European Commission

European Charter for Access to Research Infrastructures

Principles and Guidelines for Access and Related Services

Research and Innovation

European Charter for Access to Research Infrastructures - Principles and Guidelines for Access and Related Services

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European Charter for Access to Research Infrastructures

Principles and Guidelines for Access and Related Services

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Preamble

The Pact for Research and Innovation in Europe[1] includes research infrastructures as one of the priority areas for joint action in the Union, with notably the aim to develop further the open access to research infrastructures. In 2022, the Council[2] invited the Commission to present an initiative, following the consultation within the European Strategy Forum on Research Infrastructures, on a revised European Charter for Access to Research Infrastructures. In 2024, the European Strategy Forum on Research Infrastructures published a report on access to research infrastructures[3], considering a set of surveys targeting research infrastructures and their stakeholders, which included orientations for the revision of the European Charter for Access to Research Infrastructures. These orientations have been considered for the present revision of the Charter.

Research infrastructures, including e-infrastructures, are at the core of the **knowledge triangle of research, education and innovation** and therefore play a vital role in the advancement of knowledge and technology and their exploitation. By offering high quality services to Users from different countries, engaging young people, attracting new Users and preparing the next generation of researchers, Research Infrastructures help in structuring the scientific community and play a key role in the construction of an efficient research and innovation environment. Support to the effective and efficient construction and operation of Research Infrastructures is a key priority in realising the European Research Area and in promoting **open science** and **open innovation**. Because of their ability to assemble a critical mass of people, knowledge and investment, Research Infrastructures contribute to **regional, national, European and global development** and are one of the most efficient tools to facilitate international cooperation in science.

Research infrastructures are also crucial in helping Europe lead a global movement towards open, interconnected, data-driven and computer-intensive research, experimental development, as well as education and training. They increase the creativity in and efficiency of research and bridge the gap between highly developed and lesser-developed regions. To an increasing extent, Research Infrastructures comprise elements of **digital services**, making the infrastructures and their services more accessible and enabling collaboration among Users across scientific domains and geographical boundaries. From a User´s perspective, the remote access can lead to a situation in which the physical location of the Research Infrastructure becomes less relevant. This nature of Research Infrastructures (and data involved) poses a number of challenges in relation to data ownership and to the necessity of providing transparency and Access to it. The exponential growth of data moreover poses challenges to its effective handling and its costs of curation and storage.

Just as public infrastructures are key to civil society, Research Infrastructures are the backbone of scientific communities and by now are well established in all disciplines. This spread has happened not least under the influence of increasingly important interdisciplinary User communities, digital science and of the move towards open access to scientific publications and data.

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[1] Council recommendation on a Pact for Research and Innovation in Europe, https://data.consilium.europa.eu/doc/document/ST-13701-2021-INIT/en/pdf

[2] Council conclusions on Research Infrastructures, approved by the Council at its 3914th meeting held on 2 December 2022, https://data.consilium.europa.eu/doc/document/ST-15429-2022-INIT/en/pdf

[3] ESFRI Report on Access to Research Infrastructures and Charter on Access to RIs, https://zenodo.org/records/10555986

Strong investment in research and innovation is needed to address pressing **global societal challenges**, such as climate change, health and ageing population, and the move towards a resource efficient society. Research Infrastructures play a vital role in addressing these challenges. However, it is essential to optimise the use of scarce resources for increasingly expensive facilities, to overcome the fragmented Research Infrastructure spending, not only across Europe, but at a more global scale and to join forces to address these challenges. As such, the scale and scope of scientific investigation and the challenges driving the development of large Research Infrastructures deserve particular attention. When Access to Research Infrastructures is granted among research organisations, it should not be burdened by inappropriate taxation.

