



Federal Ministry
of Education
and Research

Guidelines for preparing the draft proposal for a large research infrastructure

for the national prioritisation process
of the Federal Ministry of Education and Research

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Preamble

These guidelines for the prioritisation process for large research infrastructures (RI) by the Federal Ministry of Education and Research (BMBF) provide an overview of the process and explain the criteria for the assessment of submitted draft proposals. In addition, they list the information necessary for the assessment, which must be included in the draft proposal, including further required documents.

I. Overview of the Process

1. Motivation

Research infrastructures (RI) play a key role for the performance, innovative strength and international competitiveness of Germany and Europe in science and research, industry and commerce. They contribute significantly to scientific progress, the development of technological excellence, the training of specialists and the development of solutions for grand societal challenges. A decision for a RI involves far-reaching investment decisions committing considerable public resources.

Therefore, the Federal Ministry of Education and Research (BMBF) is re-conducting a process for the prioritisation of large RI, in succession of the RI Roadmap Process¹, to assess plans for potential new large RI according to a standardised, fair and transparent process.

The process aims to

- select RI to be prioritised for expanding and maintaining Germany's leading position in research and innovation within the international competitive field and for the performance of the German science system as part of the European Research Area;
- highlight the potential contributions of the planned RI to innovation and transfer beyond gains in scientific insight and to thus enable their incorporation into the ongoing decision-making process;
- assess the resilience of the submitted plans and anticipated funding requirements to reduce implementation-related risks.

The most promising projects for new RI will be published in a shortlist.

The aim is to maintain a prioritisation process on a regular basis to enable continuous and early assessments of potential projects for new RI in Germany or with German participation.

2. Proceedings

RI projects submitted as draft proposals undergo a process consisting of three parallel assessment strands:

- A **science-driven assessment** by the German Science and Humanities Council (Wissenschaftsrat) focussing on the four dimensions of scientific potential, scientific utilisation, relevance for Germany as a location of science and research in Europe and scientific feasibility.

¹ Wissenschaftsrat (2017): Bericht zur wissenschaftsgeleiteten Bewertung umfangreicher Forschungsinfrastrukturvorhaben für die Nationale Roadmap (Drs. 6410-17); Köln. <https://www.wissenschaftsrat.de/download/archiv/6410-17>
 (German Science and Humanities Council (Wissenschaftsrat) (2017): Report on Science-driven Evaluation of Large-scale Research Infrastructure Projects for Inclusion in a National Roadmap (Drs. 6410-17_engl), July 2017. https://www.wissenschaftsrat.de/download/archiv/hginfo_2317_Roadmap)

- An assessment of the planned RI's **potential for innovation and transfer** by a committee of international experts. This is based on a comprehensive understanding of transfer to assess the potential impact of the RI beyond its scientific potential for Germany as a part of the European Community. Aside from its impact on society, this transfer concept includes, for instance, anticipated contributions of the RI to provisions for the future and transformation as well as technological sovereignty in Germany and Europe.
- Moreover, the resilience of the presented budget planning of funds and funding concepts across the entire RI life cycle (installation, operation and, if applicable, dismantlement) is assessed and technical, organisational and financial risks are analysed by a panel of external experts (**costs and risks assessment**). Aspects of sustainability in installation and operation of the RI are also taken into consideration.

The results from the three assessment strands will be consolidated by the BMBF and the most promising RI projects will be published in a shortlist.

Inclusion into the shortlist represents the outstanding suitability of the RI to contribute to Germany's future competitiveness and, from a research policy-related perspective, is among the projects with prioritised implementation. **Inclusion into the shortlist explicitly does not imply a funding commitment.** If and how many of the further advanced projects will be implemented is subject to a decision-making process considering their relevance from a research policy-related perspective, in close consultation with the advancement of the respective subject-specific strategy and substantially depending on the funds available.

