OVERVIEW OF OPEN SCIENCE IN HORIZON EUROPE

State-of-the-art as of 2 April 2021

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1. Position of the Council at first reading with a view to the adoption of a **REGULATION** OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL **establishing Horizon Europe** – the Framework Programme for Research and Innovation, laying down its rules for participation and dissemination, and repealing Regulations (EU) No 1290/2013 and (EU) No 1291/2013 - Adopted by the Council on 16 March 2021, 18 March 2021;
2. Horizon Europe Programme, **Standard Proposal Template** (RIA, IA), Application forms (Part A), Project proposal – Technical description (Part B), Version 1.0, 10 March 2021;
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4. Webinar: **How to prepare a successful proposal in Horizon Europe**, 24 March 2021.

NEXT EVENT:

News item at https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/home

Webinar on 21 April 2021 – A successful proposal for Horizon Europe: Scientific-technical excellence is key, but don't forget the other aspects

The European Commission is organising an open information session to inform all potential applicants to Horizon Europe calls on the modalities for preparing their proposals. This session will complement the webinar organised on 24 March on 'How to prepare a successful proposal'. It will focus on the policy considerations that participants need to take into account when preparing their proposals, like open science, gender dimension or dissemination, exploitation and communication aspects. This Horizon Europe webinar will take place via YouTube only, from 10.00 am (CEST).

Please view the agenda. You may **register here** and you will receive a link to all the useful information (including the presentations and a recording of the webinar afterwards) via email 2 days before the event.

1. **Position of the Council at first reading with a view to the adoption of a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL establishing Horizon Europe – the Framework Programme for Research and Innovation, laying down its rules for participation and dissemination, and repealing Regulations (EU) No 1290/2013 and (EU) No 1291/2013 - Adopted by the Council on 16 March 2021, 18 March 2021**

https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CONSIL%3AST_7064_2020_REV_2&qid=1616272614144

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(7) The concepts of 'open science', 'open innovation' and 'open to the world' should ensure excellence and the impact of the Union's investment in R&I, while safeguarding the Union's interests.

(8) Open science, including open access to scientific publications and research data, as well as optimal dissemination and exploitation of knowledge have the potential to increase the quality, impact and benefits of science. They also have the potential to accelerate the advancement of knowledge by making it more reliable, efficient and accurate, more easily understood by society and responsive to societal challenges. Provisions should be laid down to ensure that beneficiaries provide open access to peer-reviewed scientific publications. Likewise, it should be ensured that beneficiaries provide open access to research data following the principle 'as open as possible, as closed as necessary', while ensuring the possibility of exceptions taking into account the legitimate interests of the beneficiaries. More emphasis should in particular be given to the responsible management of research data, which should comply with the principles of 'findability', 'accessibility', 'interoperability' and 'reusability' (the 'FAIR principles'), in particular through the mainstreaming of data management plans. Where appropriate, beneficiaries should make use of the possibilities offered by the European Open Science Cloud (EOSC) and the European Data Infrastructure and adhere to further open science principles and practices. Reciprocity in open science should be encouraged in all association and cooperation agreements with third countries.

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Article 14

Open science

1. The Programme shall encourage open science as an approach to the scientific process based on cooperative work and diffusing knowledge, in particular in accordance with the following elements which shall be ensured in accordance with Article 39(3) of this Regulation:

   (a) open access to scientific publications resulting from research funded under the Programme;

   (b) open access to research data, including those underlying scientific publications, in accordance with the principle 'as open as possible, as closed as necessary'.

2. The principle of reciprocity in open science shall be promoted and encouraged in all association and cooperation agreements with third countries, including agreements signed by funding bodies entrusted with the indirect management of the Programme.

3. Responsible management of research data shall be ensured in line with the principles 'findability', 'accessibility', 'interoperability' and 'reusability' (the 'FAIR principles'). Attention shall also be paid to the long-term preservation of data.

4. Other open science practices shall be promoted and encouraged, including for the benefit of SMEs.

Article 36, Eligible costs, page 116

7. Costs related to open access including data management plans shall be eligible for reimbursement as further stipulated in the grant agreement.

Article 39, Exploitation and dissemination, page 121

3. Beneficiaries shall ensure that open access to scientific publications applies under the terms and conditions laid down in the grant agreement. In particular, the beneficiaries shall ensure that they or the authors retain sufficient intellectual property rights to comply with their open access requirements.

