



## Portugal – Evaluation and monitoring procedure

<b>1. Ex-ante Impact Assessment</b> <b>1.1. Methodology and procedures conducted (if applicable)</b>
Not applicable or no information presently available.
<b>2. Procedure for selection of the research infrastructures to be included in the roadmap</b> <b>2.1. Objectives of the evaluation</b>
The main objectives of the evaluation are: <ol style="list-style-type: none"><li>Evaluate existing and emerging RI in need of support for implementation</li><li>Develop a strategic plan for investment in RI until 2020, promoting synergies and overcoming redundancies</li><li>Prioritise funding, identify areas and, when possible, potential beneficiaries</li></ol> Create a database and a national Roadmap for RI of strategic interest
<b>2.2. Eligibility conditions</b>
Eligible institutions/organisations will be: <ol style="list-style-type: none"><li>Public or Private National Higher Education Institutions</li><li>State Laboratories or International Laboratories based on national territory</li><li>Private non-profit institutions whose main objective is to carry out S&amp;T activities</li><li>Other public and private non-profit institutions which carry out or participate in scientific research activities</li></ol> Each application must have a Principal Investigator and an implementation team, which will ensure the adequate implementation of the work plan and other activities that are explicit in the application. According to the RI definition eligible institutions will have: <ol style="list-style-type: none"><li>A professional management that guarantees implementation of an action plan and the accomplishment of the specific aims there defined, with an efficient and transparent internal management of resources</li><li>Capacity to relate with, and provide services to, the scientific, educational, business and industrial communities</li></ol> Well defined policy of access conditions to national and international researchers external to the infrastructure
<b>2.3. Evaluation criteria for the selection of the RI to be included in the RI national roadmap</b>
The main criteria to be evaluated in the selection of RI are: <b>1. Scientific Assessment</b> <ul style="list-style-type: none"><li>▪ Scientific and technological excellence of the RI<ul style="list-style-type: none"><li>• The significance of the RI for the specific research fields, including:<ul style="list-style-type: none"><li>✓ Relevance of the scientific objectives of the RI to facilitate and promote top-level science in Portugal;</li><li>✓ Capacity of providing potential for world class research and scientific breakthrough;</li><li>✓ Expected benefits for the Portuguese scientific and technological system for conducting cutting edge research at an international level, namely to increase the participation in international collaborative research projects, such as, those of the Horizon 2020;</li></ul></li><li>• Adequate identification of the RI's strengths, weaknesses, opportunities and threats (SWOT analysis);</li><li>• Degree of internationalization, including the integration in international RI initiatives, namely those of the European Strategy Forum for Research Infrastructures (ESFRI) Roadmap;</li></ul></li></ul>



- Degree of interdisciplinarity, including the effect of the RI on strengthening interdisciplinary research in Portugal;
- Quality of the proposed training of researchers.
- Governance capacity and implementation feasibility
  - Degree of adequacy of the management structure and governance of the RI to the proposed scientific aims;
  - Adequate management and action plan implementation including:
    - ✓ Leadership;
    - ✓ Distribution of responsibilities;
    - ✓ Experience and capacity;
    - ✓ Identification of (and adequate strategy to address) RI's strengths, weaknesses, opportunities and threats (SWOT analysis);
  - Competence and complementarities of the nodes and added value of the national RI at the regional, national and international levels, including contribution to increase access to knowledge resources and scientific capacity in the field of operation of the RI;
  - Adequate equipment and relevance of improvements to the existing and/or acquisition of new equipment, considering the scientific aims of the RI;
  - Quality of the access policy and data management plan:
    - ✓ Transparent policy for access to the infrastructure, including international access activities, conditions for provision of access, addressing remote access needs in relation to availability of e-infrastructures and data management issues;
    - ✓ Access policy for industry (addressing IP rights - if applicable - fees and confidentiality issues);
  - Operational readiness: maturity of the RI and appropriate relations between partners of the infrastructure and, if relevant, of the integration in an international research infrastructure.
- Budget and sustainability
  - Technical feasibility, human resource costs and cost-effectiveness of the proposed infrastructure, based on adequacy of:
    - ✓ Requested funding and envisaged sources of funds;
    - ✓ Multi-annual budget plan with funding sources information;
    - ✓ Long-term sustainability plan of the investment.
  - Adequate identification of (and answer to) RI's strengths, weaknesses, opportunities and threats (SWOT analysis);