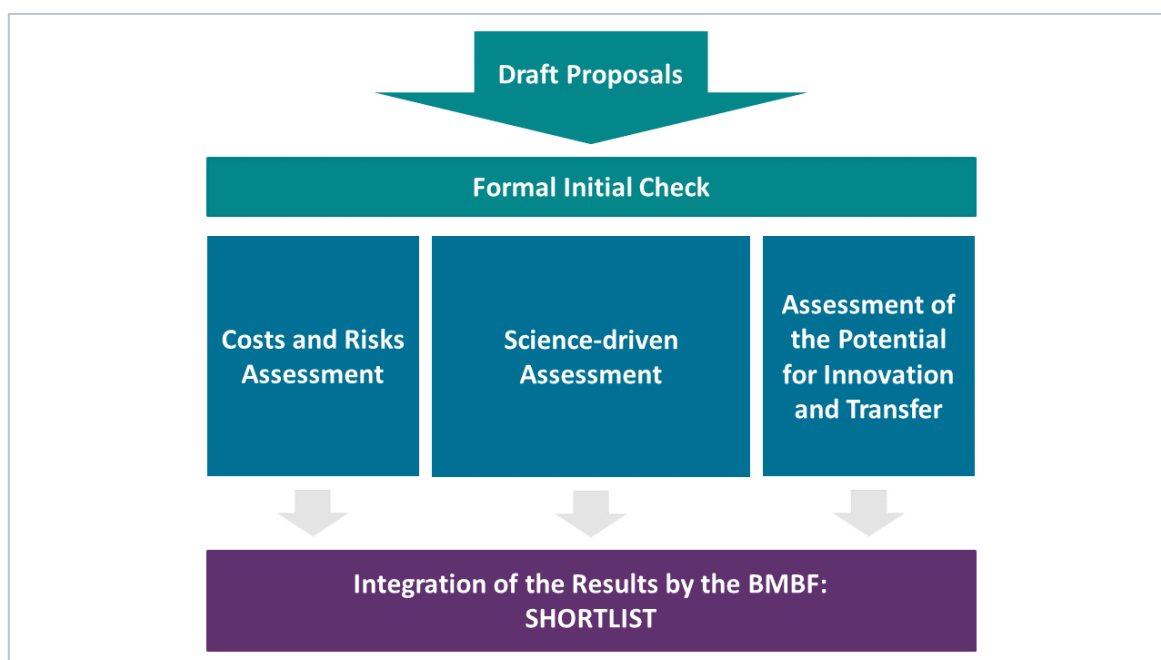


Figure 1: Proceedings

3. Schedule

Research or higher education institutions planning on submitting a draft proposal must issue a declaration of interest until August 26, 2024, at 11.59 PM. A template for that will be provided on the homepage of the BMBF (see section V). Issuing a declaration of interest does not imply a commitment to the submission of a draft proposal – a submission, however, will not be admissible without prior issuance of a declaration of interest. On July 23, 2024, as well as August 14, 2024, a digital information session is offered to potential submitting parties.

Deadline for submission of draft proposals and further documents and addenda is October 25, 2024, at 11.59 AM. After this point no documents or information may be submitted.

In November 2024, subsequent to a formal examination upon receipt, the review process will start.

During the review process, written queries regarding to the draft proposal may be sent to submitting parties. These queries are expected to be presented in a bundle to the submitting parties in March 2025. The submitting parties are therefore asked to name a contact person for these queries and to ensure their availability in March. The deadline for replies is presumed to be two weeks.



Figure 2: Process Schedule

Publication of the shortlist is scheduled for summer 2025. The BMBF plans to conduct the prioritisation process on a regular basis with the aim of providing an updated shortlist at the beginning of each legislative term.

II. Formal Requirements

All interested German research and higher education institutions (if applicable, also with the participation of further partners, see specifically notes under IV.2), that are planning:

- the installation of new large RI of national significance,
- substantial upgrades of existing RI enabling new scientific insights, or
- a new involvement in an international RI

may submit a draft proposal.

In this context, RI are defined as large and long-term facilities (such as instruments, laboratories and major scientific equipment) as well as research-based services and resources (such as data infrastructures, collections and archives) from all scientific areas. In special cases, distributed infrastructures are also included, provided they are thematically coherent and have a common context. RI are characterised by their long operating life (more than 10 years) and open, science-driven access (akin to Open Science), mainly serving research.

The **scientific added value of the project**, beyond the existing structures, is crucial for the submission of a draft proposal. Therefore, projects that primarily aim to maintain, gradually develop or coordinate existing infrastructures cannot be considered. Furthermore, projects that aim primarily at the establishment of a facility or an institution or at long-term funding of an existing RI cannot be considered either.

As a prerequisite for inclusion into the prioritisation process, the initial installation costs (excluding operating costs and future upgrades) must comprise a minimum of 50 million euros. For RI with a focus on humanities and social sciences, a threshold of 20 million euros applies. For international investments, the abovementioned thresholds apply for the German stake in the installation costs. Installation costs also include funding requirements for the initial acquisition and development of data, information and collections.

An adequate planning status is another prerequisite for a project, i. e. the required research and development activities as well as the organisational planning must be so advanced, that the project is ready for implementation within the next four years.

During the process, readiness for implementation will be assessed both from a scientific perspective as well as regarding the costs and risks involved. Projects with a planning status that is not adequate in at least one of these assessment strands cannot be considered in the current process. Since this process is planned to be conducted in iterative terms, it is recommended for the institutions to continue developing their projects to potentially submit them again in a subsequent procedure.