Open access to research data shall be the general rule under the terms and conditions laid down in the grant agreement, ensuring the possibility of exceptions following the principle 'as open as possible, as closed as necessary', taking into consideration the legitimate interests of the beneficiaries including commercial exploitation and any other constraints, such as data protection rules, privacy, confidentiality, trade secrets, Union competitive interests, security rules or intellectual property rights.

The work programme may provide for additional incentives or obligations for the purpose of adhering to open science practices.

4. Beneficiaries shall manage all research data generated in an action under the Programme in line with the FAIR principles and in accordance with the grant agreement and shall establish a Data Management Plan.

The work programme may provide, where justified, for additional obligations to use the EOSC for storing and giving access to research data.

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Article 42

Specific provisions

1. Specific provisions on ownership, exploitation and dissemination, transfer and licensing as well as access rights may apply for ERC actions, training and mobility actions, pre-commercial procurement actions, public procurement of innovative solutions actions, programme co-fund actions and coordination and support actions.

2. The specific provisions referred to in paragraph 1 shall be set out in the grant agreement and shall not change the principles and obligations on open access.

Annex I, Broad lines of activities, page 2

(c) Research infrastructures: endowing Europe with world-class sustainable research infrastructures which are open and accessible to the best researchers from Europe and beyond. Encouraging the use of existing research infrastructures, including those financed from funds under Union Cohesion Policy. In so doing, enhancing the potential of the research infrastructure to support scientific advance and innovation, and to enable open and excellent science in accordance with the FAIR principles, alongside activities related to Union policies and international cooperation.

Areas of intervention: consolidating and developing the landscape of European research infrastructures; opening, integrating and interconnecting research infrastructures; the innovation potential of European research infrastructures and activities for innovation and training; reinforcing European research infrastructure policy and international cooperation;

Annex V, Key impact pathway indicators, page 2

Scientific impact pathway indicators

The Programme is expected to have scientific impact by creating high-quality new knowledge, strengthening human capital in R&I, and fostering diffusion of knowledge and open science. Progress towards this impact is monitored through proxy indicators set along the following three key impact pathways.

Annex V, Key impact pathway indicators, page 5

Towards scientific impact	Short-term	Medium-term	Longer-term
Fostering diffusion of knowledge and open science	Shared knowledge - Share of research outputs (open data/publication/software etc.) resulting from the Programme shared through open knowledge infrastructures	Knowledge diffusion - Share of open access research outputs resulting from the Programme actively used/cited	New collaborations - Share of Programme beneficiaries which have developed new transdisciplinary/transsectoral collaborations with users of their open access research outputs resulting from the Programme

2. **Horizon Europe Programme, Standard Proposal Template (RIA, IA), Application forms (Part A), Project proposal – Technical description (Part B), Version 1.0, 10 March 2021**
https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/temp-form/af/af_he-ria-ia_en.pdf

Application forms (Part A)

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List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description
[Publication] [Dataset] [Software] [Good] [Service] [Other achievement]	Key elements of the achievement, including a short qualitative assessment of its impact and (where available) its digital object identifier (DOI) or other type of persistent identifier (PID). Publications, in particular journal articles, are expected to be open access. Datasets are expected to be FAIR and 'as open as possible, as closed as necessary'.

Proposal template Part B: technical description

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Excellence – aspects to be taken into account.

- Clarity and pertinence of the project's objectives, and the extent to which the proposed work is ambitious, and goes beyond the state of the art.
- Soundness of the proposed methodology, including the underlying concepts, models, assumptions, interdisciplinary approaches, appropriate consideration of the gender dimension in research and innovation content, and the quality of open science practices, including sharing and management of research outputs and engagement of citizens, civil society and end users where appropriate.

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- Describe how appropriate open science practices are implemented as an integral part of the proposed methodology. Show how the choice of practices and their implementation are adapted to the nature of your work, in a way that will increase the chances of the project delivering on its objectives *[e.g. 1 page]*. If you believe that none of these practices are appropriate for your project, please provide a justification here.

