

INTERIM EVALUATION METHODOLOGY FOR LARGE RESEARCH INFRASTRUCTURES

The presented „Interim Evaluation Methodology for Large Research Infrastructures“ aims to establish the framework for assessment of the current state of implementation of large research infrastructures approved by the Government of the Czech Republic for financing from public funds in the years 2016+. All large research infrastructures, which are subject to the evaluation procedure, have been included in the „Roadmap of the Czech Republic of Large Infrastructures for Research, Experimental Development and Innovation for the years 2016-2022“. Given the circumstances, the evaluation methodology tries to present not only the methodical framework of the evaluation, but also a comprehensive overview of the research infrastructures’ policy approach of the Czech Republic in the recent years and thus introduce the evaluators to the large research infrastructures’ landscape of the Czech Republic. In this context the interim evaluation methodology is complemented by the above-mentioned roadmap of large research infrastructures, which gathers all R&D facilities of the Czech Republic fulfilling the relevant criteria and characteristics and sets them into the complex large research infrastructures’ environment of the Czech Republic.

The evaluation methodology comprises an introductory part describing the importance of research infrastructures for research community and businesses, provides the evaluator with an overview of the latest development in the field of large research infrastructures in the Czech Republic and determines the evaluation criteria, evaluation process itself, its timetable and expected outcomes:

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In short, the envisaged goal of current evaluation exercise is to obtain independent expert basis and science-based recommendations for policy decision making of the Government of the Czech Republic on large research infrastructures’ financing from public funds in the years 2020-2022, both by using the state budget expenditures on R&D and the European Structural and Investment Funds.

At the same time, the evaluation procedure shall lead to an update of the „Roadmap of the Czech Republic of Large Infrastructures for Research, Experimental Development and Innovation for the years 2016-2022” to be made in 2018.

1. Introduction

Research infrastructures, including e-infrastructures, represent **one of the key “pillars” of the national research and innovation ecosystems** of individual EU Member States, the European Research Area (hereinafter referred to as the “ERA”) as a whole and other macro-regional and global formations. They are **principal “backbone” for conducting excellent R&D** as the critical mass of material, financial and human resources and technological and knowledge expertise is concentrated within their capacities. Research infrastructures thus enable the achievement of breakthrough ideas in basic or “blue-sky” research, “frontier” research in fundamental and applied scientific fields and development of advanced technologies showing a high knowledge intensity and a potential for application in innovative products of high added value.

Research infrastructures create **favourable environments, where individual segments of the knowledge triangle (i.e. the education, research and industry) are efficiently interconnected** resulting in intensive interactions and stimulating private investments in R&D. Construction of research infrastructures, development of their advanced technological devices and upgrade of their capacities offer **great opportunities for enterprises** to take part in tenders for delivery of these facilities. Such tenders stimulate and encourage the firms to produce advanced and **state-of-the-art technologies** and increase their innovation skills. In consequence, the private sector benefits from the research infrastructures both from the economic and knowledge point of view since the enterprises are stimulated to supply the research infrastructures with **high-tech products** that increase their economic profits and strengthen their competitiveness. At the same time, enterprises use the know-how resulted from the R&D carried out in research infrastructures to produce **goods and services widely applicable on the marketplace**.

By the concentration of capacities and capabilities of public and private R&D sector research infrastructures contribute to fostering of the leverage effect and to the **bloom of science and technology parks**, which flourish in their surroundings. In this way, the investments made in research infrastructures significantly overlap into a broad range of socio-economic sectors, in addition to the results of R&D achieved by using their facilities. Research infrastructures thus contribute to the **progressive development of entire economic spheres and** (while speaking in geographical terms) **of urban areas at the level of regions and macro-regions**. As research infrastructures are generally constructed and operated in a direct response to the identified R&D and societal challenges and needs, results achieved by using their facilities are also of high socio-economic relevance and impact, bringing important multiplier effects to society.