III. Assessment Dimensions and Criteria

1. Science-driven assessment

The assessment procedure is aimed at conducting a nuanced, science-driven appraisal of the projects. Aside from the scientific potential of the planned RI, the assessment dimensions include concerns with regards to utilisation and access, relevance for Germany as a location of science and research in Europe as well as the feasibility. The science-driven assessment is based on certain assessment dimensions and is conducted in a multistage process: firstly, individual working groups review projects related by subject, based on which a committee mandated by the German Science and Humanities Council (Wissenschaftsrat) assesses every project.

Below, the individual assessment dimensions and criteria are outlined.

RI scientific potential

- Significance of the research questions to be addressed
- Added value of the RI for an understanding of these questions
- Diversity and range of the addressed research areas
- Potential for inter- and transdisciplinary cooperation
- Adaptability to newly emerging questions

RI scientific utilisation

- Anticipated demand
- Institutional and disciplinary diversity as well as internationality of users
- Access regulations
- Research data management
- Subsequent and secondary data utilisation

RI relevance for Germany as a location of science and research

- Relevance for research in Germany, Europe and the world
- Increase of Germany's scientific visibility and competitiveness in science and research
- Contribution to Germany's appeal as a partner in scientific cooperation
- Contribution to the attractiveness of academic work in Germany or Europe

Feasibility of RI from a scientific perspective

- Feasibility of the scientific and technical solutions
- Planning of scientific milestones
- Consequences of scientific and technical risks for the project

2. Assessment of the potential for innovation and transfer

This strand aims at an assessment of the potential of the projected RI for innovation and transfer. A comprehensive concept of innovation and transfer applies for this, addressing the diversity of the potential short-, medium- and long-term impact of the projected RI beyond the realm of science. The RI is not expected to cover every dimension - instead, a representation of the effects relevant for the respective RI should be provided.

The assessment is made by a committee of international experts whose expertise reflects the range of these effects. This step is an element complementary to the science-driven assessment.

Below, the individual assessment dimensions and criteria are outlined.

Contributions to strengthening Germany as a location for innovation and industry in Europe

- Innovative potential, especially to fill the innovation pipeline (including time horizon)
- Collaboration with industry and commerce
- Contributions to the attractiveness and competitiveness of Germany and Europe

Contributions to sovereignty, resilience and agency of the government

- Provision of instructional and orientational knowledge for future provision to politics, legislation and administration
- Strengthening the digital and technological sovereignty as well as the competitiveness in Europe
- Significance for security-relevant research and critical infrastructures

Societal effects

- Contributions to the solution of grand societal challenges and the achievement of the UN Sustainable Development Goals
- Cooperation with civil society and societal relevance
- Transformative potential and contribution to a culture of innovation

3. Costs and risks assessment

The goal is to assess the reliability of the plans and the potential risks relating to implementation in order to determine the planning status of the RI project and on this basis the readiness for implementation.

The assessment addresses the representation of the required funds², including the funding concept, the proposed governance and organisational structure as well as the risk analysis, including an assessment of the proposed risk management. Therein, the entire life cycle of the RI is taken into consideration. Moreover, considerations of sustainability aspects in planning and projected measures to reduce the environmental footprint will be assessed as well.

Below, the individual assessment dimensions and criteria are outlined.

Budget planning of funds and funding concept

- Budget planning of funds for the entire life cycle
- Funding concept

Organisation and management

- Suggestion for organisational structure and governance
- Implementation expertise and contributions of the responsible institutions and partners
- Scheduling

Sustainable RI planning across the entire life cycle

- Measures for the optimisation of the environmental footprint (in particular emissions, resource consumption, subsequent utilisation)
- Monitoring
- Potential environmental and health effects including counteractive measures

Risk analysis and management

- Quantifiable risks
- Non-quantifiable risks
- Concept for risk management

²Since there is no funding commitment associated with the prioritisation process, costs and expenditures will not be mentioned separately here and will generally be referred to as funding requirements for the project hereafter.

IV. Notes on Preparing a Draft Proposal and Additional Documents

The draft proposal serves as the foundation for all three assessment strands and should therefore present the project in a coherent and comprehensive manner – irrespective of the detailed information in the addenda. Please note that the text is intended for experts in a variety of fields and therefore please avoid abbreviations and acronyms that have been established within certain scientific communities exclusively. If necessary, please explain vague or ambiguous terminology.

All requirements and notes outlined in the guidelines must be considered. Draft proposals exceeding the maximum number of 30 pages or failing to use the specified structure of the document template cannot be included in the process. Bibliographical references, links and further information beyond the required addenda cannot be considered in the assessment, due to reasons of comparability.

All documents must be submitted in both a German and an English version. The submission of both versions is regarded as a confirmation of the submitter that both documents are identical content-wise. The English version is used to check the page limit.