  ⚠ *Open science is an approach based on open cooperative work and systematic sharing of knowledge and tools as early and widely as possible in the process. Open science practices include early and open sharing of research (for example through preregistration, registered reports, pre-prints, or crowd-sourcing); research output management; measures to ensure reproducibility of research outputs; providing open access to research outputs (such as publications, data, software, models, algorithms, and workflows); participation in open peer-review; and involving all relevant knowledge actors including citizens, civil society and end users in the co-creation of R&I agendas and contents (such as citizen science).*

  ⚠ *Please note that this question does not refer to outreach actions that may be planned as part of communication, dissemination and exploitation activities. These aspects should instead be described below under 'Impact'.*

- Research **data management and management of other research outputs:** Applicants generating/collecting data and/or other research outputs (except for publications) during the project must provide maximum 1 page on how the data/ research outputs will be managed in line with the FAIR principles (Findable, Accessible, Interoperable, Reusable), addressing the following (the description should be specific to your project): *[1 page]*

  Types of data/research outputs (e.g. experimental, observational, images, text, numerical) and their estimated size; if applicable, combination with, and provenance of, existing data.

  Findability of data/research outputs: Types of persistent and unique identifiers (e.g. digital object identifiers) and trusted repositories that will be used.

  Accessibility of data/research outputs: IPR considerations and timeline for open access (if open access not provided, explain why); provisions for access to restricted data for verification purposes.

  Interoperability of data/research outputs: Standards, formats and vocabularies for data and metadata.

  Reusability of data/research outputs: Licenses for data sharing and re-use (e.g. Creative Commons, Open Data Commons); availability of tools/software/models for data generation and validation/interpretation /re-use.

  Curation and storage/preservation costs; person/team responsible for data management and quality assurance.

  ⚠ *Proposals selected for funding under Horizon Europe will need to develop a detailed data management plan (DMP) for making their data/research outputs findable, accessible, interoperable and reusable (FAIR) as a deliverable by month 6 and revised towards the end of a project's lifetime.*

  ⚠ *For guidance on open science practices and research data management, please refer to the relevant section of the HE Programme Guide on the Funding & Tenders Portal.*

3.2 Capacity of participants and consortium as a whole *[e.g. 3 pages]*

⚠ *The individual members of the consortium are described in a separate section under Part A. There is no need to repeat that information here.*

- Describe the consortium. How does it match the project's objectives, and bring together the necessary disciplinary and inter-disciplinary knowledge. Show how this includes expertise in social sciences and humanities, open science practices, and gender aspects of R&I, as appropriate.

3. **Horizon Europe (HORIZON), Euratom Research and Training Programme (EURATOM): General Model Grant Agreement, Version 1.0, DRAFT, 25 February 2021**
https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/common/agr-contr/general-mga_horizon-euratom_en.pdf

Annex 5, Specific rules, p. 107-109
COMMUNICATION, DISSEMINATION, OPEN SCIENCE AND VISIBILITY (— ARTICLE 17)

Open Science

Open science: open access to scientific publications

The beneficiaries must ensure open access to peer-reviewed scientific publications relating to their results. In particular, they must ensure that:

- at the latest at the time of publication, a machine-readable electronic copy of the published version, or the final peer-reviewed manuscript accepted for publication, is deposited in a trusted repository for scientific publications
- immediate open access is provided to the deposited publication via the repository, under the latest available version of the Creative Commons Attribution International Public Licence (CC BY) or a licence with equivalent rights; for monographs and other long-text formats, the licence may exclude commercial uses and derivative works (e.g. CC BY-NC, CC BY-ND) and
- information is given via the repository about any research output or any other tools and instruments needed to validate the conclusions of the scientific publication.

Beneficiaries (or authors) must retain sufficient intellectual property rights to comply with the open access requirements.

Metadata of deposited publications must be open under a Creative Common Public Domain Dedication (CC 0) or equivalent, in line with the FAIR principles (in particular machine-actionable) and provide information at least about the following: publication (author(s), title, date of publication, publication venue); Horizon Europe or Euratom funding; grant project name, acronym and number; licensing terms; persistent identifiers for the publication, the authors involved in the action and, if possible, for their organisations and the grant. Where applicable, the metadata must include persistent identifiers for any research output or any other tools and instruments needed to validate the conclusions of the publication.

Only publication fees in full open access venues for peer-reviewed scientific publications are eligible for reimbursement.

