Horizon Europe Programme

Standard Application Form

Marie Skłodowska-Curie Actions - Postdoctoral Fellowships (HE MSCA PF)

Instructions, please remove

Project proposal – Technical description (Part B)

Version 1.0
18 June 2021

HISTORY OF CHANGES		
Version	**Publication date**	**Changes**
1.0	18.06.2021	▪ Initial version

Note

National Contact Points (NCPs) have been set up across Europe and beyond by the national governments to provide information and personalised support to Horizon Europe applicants in their native language. The mission of the NCPs is to raise awareness, inform and advise on Horizon Europe funding opportunities as well as to support potential applicants in the *preparation, submission and follow-up* of the grant applications. For details on the NCP in your country, please consult the National Contact Points page.

Instructions for Drafting Part B of the Proposal

Part B of the proposal contains the details of the proposed MSCA Postdoctoral Fellowship as well as the required supporting information. It will be used by the independent experts to undertake their assessment of the proposal. We therefore advise applicants to address each of the award criteria as outlined in the relevant sections, using both descriptive text and the tables provided. Please note that the explanatory notes included in the part B proposal template serve to explain the award criteria without being exhaustive. To draft a proposal, applicants should also consult the current version of the MSCA Work Programme.

Applicants must structure their MSCA-2021-PF proposal according to the headings indicated in the Part B proposal template.

Please note that this call will be a single-stage proposal submission and evaluation procedure. At the end of this document you can see the structure of the actual proposal that you need to submit, please remove all instruction pages that are watermarked. Applicants must ensure that their proposals conform to this layout and to the instructions given.

Please be aware that proposals will be evaluated as they were submitted, rather than on their potential if certain changes were to be made. This means that only proposals that successfully address all the required aspects will have a chance of being funded.

Applicants **must submit Part B of their proposal as two separate files:** part B-1 with a page limit applied, and part B-2 without a page limit.

Part B-1

Page limit: Sections 1, 2 and 3 together should not be longer than **10 pages.** All tables, figures, references and any other element pertaining to these sections must be included as an integral part of these sections and are thus counted towards this page limit. The page limit for this part of the proposal will be applied automatically; therefore, you must remove these instruction pages before submitting. Do not add a cover page or a table of contents.

If you attempt to upload a proposal longer than the specified page limit before the deadline, you will receive an automatic warning and will be advised to shorten and re-upload the proposal. After the deadline, excess pages (in over-long proposals) will be automatically made invisible, and therefore will not be taken into consideration by the experts. Note that experts will be instructed to ignore hyperlinks to information that is specifically designed to expand the proposal, thus circumventing the page limit.

The following formatting conditions apply:

- The page size is A4, and all margins (top, bottom, left, right) should be at least 15 mm (not including any footers or headers).
- The reference font for the body text of proposals is Times New Roman (Windows platforms), Times/Times New Roman (Apple platforms) or Nimbus Roman No. 9 L (Linux distributions).
- The use of a different font for the body text is not advised and is subject to the cumulative conditions that the font is legible and that its use does not significantly

shorten the representation of the proposal in number of pages compared to using the reference font (for example with a view to bypassing the page limit).

- The minimum font size allowed is 11 points. Standard character spacing and a minimum of single line spacing is to be used.
- Text elements other than the body text, such as tables, headers, foot/end notes, captions, formulas, etc. may deviate, but must be legible and not be less than 8 points.
- Tables are only to be used for *illustrating* the core text of the proposal; they cannot be used to contain the core text itself.

Part B-2

Part B-2, for which you will find a template at the end of this document does not have a page limit. It must comprise the CV of the researcher, the capacity of the participating organisation(s) and the commitment letter(s) of the associated partner(s) if applicable (only for Global Fellowships outgoing hosts and all proposals with a non-academic placement period). Part B-2 must be submitted as a separate document.

Applicants will not be able to submit their proposal in the submission system unless both Parts 1 and 2 are provided in PDF format (Adobe version 3 or higher, with embedded fonts).

Definitions

DEFINITIONS	
Deliverable	A report that is sent to the Commission or Agency providing information to ensure effective monitoring of the project. There are different types of deliverables (e.g. a report on specific activities or results, data management plans, ethics or security requirements).
Impacts	Wider long term effects on society (including the environment), the economy and science enabled by the outcomes of R&I investments (long term). Impacts generally occur some time after the end of the project. For this call Impacts refers to subsection 2.3 Example: *The deployment of the advanced forecasting system enables each airport to increase maximum passenger capacity by 15% and passenger average throughput by 10%, leading to a 28% reduction in infrastructure expansion costs.*
Milestone	Control points in the project that help to chart progress. Milestones may correspond to the achievement of a key result, allowing the next phase of the work to begin. They may also be needed at intermediary points so that, if problems have arisen, corrective measures can be taken. A milestone may be a critical decision point in the project where, for example, the consortium must decide which of several technologies to adopt for further development. The achievement of a

	milestone should be verifiable.
Objectives	The goals of the work performed within the project, in terms of its research and innovation content. This will be translated into the project's results. These may range from tackling specific research questions, demonstrating the feasibility of an innovation, sharing knowledge among stakeholders on specific issues. The nature of the objectives will depend on the type of action, and the scope of the topic.
Outcomes	The expected effects, over the medium term, of projects supported under a given topic. The results of a project should contribute to these outcomes, fostered in particular by the dissemination and exploitation measures. This may include the uptake, diffusion, deployment, and/or use of the project's results by direct target groups. Outcomes generally occur during or shortly after the end of the project. Example: *9 European airports adopt the advanced forecasting system demonstrated during the project.*

Research output

Results generated by the action to which access can be given in the form of scientific publications, data or other engineered outcomes and processes such as software, algorithms, protocols and electronic notebooks.