While being networked at the (inter-) national level and operated on the basis of open access policy research infrastructures enable even more **efficient addressing of the macro-regional and global challenges**, which we are facing and which generally require knowledge intensive and high-tech solutions. The operation of research infrastructures’ capacities and capabilities in an integrated (inter-) national area in line with the principles of open access policy allows

their users to achieve the results that would be barely achievable by individual participants of research and innovation ecosystem by using their own institutional facilities. In this respect, research infrastructures **prevent research organisations from fragmentation and duplication of their efforts and help to increase the efficiency of public spending on R&D** by providing their users with top-class facilities, technological devices, expertise and open access services mediating the most up-to-date and state-of-the-art resources for conducting excellent R&D.

In conclusion, research infrastructures' purpose is to respond to socio-economic needs, serve the research community and provide it with top-quality facilities, expertise and services, thus enabling to conduct **cutting-edge research and technology development leading to address grand societal challenges by knowledge-based solutions**. Research infrastructures also serve as the mediators for enhancing students' knowledge and transferring the knowledge between academic and business sector. In this way research infrastructures contribute to development of the knowledge society.

2. Background information

In recent years, the Czech Republic has responded to the significantly growing importance of research infrastructures within ERA and worldwide. Taking into consideration that research infrastructures are principal cornerstone of the Czech R&D and innovation ecosystem and one of the major tools for strengthening the competitiveness of the Czech Republic, a number of steps aimed at providing the Czech research infrastructures with a stable legal and financial environment have been made.

In 2009 the **“Act No. 130/2002 Coll. on the Support of Research, Experimental Development and Innovation from Public Funds and on the Amendment to Some Related Acts”** established a brand new legal instrument for financing the research infrastructures of the Czech Republic from the state budget expenditures. The Ministry of Education, Youth and Sports (hereinafter referred to as “MEYS”) has become the funding authority of **“large infrastructure for research, experimental development and innovation”**, which was defined as *“a unique research facility, including its acquisition and related investment costs and the costs of ensuring its activities that are essential for comprehensive research and development with heavy financial and technological demands and which is approved by the Government of the Czech Republic and established by one research organisation for the use of other research organisations”*.

In 2016 an amendment to **“Act No. 130/2002 Coll. on the Support of Research, Experimental Development and Innovation from Public Funds and on the Amendment to Some Related Acts”** introduced a new denomination – **“large research infrastructure”** – and slightly altered its definition, however, without changing its basic meaning. The large research infrastructure has been defined as *“a research infrastructure¹, which is essential for comprehensive research*

¹ Article 2 Point 91 of the Commission Regulation (EU) No 651/2014 of 17 June 2014 declaring certain categories of aid compatible with the internal market in application of Articles 107 and 108 of the Treaty stipulates that: *“Research infrastructure means facilities, resources and related services that are used by the scientific community to conduct research in their respective fields and covers scientific equipment or sets of instruments, knowledge-*

and development with heavy financial and technological demands, which is approved by the Government of the Czech Republic and established for use of other research organisations.”

In 2010 the very 1st **Roadmap of the Czech Republic of Large Research Infrastructures** was issued by the MEYS following the structure of ESFRI Roadmap and early afterwards updated in 2011. The overall significance given to the Czech research infrastructures was also further emphasised as **individual proposals for large research infrastructures’ public funding have been submitted for the final adoption by the Government of the Czech Republic**. The MEYS, being the public authority responsible for large research infrastructures of the Czech Republic, also established an expert advisory board, the **Council for Large Research Infrastructures** that gathers the representatives of all relevant and interested stakeholders in the Czech Republic.

While the operational costs of large research infrastructures were covered in the recent years mainly by using the state budget expenditures on R&D, the investment costs for upgrading the existing facilities and/or construction of brand new ones have been funded predominantly (but not exclusively) by the instruments of **EU cohesion policy**. Investments in the technology devices of large research infrastructures situated in the regions outside Prague were made by using the support of the **Operational Programme Research and Development for Innovation** (managed by the MEYS). Minor investments in R&D facilities of large research infrastructures situated directly in Prague were made by raising the funds from the **Operational Programme Prague – Competitiveness** (implemented by the City of Prague).