Strong interaction and cooperation between Research Infrastructures, Users from academia and industry and **providers from industry** and public services builds bridges between the public, commercial and Research Infrastructure worlds. This, along with dedicated initiatives, increases knowledge and **technology transfer** from science to industry and public services and helps **driving innovation**. In addition to acting as Users, industry also plays an increasing role in the construction and operation of Research Infrastructures, in the co-development of their services and related innovation.

Finally, the nature and complexity of the societal challenges require a **global approach**; Access to the best Research Infrastructures, regardless of their location, is a prerequisite to achieve scientific excellence and socio-economic impact.

1. Purpose

In line with the EU's and Member States' commitment to the European Research Area and the common values and principles of the Pact for Research and Innovation in Europe, this Charter sets out **non-regulatory principles and guidelines** to be used as a reference when defining Access policies for Research Infrastructures and related services.

While not having any legally binding nature, Research Infrastructures are encouraged to use this Charter as a reference when updating existing or defining new Access policies. In addition, the funding organisations of Research Infrastructures are invited to promote this Charter's provisions.

This Charter promotes **Access to Research Infrastructures** in order to conduct innovative research and development, to improve the related methods and skills in the workforce and to foster collaboration.

This Charter moreover promotes interaction with a wide range of social and economic activities, including, as appropriate, **business, industry and public services**, in order to maximise the return on investment in Research Infrastructures and to drive innovation, competitiveness, resilience and efficiency in terms of use of the scarce resources available.

2. Applicability

This Charter addresses Access to Research Infrastructures as defined below and may be taken into account when defining policies for providing Access in order to conduct research, to undertake experimental development, to provide education and training and to deliver services.

This Charter is primarily targeted at those responsible for the definition of the Access policy to any given Research Infrastructure and, therefore, at the Research Infrastructures themselves, at the institutions to which they belong and at their respective research funding organisations.

To ensure the largest applicability, the Charter is a non-prescriptive and concise reference acting as a benchmark for Research Infrastructures. A number of resources[4] can complement this Charter providing best practices and concrete guidance on the topics raised to those responsible for the definition of Access policies.

While expressing the European approach for Access to Research Infrastructures, this Charter is offered as a **reference document worldwide**.

[4] Such as resources from the ERIC Forum or individual ERICs, from EIROforum or its members, from ESFRI Landmarks.

3. Definitions

3.1. Research Infrastructures

‘Research Infrastructures’ means facilities that provide resources and services for the research communities to conduct research and foster innovation , including the associated human resources and expertise; major equipment or sets of instruments; knowledge-related facilities such as collections, archives and/or scientific data infrastructures; computing systems, communication networks; and: any other infrastructure of a unique nature and open to external Users, essential to achieve excellence in R&I. Where relevant, these resources may be used beyond research, for example for training and education or public services. They may be 'single-sited', 'distributed' or 'virtual'[5].

3.2. Users

‘Users’ of Research Infrastructures can be individuals, teams and institutions from academia, business, industry and public services. They are engaged in the conception or creation of new knowledge, products, processes, methods and systems and also in the management of projects, through research, development and innovation activities. Teams of Users may include researchers, engineers, doctoral candidates, and technical staff, as well as students participating in the research, in the framework of their studies or any other User from a private or public institution.

3.3. Access

‘Access’ refers to the legitimate and authorised physical, remote or virtual admission to, interactions with and use of Research Infrastructures and to services offered by Research Infrastructures to Users. Such Access can be granted, amongst others, to machine time, computing resources, software, data, data-communication services, trust and authentication services, sample preparation, archives, collections, the set-up, execution and dismantling of experiments, education and training, expert support and analytical services.

3.3.1. Physical Access

Physical Access is “in-person” Access, when Users physically visit an infrastructure, facility or equipment.

3.3.2. Remote Access

Remote Access is Access to resources and services offered by the Research Infrastructure without Users physically visiting the infrastructure’s facilities. This can entail shipping of samples, exchange of data. It can include Access to selective digital services such as Access to high-performance computing.

In both physical and remote Access, the services or resources are limited, and a selection is required.

