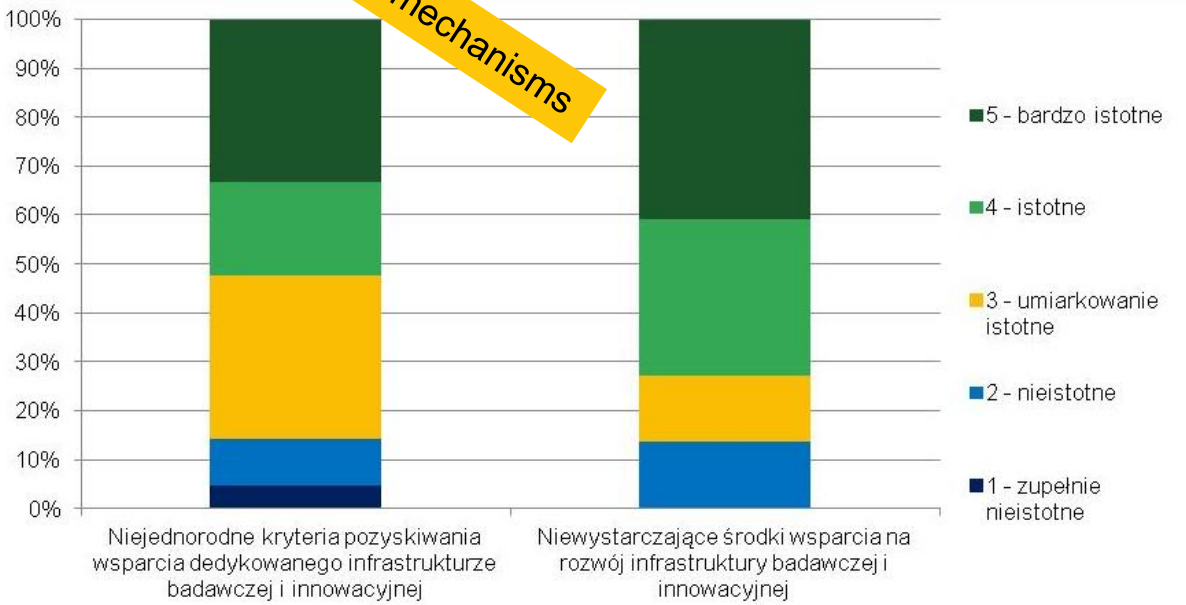
Barriers of research and innovation infrastructure management and its use for the development of Smart Specialisations of the Silesian Voivodeship