Results	What is generated during the project implementation. This may include, for example, know-how, innovative solutions, algorithms, proof of feasibility, new business models, policy recommendations, guidelines, prototypes, demonstrators, databases and datasets, trained researchers, new infrastructures, networks, etc. Most project results (inventions, scientific works, etc.) are 'Intellectual Property', which may, if appropriate, be protected by formal 'Intellectual Property Rights'. Example: *Successful large-scale demonstrator: trial with 3 airports of an advanced forecasting system for proactive airport passenger flow management.*

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Part B-1

1. Excellence

1.1 Quality and pertinence of the project's research and innovation objectives (and the extent to which they are ambitious, and go beyond the state of the art)

Explain how the high-quality, novel research is the most likely to open up the best career possibilities for the *Experienced Researcher* and new collaboration opportunities for the host organisation(s).

The MSCA project should be the project of the fellow (written by the fellow, with the help of the supervisor and not the contrary). Then, the scientific work and methodology you will describe should be not too easy, but not too ambitious as well, it should be adapted to the duration of the project. Thus the project/workplan should be realistic. It is advised to start with a well-described and updated state of the art, which should be international: description organised, and focused on the research objectives with relevant publications. You must highlight the originality and innovative aspects of your project, in connection with the state of the art (for instance: This methodology/issue with high impact has never been studied before). If your project has a multi or interdisciplinary approach, say so, it will be appreciated. The methodology must be clearly described. If your project answers to societal challenges of EuropeanUnion (http://ec.europa.eu/policies/science_technology_en.htm) or European Policy (http://ec.europa.eu/policies/index_en.htm) make the link with it to show that your project works in the same direction of the orientations of the European Union. Explain also the timeline of your project i.e. why it is the best moment to implement your project now? Why the Host institution is well adapted to realize your project?

At a minimum, address the following aspects:

- Describe the quality and pertinence of the R&I objectives; are the objectives measurable and verifiable? Are they realistically achievable?
- Describe how your project goes beyond the state-of-the-art, and the extent to which the proposed work is ambitious.

Examples:

N° 1:

INTRODUCTION - The experienced researcher (ER), will carry out a fellowship to revisit the fundamental hydrodynamic design of wave energy converters (WECs) with non-linear

dynamics and under controlled conditions, using innovative, highly efficient numerical methods.

However, as of today, **the most advanced wave energy converter (WEC) technologies harvest less than 20% of the maximum power which could, theoretically, be captured by heaving mechanical structures of similar dimensions**1. **Improving WEC design through research, by increasing the amount of absorbed energy while limiting capital cost, is thus an essential objective, to which the project will contribute.**

N° 2 (different example and subject from the one above):
Overall, the interactions described are widespread, but there is no generic framework to explain them from a priori knowledge in biology. Inferring these interactions from human studies is highly challenging due to incomplete information and biases in the sampled population. Instead, this project aims to address complex genetic interactions in a model organism, amenable to systematic experimental investigation, with the ambition to extract generic rules.

1.2 Soundness of the proposed methodology (including interdisciplinary approaches, consideration of the gender dimension and other diversity aspects if relevant for the research project, 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)

At a minimum, address the following aspects:

- Overall methodology: Describe and explain the overall methodology, including the concepts, models and assumptions that underpin your work. Explain how this will enable you to deliver your project's objectives. Refer to any important challenges you may have identified in the chosen methodology and how you intend to overcome them.
- Integration of methods and disciplines to pursue the objectives: Explain how expertise and methods from different disciplines will be brought together and integrated in pursuit of your objectives. If you consider that an inter-disciplinary[1] approach is unnecessary in the context of the proposed work, please provide a justification.

- Gender dimension and other diversity aspects: Describe how the gender dimension and other diversity aspects are taken into account in the project's research and innovation content. If you do not consider such a gender dimension to be relevant in your project, please provide a justification.
    - ⚠ Remember that that this question relates to the content of the planned research and innovation activities, and not to gender balance in the teams in charge of carrying out the project.
    - ⚠ Sex, gender and diversity analysis refers to biological characteristics and social/cultural factors respectively. For guidance on methods of sex / gender analysis and the issues to be taken into account, please refer to this page.

1Interdisciplinarity means the integration of information, data, techniques, tools, perspectives, concepts or theories from two or more scientific disciplines.

- Open science practices: 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 is adapted to the nature of your work in a way that will increase the chances of the project delivering on its objectives *[e.g. up to 1/2 page, including research data management]*. 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 pre-registration, 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 does not refer to outreach actions that may be planned as part of the 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 explain how the data will be managed in line with the FAIR principles (Findable, Accessible, Interoperable, Reusable).

⚠ *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.*

Example:

Gender aspects
Particular attention will be brought to recruit at least 50% of female ESRs. Recruitment offers will be advertised to women-in-science groups (e.g. European Institute for Gender Equality (EIGE), Women in engineering (IEEE) or the European platform of Women scientists (EPW), the Women in Soft Matter (softwomen) mailing list…). The **promotion of the participation of women in science and research**, as well as actions that are undertaken in Europe and at international level in order to encourage this participation, will be emphasized during the training events and outreach activities in order to raise awareness of the scientific community and general public. An ombudswoman for gender issues and equal opportunity will be elected among female SB members. She will insure that gender issues are adequately addressed and will prepare an annual report of equal opportunity issues for the SB to be included in the annual project report.

