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**Call Topics for International Cooperation
in Horizon 2020
EU and Widening Countries**

20.09.2019

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Excellent Science

Horizon 2020 Pillar:	Excellent Science
Programme:	Future and Emerging Technologies
Call Title:	EIC Pathfinder pilot (FET-Proactive) Boosting emerging technologies
Call Identifier:	h2020-fetproact-2019-2020
Topic Title:	FET Proactive: emerging paradigms and communities
Topic Identifier:	FETPROACT-EIC-05-2019
Type of Action:	RIA Research and Innovation action
Deadline(s):	08.10.2019 (single-stage)

Participant Portal Weblink:

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/fetproact-eic-05-2019>

Specific Challenges: To explore and consolidate a new technological direction in order to put it firmly on the map as a viable paradigm for future technology. To foster the interdisciplinary communities that are able to drive this forward, extending from the participating consortia to a wider European pool of expertise. To stimulate the emergence of a European innovation eco-system around a new technological paradigm, well beyond the world of research alone.

Scope: proposals are sought for cutting-edge high-risk / high-reward research and innovation projects that aim to demonstrate a new technological paradigm within the scope of one of the following sub-topics:

- a. Human-Centric AI. Artificial intelligence (AI) is gaining more and more footholds in various aspects of our life. However, machine learning algorithms are difficult to understand, opaque and may have implicit biases in their decision making. Explicability has become an essential element if users are to trust, accept and adopt the next generation of intelligent machines on a wider scale. This initiative seeks to advance to the next AI frontier with verifiable, evidence-based features of trustworthiness (i.e., reliable and unbiased alignment of values, goals and beliefs) and transparency (explainable performance), exploring radically new approaches (e.g., inspired from neuroscience, cognition or social science). For instance, explanation could be more tightly intertwined with the decision making process itself so that decisions can be challenged, interpreted, refined and adjusted through mutual exchange, introspection (e.g., self-awareness of biases, reflecting on the internal functioning of the learning system, or on what caused a wrong or unacceptable decision) and active learning of both system and user, for

example through dialogue or other forms of multi-modal interaction aimed at establishing mutual trust. New data collection and ownership/governance models that go beyond the dominant off-line and centralised data processing should be investigated, and new avenues, such as for incremental, unsupervised, active, one-shot and 'small data' machine learning, should be explored. The projects are expected to contribute to the wider debate on the sociotechnical, organisational and AI-ethical dimensions of such technologies and systems, and link to the 'Commission's broader AI strategy^[1].

- b. Implantable autonomous devices and materials. Radically new biomedical technologies that will lead to enhanced life quality for people are urgently needed, particularly for mitigating the impact of chronic health conditions that are placing a rapidly growing and ultimately unsustainable burden on healthcare systems. A key goal will be to demonstrate dramatically extended functional lifetimes of implantable devices, for example, through incorporation of smart sensing, self-awareness, adaptation (form and/or function) and self-repair capabilities. Included are mobile micro/nano devices based on biological models that can perform advanced functions e.g. site specific automigration, ability to distinguish tissue types (diseased, normal) and perform highly localised actions (e.g., delivery of therapeutic agents). Entities incorporating (bio)materials that provide instances of totally autonomous biomimetic behaviour and in-situ integration and adaptation are particularly welcome, such as an ability to blend-in with the native biological environment, to independently generate power, synthesise active agents or sense and respond to changes in the local molecular environment. Work on ethical implications should be included.
- c. Breakthrough zero-emissions energy generation for full decarbonization. Clean and sustainable energy is one of the major challenges of our time. This sub-topic aims at the multidisciplinary exploration of new directions (starting from TRL 1-3) for power generation that is clean, compact and low-cost, aimed at stand-alone, mobile or portable uses in specific application contexts, for instance, in the transport sector (road, air, sea and either for motive or auxiliary needs), for portable uses, in remote places or in emergency situations. Breakthrough concepts and techniques for energy generation have to be explored for generating heat and/or electricity efficiently with zero emissions and with a minimal use of rare or toxic materials. Research areas could include, for example, long duration high heat sources from hydrogen-metal systems (e.g., using nickel), energy generation in plasma and cavitation systems. These or any other concepts with similar compact, high energy density and low-cost energy generation capabilities should be harnessed to make them usable for specific application contexts. Clear and ambitious performance targets and milestones to achieve them shall be provided.

FET Proactive projects should establish a solid baseline of knowledge and skills and assemble the interdisciplinary communities around them. They should further foster the emergence of a broader innovation ecosystem and create a fertile ground for future take-up of its new technological paradigm (e.g., public engagement, informal education, policy debate).