Open science: research data management

The beneficiaries must manage the digital research data generated in the action ('data') responsibly, in line with the FAIR principles and by taking all of the following actions:

- establish a data management plan ('DMP') (and regularly update it)
- as soon as possible and within the deadlines set out in the DMP, deposit the data in a trusted repository; if required in the call conditions, this repository must be federated in the EOSC in compliance with EOSC requirements
- as soon as possible and within the deadlines set out in the DMP, ensure open access — via the repository — to the deposited data, under the latest available version of the Creative Commons Attribution International Public License (CC BY) or Creative Commons Public Domain Dedication (CC 0) or a licence with equivalent rights, following the principle 'as open as possible as closed as necessary', unless providing open access would in particular:
    - be against the beneficiary's legitimate interests, including regarding commercial exploitation, or
    - be contrary to any other constraints, in particular the EU competitive interests or the beneficiary's obligations under this Agreement; if open access is not provided (to some or all data), this must be justified in the DMP
- provide information via the repository about any research output or any other tools and instruments needed to re-use or validate the data.

Metadata of deposited data must be open under a Creative Common Public Domain Dedication (CC 0) or equivalent (to the extent legitimate interests or constraints are safeguarded), in line with the FAIR principles (in particular machine-actionable) and provide information at least about the following: datasets (description, date of deposit, author(s), venue and embargo); Horizon Europe or Euratom funding; grant project name, acronym and

number; licensing terms; persistent identifiers for the dataset, the authors involved in the action, and, if possible, for their organisations and the grant. Where applicable, the metadata must include persistent identifiers for related publications and other research outputs.

Open science: additional practices

Where the call conditions impose additional obligations regarding open science practices, the beneficiaries must also comply with those.

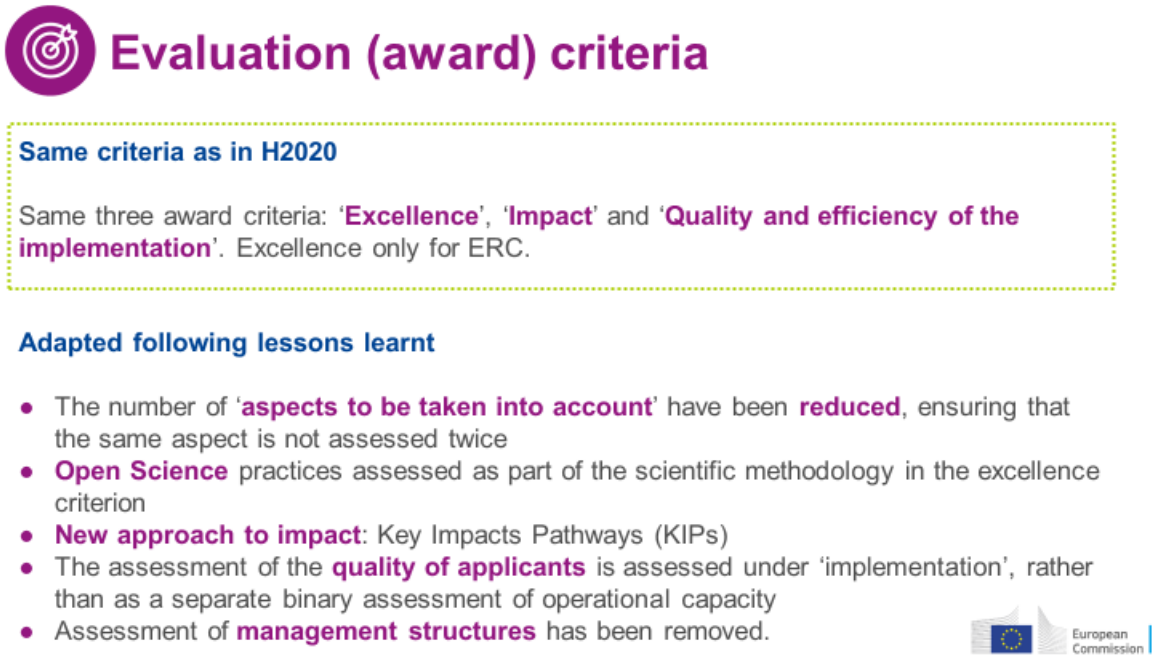
Where the call conditions impose additional obligations regarding the validation of scientific publications, the beneficiaries must provide (digital or physical) access to data or other results needed for validation of the conclusions of scientific publications, to the extent that their legitimate interests or constraints are safeguarded (and unless they already provided the (open) access at publication.