## 2. Strategic Assessment

- RI's contribution to the regional and/or national development strategy
  - Degree of adequacy of the RI proposal to the national policies;
  - Integration of the proposal in sectors / technologies considered key to one or more regions (NUT II), in articulation with the smart specialization objectives defined by each region for the 2014-2020 structural funds programming period.
- RI's contribution to the strengthening of national and international competitiveness
  - Potential of the research infrastructure to become a national and international scientific and technological reference hub as a service provider;
  - Potential of the research infrastructure to increase the industrial knowledge base and innovation capacity;
  - Strategic anchor effect of the infrastructure for the emergence of new research and technology initiatives.
- Potential for social and economic development and for the implementation of public policies on science and technology
  - RI's contribution to the growth and consolidation of national and regional scientific competences;

Degree of engagement and impact on regional and national stakeholders' activities.



## 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

The evaluation process of eligible applications comprises two stages: scientific and strategic. For each stage a distinct panel will carry out differentiated readings towards a final evaluation and selection. The scientific merit and quality of the research infrastructure will be evaluated by an international panel of experts. The panel will be subdivided in seven sub-panels, corresponding to the thematic areas defined in the Call. One member of each sub-panel will be designated as the thematic coordinator.

A national strategic relevance panel will focus on key criteria of national and regional policy coherence and potential socio-economic impact at national and regional levels. The reading of the strategic relevance panel will only take place after the scientific panel assessment and will consider its result as the basis for any further recommendations.

### **Scientific Assessment**

All applications will be subjected to scientific evaluation and will be distributed by 7 sub-panels, which are responsible for the preliminary remote reviewing. This distribution is in accordance with the 7 thematic areas defined in the Call, complemented with the scientific areas indicated in the application.

Each application will be remotely assessed by 3 panel members. Remote panel members will produce individual evaluation reports for each application (about 10 to each panel member, accordingly to their field of expertise), and a consensus report drafted by one of the 3 readers and validated by all readers before being forwarded to the final Evaluation Panel Meeting.

*Individual remote report includes:*

- The scores of each evaluation criterion and sub criterion;
- A global average weighted score, based on the scores of each criterion;
- A succinct but substantial explanatory global comment addressing the extent to which the proposal actually meets the criteria and that explains the evaluator's overall judgment on the proposal.

*Consensus report includes:*

- The consensus scores for each evaluation criterion;
- A global average weighted score, based on the scores of each criterion;
- A succinct but substantial explanatory consensus global comment, based on the 3 individual reviews submitted beforehand;
- An overall score, that is not a direct result of the individual scores;
- Recommendation for integration of the RI in the roadmap;
- Specific directions and suggestions for the final evaluation panel meeting not to be transmitted to the applicants. These suggestions can, for example, take the form of recommendations about possible fusion of RI in larger partnerships or elimination of parts of the RI, or recommendations to include selected RI in national or international networks of RI;
- Confidential comments to Fundação para a Ciência e a Tecnologia (FCT), if necessary.

*Final Scientific Evaluation Panel Meeting*

The final Scientific Evaluation Panel Meeting should gather the 7 thematic coordinators. One of them will be designated the panel chair. The panel chair will have the added duties of coordinating and moderating the meeting, of elaborating the panel report, and of conveying the results of the discussions to the Board of Directors of FCT. The thematic coordinators will validate all consensus reports from their thematic field, prior to the final meeting and will be acquainted with those applications to be presented and discussed during the final meeting.

The main aims of the Panel Meeting are to:



- Ensure that each application receives a fair judgment and is discussed appropriately
- Produce a consolidated ranking list of the applications;
- Define the quality threshold above which the proposals will be included in the Roadmap
- Elaborate a short final evaluation report of each application, to be made available to the applicants
- Recommend changes in the proposed RI, if needed
- Final evaluation report includes
  - The final scores for each evaluation criterion
  - An overall score that can be independent from the average scores for each criterion
  - A succinct but substantive explanatory final comment including eventual recommendations for changes in the proposed RI
- Recommendation for integration of the RI in the roadmap
- Confidential comments to FCT, if necessary

### **Scientific Assessment**

After the scientific assessment, applications will be submitted to a strategic relevance evaluation. These applications will be assessed by at least one national level ministerial representative and one regional level representative. National level representatives will be defined in accordance with the main thematic domain of the research infrastructure. Regional level representatives will be defined according the territorial implementation of the RI.