In brief, over the last years the MEYS has gradually developed a specific funding framework for Czech research infrastructures as well as the national road-mapping procedures starting in 2009. These efforts and approaches have resulted (among others) also in intensive networking of Czech research infrastructures at the international level and joining a number of emerging ERIC (*European Research Infrastructure Consortium*) and other research infrastructures legal entities.²

based resources such as collections, archives or structured scientific information, enabling information and communication technology-based infrastructures such as grid, computing, software and communication, or any other entity of a unique nature essential to conduct research. Such infrastructures may be “single-sited” or “distributed” (an organised network of resources) in accordance with Article 2(a) of Council Regulation (EC) No 723/2009 of 25 June 2009 on the Community legal framework for a European Research Infrastructure Consortium (ERIC).”

² Beyond the typology of “large research infrastructure”, there is a specific kind of research infrastructures of the Czech Republic, which is primarily characterized by its different legal form – membership of the Czech Republic in international R&D organisations that are established and operated under the Public International Law. Besides membership in the UN (*United Nations*), NATO (*North Atlantic Treaty Organization*) and OECD (*Organisation for Economic Cooperation and Development*), which implement their internal R&D programmes, the Czech Republic is a Member State of the following 7 international R&D organisations: CERN (*European Organization for Nuclear Research*); EMBC (*European Molecular Biology Conference*); EMBL (*European Molecular Biology Laboratory, including ELIXIR*); ESA (*European Space Agency*); ESO (*European Southern Observatory, including European Extremely Large Telescope*); JINR (*Joint Institute of Nuclear Research*); and VKIFD (*Von Karman Institute for Fluid Dynamics*). Membership of the Czech Republic in the above-mentioned international R&D organisations is not subject to the current evaluation. The MEYS developed a particular methodology for assessing the benefits of the Czech Republic in international R&D organisations, which complements the evaluation methodology for large research infrastructures, but represents an individual and particular evaluation approach.

Following on the 1st phase (i.e. since 2009) of financing the large research infrastructures from the state budget expenditures on R&D and investments made by using the EU cohesion policy tools in the course of the period 2007-2015 a **comprehensive international evaluation of the Czech large research infrastructures was performed in 2014**. All large research infrastructures regardless of their previous main funding source (i.e. state budget expenditures on R&D or EU structural funds) and their current state-of-play (i.e. preparatory, implementation, operation or decommissioning phase) were subject to this assessment.

The evaluation was made by an international committee in accordance with the methodology that had been inspired by ESFRI evaluation procedures. Its main outcome was identification of **58 large research infrastructures** recommended by the international evaluation committee for funding and divided in 4 performance-related groups indicating the priority for funding in the direct proportion to quality-differentiated outputs of the evaluation. In consequence, the outcomes and recommendations made by the international evaluation committee served the MEYS and the Government of the Czech Republic as an independent expert basis for:

- Preparation of the **“Roadmap of the Czech Republic of Large Infrastructures for Research, Experimental Development and Innovation for the years 2016-2022”** published in 2015;
- Adoption of the (1) **Resolution of the Government of the Czech Republic** of 15 June 2015 No. 482 and (2) **Resolution of the Government of the Czech Republic** of 21 December 2015 No. 1066 **on funding the large research infrastructures in the years 2016+**;
- Policy decision making on **funding mechanism** of large research infrastructures combining the state budget expenditures on R&D (**≈ operational costs**) with the European Structural and Investment Funds (**≈ investment costs**) raised within the implementation framework of the Operational Programme Research, Development and Innovation;
- Declaring **political and financial commitment to pan-European research infrastructures** (with involvement of the Czech facilities) submitted for the ESFRI Roadmap update 2016;
- **Joining the emerging ERIC** and other legal platforms within which pan-European research infrastructures and other international research infrastructures are operated.