Data management

Open Science is an inclusive process aimed at promoting diversity in science and opening it to the general public. This provides significant opportunities for researchers to disseminate, share, explore and collaborate broadly. Scientific publications will be deposited in open-access repositories; the repository numbers will be provided in the action reports. The consortium will engage in data sharing on a reasonable and collaborative basis, and the SB and TC will provide a **Data Management Plan** at M8 and update it regularly. A specific training session will be provided to the ESRs on transferrable skills related to the important aspects of **Open science**, **research data**, **new digital technologies**, **collaborative tools**, **FAIR data management**, **public engagement** and **citizen science**.

1.3 Quality of the supervision, training and of the two-way transfer of knowledge between the researcher and the host

At a minimum, address the following aspects:

- Describe the qualifications and experience of the supervisor(s). Provide information regarding the supervisors' level of experience on the research topic proposed and their track record of work, including main international collaborations, as well as the level of experience in supervising/training, especially at advanced level (i.e. PhD and postdoctoral researchers).
- Planned training activities for the researcher (scientific aspects, management/organisation, horizontal and key transferrable skills...).
- For *European Fellowships*: two-way transfer of knowledge between the researcher and host organisation.
- For *Global Fellowships*: three-way transfer of knowledge between the researcher, host organisation, and associated partner for outgoing phase.
- Rationale and added-value of the non-academic placement (if applicable).

Supervision

Employers and/or funders should ensure that a person is clearly identified to whom researchers can refer for the performance of their professional duties, and should inform the researchers accordingly.

Such arrangements should clearly define that the proposed supervisors are sufficiently expert in supervising research, have the time, knowledge, experience, expertise and commitment to be able to offer the research doctoral candidate appropriate support and provide for the necessary progress and review procedures, as well as the necessary feedback mechanisms.

⚠ ***Supervision*** *is one of the crucial elements of successful research. Guiding, supporting, directing, advising and mentoring are key factors for a researcher to pursue his/her career path. In this context, all MSCA-funded projects are encouraged to follow the recommendations outlined in the MSCA Guidelines on Supervision.*[2]

2 While the MSCA Guidelines on Supervision are non-binding, funded-projects are strongly encouraged to take them into account.

In this part, please, specify in a very accurate way all relevant elements on the supervisor profile: both his/her scientific skills and his/her experience in mentoring (for instance, "Prof. xxx mentored xxx post-docs in the past xxx years, and a table with: postdoc x is now working as a permanents researcher at yyy, etc…". His/her implication in European, international and national research projects should also be mentioned.

The scientist in charge of the project is Prof XXX. He is an internationally acknowledged specialist of XXX

He has also been the PI of various projects (XXX XXX XXX) centred on XXX XXX XXX.

His current group consists of XXX permanent staff, XX post doc XXX PhD.
He has published XX primary research papers, XX book chapters and XX patents.

Regular meetings *(once a week for instance?)* between the Scientist in Charge and myself are scheduled in order to regularly critically assess the progress of the project and discuss mutual suggestions. My Career Development will also be discussed taking during these meetings with a focus on new experience, skills and knowledge acquired and developed during the project My Personal Career Development Plan will be established by my Scientist in Charge and me in the first months of the project, and will be updated every 6 months.

Also, do not forget the Integration/practical tutoring aspects. We think the purpose is to show that the Scientist in Charge will be actively involved in the tutoring of the candidate post-doc, and that it will not simply be one more post-doc for his team. So all lively elements, in terms of "guidance on personal and professional development": will there be discussions on a daily basis ? participation to lab seminars (see also section 4.2. below) ? exchanges on, drafting and regular update of Personal Career Development Plan, assistance in being trained in scientific and also Complementary Skills (see section 4.4. below). Possibly here, too, mention the fact that contribution/participation of application to other European/national projects, patent writing etc… may be a bonus.

Example :

Supervision
The supervisor, […], is a promising scientist with a strong background in chemistry and synthetic biology. He is recognized as a pioneer of the field of molecular programming; he has designed the PEN DNA toolbox kit, a set of in vitro reactions which allows to compartmentalize and design chains of reactions similar to gene regulation in living cells. He is the head of the group Molecular Systems and Programs (SPM), at [Laboratory] in ESPCI Paris, which consists of 5 PhD students and 4 postdocs. He is a full-time Research Director at CNRS (French National Council for Science Research), and currently manages 3 grants, including an ERC consolidator grant. He is also involved in the creation of a startup, transferring technological innovations from his laboratory. He carries several international collaborations. He has 42 research publications in peer-review journals which accumulate over 2100 citations with an h-index of 23 (according to google scholar). He has also written 3 book chapters and filled 4 patents. Previously, he was an associate professor of the University

of Tokyo, where he also did a postdoctoral stay. 4 PhD have defended under his supervision, and he has mentored 6 previous postdocs, and several master internships.