The Commission considers that proposals requesting a contribution from the EU of up to EUR 4 million and with a duration of up to 4 years would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts or duration.

This topic allows for the provision of financial support to third parties established in an EU member state or country associated with Horizon 2020 in line with the conditions set out in General Annex K, either to enhance impacts through punctual small scale experimentation and use of project results by third parties, or to award a prize following a contest organised by the beneficiaries.

Expected Impact:

- Scientific and technological contributions to the foundation and consolidation of a radically new future technology.
- Potential for future returns in terms of societal or economic innovation or market creation.
- **Spreading Excellence** and building leading innovation capacity across Europe by involvement of key actors that can make a difference in the future, for example excellent young, researchers, ambitious high-tech SMEs or first-time participants to FET under Horizon 2020^[2].
- Build-up of a goal oriented interdisciplinary community (within and beyond the consortium).
- Emergence of an innovation ecosystem around a future technology in the theme addressed from outreach to and partnership with high potential actors in research and innovation, and from wider stakeholder/public engagement, with due consideration of aspects such as education, gender differences and long-term societal, ethical and legal implications.

Delegation Exception Footnote: This topic is part of the European Innovation Council Enhanced Pilot (2019-2020) and funded from budget line 08.020102. In accordance with article 6.5 of Horizon 2020 regulation No 1291/2013, credits from budget line 08.020202 will be transferred to budget line 08.020102.

Cross-cutting Priorities: Clean Energy, Gender, Socio-economic science and humanities, EIC Pilot

[1] COM(2018) 237 final, 25.4.2018.

[2] First time participation here refers to the individuals involved, not to their institution or organisation.

Horizon 2020 Pillar:	Excellent Science
Programme:	Future and Emerging Technologies
Call Title:	FET Proactive – Boosting emerging technologies
Call Identifier:	h2020-fetproact-2018-2020
Topic Title:	FET Proactive: emerging paradigms and communities
Topic Identifier:	FETPROACT-EIC-07-2020
Type of Action:	RIA Research and Innovation action
Deadline(s):	22.04.2020 (single-stage)

Participant Portal Weblink:

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/fetproact-eic-07-2020>

Specific Challenges: To explore and consolidate a new technological direction in order to put it firmly on the map as a viable paradigm for future technology. To foster the interdisciplinary communities that are able to drive this forward, extending from the participating consortia to a wider European pool of expertise. To stimulate the emergence of a European innovation eco-system around a new technological paradigm, well beyond the world of research alone.

Scope: proposals are sought for cutting-edge high-risk / high-reward research and innovation projects that aim to demonstrate a new technological paradigm within the scope of one of the following sub-topics:

- a. Future technologies for social experience. This sub-topic explores new technologies for interaction that are based on new kinds of immersion for virtualised or augmented social interaction and that will lay the basis for the social media in 10-20 years from now. Virtual, Augmented and Mixed Reality (XR) will be as ubiquitous as Smart Phones are today. XR will serve as a starting point for new kinds of social media in which some of the participants may not be real people, where time differences are abolished, and where information and experiences will be shared in radically new ways. It is currently not known whether the sociocultural parameters implicit in natural social interaction carry over to virtual or hybrid settings or whether this leads to adaptations, new potential conflicts requiring recalibration of affective signals, cues carrying trust, empathy, conflict resolution. The sub-topic thus addresses the redefinition of the personal and social interaction space in light of increasing virtualisation, space-time displacement, information pressure, ubiquitous intelligence, uncertainty and trust issues (dis- and mis-information, anomaly detection in information sources and content, unwanted

information, and similar concepts in the social realm, like opinion dynamics and social believe formation). Technologically this will be driven by a more active role of the interaction environment and an ever tighter coupling of the technologies with sensori/motor- and cognitive processes through advanced and multimodal XR setups, including for instance spatial audio, smart skins, haptics, wearable or other minimally invasive interfaces. Impacts on a 'person's self-perception and behaviour, gender differences, the formation of knowledge and believes, the theory of mind and brain and the ability to act and interact should also be studied, especially in scenarios of extensive and always-on use.