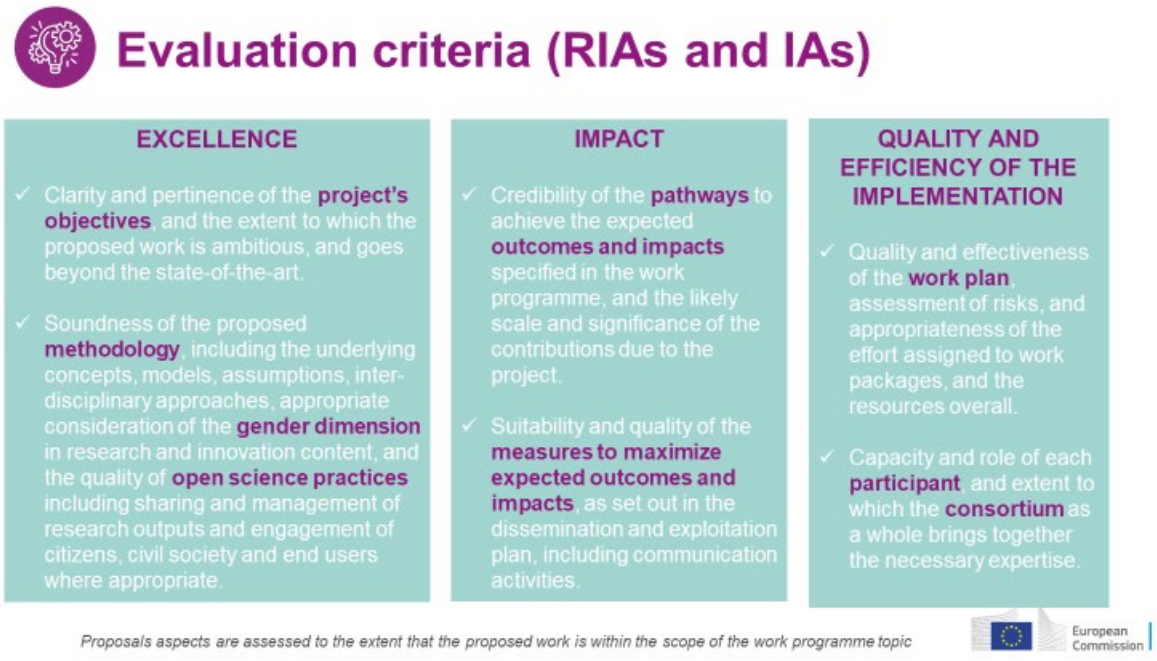
Where the call conditions impose additional open science obligations in case of a public emergency, the beneficiaries must (if requested by the granting authority) immediately deposit any research output in a repository and provide open access to it under a CC BY licence, a Public Domain Dedication (CC 0) or equivalent. As an exception, if the access would be against the beneficiaries' legitimate interests, the beneficiaries must grant non-exclusive licenses — under fair and reasonable conditions — to legal entities that need the research output to address the public emergency and commit to rapidly and broadly exploit the resulting products and services at fair and reasonable conditions. This provision applies up to four years after the end of the action (see Data Sheet, Point 1).

4. Webinar: How to prepare a successful proposal in Horizon Europe, 24 March 2021

Slides and recording available at https://ec.europa.eu/research/participants/docs/h2020-funding-guide/other/event210324.htm

Evaluation of proposals





Key principles

- Your proposed work must be within the scope of a work programme topic
- You need to demonstrate that your idea is ambitious and goes beyond the state of the art
- Your scientific methodology must take into account interdisciplinary, gender dimension and open science practices. It must not significantly harm the environment
- You should show how your project could contribute to the outcomes and impacts described in the work programme (the pathway to impact)
- You should describe the planned measures to maximise the impact of your project ('plan for the dissemination and exploitation including communication activities')
- You should demonstrate the quality of your work plan, resources and participants