3. Objectives of the evaluation

The Resolutions of the Government of the Czech Republic on public funding of large research infrastructures in the years 2016+ stipulated that the continuation of public funding of large research infrastructures in the years 2020-2022 is subject to outcomes of **interim evaluation to be performed in 2017**. This assessment will be carried out on the basis of unified evaluation methodology providing the best possible foundation for the strategy decision making process and contributing to increasing the efficiency and investment planning towards large research infrastructures (hereinafter referred also to as “RI” or “RIs”) on the national level of the Czech Republic and the level of ERA.

The **evaluation methodology** and the process itself has significant importance particularly for:

- Preparation of mid-term and long-term strategy outlook for defying RIs' policy;
- Transition of RIs' projects from preparation to implementation/construction phase;
- Assessment of quality, efficiency and benefits deriving from existing RIs;
- Evaluation of needs for substantial technology upgrades to existing RIs;
- Decision on prospective phasing-out and terminating operation of existing RIs;
- Preparation of state budget expenditures on R&D – chapter on RIs' financing;
- Raising the European Structural and Investment Funds for RIs' investments funding.

The evaluation methodology thus forms the general framework for obtaining an **expert basis for policy decision making on RIs' funding** in their individual phases of implementation as the highly systematic, high-quality and recurrent evaluation exercise enables timely estimates of needs and strategy investments in RIs, upgrades thereof and adjustments of their operating costs according to the changing usage of their potential. The evaluation methodology aims to unify and strategically structure the RIs' landscape and facilitate providing the funding for RIs of the Czech Republic that meet the criteria of exceptional quality and socio-economic impact.

4. Definition and characteristics of a large research infrastructure

The definition of a RI for the current evaluation is based on the above-mentioned definition of **“large research infrastructure”** stipulated in the framework of the “Act No. 130/2002 Coll. on the Support of Research, Experimental Development and Innovation from Public Funds and on the Amendment to Some Related Acts”.

A RI may be established in any research field. A RI shall represent **exceptional and unique R&D capacity** or R&D virtual platform, usually having intensive knowledge and heavy technological and financial demands, and providing the research community with resources and services required to conduct comprehensive and cutting-edge research and technology development. A RI may be established as **“single-sited”, “distributed” or “virtual”**. A RI may be integrated in international networks and have various legal forms (including foreign and/or international ones). At the same time, a RI is, as a general rule, **established by a research organisation to be used also by other research performing organisations** and other users under defined and transparent terms and conditions stipulated by an **open access policy**. According to their specific nature RIs may be grouped as follows:

- RI located in the Czech Republic having significant international impact;
- RI located in the Czech Republic representing the Czech national “node” of a pan-European “distributed” research infrastructure;
- RI operated in the form of “access point” of the Czech R&D user community to a research infrastructure located abroad;

- RI of the Czech Republic located abroad.

A RI striving to receive financial support from public funds must comply with the above-stated definition of RI and other RI's attributes, which are integrated into the evaluation process and included in the detailed evaluation criteria. These attributes are described within the so called "Evaluation form" and comprise especially the following aspects:

1) Stable and efficient management

- A RI must have a sufficient, clear and fully transparent **governance and organisation** structure:
- In the case that the RI forms a part of a research organisation, the RI's **position within the hosting institution** must be clearly defined and meet the requirements stated above.
- With the aim of guaranteeing an appropriate level of the RI's quality **scientific board/ international advisory committee** shall be established to deal with these tasks. It shall develop a self-assessment of the RI and provide the RI with expert recommendations.