1. Overview of requirements for the preparation and submission of draft proposals

In preparing the draft proposal and further documents to be submitted, the following formal requirements must be adhered to.

| Deadlines and requirements | |
|--------------------------------|---|
| Declaration of Interest | |
| Submission deadline | August 26, 2024, 11.59 PM A template will be provided. For the template and further notes on digital submission, please refer to the BMBF homepage (see also section V). |

| Draft proposal | |
|--|---|
| Submission deadline (also applies for further documents and addenda – with the exception of the letters of intent.) | October 25, 2024, 11.59 AM You will receive further information on digital submission after submission of the declaration of interest. |
| Format specifications | |
| Max. number of pages for the content-related presentation (excluding basic information, further documents and addenda) | 30 (English version) |
| Page format | DIN A4, upright |
| Font and font size, line spacing | Arial, 11 pt, 1,5 rows |
| Margins | Left margin: 2,5cm; all other margins: 2,0cm |
| Pagination | Continuous page numbering in the content-related presentation |
| Uniform headers or footers | Title of draft proposal |
| Further documents | |
| A1: Template for Basic Information | 2 pages max. |
| A2: Confirmation by the Supervisory Committee/s of the Leading Responsible Institution(s) | |
| A3: Letters of Intent of the Partner Institutions | An overview of the expected letters must be included upon submission; the signed letters can be submitted later on until December 31, 2024, 11.59 PM. |
| Addenda | |
| A4: Overview of other RI mentioned in the Text | As per the template |
| A5: Concept for Sustainable RI Planning | 5 pages max. |
| A6: Concept for Funding Innovation and Transfer and Cooperation with Industry and Commerce, Science and Society | 5 pages max. |
| A7: Utilisation Concept (incl. Data Utilisation) | 5 pages max. |
| A8: Scheduling (incl. Milestones) | 4 pages max. (excl. Gantt chart) |

| | |
|---|--|
| A9: Budget Planning of Funds and Funding Concept across the Entire RI Life Cycle | In accordance with the specified Excel table |
| A10: Organisational Structure and Governance | 3 pages max. (excl. organisational chart) |
| A11: Risk Analysis and Concept for Risk Management | In accordance with the specified Excel table |
| Format specifications for further documents and addenda apply in analogy to those of the draft proposal. | |

2. Basic information

Formal specifications

Basic information must be presented in a separate document *A1: Template for Basic Information* on two pages max. We ask the submitting parties to name a contact person with pertinent contact options.

Participating institutions

Eligible for submission are state and state-accredited higher education institutions as well as legally independent, non-university research institutions based in Germany. These agree to make substantial contributions with regard to content and funds for planning, installation and operation (cf. in particular also IV.6) and will hereafter be referred to as responsible institutions.

A consortium can also make a submission. In this case, the distribution of tasks between the responsible institutions shall be documented in the relevant passages.

Responsible institutions, upon submission of the draft proposal, shall document the support of their supervisory committee (Document *A2: Confirmation by the Supervisory Committee/s of the Leading Responsible Institution(s)*).

Additional partners from science, industry and commerce as well as from society are possible. They will have to declare their willingness to support the RI project in letters of intent. Addendum *A3: Letters of Intent of the Partner Institutions* shall be accompanied by an overview of the letters to be expected. The signed letters can be submitted until December 31, 2024.

Abstract

Please describe in a generally understandable manner the research and innovation objectives as well as the conceptualisation of the planned RI.

Basic data

Specify the central basic data for the planned investment measures, including chronology and funding requirements.

3. Objectives for research and innovation

Research objectives

Please specify the research fields or subjects which the planned RI is relevant for and name new key research problems that may be addressed via the RI.

Clarifications:

Here, the focus should be on the added value the RI provides for relevant research fields: Which research problems that cannot otherwise be answered adequately may be addressed with the RI during which time period and how are they relevant for the respective research fields? What is their relevance for other scientific areas? Which added value does the RI provide for research activities in Germany and Europe?

Provided the research programme consists of interlinked questions progressing systematically, describe this programme and also outline its chronology.

Provided the rationale for the RI stems from strategic processes in the pertinent research fields, please quote the respective documents (White Papers etc.).

As far as there are problems that become answerable via an already foreseeable further development of the RI, outline them briefly and describe the necessary steps in the RI life cycle.

Innovation objectives

Please list the potential for innovation and transfer of the planned RI along the three dimensions mentioned under III.2. Please focus on those assessment dimensions relevant for the respective RI and with the greatest expected potential effectivity.