Activities

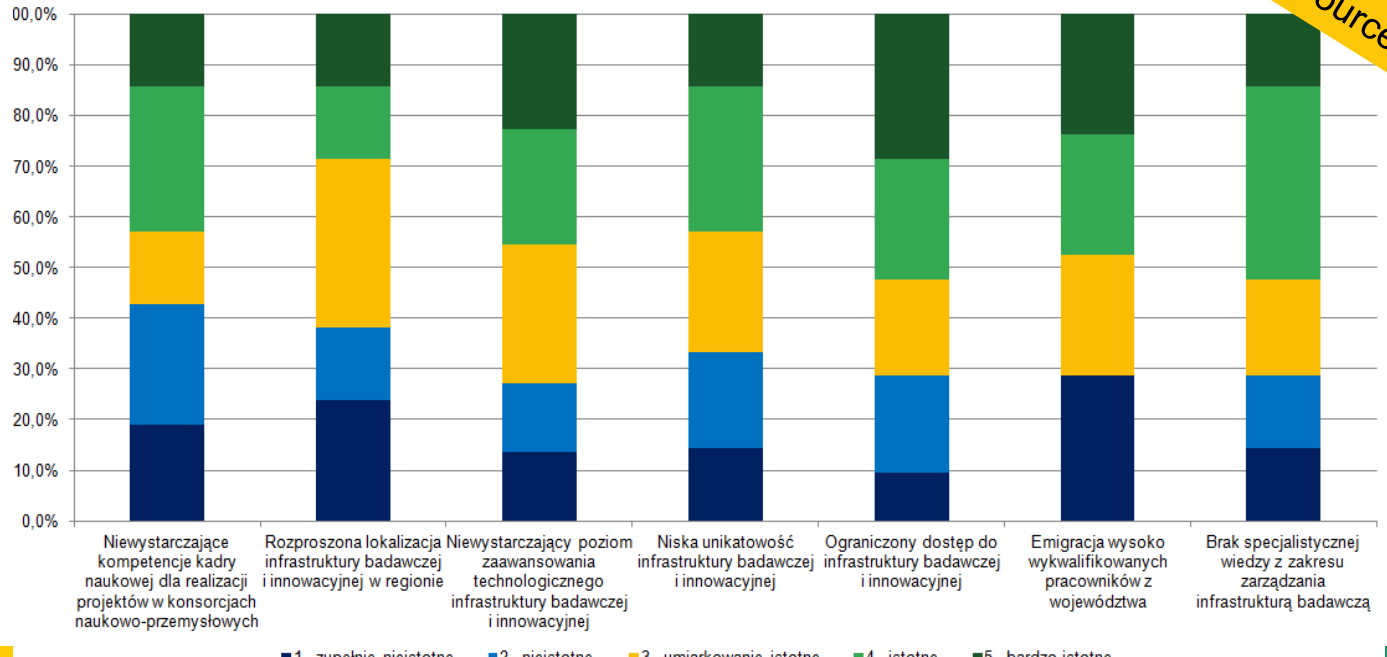


Result

support mechanisms

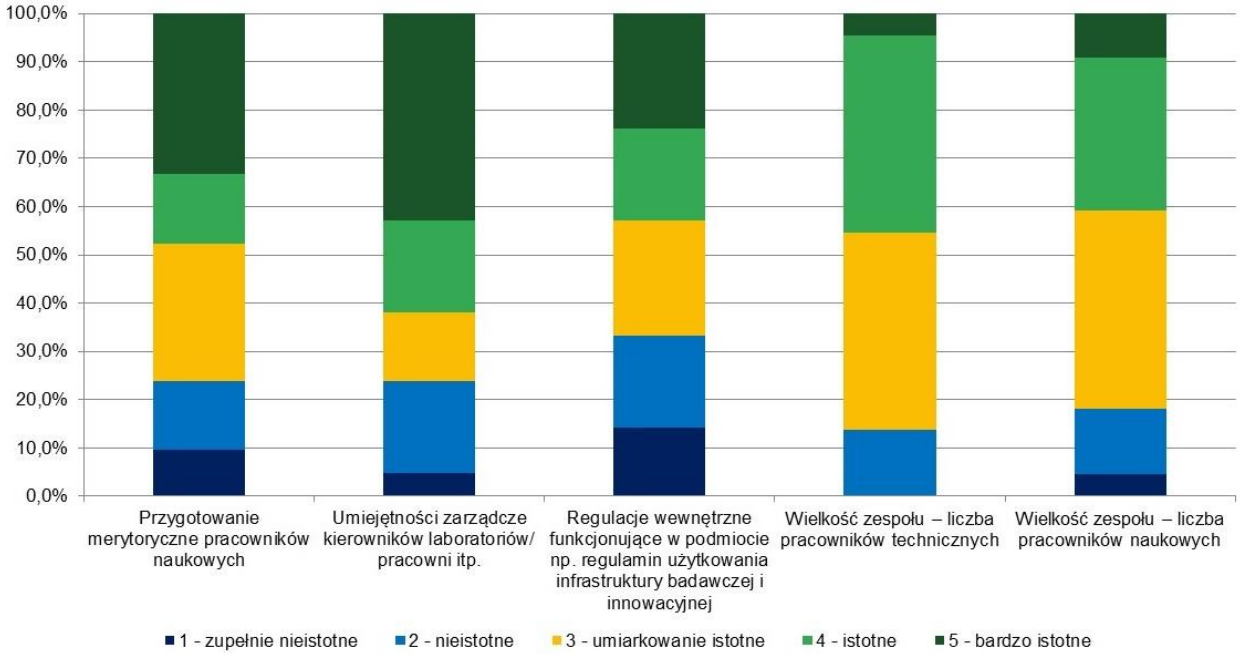


resources



Barriers of research and innovation infrastructure management and its use for the development of Smart Specialisations of the Silesian Voivodeship