[5] Article 2 (1) of Regulation (EU) 2021/695 of the European Parliament and of the Council of 28 April 2021establishing Horizon Europe – the Framework Programme for Research and Innovation laying down its rules for participation and dissemination, and repealing Regulations (EU) No 1290/2013 (EU) and (EU) No 1291/2013

3.3.3. Wide virtual Access

Wide virtual Access means Access to Users provided through communication networks, such as Access to data and digital tools; the available services or resources can be simultaneously used by a wide number of Users and the Users are not selected. Restrictions may however apply e.g. due to legal constraints.

3.3.4. Hybrid Access

Hybrid Access refers to any combination of physical, remote and wide virtual Access.

3.4. Access unit

The Access Unit is a measure specifying the Access offered to the Users so that quantity of Access can be recorded. Research Infrastructures are responsible for the definition of Access Units, which may vary from e.g. precise values like hours or sessions of Access to use of instrumentation, to gigabytes transmitted for the conduction of complex experiments and projects up to quotations based on an inventory of Users' needs.

3.5. FAIR

Qualifies digital assets that are Findable, Accessible, Interoperable, and Reusable (FAIR). As a result of the increase in volume, complexity and creation speed of data, FAIR digital assets increasingly require machine-actionability i.e. minimal human intervention.

4. Principles

4.1. Access policy

Research Infrastructures should have a policy defining how they regulate, grant and support Access to (potential) Users from academia, business, industry and public services.

4.2. Acknowledgement and co-authorship

Users should acknowledge the contribution of the Research Infrastructure in any output (i.e. publication, patent, data, etc.) deriving from research conducted within its realms, including wide virtual Access and services. In accordance with good scientific practice, Users are encouraged to offer co-authorship to those working at the Research Infrastructure having made genuine scientific contributions to their work.

4.3. Legal conformity

Research Infrastructures must comply with national, EU and international law and agreements, particularly, but not only, in areas such as intellectual property rights and the protection of privacy, protection of personal data, ethical considerations as well as safety, security and public order regulations when designing rules and conditions for Access to and use of Research Infrastructures.

4.4. Costs and fees

Acknowledging a variety of possible financial sustainability models, costs need to be covered; fees for Access, to the extent found necessary, should be charged to the User and contribute to the financial sustainability of the Research Infrastructure.

4.5. Ethical conduct and research integrity

Research Infrastructures and Users should undertake the necessary actions to adhere to the standard codes of conduct and ethical behaviour in scientific research and to research integrity[6].

4.6. Non-discrimination

In granting Access to Users Research Infrastructures shall not discriminate on any personal grounds and may consider establishing equal opportunities policies.

4.7. Implementation

The administration connected to requesting and granting Access to Research Infrastructures should be kept to a minimum.

4.8. Open science

Research Infrastructures should adopt and promote open science, the approach to research based on cooperative work that emphasizes the open sharing of knowledge, results and tools as early and widely as possible. When 'open' cannot be the default, the principle of 'as open as possible, as restricted as necessary' should be followed.

4.9. Research data management

Research Infrastructures should have a research data management policy ensuring that research data are appropriately maintained, archived for a reasonable period, and available for review and (re-)use in compliance with FAIR principles. Research Infrastructures and Users should have an agreement on how to (re-)use the data. If appropriate, they are also encouraged to consider providing open Access to research data.

4.10. User instruction

Research Infrastructures should provide the Users with instructions for the effective and efficient Access to a Research Infrastructure.

[6] The European code of conduct for research integrity drafted by the European Science Foundation (ESF) and the European Federation of National Academies of Sciences and Humanities (ALLEA) and revised in 2023, sets out four principles that researchers need to abide to: reliability in ensuring the quality of research, honesty in communication, respect for research participants, society and environment, accountability for the research and for its wider societal impacts https://allea.org/wp-content/uploads/2023/06/European-Code-of-Conduct-Revised-Edition-2023.pdf

5. Guidelines

5.1. Access policy

The Access policy of a Research Infrastructure should define the Access in terms of Access Units, state the specific Access mode, clarify the conditions for Access, describe the processes and interactions involved in the Access and elaborate on the support measures facilitating the Access, if existing.