2) Sustainable development strategy

A RI must have a clearly developed strategy, including relevant balance sheets and studies:

- **Human resources development strategy**, including clear and transparent employment strategy, defined career procedures (rules) targeted at the professional development of employees, and participation in scientific education;
- **Technology development strategy**, including short-term annual budgeting horizon as well as a long-term outlook – in general based on the lifespan of key instrumentation (e.g. 2-3 years for ICT, 5 years for standard R&D equipment) and conceptual outlook for technologies for 10 years;
- **Feasibility strategy**, including description of possible threats to the feasibility of RI (e.g. demanding upgrades of technologies, ethical and/or legal issues, which may seriously affect the RI's operation, etc.) and solutions how to face them efficiently.
- **Cooperation strategy with the public** (i.e. universities, public research institutes, other RIs) **and private R&D sector** (i.e. private research organisations, industry, businesses) both on the Czech national and international level (ERA and worldwide).
- **Analysis of the appropriateness of the RI for facing the societal and socio-economic challenges** reflected by the respective R&D sector.

3) User access strategy

Notwithstanding whether the RI operates in the national or international environment, it must have a clearly articulated and transparent strategy for providing access to the RI to various groups of users. A substantial part of RI's users shall come from the areas beyond the hosting institution. A RI shall have defined:

- **Open access strategy**, including a clear definition of the RI's open access arrangements and methods for capacity allocation on the basis of scientific excellence of proposals.
- **Access strategy for other users**, which use the RI's capacities for collaborative and/or contractual R&D beyond the open access mode;
- Procedures dealing with **protection of intellectual property rights**, including strategy on dealing with the use of R&D results and open access to data issues.

4) Internal strategic research

A RI – unlike other kinds of research entities, which devote most of their activities to their own internal research – focuses a substantial portion of its internal research on:

- Research aiming at improvement of services to RI's users;
- Research serving to capacity development of the RI itself;
- Support to user research, including direct involvement.

All these attributes shall be subject to evaluation and must be verifiably documented by the RI following the detailed instructions provided in the "Evaluation form".

5. International evaluation committee

For the purpose of the assessment an **International Evaluation Committee** will be established by the MEYS and chaired by an impartial, renowned and internationally recognized expert on research infrastructures and R&D policy. All the other Members of International Evaluation Committee shall comply with the expert criteria too – in relation to the respective R&D field.

As a whole the International Evaluation Committee will be composed of a **Chair** (supervising the work of International Evaluation Committee) and **6 Scientific Panels**³ consisting of at least 3 Members evaluating each coherent group of RIs:

³ The research focus of a RI may include more research areas since the RI may be of inter-disciplinary nature. However, for the evaluation purposes a RI shall be assigned to the relevant most corresponding research area.

- **Physical sciences and engineering** (3-5 Members);
- **Energy** (3-5 Members);
- **Environment** (3-5 Members);
- **Health and food** (3-5 Members);
- **Social sciences and humanities** (3-5 Members);
- **E-infrastructures** (3-5 Members).

Every Scientific Panel of the International Evaluation Committee will include also one Czech Member so that the Scientific Panel may be provided with the information on specifics of the research infrastructures landscape and research and innovation system of the Czech Republic. Chairs of the Scientific Panels of International Evaluation Committee shall always be foreign.

Absence of conflict of interest of the International Evaluation Committee Members and/or reviewers involved in the RIs' assessment process shall be sufficiently proved by an affirmation included in an Agreement to Complete a Job to be concluded with the MEYS. An International Evaluation Committee Member and/or reviewer shall not be:

- Employee of the RI and/or a close relative to an employee of the RI;
- Member of the RI's scientific committee/international advisory board;
- Member of executive and/or management board of a legal entity that the Czech Republic and/or the hosting institution of the RI is a Member (e.g. ERIC, AISBL, GmbH, etc.) and the RI represents the Czech national "node" of the RI directed by this legal entity;
- Member of executive and/or management board of a legal entity that the Czech Republic is a Member (e.g. international R&D organisation) and the RI represents the "access point" of the Czech research community to this legal entity;
- Personally biased in any way.