Two-way transfer (different project from above):

Host-to-researcher. The training and knowledge transfer are adapted to my career goal of obtaining an independent academic position in France with an important research to technology transfer component. My primary goal is to significantly expand knowledge and expertise in transcriptomics, NGS, "big data" bioinformatics analysis, and mathematical modelling of regulatory networks, boosting my already solid interdisciplinary background. The host lab is perfectly suited for that, as it has combined all these aspects into successful scientific projects 11,35,49 and has a developed infrastructure. By spearheading my individual research project, I will be trained through research and with help of experienced colleagues in the lab [describe more in depth]. e. I will profit from host's network of collaborators and complement my training with two secondments applied to specific parts of the project. I will learn using bioinformatic databases and Boolean modelling in a lab that pioneered it (see WP2) and I will learn implementing geometric models in a leading lab on that subject

Researcher-to-host. The host will benefit from researcher's extensive experience in microfluidics, gene editing, time-lapse microscopy, image analysis, agar pads, systems biology, and microbial genetics and evolution, as well as leadership and mentoring experience, and collaborator network. This is a highly interdisciplinary project that combines several techniques which are hard to manipulate even by themselves. I have been developing [describe more in depth].

1.4 Quality and appropriateness of the researcher's professional experience, competences and skills

Discuss the quality and appropriateness of the researcher's **existing** professional experience in relation to the proposed research project.

You should demonstrate the excellence of the fellow; highlight in the CV (section 4) the research results, the international publications, the project implementation experience, the awards/prizes, the management experience, experience of organization of scientific events, everything that can prove the potential of professional development as an independent/mature researcher.

2. Impact

2.1 Credibility of the measures to enhance the career perspectives and employability of the researcher and contribution to his/her skills development

At a minimum, address the following aspects:

- **Expected** skill development of the researcher.

- **Expected** impact of the proposed research and training activities on the researcher's career perspectives inside and/or outside academia.

*This part is about the expected impact of the project **after the end of the project**, on your career, on research and on the economy and society. Section 2.2 will explain the concrete measures that will be taken during the project to maximize the impact identified in section 2.1. Writing that the project will improve your career perspectives, your research domain, or how this research domain has a potential impact on economy or society is not sufficient.*

*You should **convince the evaluator that this impact will be real after the end of the project** by (a) defining precisely the impact that you chose to maximize (e.g. pursue a career in public research, in a private company; impact on fundamental research or on a societal challenge; ...) and (b) explaining how the project you are proposing is adequate to reach your ambitions.*

"My career ambition is to become Professor/Researcher in academia/industry, to push back the frontiers of scientific knowledge/contribute to discoveries that could solve important problems in society/teach to the next generations/create a spin off in the field of XXX. The project, its scientific and training activities as described in section 1 will help me to reach my ambition in several ways *(choose and develop the arguments that are relevant to the career you wish to pursue)*:
· improve my skills in XXX and increase/diversify my theoretical/technical knowledge of XXX
· develop my managerial/pedagogical/linguistic skills which are particularly appreciated in XXX *(the career that you wish to pursue)*
· learn how to build and manage a large scale project
· add high quality publications and talks at conferences/teaching experience to my CV
· increase my chances to find an independent/autonomous/permanent position thanks to my enlarged network with senior scientists in XXX *(country/field)*
· help me to mature/to define with more details my ambitious career plans, in particular thanks to the contact with new research environments/domains

Example: "This fellowship is crucial for advancing my career ambition to become an independent researcher in academia in France. At the completion of this fellowship I will possess a rare combination of interdisciplinary skillsets, be trained in all relevant transferable scientific and management skills to successfully run a lab, build a leading research visibility, be able to patent and create spin-off start-ups from my research. I want to position myself as a world's top expert on ecoevolutionary processes in health and disease related to microbes. Indeed, the [project] technology developed in this project will confer me a unique and well-identified competitive advantage: the ability to measure high-dimensional genotype-to-phenotype relationships at a very-high throughput in microorganisms. It will allow me to determine evolutionary landscapes in artificial strain libraries as done in this project, as well as characterize heterogeneity in natural populations in the future."

2.2 Suitability and quality of the measures to maximise expected outcomes and impacts, as set out in the dissemination and exploitation plan, including communication activities

At a minimum, address the following aspects:

- Plan for the dissemination and exploitation activities, including communication activities:[3] Describe the planned measures to maximize the impact of your project by providing a first version of your 'plan for the dissemination and exploitation including communication activities'. Describe the dissemination, exploitation measures that are planned, and the target group(s) addressed (e.g. scientific community, end users, financial actors, public at large). Regarding communication measures and public engagement strategy, the aim is to inform and reach out to society and show the activities performed, and the use and the benefits the project will have for citizens. Activities must be strategically planned, with clear objectives, start at the outset and continue through the lifetime of the project. The description of the communication activities needs to state the main messages as well as the tools and channels that will be used to reach out to each of the chosen target groups.

The Espace des Sciences Pierre-Gilles de Gennes (ESPGG) was created in 1994, as the public venue of the ESPCI Paris. Located in the ESPCI Paris premises, the ESPGG is a culture centre devoted to science and its public communication on the most recent topics and achievements. The ESPGG organises each year the European Researcher's Night with scientists from the ESPCI Paris.

Several options :
· I will join to activities such as "researchers' night" organized by ESPGG, an organization who is associated with ESPCI and organizes outreach activities. There are currently 6.000 subscribers to ESPGG newsletter, every year, it organizes 20 conferences and screenings, 4 exhibitions, 150 visiting classes, 250 animation sessions in schools, 120 events for the general public, 20 trainings and workshops for pros / living labs, 100 engaged researchers, 12.000 visits. Since 2011, ESPGG has been involved in 10 European projects about science communication or science in society, and around 100 partnerships (figures from 2017). ESPGG is run by Association TRACES, a dedicated non-profit association, recognised at international level.