Clarifications:

In particular, outline specific and concrete short-, medium- and long-term contributions of the RI with a focus on the unique features and propositions of the RI in these areas: Which crucial effects beyond science are to be expected? How should these be leveraged in a targeted manner? Which effects cannot be achieved without the RI? What is the time perspective for applications? What kind of leaps of knowledge are possible as enabler for unexpected usages, especially disruptive innovations?

Please utilise addendum A6: *Concept for Funding Innovation and Transfer and Cooperation with Industry and Commerce, Science and Society* for a comprehensive representation.

4. Conception

Technical and structural design

Please describe and substantiate how the range of services offered by the planned RI shall be realised technically and organisationally.

Clarifications:

Name the main technical specifications for the planned RI and explain them in view of the objectives described in section IV.3. Describe the contributions of the (leading) responsible institution(s) and partner institutions related to the subject matter. The description should also detail which aspects were conducive for a local, distributed or virtual approach to organisation and, if applicable, for the site selection. In addition, name the suggested legal structure and provide reasons for the suggestion. Explain the main RI governance structures.

As far as further aspects were decisive in the conception – such as legal, ethical or political – name these and explain how they affect the conception.

Describe how the planned RI can continue to be developed over the course of its life cycle. As far as upgrades have been projected throughout the entire life cycle, describe and explain these.

Integration in German, European and worldwide structures

Please name here other (existing or planned) RI and/or scientific institutions in Germany, Europe and the world that work in the fields of research and innovation mentioned and describe how the planned RI relates to them. For a tabulated overview of the RI discussed herein, please use addendum A4: *Overview of other RI mentioned in the Text*.

Clarifications:

The description should indicate how the planned RI will be integrated into the German and international science and innovation landscape, how it will promote their strengths, elevate potentials or correct weaknesses.

If there are existing or planned RI within the international context contributing to the objectives alongside your RI project or in competition with it, please name these and, if applicable, describe the planned interaction. As far as the RI you have planned represents an advancement or an alternative to existing or planned RI, please describe how the options relate to each other as well as potential unique characteristics.

In case of a multinational RI project, please describe the topic-related contribution of German institutions and its relevance for the implementation of the RI.

Demand for research and development

Please describe which questions still need to be clarified before a decision about the installation of the planned RI can be made.

Clarifications:

Explain the expected research and development demand needed to address the so far unanswered questions and delineate the contribution of responsible and partner institutions to meeting this demand as well as the prospective time requirement. As far as assumptions on the scientific or technical progress until realisation of the project are made, please state these explicitly.

Please outline purely organisational questions to be addressed – e.g. negotiations on funding shares or issues with regard to the site – in section IV.6.

RI sustainability across the entire life cycle

Please explain the main measures to reduce the environmental footprint of the planned RI.

Clarifications:

Please describe in addendum A5: *Concept for Sustainable RI Planning* which aspects are relevant for the environmental footprint of the planned RI in the various phases of the RI life cycle and how these are to be quantified. Outline the measures to address these.

Moreover, please describe in addendum A5: *Concept for Sustainable RI Planning* potential environmental and health impacts as well as, if applicable, planned counteractive measures.

5. Utilisation in science, industry and commerce as well as society

Target groups and anticipated demand

Please describe here the scientific, economic and societal target groups for the RI and explain the expected demand on the range of RI services.

Clarifications:

Of interest is information on the anticipated user communities in science, industry and commerce as well as society likely to use the range of RI services. Of particular interest are the institutional origin (inhouse/external, higher education institutions/non-university research institutions, public/private) and the anticipated user internationality.

Wherever possible, please make quantitative estimates of target groups, their demands and the contribution of the planned RI to meeting those demands in addendum A7: *Utilisation Concept (incl. Data Utilisation)*. Please illustrate the assumptions factored into the estimates and describe which factors will be decisive for the attractiveness of the RI from your perspective.

As far as scenarios are conceivable where the target groups and their demand behaviour change until the launch of the planned RI or during its lifespan, describe the scenarios and characterise chances or risks that may arise from them.

Access models, service structures and education

Please delineate how access to the planned RI shall be organised, which offers, if applicable, shall be made for users from science, industry and commerce as well as society and which offers are planned for education and further education. Please outline separately how early career researchers are supposed to be supported in their efforts.

Clarifications:

Which factors limit the utilisation capacity of the planned RI? How and by whom should the capacity be assigned if the RI is oversubscribed? Should distinctions be made with regard to different user groups? Do you intend to regulate the demand? As far as the operation of the RI is scalable contingent on the demand, please describe how the scaling is supposed to be regulated. Please outline potential impacts on funding requirements to be expected and a usage-based funding plan for variable funding requirements in addendum A9: *Budget Planning of Funds and Funding Concept across the Entire RI Life Cycle*.

Which information and support offerings are planned for users before, during and after their use of the RI?

