

1. Ex-ante Impact Assessment

1.1. Methodology and procedures conducted (if applicable)

The creation of a national roadmap was preceded by a review of the research base, owned by the scientific units and current investment policy implemented by successive offices managing scientific research in Poland. As a result, it was found that the vast majority are small devices whose similar copies found in various scientific units, often not fully used. In addition, it was made also a review of large investments undertaken in recent years by scientific units from funds structural funds under the Operational Programs. Using these analyses, it was determined that the infrastructure project research on the road map should be the core of the research centre bringing together the leading ones, national scientific units in a given field of science.

2. Procedure for selection of the research infrastructures to be included in the roadmap

2.1. Objectives of the evaluation

- Road map is to be an expression of needs and aspirations of Polish science in the medium-term perspective in the field of research equipment and tools.
- Compliance with the assumptions of the science policy, National Research Program

2.2. Eligibility conditions

New investment projects in the strategic RI, or updating of investment projects currently located at PMDIB, if their assumptions require significant changes, significant changes are:

- changes in the composition or status of the consortium implementing the project,
- changes in the scope (reduction or increase of investment) and the budget of the project,
- changes to the research plan carried out in the planned infrastructure.

2.3. Evaluation criteria for the selection of the RI to be included in the RI national roadmap

The following criteria of the different RI proposal will be evaluated:

- 1. The overall rationale behind the proposed RI.
- 2. The proposed *ownership and operational structure* (e.g. single sited, distributed, network, anticipated working life):
 - proposed organisational arrangements (e.g. management model , relations between consortium members, etc.)
 - proposed legal structure
 - proposed localisation(s)
- 3. The technical concept (e.g. use of existing buildings or construction of new facilities, acquisition of new scientific instrumentation, acquisition of new service equipment, time scale to the start of operations):
 - technical feasibility / technical challenges
 - time schedule with clearly marked milestones (including preparation and implementation stages of the investment, i.e. preparation of documentation, fulfilment of administration procedures, including environmental impact assessment and building permits, public procurement, beginning and completion of project tasks).
- 4. The overall research objectives and the research programme.
- 5. The uniqueness of the proposed RI and its potential contribution to the advancement of scientific research (e.g. at national or European level):
 - envisaged contribution to the consolidation of the relevant research capacity in Poland (e.g. including list of leading centres involved in the R&D field of the proposed RI in Poland)
 - envisaged contribution to the increased competitiveness of the Polish research sector (e.g. enhanced capability to compete for HORIZON 2020 projects, prospect for future enlargement into a pan-European RI) and to the attractiveness of conducting research in Poland (the potential for "brain gain" or preventing "brain drain")
- 6. The *research potential of the consortium* (e.g. number and quality of publications relevant to the future RI's activities):





- human resources in the R&D field of the proposed RI and expected future requirements (e.g. number of relevant personnel, concept to reach the target)
- research base of the consortium members (e.g. available scientific instrumentation, computes and systems, data bases, etc. only major, usable equipment)
- previous and current involvement in national or international scientific activities, e.g. list
 of EC projects (FP6, FP7...) and other relevant projects (NATO, ESF), list of selected
 publications (last 4 years max. 10 positions)
- 7. The concept for execution of the research programme:
 - proposed access rules for external users
 - expected national or international dimension of the RI (e.g. envisaged proportion between domestic and external users after the first 5 years of operations)
- 8. The *overall cost estimates of the construction* (e.g. main components, indication of the level of already available funding, expected sources of funding), the *yearly cost estimates of future operations* (including expected sources of funding).
- 9. Previous experiences, current involvement and plans with regard to *collaboration with other sectors on regional and national level* (e.g. industry, services, NGOs, scientific, social or cultural societies, SMEs, etc.)
- 10. Future possibilities for *education* and *training* of students and scientists (e.g. involvement in dissemination and/or exploitation, and management of intellectual property)
- 11. Interconnections of the proposed RI with the landscape of research infrastructures in Europe (e.g. list of similar RI in Europe, anticipated international collaboration, prospect for upgrading to regional RI level):
 - vision for future collaboration with other national or pan-European RI (e.g. from the ESFRI roadmap)
 - vision for collaboration with other European initiatives (e.g. with European Technology Platforms, EIT or Joint Technology Initiatives)
- 12. Previous *experience in serving the scientific community, the industry or the society* (e.g. technology or knowledge transfer projects or initiatives)
 - expected socio-economic impact (e.g. collaboration with local industry, with local schools or NGOs, SMEs)
 - expected service activities
- 13. Coherence of the proposed RI with goals and priorities of the Operational Programme Smart Growth the version of September 2013 or/and regional strategic documents (e.g. regional development strategies, regional innovation strategies)