· ESPGG is an original outreach venue with dedicated experts, having a proven impact on the Parisian public. ESPGG counts 6.000 subscribers to its newsletter; every year, it organizes 20 conferences and screenings, 4 exhibitions, 150 visiting classes, 250 animation sessions in schools, 120 events for the general public, 20 trainings and workshops for pros / living labs, 100 engaged researchers, 12.000 visits. Since 2011, ESPGG has been involved in 10 European projects about science communication or science in society, and around 100 partnerships (figures from 2017)

ESPGG is run by Association TRACES, a dedicated non-profit association, recognised at international level (for example, TRACES and ESPGG were awarded the ECSITE Mariano Gago award in 2017).

Example of outreach activities :

3 In case your proposal is selected for funding, a more detailed Dissemination and Exploitation plan will need to be provided as a mandatory project deliverable during project implementation

Action's title	Action short description	Expected date and duration	Target public	Means of dissemination	Level of dissemination	Expected impact
Science web page	Regular updates and pictures will be uploaded showing fun scientific concepts	Update once a week / 2 weeks during the whole period	School level	Social network such as Facebook / Twitter / Instagram	International	Encouraging student to peruse science
Fête de la Science	Scientific mediation to promote science	2 weeks in October	General public	Exhibitions and workshops	National / local	Communicating science to the public
Lab Open Days	Open doors to the public to visit the labs	February	General public	Exhibitions of experiments	Local	Communicating science to the public
researcher night	Researchers meeting the public	September	General public	Scientific discussion	National / local	Communicating science to the public

Example:
"Dissemination.
I will share the project results through publishing in high impact open access journals in accordance with the Open Access guidelines for H2020. Articles will be uploaded on bioRxiv as soon as possible and data, code, and documentation will be uploaded on Zenodo to assure open access and transparency. In this sense, it is good to know that Nature journals plan to join open access initiative Plan S in 2021. I plan to publish 2 research papers from WP1 and WP2 (P2, P3), 1 method paper on BEAST-Seq (P4) as soon as patenting rules will allow it, 1 research paper from WP3 (P5), and I plan to update and finish 1 review paper (P1) on microfluidics. Locally, I will present data in a set of seminars in secondments laboratories. At the international level, I plan to present my research at 4 high impact conferences: [describe]. In addition to this I will help Dr. […] in the organization of a workshop with […] on […].
Exploitation.
The exploitation of the results will strictly follow the ESPCI regulation, the Intellectual Property Charter, and the European Charter for Researchers.

- Strategy for the management of intellectual property, foreseen protection measures: if relevant, discuss the strategy for the management of intellectual property, foreseen protection measures, such as patents, design rights, copyright, trade secrets, etc., and how these would be used to support exploitation.

⚠ All measures should be proportionate to the scale of the project, and should contain concrete actions to be implemented both during and after the end of the project.

This part concerns a possible commercial exploitation of the project's results, technology transfer to industry, intellectual property protection. You should explain a positive impact of such exploitation on your career. Thus, it is important to demonstrate your capacity to exploit your results by a clear business plan. If patenting is possible, define it as a milestone in the Gantt chart and specify its deliverables. We provide you an introductive paragraph we suggest, the rest should be developed by yourself, in line to your project's nature and its expected results. Think over the types of results that might be exploited and the way it might be done.

The exploitation of the project results will be made with the respect of the ESPCI regulation, the Intellectual Property Charter and the European Charter for Researchers. The new knowledge generated by the project will be used, wherever possible, to enhance the carrier of the researcher and to foster innovation.

If exploitation and commercialization there is, the researcher must announce the protection of the intellectual property. This protection must be demonstrated by a strong strategy and an action plan. The idea is to prove to the jury your capacity to anticipate the results of your research.
The fellow will ensure that the results of his/her research are either exploited commercially or made available to the public (or both) whenever the opportunity arises. In case the patenting is possible, it will be done each time before the publication in Open Access. Before each publication, discussion with the Scientist in Charge will be held in order to check relevance of patent procedure (if relevant)

Plans for the exploitation of results and IPR are specified in the Gantt chart.

(If GF or secondment in a partner institution): a partnership agreement will be signed in order to specify the conditions related to ownership and exploitation of the Results arising from the project,and also in order to ensure that no restriction related to access to Background will occur).

2.3. The magnitude and importance of the project's contribution to the expected scientific, societal and economic impacts

- Provide a narrative explaining how the project's results are expected to make a difference in terms of impact, beyond the immediate scope and duration of the project. The narrative should include the components below, tailored to your project.
- Be specific, referring to the effects of your project, and not R&I in general in this field. State the target groups that would benefit.
  - Expected scientific impact(s): e.g. contributing to specific scientific advances, across and within disciplines, creating new knowledge, reinforcing scientific equipment and instruments, computing systems (i.e. research infrastructures);
  - Expected economic/technological impact(s): e.g. bringing new products, services, business processes to the market, increasing efficiency, decreasing costs, increasing profits, contributing to standards' setting, etc.
  - Expected societal impact(s): e.g. decreasing CO2 emissions, decreasing avoidable mortality, improving policies and decision-making, raising consumer awareness.
- Only include such outcomes and impacts where your project would make a significant and direct contribution. Avoid describing very tenuous links to wider impacts.