- b. Measuring the unmeasurable — Sub-nanoscale science for Nanometrology. This sub-topic seeks to find and test new approaches for nano- and sub-nano metrology. Proposals should target new techniques, for example, physics-, biochemistry- and chemistry-based methods incorporating nano- and picometre-length scales in the spatial domain with femto- and atto-seconds in the temporal domain. The proposal must address research from a novel measurement concept up to a technique and/or method including prototype measuring devices/setups and procedures, and sound metrological aspects like quantification of uncertainty or traceability. Proposals should seek to approach theoretical limits in challenging domains (physical, chemical, biological) while minimising any potential damage or change to the object being measured. Full three-dimensional characterisation (tomography) or the application of metrological procedures to transient phenomena on a sub-nanosecond time-scale could push the limits in metrology. Research on refining existing techniques is excluded. Proposals will address emerging issues of nano-metrology in spatial and temporal dimensions, including for example morphology, composition, reactivity, energy, dynamics or relevant optical, electronic, chemical and biochemical properties. Challenges in measurement that could be used as test cases are, e.g., understanding and controlling changing morphology impacting chemical properties in nano-photonic devices or battery electrodes; integrating metrology with sub-nanoprinting, nano-engineering or self-characterisation techniques; the measurements of heat transfer across interfaces down to the atomic size level; or the characterisation of the dynamics of molecular interactions in or with biological systems for health or smart materials. The use of advanced modelling, statistical methods, big data and machine learning methods is welcome where appropriate.
- c. Digital twins for the life-sciences. The sub-topic aims at the close integration and real-time interaction of dynamical models of biological structures (from biochemical pathways to cells, tissues, organs and individuals), with imaging and sensing technologies for biological mechanisms and processes. It extends concepts and technologies of digital twins beyond their industrial versions, which are typically supporting the life-cycle of engineered products, into the domain of the life sciences. The core challenge is to derive and update the digital twin using information from the imaging, sensing and monitoring of its biological counterpart, taking the achievements of systems biology, metabolomics and systems medicine into account. This can be done in vivo at

whole-body (e.g., using wearable and implantable sensors) or organ level or in vitro – e.g., for interacting cells and organoids, 3D cell co-cultures, organ/body-on-chip). Beyond the development of static and structural models, a further challenge is to include dynamics at multiple temporal scales (e.g. for deriving adaptive, predictive values), through new principles of imaging and sensing that take the time-dimension into account. Biological dynamics can be observed in the unmanipulated state or under manipulation by chemical, biological, physical agents such as pharmaceuticals, viruses, acoustic waves, electromagnetic fields, light, forces, or altered temperature. This will offer unprecedented insights into the molecular and cellular dynamics underlying human disorders such as metabolic, cardiovascular, neurological, oncological or rare pathologies, where personalised precision medicines and advanced diagnostic and therapeutic approaches but also prevention measures (lifestyle, nutrition, environmental factors) are needed to make healthcare more effective, more convenient, cheaper and uniquely tailored to each patient. Work on ethical implications should be included.

FET Proactive projects should establish a solid baseline of knowledge and skills and assemble the interdisciplinary communities around them, including from the social sciences and humanities. They should further foster the emergence of a broader innovation ecosystem and create a fertile ground for co-design of the new technological paradigm and its future take-up (e.g., wider stakeholder/public engagement, informal education, policy debate), in line with the discussion on Responsible Research and Innovation (RRI) in the introduction to this FET work programme.

The Commission considers that proposals requesting a contribution from the EU of EUR 4 to 5 million and with a duration of up to 4 years would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts or project duration.

This topic allows for the provision of financial support to third parties established in an EU member state or country associated with Horizon 2020 in line with the conditions set out in General Annex K, either to enhance impacts through punctual small scale experimentation and use of project results by third parties, or to award a prize following a contest organised by the beneficiaries.

Expected Impact:

- Scientific and technological contributions to the foundation and consolidation of a radically new future technology.
- Potential for future returns in terms of societal or economic innovation or market creation.
- **Spreading Excellence** and building leading innovation capacity across Europe by involvement of key actors that can make a difference in the future, for example excellent young researchers, ambitious high-tech SMEs or first-time participants to FET under Horizon 2020.^[1]
- Build-up of a goal oriented interdisciplinary community (within and beyond the consortium).

- Emergence of an innovation ecosystem around a future technology in the theme addressed from outreach to and partnership with high potential actors in research and innovation, and from wider stakeholder/public engagement, with due consideration of aspects such as education, gender differences and long-term societal, ethical and legal implications.

Delegation Exception Footnote: This topic is part of the European Innovation Council (EIC) Enhanced Pilot (Horizon 2020, 2019-2020).

Cross-cutting Priorities: EIC Pilot, Gender, RRI

[1] First time participation here refers to the individuals involved, not to their institution or organisation.