6. Evaluation process

According to "Act No. 130/2002 Coll. on the Support of Research, Experimental Development and Innovation from Public Funds and on the Amendment to Some Related Acts" legislative responsibilities for the RIs' evaluation have been assigned to the MEYS, which has been also charged with the concept of RIs' public funding. Thus the MEYS organises and supervises the entire RIs' evaluation process, while administrative aspects of the evaluation are provided by **Department of Research and Development** of the MEYS, being responsible for the RIs agenda in line with the MEYS internal organisational chart.

Regarding the documentation submitted for the assessment, each individual RI, which will be assessed, shall submit to the MEYS the filled **“Evaluation form”** and **“RI’s advisory board assessment form”** in the defined timeframe. Expert assessment of documentation reflecting the implementation state of RI will follow and will be carried out by the respective Scientific Panel of International Evaluation Committee that has the main responsibility for fulfilling the assessment tasks. The overall documentation that the Scientific Panels of International Evaluation Committee will be provided with will consist of:

- 1) **“Evaluation form”** prepared by management of a RI and describing the RI implementation state according to the specific evaluation criteria stipulated by the MEYS within the interim evaluation methodology and **“Evaluation form”** itself;
- 2) **“RI’s advisory board assessment form”** – Every RI shall have established a scientific board/international advisory committee formed by external experts providing the RI with recommendations on short-term and long-term strategy development based on actual detailed knowledge of the RI. It is assumed that the scientific board/international advisory committee meets at least once a year in the RI’s site or another relevant location (provided the case that a RI is under construction, etc.). As a part of the evaluation process, the RI’s scientific board/ international advisory committee will be provided with the **“RI’s advisory board assessment form”** and requested to fill it in. The outputs of such an exercise will represent an additional expert insight in the RI’s state-of-play and will be submitted to the respective Scientific Panel of International Evaluation Committee. The **“RI’s advisory board assessment”** outputs will be of consultative relevance and shall not be interpreted as having direct/straightforward implications on the overall evaluation results.
- 3) **3 external peer-reviews** elaborated per each **“Evaluation form”** (by reviewers contracted by the MEYS). The principal purpose of external peer-review will be to obtain additional expert opinions beyond the assessment performed by the Scientific Panels of International Evaluation Committee. Outcomes of the external peer-review will serve as an input for the evaluation. Scientific Panels shall take into consideration the outcomes of external peer-review, but the external peer-review will be of consultative relevance and shall not be interpreted as having direct/straightforward implications on the overall evaluation results.

Moreover, with the aim of informing the International Evaluation Committee on the results of the latest RIs’ assessment, which took place in 2014, the Scientific Panels will be provided with the **“Consensus reports”** representing the overall outcomes recorded by the International Evaluation Committee assessing the RIs of the Czech Republic in 2014. Since the **“Consensus reports”** reflect the previously used **“Evaluation forms”**, the Scientific Panels of International Evaluation Committee will receive also the 2014 filled **“Evaluation forms”**. These documents provided to the Scientific Panels of International Evaluation Committee will be of consultative relevance only, but may help the reviewers to assess the progress made by each RI since the last evaluation performed on a very similar basis in 2014.

In order to enable the Scientific Panels of International Evaluation Committee to ask additional questions on the RI's management (that might not be clearly described in the documentation for evaluation) personal **interview** with representatives of the RI will be arranged by the MEYS as a part of the evaluation process. An interview of the Scientific Panel with representatives of a RI (3 at the most) will last up to **60 minutes**. The topics to be addressed by the Scientific Panel of the International Evaluation Committee during the interview will be communicated to the representatives of the RI in advance, 7 calendar days before the interview at the latest.