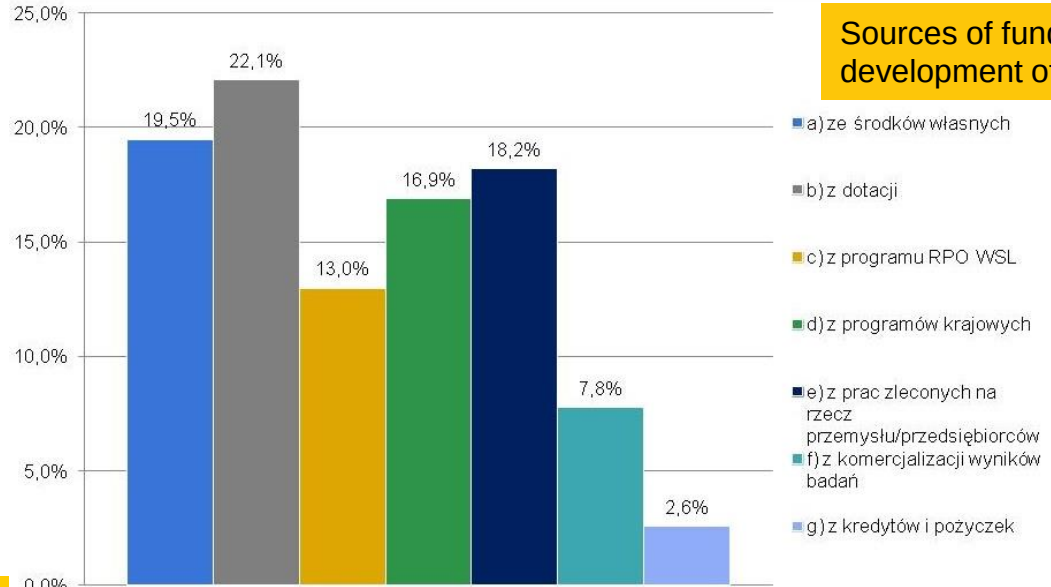
Results



What to develop in the institutions so that research infrastructure can be used more effectively?

(...) there are certain difficulties in obtaining funds for the modernisation or opening and sometimes repair of existing infrastructure elements. Another problem is the need for constant modernisation of the IT infrastructure and maintenance of licences for its continuous operation - which entails fixed costs also not reimbursed in scientific projects.

A representative of the R&D sector



Sources of funding for future maintenance and development of research and innovation infrastructure

(...) equipment purchased under the operational programmes, after completion of the project, cannot be put to commercial use for at least 5 years - this gives a potential of commercial use of about 6-8 years from purchase when the aging of the equipment renders it useless on the market. Often the aging of equipment is so fast that replacement of the equipment is necessary during the project, or at least during its maintenance period.

A representative of the R&D sector

Main findings

Mapping in terms of regional smart specialisations has shown that in the Silesia Voivodeship the concentration of resources is in the area of Green Economy 33%, while in the areas of Medicine, Energy it is about 16%. R&D infrastructure is most often located in research units and its development is mainly financed from public funds.

The identification of infrastructure potential carried out as part of the survey proves that in the voivodeship the vast majority of infrastructure is located in research centres (72% on average), which is also confirmed by statistical data.

The remaining part is concentrated in technology centres (13% on average) and few competence centres (8% on average). In contrast, accelerators, transfer centres and other entities have little or no innovation infrastructure due to the nature of their activities.

Main findings

1. External users of R&D infrastructure are most frequently the business sector (91%) and scientific entities: universities and research institutes (86%).

2. Infrastructure managers are aware of the need to extend the range of external users to include foreign users. The degree of usage of R&D infrastructure is diversified, however, there is an incomplete booking of equipment and only about 9% of users overuse existing equipment resources.

3. Nearly 20% of the respondents indicated a lack of information regarding the frequency of use and occupancy of the B+I infrastructure.

4. The analysis of statistical data proves that the value of R&D equipment in the Silesia Voivodeship in relation to the country is high (6th place in the country).

5. The highest gross value of equipment in the voivodship is located in R&D centres in Gliwice and Katowice subregions.

6. Apparatus is constantly being developed. Nevertheless, a disadvantageous phenomenon is its increasing level of wear and tear and decreasing replacement outlays.

7. The infrastructure usage expressed in the cost of its depreciation is above the national average and is increasing - compared to 2013, a 29 % increase was recorded in 2018.

Conclusions - Recommendations

No.	Proposal	Recommendation	Implementation
1	Lack of complete knowledge on R&D infrastructure in the region, including the lack of identification of key (strategic) infrastructure from the point of view of RIS and IDP implementation	Inventory of regional key infrastructure - development of a digital regional map of R&D infrastructure	Implementation of a project dedicated to the inventory and digitisation of knowledge on regional R&DI infrastructure
2	Lack of funding for maintenance and replacement of regional R&D infrastructure	Creation of a regional fund to support R&D infrastructure	Identification of appropriations within the funds and/or targeted grants received
3	Different rules for access to B+I infrastructure resulting from internal regulations of units	Introduction of a uniform framework for access to R&D infrastructure in the region	Initiate inter-organisational dialogue to develop a framework for access to R&D infrastructure
4	Difficulties in accessing B+I infrastructure in inter-organisational relations	Networking of cooperation on access to R&D infrastructure	Animation of cooperation, organisation of mutual study visits, creation of catalogues describing infrastructure and services
5	Limited access to infrastructure produced by projects due to necessity of maintaining durability period	Change in the rules for use of infrastructure created by projects	Change of provisions in competition documentation

Thank you for your attention