- Give an indication of the magnitude and importance of the project's contribution to the expected outcomes and impacts, should the project be successful. Provide quantified estimates where possible and meaningful. 'Magnitude' refers to how widespread the outcomes and impacts are likely to be. For example, in terms of the

size of the target group, or the proportion of that group, that should benefit over time; 'Importance' refers to the value of those benefits. For example, number of additional healthy life years; efficiency savings in energy supply.

The project will have an impact on the research field of XXX because XXX. This research domain is promising to find solutions to the societal problem of XXX and/or to increase the competitively of local/national/European economy thanks to XXX, as mentioned in the European Strategy Plan XXX/in the Horizon Europe programme XXX*). In case the topic is not considered by EU policies or Horizon Europe, don't hesitate to suggest that it could be and explain why it is very promising.* In this context, the project will help me to build unique/rare/specific skills that will have a high added value for Europe in the future *(to be developed according to the field and the type of career the fellow envisages)*. The relation between the host institution, my institution of origin and the partner organization(s) (if relevant) will continue after the end of the project to XXX *(do this and that)* and could be enlarged to more institutions in Europe to tackled the problem of XXX. In this way, the project would significantly contribute to foster coordination in Europe and give it a chance to become/remain leader in the field *(don't hesitate to present here the international (outside Europe) competition in the field in case it has not been written in section 1.1)*. The project results will have a direct commercial value thanks to XXX / will be a building block for future commercial developments through XXX.

3. Quality and Efficiency of the Implementation

3.1 Quality and effectiveness of the work plan, assessment of risks and appropriateness of the effort assigned to work packages

At a minimum, address the following aspects:

- Brief presentation of the overall structure of the work plan, including deliverables and milestones.
- Timing of the different work packages and their components;
- Mechanisms in place to assess and mitigate risks (of research and/or administrative nature).

A Gantt chart must be included and should indicate the proposed Work Packages (WP), major deliverables, milestones, secondments, placements. This Gantt chart counts towards the 10-page limit.

⚠ The schedule in the Gantt chart should indicate the number of months elapsed from the start of the action (Month 1).

Example :

"**The Gantt Chart** recaps the management activities undertaken all along the [project] programme. The Management team will also be in charge of the coordination of the training activities of the [Project] PhD students. Several modules will be organised nearly every month […].
Description of the management plan of the programme, resources, work packages and deliverables
The following tables give the timeline of the different activities of the project, separated into Work Packages. The duration of the action is […]

➔ Insert table with "work package number" "stat date" and describe the objectives, tasks and deliverables

Financial management and risk management/contingency plans of the programme

The application procedure, which will be set up by the Management team, could present a few risks. Indeed, as in all selection procedures, withdrawals or delays could trigger a significant risk management if they are not carefully anticipated. The following risks have been identified with proposed mitigation measures:

[list risks]

3.2 Quality and capacity of the host institutions and participating organisations, including hosting arrangements

At a minimum, address the following aspects:

- Hosting arrangements, including integration in the team/institution and support services available to the researcher.
- Quality and capacity of the participating organisations, including infrastructure, logistics and facilities should be outlined in Part B-2 Section 5 ("*Capacity of the Participating Organisations*").

Note that for GF, both the quality and capacity of the outgoing Third Country host and the return host should be outlined.

Associated partners linked to a beneficiary[4]
If applicable, outline here the involvement of any 'associated partners linked to a beneficiary' (in particular, the name of the entity, the type of link with the beneficiary and the tasks to be carried out).

Employment conditions

The PhD candidates of the [project] programme will be employed under the French regulations with a fixed-term contract, plus all standard benefits and obligations, including social security, retirement and medical insurance. […] Employment will be made in conformity with the H2020 rules and in respect of the **European Charter for Researchers and the Code of Conduct for Recruitment of Researchers** that the ESPCI-PARIS-PSL

4 See the definitions section of the MSCA Work Programme for further information.

declares to endorse and commit. The school has already managed previous European projects, including a COFUND and its services are already aware of such procedures.

Hosting arrangements and working conditions

The geographical location of the ESPCI-PARIS-PSL in the core of Paris, near the Pantheon provides an exceptional scientific environment with historical ties to French research through famous institutions like the École Normale Supérieure, Ecole des Mines and Institut Curie located close-by. This is fully consistent with the **educational and scientific position**, with its resolute focus on transdisciplinarity. As employees of the ESPCI-PARIS-PSL, [project] PhD students will benefit from full social security, maternity/paternity leave, disability and death, unemployment, and occupational accidents. Students will also benefit from French government retirement benefits. Half price of the Paris monthly public transportation card (Pass Navigo) will also be reimbursed to the students. For students preferring biking, the Vélib (bike) subscription will be also partially reimbursed by the ESPCI-PARIS-PSL. The ESPCI-PARIS-PSL's HR Department and International Relations Department has a strong experience in welcoming international researchers, helping them individually with visa procedures and meeting them individually.

---------- End of page count (max 10 pages) ----------

Part B2 (no overall page limit applied)

4. CV of the researcher (indicative length: 5 pages)

Any information provided in Parts A and B of the proposal should be fully consistent. Always mention full dates (using format: dd/mm/yyyy). The CV should include the standard academic and research record. Any research career gaps and/or unconventional paths should be clearly explained.

At a minimum, the CV should contain:

a) The name of the researcher;
b) Professional experience (most recent first, with exact dates in format dd/mm/yyyy);
c) Education, including PhD award date (most recent first, with exact dates in format: dd/mm/yyyy).