Please explain which offers are planned for the education and further education of specialists as well as for the support of researchers, including a quantitative estimate of the offers including potential funding requirements.

Data utilisation

Please describe the planned management of data to be produced or obtained via the RI (research data management). Please also consider here, if applicable, an utilisation by industry and commerce as well as by society.

Clarifications:

Explain in addendum A7: *Utilisation Concept (incl. Data Utilisation)* the generation and acquisition of data via the RI regarding data type, data standard, legal status and data volumes or streams. Which target groups from science, industry and commerce as well as society will likely use the data? Please outline your expectation of demand for the individual user groups and explain it.

How shall the storage and interfaces to existing structures (such as the NFDI³) be organised? How is FAIRness⁴ ensured? What will the associated expenditure be, which institutional precautions are to be taken? For which time periods are subsequent utilisations projected or anticipated?

³ Nationale Forschungsdateninfrastruktur e. V. (National Research Data Infrastructure e.V.)

⁴ In accordance with the FAIR-Principles data are supposed to be “Findable, Accessible, Interoperable, and Reusable“.

6. Project planning

Planning status, scheduling and further steps

Please summarise the planning stages conducted so far, the current status and the following planning steps until readiness for implementation.

Please also briefly discuss the key dates for the continuing scheduling process.

Clarifications:

Please outline in addendum *A8: Scheduling (incl. Milestones)* the planning stages undertaken so far, the current status and the following planning stages until implementability as well as scheduling until the end of the life cycle. An appropriate planning status is to be substantiated and the rationale for this is to be stated.

Please attach onto the addendum *A8 Scheduling (incl. Milestones)* an overall schedule including a respective, separately identified statement of central organisational, technical and scientific milestones for the entire life cycle of the RI. Please use a Gantt chart for this and account for the critical path. Moreover, the main chronological interdependencies are to be indicated.

Budget planning of funds and funding concept

Please summarise and explain your fund programming in yearly tranches as running text, including chronology, and present the correlations. Please differentiate according to the different life cycle phases and, if applicable, indicate funding requirements for already projected upgrades.

Please outline in summary the funding concept the RI is based on.

Notes on the funding concept:

Substantial contributions are expected from the responsible institutions and/or externs (depending on the respective performance) to meet the funding requirements for installation, operation and dismantling. Unmet funding requirements are not an exclusion criterion – they do however represent a financial risk and will be considered as such in the assessment.

Clarifications:

Please include in the Excel template specified for addendum *A9: Budget Planning of Funds and Funding Concept across the Entire RI Life Cycle* any funding requirements incurred across the individual life cycle phases of the RI in yearly tranches (total proposed appropriation on the 2024 pricing basis, including sustainability measures and risk estimation). Separate the funding requirements – where possible – according to the specified level of detail. If several entry options are given, please select the level of detail appropriate for the current planning status. For the assessment of the budget planning of funds to be done according to section IV.6, please present the associated service contents or respectively technical specifications of the individual funding requirement items according to the specifications in addendum *A9: Budget Planning of Funds and Funding Concept across the entire RI Life Cycle*.

Under the tab “funding concept” in addendum A9: *Budget Planning of Funds and Funding Concept across the Entire RI Life Cycle*, please provide details on shares and origins of contributions of the responsible institutions and other partners, further funds and third-party funding as well as other contributions such as anticipated proceeds and revenues separately for installation, operation and dismantling phases. Please present the funding concept and expand upon the planned funding of potential expected or unexpected additional funding requirements.

7. Organisation and management

Please present the main aspects of the proposed organisational structure and governance.

Clarifications:

In addendum A10: *Organisational Structure and Governance* please outline the organisational structure as planned, with tasks, competences and responsibilities separately for installation and operating phases and explain these. Please also expand upon potential specific features of the suggested governance. Furthermore, an estimate of planned staffing (also with a view on the required capacities and competences) is to be supplied and a concept for the required expansion of personnel and competences, if applicable, to be explained.

Please supplement information on the existing competences and capacities of responsible institutions and partner institutions for the planned RI.

Please also provide details on the status of preparations and coordination between the responsible institutions and further partners (including choice of organisational structure and, with international RI, the site).

8. Risks

Please supply an overview of the key risks and their management.

Clarifications:

For the representation of the risk analysis and the risk management accompanying the project, please use the specified Excel table for addendum *A11: Risk Analysis and Concept for Risk Management*. Please break down the risks according to quantifiable and non-quantifiable risks. Furthermore, a representation of the overarching risk management is to be included. The concept should also outline how risk management handles unexpected risks.