European Commission

Policy and horizontal considerations

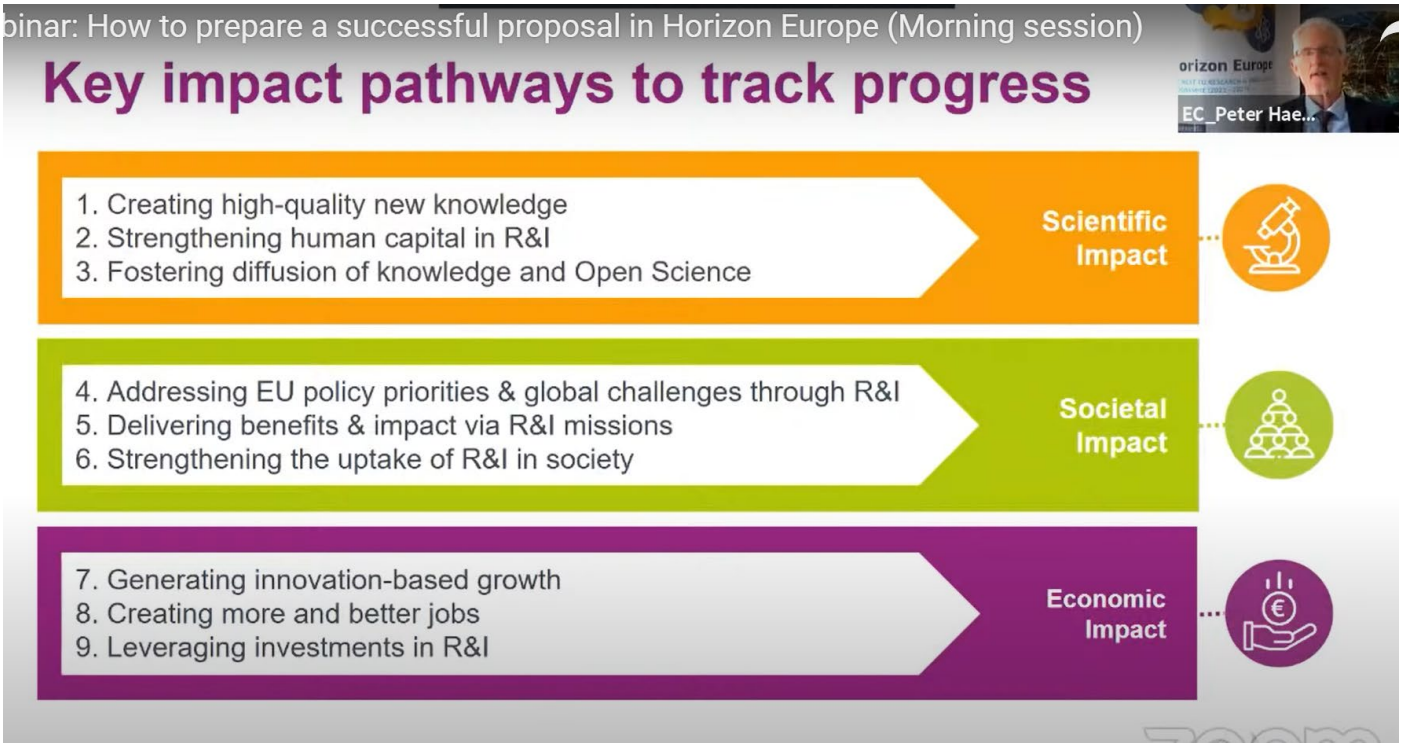
- Open Science across the programme
- Gender dimension in R&I content
- Pathway to impact
- Measures to maximise impact
- Do no significant harm principle (DNSH)
- Artificial intelligence

These aspects must normally be considered in all Horizon Europe calls (unless explicitly mentioned in the topic description).