5.2. Access modes

Access to Research Infrastructures may be provided according to different Access modes, i.e. `excellence-driven`, `market-driven`, `wide virtual` and priority-driven. Acknowledging the different purposes of Access, and in function of possible contractual and legal obligations, Access to any Research Infrastructure may be regulated according to one Access mode, or any combination of them.

5.2.1. Excellence-driven Access

The excellence-driven Access mode is exclusively dependent on the scientific excellence, originality, quality and technical and ethical feasibility of an application evaluated through peer review conducted by internal or external experts. It enables Users to get Access to the best facilities, resources and services wherever located. This Access mode enables collaborative research and technological development efforts across geographical and disciplinary boundaries.

5.2.2. Market-driven Access

The market-driven Access mode applies when Access is defined through an agreement between the User and the Research Infrastructure that will lead to a fee for the Access and that may remain confidential.

5.2.3. Wide virtual Access

The wide virtual Access mode guarantees the broadest possible Access to scientific data and digital services provided by the Research Infrastructure to Users wherever they are based. Research Infrastructures adopting this mode maximise availability and visibility of the data and services provided.

5.2.4. Priority-driven Access

In priority-driven Access mode the Research Infrastructure in selecting User proposals considers their relevance for addressing a predefined priority. This includes urgent or customised Access to respond to:

- a scientific or societal challenge;
- a crisis situation;
- education and training.

By providing Access for education and training, Research Infrastructures fulfil their role in enhancing the skills of the next generations of scientists and innovators.

5.3. Access restrictions

Research Infrastructures may restrict Access by means of quota or pre-defined User groups, as long as they clearly communicate such conditions to the Users. Such restrictions may be based on established acceptable practices such as, but not limited to, training and education, research programmes, ethics, legal and contractual obligations, financial contributions, resources and membership.

When appropriate, Access restrictions compliant with EU's commitments under international agreements can be implemented to ensure alignment with latest EU recommendations on enhancing research security, with the EU Global Approach to Research and Innovation and with any relevant requirements or recommendations related to Strategic Autonomy and European Economic and Research Security[7].

5.4. Access processes and interactions

The processes and interactions involved in the Access to Research Infrastructures may consist of application, negotiation, evaluation, feedback, selection, admission, approval, feasibility check, setting-up, use, monitoring and dismantling. Research Infrastructures should in any case clearly communicate and motivate their decision on the request for Access to the Users.

5.5. Support measures facilitating Access

In order to facilitate Access, Research Infrastructures are encouraged to offer support measures to Users such as guidance through User manuals, provision of User support, User training including on digital aspects and data management, provision of accommodation, and guidance with immigration procedures.

Where appropriate, Research Infrastructures are encouraged to adapt Access processes and interactions to new and specific Users such as Users from industry including SMEs, or from public services. When appropriate, Research Infrastructures are encouraged to liaise with other Research Infrastructures to facilitate cross-use of several Research Infrastructures in the context of complex or multidisciplinary R&I activities.

5.6. Education and training

Research Infrastructures are encouraged to offer education and training in the areas of their activities and to collaborate with other institutions and organisations that benefit from using the Research Infrastructure for their education and training purposes.

[7]COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS on the Global Approach to Research and Innovation Europe's strategy for international cooperation in a changing world, COM/2021/252 final, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2021:252:FIN

https://research-and-innovation.ec.europa.eu/strategy/strategy-research-and-innovation/europe-world/international-cooperation/global-approach-research-and-innovation_en

COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL Advancing European economic security: an introduction to five new initiatives, COM/2024/22 final, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52024DC0022

5.7. Industry, SMEs and public services

When appropriate, Research Infrastructures are encouraged to reach out to new Users from industry, SMEs or public services and extend and customise their Access offer and services to maximise their impact.