Summary decision of each Scientific Panel of the International Evaluation Committee will be the result of the assessment process, which combines the results of 3 individual, but mutually inter-connected assessment procedures, but still leaving the main responsibility for the overall evaluation results on the Scientific Panel of International Evaluation Committee:

- **(1) Evaluation of documentation on the RI's implementation state-of-play provided by the RI within the "Evaluation form" and "RI's advisory board assessment form" – to be conducted by the respective Scientific Panel of International Evaluation Committee;**
- **(2) External peer-review of documentation on the RI's implementation state-of-play provided by the RI within the "Evaluation form" – to be conducted by 3 reviewers, who will be contracted by the MEYS;**
- **(3) Personal interview with the RI's representatives – to be held by respective Scientific Panel of the International Evaluation Committee.**

The summary decision of each Scientific Panel of the International Evaluation Committee shall be based on a synthesis of the outputs of above-mentioned assessment processes as well as on deliberations of the International Evaluation Committee Scientific Panels. Final conclusions will be filled in the **"Consensus report"** stating the final overall evaluation results.

Should be the Scientific Board of International Evaluation Committee willing to visit a RI, which evaluation was accompanied by serious doubts and/or queries, the MEYS (in cooperation with the respective RI) will arrange the "on-site-visit" of the RI. The "on-site-visit" of a RI may form a part of a RI's assessment procedure only if it is explicitly requested by the Scientific Board of International Evaluation Committee.

7. Evaluation criteria

Detailed evaluation criteria of a RI are stipulated within the **"Evaluation form"**. Each evaluated feature of the RI's implementation state is addressed by a set of defined questions. Additional information on the interactions between the RI and its scientific board/international advisory committee will be provided by the RI by using the **"RI's advisory board assessment form"**.

The "Evaluation form" requires the management of a RI to describe the implementation state of RI from the point of view of the following aspects:

- **Description of the RI;**
- **Importance of the RI;**
- **Cooperation of the RI;**
- **Use and outputs of the RI including its importance for development of new technologies;**
- **Benchmarking of the RI;**
- **Feasibility of the RI;**
- **Costs and budget of the RI;**
- **Portfolio of indicators of the RI;**
- **Other relevant information on the RI.**

Members of the International Evaluation Committee will comment on individual evaluation criteria by means of **verbal evaluation** that may include **recommendations** addressed to the RI for its future development. For selected issues, there might be appended **evaluation points**. In conclusion, Scientific Panel of the International Evaluation Committee will fill all the verbal evaluations (including the recommendations) and evaluation points in the **“Consensus report”** and mark the RI according to the overall evaluation scale indicating the science-based priority for public funding in direct proportion to the quality-differentiated output of the evaluation.

8. Evaluation timetable

Each individual large research infrastructure, which was approved by the Government of the Czech Republic for funding in the period 2016+ and is included in the “Roadmap of the Czech Republic of Large Infrastructures for Research, Experimental Development and Innovation for the years 2016-2022”, is subject to the present interim evaluation process.

Each individual large research infrastructure is expected to provide the MEYS with information on its implementation state-of-play by using both the “Evaluation form” and “RI’s advisory board assessment form” and following the detailed instructions for filling these in. The indicative timetable for performing the assessment is mentioned bellow:

1. The call for submission of the background materials for RIs’ evaluation will be launched by the MEYS on **1st November 2016**. The call will remain open until **31st January 2017 for delivering the “Evaluation forms”** and until **28th February 2017 for delivering the “RI’s advisory board assessment forms”**.
2. Apart from providing the day-to-day guidance for filling the background materials for RIs’ evaluation the MEYS will organise **information days in Prague (8th November 2016) and in Brno (10th November 2016)** so that all queries and inquiries raised by the stakeholders are sufficiently answered.