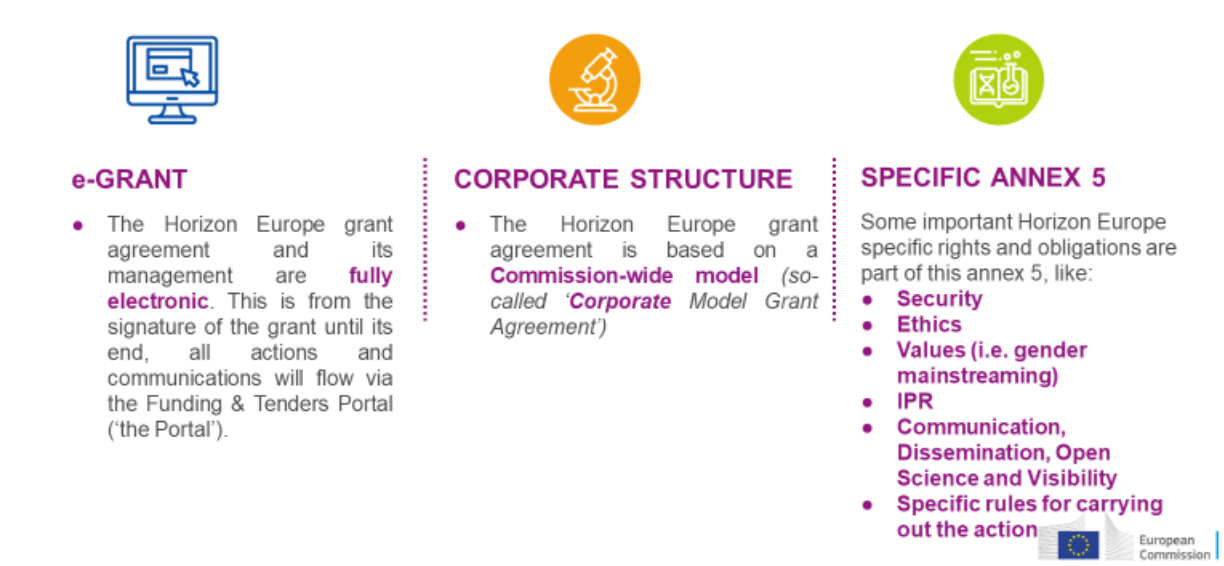
Specific calls may include other aspects to take into account.

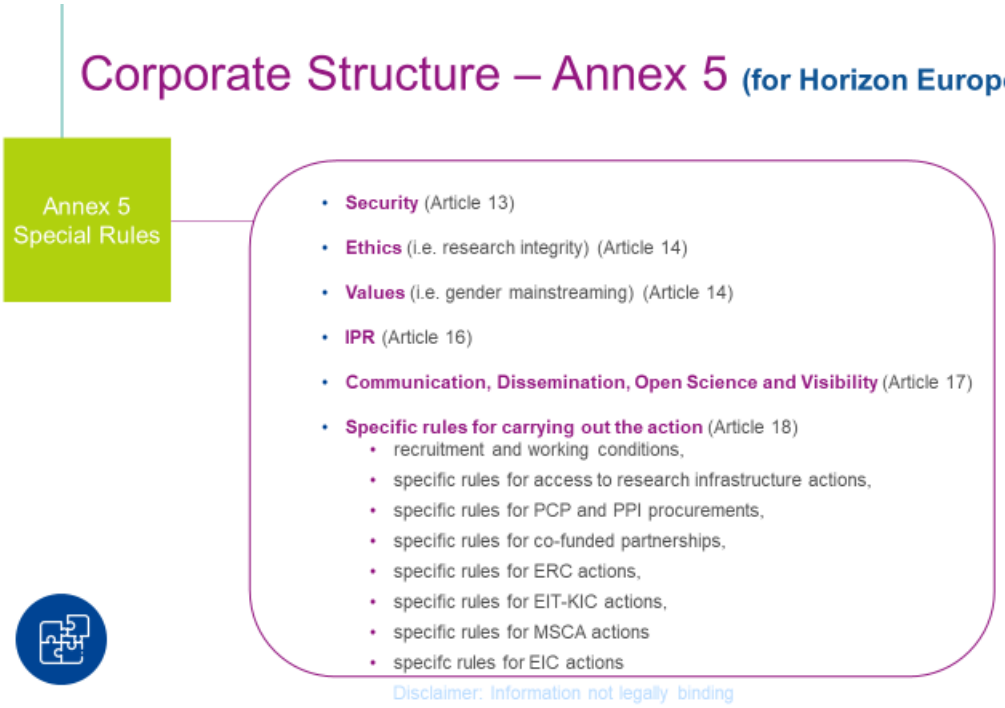
Future webinars focused on these specific aspects will come soon.

European Commission



General Model Grant Agreement





Funding and tender opportunities – Reference documents, https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/how-to-participate/reference-documents;programCode=HORIZON

Main changes in the Horizon Europe model grant agreement in comparison with the Horizon 2020 model grant agreement