5.8. Regulatory framework

Access to any given Research Infrastructure should be regulated by a framework that can range from generic terms and conditions for use accepted by the User, through a dedicated contract up to the provisions of international agreements and treaties. The regulatory framework should cover, at the least, Access, acknowledgement, co-authorship, intellectual property rights, data protection, confidentiality, liability and possible fees.

5.9. Transparency

Each Research Infrastructure should have a single point providing clear and transparent information on the Research Infrastructure itself, its services, Access policy, data management policy and the terms and conditions. Where applicable, information should be provided on the available equipment, costs, fees, contractual obligations, health safety and environment rules and procedures, intellectual property rights and the legal settlement of disputes.

5.10. Open Science and research data management plan

Research Infrastructures and Users should agree on a data management plan, outlining how research data of the project will be handled, recognising and supporting the values of open science, open data and FAIR principles[8], with respect to contribution to excellent science. Research Infrastructures should federate existing data resources in Europe, working towards the interoperability of research data, and potential contributions to the European Open Science Cloud.

5.11. Health, safety, security, and environment

Research Infrastructures should undertake the necessary actions, including instruction, to ensure the health, security and safety of any User accessing the Research Infrastructure as well as to minimise the impact on the environment. Where applicable, Users must comply with security, safety and environmental rules and with procedures in force at the Research Infrastructures, in particular concerning the notifications on introduction of material and instrumentation that could induce risks or ethical issues to the facility.

Research Infrastructures are encouraged to develop and regularly update a crisis Access management plan to mitigate the negative impact of a crisis (pandemics, natural hazards, other emergency) on the Access to the Research Infrastructures, on the staff and on the Users.

5.12. Quality assurance

Research Infrastructures are encouraged to set in place mechanisms to evaluate the quality of the Access through e.g. feedback on the User satisfaction and the monitoring of the results of the Access to the Research Infrastructure.

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[8] Useful resources on practices for open science and how they complement intellectual property rights are available in the context of Horizon Europe: European Commission, European Innovation Council and SMEs Executive Agency, *European IP helpdesk – Your guide to open science in Horizon Europe*, Publications Office of the European Union, 2024, https://op.europa.eu/en/publication-detail/-/publication/d0aa4b5d-47ec-11ef-aea6-01aa75ed71a1

5.13. Limitations

Access to Research Infrastructures may be limited, amongst others, by the following:

- national security and defence;
- privacy and confidentiality;
- commercial sensitivity and intellectual property rights;
- ethical considerations in accordance with applicable laws and regulations.

6. Review and update

The Charter reflects the state of the art of thinking and practice concerning Access to Research Infrastructures in Europe. Research Infrastructures as well as Users can, at any time, provide comments on this Charter and suggest possible improvements[9]. The European Commission, the European Strategy Forum on Research Infrastructures and the European Research Area stakeholder organisations will periodically review the relevance and applicability of this Charter and, whenever appropriate, update it accordingly.

[9] RTD-CHARTER-FOR-ACCESS@ec.europa.eu

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The portal data.europa.eu provides access to open datasets from the EU institutions, bodies and agencies. These can be downloaded and reused for free, for both commercial and non-commercial purposes. The portal also provides access to a wealth of datasets from European countries.

The European Charter for Access to Research Infrastructures sets out non-regulatory principles and guidelines to be used as a reference when defining Access policies for Research Infrastructures and related services.

While not having any legally binding nature, Research Infrastructures are encouraged to use this Charter as a reference when updating existing or defining new Access policies. In addition, the funding organisations of Research Infrastructures are invited to promote this Charter's provisions. The update of the Charter published in 2015 is part of the ERA Policy Agenda 2022-2024.

Research and Innovation policy

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