

Pathfinder open from the point of view of a referee

K. Roszak

Department of Condensed Matter Theory, FZU

Introduction

Evaluation criteria

- Excellence
- Impact
- Implementation

Miscellaneous

Introduction

Structure: Expert → Vice Chair

Experts are scientists; substantive evaluation

Chairs are scientists and EU Commission employees; formal evaluation of the expert evaluation (language!)

Paid for half a days' work; true evaluation time varies; proper evaluation would take a week

2016 Remote evaluator for H2020-FETOPEN-2016-2017-RIA, cut-o 06.16 (EU Commission)

2017 Remote evaluator for H2020-FETOPEN-2016-2017-RIA, cut-o 01.17 (EU Commission)

2017 Expert evaluator for Final Scientific Review (EU Commission)

2021 Expert evaluator for EIC PATHFINDER OPEN (EU Commission)

2022 Expert evaluator for EIC PATHFINDER OPEN (EU Commission)

2022 Expert evaluator for HORIZON MSCA (EU Commission)

2023 Expert evaluator for EIC PATHFINDER OPEN (EU Commission)

2024 Expert evaluator for EIC PATHFINDER OPEN (EU Commission)

2024 Expert evaluator for Periodic Scientific Review (EU Commission)

2024 Expert evaluator for HORIZON MSCA (EU Commission)

Evaluation criteria: Excellence

Long-term vision: How convincing is the vision of a radically new technology and relevant potential solutions, towards which the project would contribute in the long term?

- This is the place to be grand and “sell” the project. It’s allowed to go a little towards science fiction.
- Don’t be too general. There has to be a connection with your breakthrough.

Science-towards-technology breakthrough: How concrete, novel, and ambitious is the proposed science-towards-technology breakthrough with respect to the state-of-the-art? What advancement does it provide towards realising the envisioned technology?

- One breakthrough.
- Concrete idea, what is going to be achieved.
- Convince me that this is something within reach.
- Has to be relevant enough to the long-term vision (balance between realistic and not too incremental)

Objectives: How concrete and plausible are the proposed objectives to reach the envisaged proof of principle? To what extent is the high-risk/high-gain research approach appropriate for achieving them? How sound is the proposed methodology, including the underlying concepts, models, assumptions, alternative directions and options, appropriate consideration of the gender dimension in research content, and the quality of open science Practices.

- Not too many (it is a good idea to have work packages correspond to objectives).
- Close relation to breakthrough.
- Concrete methodology. Convince me that you know how to do it.
- Gender dimension: Physics projects not have a gender dimension in research.

Evaluation criteria: Excellence

Interdisciplinarity: How relevant is the interdisciplinary approach from traditionally distant disciplines for achieving the proposed breakthrough?

- Collaboration between different disciplines of physics that do not traditionally work together.
- Be believable to a scientist from your field.

Evaluation criteria: Impact

Long-term impact: How significant are the potential transformative positive effects that the envisioned new technology would have to our economy, environment and society?

- This is where the very general imaginative text goes.
- Connection with breakthrough can be loose. More with long-term vision.
- Don't waste too much space on it. Just enough to answer all questions.

Innovation potential: To what extent does the envisioned new technology have potential for generating disruptive innovations in the future and for creating new markets? How adequate are the proposed measures for protection of results and any other exploitation measures to facilitate future translation of research results into innovations? How suitable are the proposed measures for involving and empowering key actors that have the potential to take the lead in translating research into innovations in the future?

- Disruptive innovations and creating new markets is a continuation of the previous box.
- Protection of results, etc. is a concrete question, about data-protection measures, contracts about intellectual property, and contacts with industry (can be on institutional level).
- Key actors change over time, but it's mainly about young people in research. If you have any young PIs, be sure to mention them.

Communication and Dissemination: How suitable are the measures to maximise expected outcomes and impacts, including scientific publications, communication activities, for raising awareness about the project results' potential to establish new markets and/or address global challenges?

- Standard stuff in terms of research dissemination.
- Add some activities geared towards the public.
- Add some activities geared towards the industry if there is a reasonable way to do it.

Evaluation criteria: Implementation

Work plan: How coherent and effective are the work plan (work packages, tasks, deliverables, milestones, timeline, etc.) and risk mitigation measures in order to achieve the project objectives?

- It's a good idea to correlate scientific work packages with objectives.
- The description of the work packages should be as concrete as possible. This is the second place where you are trying to persuade me that you can do it.
- Don't go overboard with the number of tasks for each work package. They should be logical steps towards a given objective. Not too incremental, but very concrete.
- One deliverable per task is good. Some tasks can be skipped if it's possible to join. It saves a lot of unnecessary work if you make deliverables some accomplishment, instead of a report.
- Milestones are big accomplishments, and should be spread out over the duration of the project, in line with the projected endings of the work packages (it's ok to put one in the middle if it sounds good).
- Think about the timeline of the different work packages with respect to one another. The workload should be fairly balanced throughout the project.
- Risk mitigation measures should be extremely concrete. Two per work package is enough, there is no need to list everything that can go wrong. Don't include risks for non-scientific work packages.

Evaluation criteria: Implementation

Allocation of resources: How appropriate and effective is the allocation of resources (comprising person-months and other cost items) to work packages and consortium members?

- Allocation of resources should be fairly balanced when it comes to travel, etc..
- Person-months from different institutions should reflect the timeline of the work packages (and the involvement of different institutions within each work package).
- Everyone knows what equipment they need.

Quality of the consortium: To what extent do all the consortium members have the necessary capacity and high-quality expertise for performing the project tasks?

- If you say you will do something, have someone who has experience with at least a similar subject.
- Don't hire prominent people just to increase parameters. A scientific fit is more important on the evaluation level (and later a good collaboration is even more important).

Miscellaneous

Answer all of the questions in the appropriate section.

Use highlights to provide half-sentence answers to questions.

Remember that the paperwork template is written by bureaucrats, but evaluated by scientists.

The referees are experts in your field only in a very general sense.

The referees are tired and angry (EU treatment, dealing with chairs, number of proposals).

Don't express negative emotions in the text (science or towards the process).

Don't be annoying. :)