Other relevant information/comments

2.4. Evaluation method and procedures conducted (organisation in charge, timing, selection of reviewers, configuration of panels, indicators, etc.) for the selection of the RI to be included in the RI national roadmap

With the decision of the Minister of Science and Higher Education No. 9/2010 of 4:

In February 2010, an Interdisciplinary Team was established for the Polish Roadmap for Research Infrastructure. The Team's tasks included, among others, providing the Minister of Science and Higher Education with support expert in the field of creating an RI road map. The applications were evaluated independently by two separate bodies, a panel of foreign experts and members of the Interdisciplinary Team. Members of the panel of foreign experts representing the scientific fields, were selected from among candidates nominated by members of the Interdisciplinary Team, taking into account their qualifications in particular fields of science. The selection of projects for the Roadmap includes two stages. The first stage required the submission of condensed, 3-page proposals containing a vision proposed research infrastructure. Joining the second stage, based on the results of the first stage selection, was related to the preparation of broader, 12-page descriptions of the proposed infrastructure, containing information on the proposed scope of research, team qualifications and organizational assumptions.

2.5. Proposals evaluated and selected (available statistics)

List of the selected RI http://www.eitplus.pl/wp-content/uploads/2017/07/Lista-RI.pdf [Last access: 09/2017].

The eligible projects concerned the following fields of science: astronomy, biomedicine, chemistry,





energy, physics, materials, natural environment, technology and interdisciplinary issues.

3. Update / Monitoring and ex-post Evaluation of RI Roadmap3.1. Objective of the monitoring of the RI national roadmap as a whole

The existing investments in the field of infrastructure and innovations implemented with the support of structural funds and the Cohesion Fund (including the effectiveness of the use of funds) financed from the EU budget should be constantly evaluated. Thanks to this, it will be possible to indicate the correction mechanisms. This will allow the perspective of building the potential to be used after 2020

In 2020 the assessment of the impact of the implementation of selected actions of the 4th axis (increase of research and scientific potential) on the development of scientific units, stimulation of cooperation and commercialization.

Ex-post evaluation of effectiveness, durability, usefulness, effectiveness of projects implemented in under Measure 4.2 IR OP Development of modern research infrastructure in the science sector. Planned methodology. Analysis of existing data, interviews with representatives of the implementation system institutions, interviews with beneficiaries, case studies, review of foreign good practices in the field of R & D infrastructure development.

January -June 2018 Mid-term verification and assessment of the effects of financial support received on the development of R&D infrastructure.

Assessment of the degree of preparation of beneficiaries of measure 4.2 of OP IR for project implementation, absorption of funds from the European Union and identification of risk areas

3.2. Periodicity of the RI national roadmap monitoring actions (if applicable)

Up to date there are no monitoring actions of the National Roadmap process.

However, in June 2016, the Ministry published a draft ordinance concerning the evaluation of scientific organisations that determines future institutional R&D national funding. The institutional evaluation took into account publications and other R&D results from 2013-2016. The methodology relies on quantifiable data such as counts of publications, R&D grants and knowledge transfer revenues, but does not include indicators of broader scientific impacts or even citation-based indicators to incentivise an increase in the quality of publications. In 2016, the Ministry further improved the Information System on Science (POL-on) that aggregates data about researchers, research infrastructures, publications and R&D projects of PHEIs and PROs in order to better monitor the performance of the system.

3.3. Methodology and procedures conducted (timing, approach, indicators, etc.) for monitoring the RI national roadmap

Up to date there are no monitoring actions of the National Roadmap process.

3.4. Methodology and procedures conducted (timing, approach, indicators, etc.) for monitoring the individual RI included in the RI national roadmap

No information presently available.

3.5. Methodology and procedures conducted in the case that an ex-post evaluation of the RI national roadmap is planned or has been implemented

No information presently available.