9. Documents to submit with the draft proposal

Further documents

- A1: Template for Basic Information
- A2: Confirmation by the Supervisory Committee/s of the Leading Responsible Institution(s)
- A3: Letters of Intent of the Partner Institutions

Addenda

- A4: Overview of other RI mentioned in the Text
- A5: Concept for Sustainable RI Planning
- A6: Concept for Funding Innovation and Transfer and Cooperation with Industry and Commerce, Science and Society
- A7: Utilisation Concept (incl. Data Utilisation)
- A8: Scheduling (incl. Milestones)
- A9: Budget Planning of Funds and Funding Concept across the Entire RI Life Cycle
- A10: Organisational Structure and Governance
- A11: Risk Analysis and Concept for Risk Management

V. Further Information

Any information about the process can also be found here:

https://www.bmbf.de/bmbf/shareddocs/kurzmeldungen/de/2024/06/240617_priorisierungsverfahren_fis.html

For any further questions about the process, please contact the following email address

fis@pd-g.de

Moreover, on two different dates, we are offering a digital information session for all interested institutions. If you are interested in one of the sessions, please register at the abovementioned address for one of both sessions indicating your contact data. Up to three persons per project may join the information sessions.

VI. Further documents and Addenda

A1: Template for Basic Information

(Volume: 2 pages max.)

Formal information

- RI designation
- Leading responsible institution:
- Contact data for a contact person at the responsible institution (in case of a consortium: for a responsible institution)

Participating institutions

- Further responsible institutions:
- Further partners:

Abstract

Please summarise the project in a generally comprehensible way regarding research and innovation objectives, the scientific added value, the conceptualisation and the utilisation concept and briefly discuss project planning.

Basic data

- Projected start and duration of the installation phase:
- Projected start and duration of the operation phase:
- Funding requirements for installation:
- Funding requirements for operation (p.a.):

A2: Confirmation by the Supervisory Committee/s of the Leading Responsible Institution(s)

Please attach to the draft proposal a confirmation by the respective supervisory committee/s of the leading responsible institution(s).

A3: Letters of Intent of the Partner Institutions

Please attach an overview of the anticipated letters. The signed letters may be submitted until December 31, 2024.

A4: Overview of other RI mentioned in the Text

Please attach a tabulated overview of complementary and competing RI, divided into existing facilities and structures and those in concrete planning stages. This overview should contain the following information:

| Name | Website | Site / Participating <i>countries</i> | Relation to the project | Important notes |
|------|---------|--|----------------------------|-----------------|
|------|---------|--|----------------------------|-----------------|

A5: Concept for Sustainable RI Planning

(Volume 5 pages max.)

Please describe which aspects are relevant for the reduction of the environmental footprint (such as emissions, resource consumption, subsequent utilisation) of the planned RI in the different phases of the entire life cycle as well as the planned objectives and measures to address these (preferably tabulated).

Please outline how the emissions as well as the sustainability objectives and procedures, in line with a continuous monitoring process, are to be measured and controlled.

Please describe potential environmental and health impacts of the planned RI (such as RI impacts on the local environment and staff, on climate and land utilisation etc.). Please structure your statements according to the project phases (installation, operation, dismantling phases or overarching). Elaborate on counteractive measures you would like to and are able to implement in order to prevent or, in the best possible way, to attenuate the mentioned environmental and health impacts.

A6: Concept for Funding of Innovation and Transfer and Cooperation with Industry and Commerce, Science and Society

(Volume: 5 pages max.)

Please outline the concept for the exploitation of the potential for innovation and transfer of the planned RI along the dimensions mentioned under III.2. Here, in particular, delineate specific and concrete short-, medium- and long-term contributions of the RI such as planned measures and activities which would be impossible without the RI.

To this end, please focus on those assessment criteria anticipated to have the largest impact potential. There is no need to address every dimension or every central question. Any criteria not pertinent do not have to be addressed. The page limit applies to the entire addendum.

Dimension 1: Contributions to the strengthening of Germany as a location of innovation and of industry and commerce in Europe

Possible criteria:

- Innovative Potential
Central Question: What is the specific innovative or disruptive potential of the planned RI, e. g. for construction and expansion of innovation ecosystems, chains and networks of innovation or the acceleration of innovation cycles in Germany and Europe (short-, medium- and long-term)? How can the RI contribute to replenishing the pipeline of innovation?
- Cooperation with Industry and Commerce
Central Question: Which significant potentials for synergies and cooperations with industry and commerce does the planned RI offer, such as for utilisation by the industry, value added in the high-tech sector, interconnections with industry or service providers and for potential applications of data, services and software?
- Contributions to Germany's and Europe's attractiveness and competitiveness
Central Question: In what way does the planned RI contribute significantly to an increase in international attractiveness and competitiveness of Germany as a location of innovation and industry and as part of the European Community, e. g. in terms of employment, investments or start-up dynamics (short-, medium- and long-term)?