The readings of the strategic relevance panel members will take the form of qualitative reports, with the main aim of analyzing coherence with national and regional strategies and policies. These reports may include eventual recommendations for a better alignment of the RI with national and regional policies and priorities. FCT, as chair of the strategic relevance panel, will compile the final evaluation report to be transmitted to the applicants, including the decision of inclusion in the Roadmap.

### **Scoring System**

A scoring system using a 9-point scale is used to rate proposal. A score of 9 indicates an exceptionally strong application with essentially no weaknesses. A score of 1 indicates an application with serious and substantive weaknesses with few assets.

Impact, regards the research infrastructure likelihood to have a sustained, influence or strong impact:

- High impact = 7 to 9
- Medium impact = 4 to 6
- Low impact = 1 to 3

## **2.5. Proposals evaluated and selected (available statistics)**

A scientific panel, composed of 105 international experts, evaluated 121 eligible applications grouped within seven thematic areas, in line with the ESFRI Roadmap:

- 24 in Social Sciences and Humanities
- 27 in Physical Sciences and Engineering
- 17 in Environmental Sciences
- 29 in Biological and Medical Sciences
- 10 in Materials and Analytical Facilities
- 6 in Energy
- 8 in e-Infrastructures

A total of 40 Research Infrastructures, involving 55 applications, were recommended for integration in the national roadmap. A total of 23 from the 40 infrastructures included in the roadmap (that is 57.5% of the total set) are or plan to be linked to the European ESFRI roadmap.

## **3. Update / Monitoring and ex-post Evaluation of RI Roadmap**

### **3.1. Objective of the monitoring of the RI national roadmap as a whole**

To continuously meet the needs of a highly competitive and ever-evolving global community, it is



necessary to regularly monitor the pace of implementation of the action plans of each infrastructure. Close monitoring will be essential for further revision of the national roadmap, and the Research Infrastructures Monitoring Committee will play a critical role in this.

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

The Roadmap provides an overview of the current landscape of research infrastructures, both in terms of geographical distribution and across scientific areas. Nevertheless, this document is not written in stone and the recently created Monitoring Committee will follow up the landscape and analyse gaps, thus providing the basis for regular reviews, as required for a continuously updated, strategy-oriented policy. The Committee, composed of members of scientific boards and reputed international experts, was created not only to monitor, support and guide the implementation of research infrastructures, but also to identify emerging areas which require new infrastructure initiatives of strategic interest for the country.

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

The Research Infrastructures Monitoring Committee plays a critical role in the follow-up and monitoring processes carried out. This Committee is chaired by a member of FCT's Board of Directors, and is composed of Portuguese scientific experts, in the seven thematic areas of the roadmap, and international experts with well-established expertise in research infrastructures, including occupying high-level positions at ESFRI.

To support the work of the Committee, three permanent Working Groups have been created, with the following responsibilities:

- WG on Implementation – develop indicators for monitoring RI implementation, and elaborate an annual progress report, including general recommendations.
- WG on Regional Issues – liaise with the management bodies of the Regional Operational Programmes, promote regular mutual information sharing and analyse potential synergies and alignment of priorities.
- WG on ESFRI – interact with the working groups of the European Strategy Forum on Research Infrastructures, develop a coherent analysis of the alignment of national infrastructures with ESFRI's priorities, and contribute to the national position in relation to emerging trends and opportunities within the ESFRI.

The Committee is mandated to monitor, evaluate and guide implementation and development of the roadmap, including:

- Monitoring of the implementation of the roadmap by:
  - Analysing the annual implementation reports
  - Conducting field visits
  - Other monitoring actions deemed necessary
- Analyse the impact of existing research infrastructures

Identify gaps in the different scientific domains

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

Not applicable or 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**

Not applicable or no information presently available.