The CV should include information on:

- Publications in peer-reviewed scientific journals, peer-reviewed conference proceedings, and/or monographs (they are expected to be open access either published or through repositories) and other outputs such as data, software, algorithms significant for your research path (they are expected to be open access in appropriate repositories to the extent possible; they should be accompanied by a very short qualitative assessment of their scientific significance and not by the Journal Impact Factor);
- Invited presentations to internationally established conferences and/or international advanced schools;
- Organisation of international conferences, including membership in the steering and/or programme committee;
- Research expeditions led by the researcher;
- Granted patent(s);
- Examples of participation in industrial innovation;
- Prizes and Awards;
- Funding received so far;
- Supervising and mentoring activities;
- Other items of interest.

Applicants who have successfully defended their doctoral thesis *before* the call deadline but who have not yet formally been awarded the doctoral degree must clearly indicate the date of the successful PhD defence ("viva"). Researchers having their last thesis defence *after* the call deadline will be automatically declared ineligible for this call.

5. Capacity of the Participating Organisation(s)

Please provide an overview list of all participating organisations (the beneficiary and, where applicable, all associated partners) using template table 5.1 below, and more detailed

information for each of the participating organisations (using a separate table for each organisation) using template table 5.2 below.

Any inter-relationship between the participating organisation(s) or individuals and other entities/persons appearing (e.g. family ties, shared premises or facilities, joint ownership, financial interest, overlapping staff or directors, etc.) must be declared in the proposal.

Applicants should provide additional information regarding the administrative/legal relations between the department carrying out the work as described in the table below, and the entity/entities mentioned in Part A of the proposal (i.e. linked to the given Participant Identification Code – PIC).

Should the proposal be shortlisted for funding, all participating organisations will have to be registered with the European Commission's Participant Register Services. Therefore where this information is already known, please provide in Table 5.1 the (draft or validated) nine digit Participant Identification Code (PIC) for the beneficiary and, where applicable, each associated partner.

5.1 Template table: *Overview of Participating Organisations*

Organisation role	**PIC**	**Legal Entity Short Name**	**Academic organisation (Y/N)**	**Country**	**Name of Supervisor**
Beneficiary					
Associated partner linked to a beneficiary (if applicable)					
Associated partner for outgoing phase (mandatory for GF)					
Associated partner for secondment (optional)					
Associated partner for non-academic placement (optional)					
Other: _____					

5.2 Template table: *Capacity of the Participating Organisations*

Please complete a separate table for each participating organisation. For the beneficiary, this table should be maximum 1 page in length; for each associated partner, the table should be maximum ½ page in length.

Choose one of: ? *Beneficiary (compulsory)* ? *Associated partner linked to a beneficiary (if applicable)* ? *Associated partner for outgoing phase (compulsory for GF only)* ? *Associated partner for secondment (optional)* ? *Associated partner for non-academic placement (optional)*
[Full name + Legal Entity Short Name + Country]
General description : Here, please, describe your host laboratory, with a focus on its competences relevant for the project. Shortly mention the host institution described more in detail above ESPCI (https://www.espci.fr/en/) is a leading French "Grande Ecole" founded in 1882, educating undergraduate and graduate students through a programme merging basic science and engineering, as well as a world-renowned research institution. ESPCI Paris has setup a tradition of excellence in research, with distinguished faculty that have contributed to its history, such as Pierre and Marie Curie, Paul Langevin, Frédéric Joliot-Curie, Pierre-Gilles de Gennes and Georges Charpak. The five Nobel laureates in this list are emblematic of the exceptional ethos embodied in the permanent culture of excellence at ESPCI Paris. ESPCI Paris hosts 9 research units, all associated to CNRS and/or INSERM and/or other Parisian Universities in the form of joined research units, covering the fields of physics, chemistry and biology. Favouring interdisciplinary, and operating at the frontiers between fundamental research and innovation, are two major objectives of ESPCI Paris. This is achieved through a flexible organisation (without departments) that ensures a cross fertilization between scientific disciplines, as well as a direct connection between basic science and applications. One of ESPCI's distinctive features is that it carries out fundamental research into areas of major interest to industry, while developing various approaches to practical industrial problems through the deep, fundamental understanding of the mechanisms at play. Performing fundamental research while keeping an eye on applications enables ESPCI research scientists to make an impact at multiple levels. Scientists at ESPCI Paris publish more than one scientific paper a day, and at the same time apply for one patent a week and create several technology-driven start-ups every year - over the last 10 years. – Nom de l'unité (UMR/UPR…), Directed by …. This research unit has considerable experience in the field of XXX

Role and profile of supervisor	*(names, title, qualifications of the main supervisor)*
Key research facilities, Infrastructure and Equipment	*Demonstrate that the beneficiary has sufficient facilities and infrastructure to host and/or offer a suitable environment for training and transfer of knowledge to the recruited experienced researcher.* *If applicable, indicate the name of the associated partner linked to a beneficiary and describe the nature of the link in the corresponding table.* *In this part, please, describe the main infrastructure of the laboratory and some infrastructure of the ESPCI that is relevant for your project and that you will have access to. For instance :* Working and computer facilities: Each workplace is organized with a desktop computer, connected to a modern and smoothly functioning computer network managed by the technical staff at XX laboratory. Access to powerful computational facilities and servers are also ensured. Libraries: The XXX laboratory library, in the same building, houses quite a rich collection. Many journals and books on physics, mathematics and chemistry are available. Online access is available for all journals which support this medium. Transfer of knowledge: XXX laboratory organizes seminars on a regular basis. These include both the presentation of internal results, in order to stimulate interactions and collaborations, and the invitation of external speakers at the international level. Review: Regular meetings between the project supervisor and applicant are scheduled to critically assess the

	progress of the project and discuss mutual suggestions.
Previous and current involvement in EU-funded research and training programmes/actions/projects	*Indicate up to 5 relevant EU, national or international research and training actions/projects in which the institution/department has previously participated and/or is currently participating.* *Please, specify the main national, regional, EU and international research and training programs your scientist in charge and your laboratory team were previously involved in. Please, specify the main national, regional, EU and international research and training programs your scientist in charge and your laboratory team are currently involved in.*

6. Additional ethics information

Additional information that could not be included in Part A of the proposal (if needed).