Dimension 2: Contributions to sovereignty, resilience and agency of the State

Potential Criteria:

- Provision of instructional and orientational knowledge to shape policy
Central Questions: Which knowledge relevant to the deduction of possible political courses of action can be generated from the activities intended for the planned RI?
- Strengthening of digital and technological sovereignty in Europe
Central Question: How will the planned RI make a significant contribution to ensuring a technologically sovereign Europe as a region of science and industry, e. g. in terms of global technological leadership and an increase in geopolitical resilience?

- Importance for research relevant for security and critical infrastructures
Central Question: How does the planned RI contribute to strengthening national and/or international security, e. g. in the area of critical infrastructures?

Dimension 3: Societal Effects

Potential Criteria:

- Contributions to solving grand societal challenges and to achieving the UN Sustainable Development Goals
Central Question: How precisely does the planned RI contribute to tackling pressing societal challenges such as achieving the UN Sustainable Development Goals and safeguarding individual life resources?
- Cooperation with civil society and relevance for society
Central Question: What is the specific relevance of the planned RI for society, e. g. via potential cooperations with institutions from other areas of society, via data, services and software for society or contributions to promoting international cooperation in research and innovation?
- Transformative potential and contribution to a culture of innovation
Central Question: In which way does the project contribute significantly to processes of transformation and the strengthening of cultures of innovation, e. g. via systemic solutions and innovative approaches, new innovative cooperative mechanisms, service structures and access models or the promotion of social innovation? How responsive is the project with regard to societal demands?

A7: Utilisation Concept (incl. Data Utilisation)

(Volume: 5 pages max.)

Please outline the concept for utilisation of the RI with regard to all manners of access including data usage as well as to the entire life cycle and explain the concept of access management with a view to the designated access modalities (access criteria, access procedures, adjusted access for different user groups from science, industry and society etc.). Wherever possible, please provide quantitative estimates of the target groups, their demand and the contribution of the RI to meeting this demand. Explain and give reasons for the suppositions included in these estimates.

Furthermore, outline the utilisation management, respectively its scalability, as a function of the demand as well as, if applicable, the related impacts on the funding requirements.

Explain the concept for research data management. Moreover, please describe the generated or obtained data in terms of data type, related legal issues as well as the anticipated volume of data.

Please also elaborate on how the compliance with the individual FAIR-Principles on an internal level as well as for other RI users will be ensured and which provisions must be made on the institutional level. In addition, please explain the guidelines to be established that the RI users must comply with while generating/obtaining, archiving data or during their secondary or subsequent utilisation.

A8: Scheduling (incl. Milestones)

(Volume 4 pages max., excluding Gantt-Chart)

- Current planning status
Central Question: Which previous planning steps were conducted and how could the current planning status be described accordingly? Inter alia, please elaborate on the foundation of the schedule to be prepared.

- Further scheduling for the RI
Central question: Which milestones do you plan to achieve and when? Please describe in detail the future scheduling and planning for milestones across the entire RI life cycle and, therein, explain chronological interdependencies. As a foundation use the overall schedule in form of a Gantt chart to be submitted as a separate representation.

Elaborate on organisational, technical and scientific milestones and describe any interdependencies or prerequisites.

Please attach to this addendum a separate schedule for the RI life cycle as a Gantt chart, where the above-described aspects have been indicated. In the schedule, identify, inter alia, the critical path for the project. The Gantt chart does not count toward the page limit.

- Explanations for maturity of planning
Central Question: How can the maturity of planning of the project be assessed from the perspective of the submitting parties? Which obstacles for implementation still exist?

In summary of the aforementioned statements, please supply concrete information about the adequate maturity of planning of the project and explain it plausibly. Please discuss the deadlines required in the guidelines in your explanations.

A9: Budget Planning of Funds and Funding Concept across the entire RI Life cycle

See attached Excel table

A10: Organisational Structure and Governance

(Volume: 3 pages max., excluding organisational chart)

Please present the suggested organisational structure with tasks, competences and responsibilities for the installation and operation phases separately and elaborate on them. Furthermore, the specifics of the planned governance (in particular with international RI projects) are to be represented. Add an organisational chart for better visualisation. This does not count toward the page limit.

Furthermore, an estimate of planned staffing (required capacities and competences) must be supplied and a concept for the required expansion of staff and competences, if applicable, is to be outlined.

In doing so, please supplement information on the existing competences and capacities of responsible and partner institutions for the project.

Please also provide details on the status of preparations among the responsible and partner institutions (including a suggestion for the choice of an organisational structure and, for international RI, the site).

A11: Risk Analysis and Concept for Risk Management

See attached Excel table.

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