3. Simultaneously to the call for submission of the background materials for RIs' evaluation, the International Evaluation Committee, including the Chair and 6 Scientific Panels, will be established by the MEYS so that all its Members have concluded agreements starting on 1st February 2017 and the assessment may be initiated in the **1st February week 2017**.
4. In **March 2017** there shall be the **1st in-person meeting of each of 6 Scientific Panels** of the International Evaluation Committee (to be held in Prague) in order to exchange first impressions within the Scientific Panels after having studied thoroughly the background materials for evaluation for the first time.
5. Within the period of **February-April 2017** the MEYS will conduct the **external peer-review** consisting in contracting 3 reviewers for assessing each RI's documentation. The outcomes of external peer-review will be submitted by the MEYS to the Members of International Evaluation Committee on a continuous basis and no later than 30th April 2017.
6. In **June 2017** there shall be the **2nd in-person meeting of each of 6 Scientific Panels** of the International Evaluation Committee (to be held in Prague) in order to finalise the process of evaluation. Interviews of Scientific Panels with representatives of RIs shall be organised on this occasion and Scientific Panels shall reach an agreement on the overall assessment results.
7. **Summary decision** of each Scientific Panel of the International Evaluation Committee will be expected no later than **15th July 2017** by providing the MEYS with a filled-in "**Consensus report**" per each evaluated RI.

9. Evaluation outcomes

An expected final output of the interim RIs' evaluation consists in a set of recommended RIs assessed by the International Evaluation Committee as facilities showing a high-quality in the Czech national, European and worldwide perspective in accordance with specific qualitative criteria stipulated by the interim evaluation methodology. These RIs will be submitted for the approval of the Government of the Czech Republic for public funding in the years 2020-2022.

The International Evaluation Committee will divide all evaluated RIs in **6 performance-related groups** indicating the science-based priority for public funding in the direct proportion to the quality-differentiated output of evaluation. This division will be made in accordance with the below-mentioned overall evaluation scale.

The evaluation exercise will primarily refer to the scientific quality of RIs, defined particularly as a combination of the quality of scientific outputs produced in cooperation with RIs and the quality of the strategic approaches of RIs.

The funding of RIs will be proposed by the MEYS and consequently decided by the Government of the Czech Republic. In this perspective, outcomes of the RIs' interim evaluation will serve as the expert basis for:

- 1) **Political decision of the Government of the Czech Republic on the public funding “bonus” for the RIs assessed as of excellent and/or very high quality (i.e. RIs marked at the level of “5” and/or “4” on the overall evaluation scale) in the years 2018-2019.**
- 2) **Political decision of the Government of the Czech Republic on the RIs’ public funding in the years 2020-2022, both by using the state budget expenditures on R&D and European Structural and Investment Funds.**
- 3) **Update of the “Roadmap of the Czech Republic of Large Infrastructures for Research, Experimental Development and Innovation for the years 2016-2022” to be made in 2018.**

10. Evaluation scale

Evaluation scale	
5	The RI is of excellent quality compared to the leading actors worldwide with respect to its uniqueness, originality, importance and impact on the user community. The RI is highly relevant for the future development of research and innovation environment of the Czech Republic as well as inevitable for strengthening the competitiveness of the Czech Republic.
4	The RI shows very high quality and high potential, but doesn’t reach the top-class standards of international excellence with respect to the uniqueness, originality, importance and impact on the user community. However, the RI is still highly relevant for the future development of research and innovation environment of the Czech Republic, substantially contributing to strengthen the competitiveness of the Czech Republic.
3	The RI’s quality and potential enable good quality services to be provided in the given sphere. The RI shows significant usage possibilities and is relevant for the future development of research and innovation environment of the Czech Republic. Nevertheless, the RI is not a crucial one for strengthening the competitiveness of the Czech Republic.
2	The RI’s quality and potential enables it to contribute to provision of services in the given sphere. However, the RI has only minor user community, limited importance and thus also limited relevance for the future development of research and innovation environment of the Czech Republic.
1	The RI does not attain the level required for provision of relevant services at the national or international level and it lacks sufficient potential to become an important element in the future development of research and innovation environment of the Czech Republic.
0	Although being publicly funded as a RI and being included in the Roadmap of the Czech Republic of Large Infrastructures for Research, Experimental Development and Innovation for the years 2016-2022, the respective entity does not meet the general characteristics and criteria of a RI anymore.