7. Additional information on security screening

Additional information on security aspects that could not be included in Part A of the proposal (if needed).

8. Letter(s) of commitment from associated partners (*only for hosts of outgoing phase of Global Fellowships or non-academic placement*)

Use this section to add scanned copies of the letter(s) of commitment, if applicable.

Minimum requirements:

- With heading or stamp from the institution;
- Up-to-date document, i.e. not dated prior to the call publication;
- Demonstrating the will to actively participate in the (identified) proposal;
- Explanation of the precise role.

Any additional information the organisation deems useful can be added in the letter.

Note that the expert evaluators will be instructed to disregard the contribution of any associated partners for which no such evidence of commitment is submitted.

In case the letter fails to provide enough information on the associated partner's role and/or enough assurance of their commitment in the project (e.g. no signature, wrong proposal references, outdated letter…), the experts may penalise the proposal on these aspects under the implementation evaluation criterion.

For GF proposals, and for all proposals requesting a non-academic placement, the absence of a letter of commitment will render the proposal inadmissible and the proposal will not be evaluated.

Non-binding example of template letter of commitment for PF associated partners:

I undersigned *[title, first name and surname]*, in my quality of *[role in the organisation]* in *[name of the organisation]* commit to set up all necessary provisions to participate as associated partner in the proposal *[proposal number and/or acronym]* submitted to the call HE-MSCA-PF-2021, should the proposal be funded.

On behalf of *[name of the organisation]*, I also confirm that we will participate and contribute to the research, innovation and training activities as planned in this project. In particular, *[name of the organisation]* will be involved in [*free field for any additional information that the participating organisation wishes to indicate in order to describe its role and contribution to the project]*.

I hereby declare that I am entitled to commit into this process the entity I represent.

Name, Date, Signature

PART B TEMPLATE

---------- Start of page count (max 10 pages) ----------

Part B-1

1. Excellence

1.1 *Quality and pertinence of the project's research and innovation objectives (and the extent to which they are ambitious, and go beyond the state of the art)*

Insert here text for your proposal

1.2 *Soundness of the proposed methodology (including interdisciplinary approaches, consideration of the gender dimension and other diversity aspects if relevant for the research project, 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)*

Insert here text for your proposal

1.3 *Quality of the supervision, training and of the two-way transfer of knowledge between the researcher and the host*

Insert here text for your proposal

1.4 Quality and appropriateness of the researcher's professional experience, competences and skills

Insert here text for your proposal

2. Impact

2.1 Credibility of the measures to enhance the career perspectives and employability of the researcher and contribution to his/her skills development

Insert here text for your proposal

2.2 Suitability and quality of the measures to maximise expected outcomes and impacts, as set out in the dissemination and exploitation plan, including communication activities

Insert here text for your proposal

2.3. The magnitude and importance of the project's contribution to the expected scientific, societal and economic impacts

Insert here text for your proposal

3. Quality and Efficiency of the Implementation

3.1 Quality and effectiveness of the work plan, assessment of risks and appropriateness of the effort assigned to work packages

Insert here text for your proposal

3.2 Quality and capacity of the host institutions and participating organisations, including hosting arrangements

Insert here text for your proposal

---------- End of page count (max 10 pages) ----------

Part B-2
(*No overall page limit applied*)

4. CV of the researcher

Insert here text for your proposal

5. Capacity of the Participating Organisation(s)

5.1 Template table: *Overview of Participating Organisations*

Organisation role	PIC	Legal Entity Short Name	Academic organisation (Y/N)	Country	Name of Supervisor
Beneficiary					
Associated partner linked to a beneficiary (if applicable)					
Associated partner for outgoing phase (mandatory for GF)					
Associated partner for secondment (optional)					
Associated partner for non-academic placement (optional)					
Other: _____					

5.2 Template table: *Capacity of the Participating Organisations*

Choose one of: ? *Beneficiary (compulsory)* ? *Associated partner linked to a beneficiary (if applicable)* ? *Associated partner for outgoing phase (compulsory for GF only)* ? *Associated partner for secondment (optional)* ? *Associated partner for non-academic placement (optional)*
[Full name + Legal Entity Short Name + Country]

General description	
Role and profile of supervisor	
Key research facilities, Infrastructure and Equipment	
Previous and current involvement in EU-funded research and training programmes/actions/projects	

6. Additional ethics information

Insert here text for your proposal
(NB: Only if you have additional information that could not be included in the ethics self-assessment)

7. Additional information on security screening

Insert here text for your proposal
(NB: Only if you answered yes to one of the questions in the security issues table, with the exception of "Does this activity involved HE associated and/or third countries?")

8. Letter(s) of commitment from associated partners (host for outgoing phase of Global Fellowship or non-academic placement host)

Insert here text for your proposal