Horizon 2020 Pillar:	Excellent Science
Programme:	Marie Skłodowska-Curie actions
Call Title:	Marie Skłodowska-Curie Individual Fellowships
Call Identifier:	h2020-msca-if-2020
Topic Title:	Individual Fellowships
Topic Identifier:	MSCA-IF-2020
Type of Action:	MSCA-IF-GF Global Fellowships, MSCA-IF-EF-ST Standard European Fellowships, MSCA-IF-EF-SE Society and Enterprise panel, MSCA-IF-EF-RI Reintegration panel, MSCA-IF-EF-CAR Career Restart panel
Deadline(s):	09.09.2020 (single-stage)

Participant Portal Weblink:

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/msca-if-2020>

Specific Challenges: The goal of the Individual Fellowships is to enhance the creative and innovative potential of experienced researchers, wishing to diversify their individual competence in terms of skill acquisition through advanced training, international and intersectoral mobility.

Individual Fellowships provide opportunities to researchers of any nationality to acquire and transfer new knowledge and to work on research and innovation in Europe (EU Member States and Horizon 2020 Associated Countries) and beyond. The scheme particularly supports the return and (re)integration of European researchers from outside Europe and those who have previously worked here, as well as researchers displaced by conflict outside the EU and Horizon 2020 Associated Countries. It also promotes the career restart of individual researchers who show great potential.

Scope: Support is foreseen for individual, trans-national fellowships awarded to the best or most promising researchers of any nationality, for employment in EU Member States or Horizon 2020 Associated Countries. It is based on an application made jointly by the researcher and the beneficiary in the academic or non-academic sectors.

Only one proposal per individual researcher per call will be evaluated.

Fellowships take the form of European Fellowships or Global Fellowships. European Fellowships are held in EU Member States or Horizon 2020 Associated Countries and are open to researchers either coming to Europe from any country

in the world or moving within Europe. The researcher must comply with the rules of mobility in the country where the European Fellowship is held.

Direct return to and long-term reintegration of researchers in Europe, including in their country of origin, is supported via a separate multi-disciplinary reintegration panel of the European Fellowships. For the reintegration panel, there must be direct mobility to the country of the beneficiary in Europe from a third country (compulsory national service and/or short stays such as holidays are not taken into account).

Support to individuals to resume research in Europe after a career break, e.g. after parental leave or due to recent migration, is ensured via a separate multi-disciplinary career restart panel of the European Fellowships. To qualify for the career restart panel, researchers must not have been active in research for a continuous period of at least 12 months within the 18 months immediately prior to the deadline for submission.

Researchers seeking to work on research and innovation projects in an organisation from the non-academic sector will be supported via a separate multi-disciplinary society and enterprise panel of the European Fellowships. The objective of this panel is to facilitate career moves between the academic and non-academic sectors, to stimulate innovation, and to open attractive career opportunities for researchers outside academia.

The Widening Fellowships implemented through Work Programme part 15, **Spreading Excellence and Widening Participation**, provide specific support to researchers to undertake their fellowship in a **widening country**^[1]. This will help spread excellence and close the still apparent research and innovation gap within Europe.

Global Fellowships are based on a secondment to a third country and a mandatory 12 month return period to a European host. The researcher must comply with the rules of mobility in the country where the Global Fellowship secondment takes place, not for the country of the return phase.

Researchers receiving an Individual Fellowship may opt to include a secondment phase in Europe, notably in the non-academic sector, within the overall duration of their fellowship. For a fellowship of 18 months or less, the secondment phase may last up to three months. For a fellowship of more than 18 months, the secondment phase may last up to six months. The secondment phase can be a single period or be divided into shorter mobility periods. The secondment should significantly add to the impact of the fellowship. In the Global Fellowships, such a secondment can also take place at the start of the action at the beneficiary or a partner organisation in Europe for a maximum of 3 months, allowing the researcher to spend time there before moving on to a partner organisation in a third country.

A Career Development Plan should be established jointly by the supervisor(s) and the researcher. In addition to research or innovation objectives, this plan comprises the researcher's training and career needs, including training on transferable skills, teaching, planning for publications and participation in conferences.

Researchers participating in the Individual Fellowships may opt to work part-time in order to pursue supplementary activities. These might include creating a company, or engaging in advanced studies not related to the MSCA grant. Any supplementary activities carried out part-time in parallel with the MSCA action must be agreed upon by the researcher and the beneficiary.

Expected Impact:

At researcher level:

- Increased set of skills, both research-related and transferable ones, leading to improved employability and career prospects both in and outside academia
- Increase in higher impact R&I output, more knowledge and ideas converted into products and services
- Greater contribution to the knowledge-based economy and society

At organisation level:

- Enhanced cooperation and stronger networks
- Better transfer of knowledge between sectors and disciplines
- Boosting of R&I capacity among participating organisations

At system level:

- Increase in international, interdisciplinary and intersectoral mobility of researchers in Europe
- Strengthening of Europe's human capital base in R&I with more entrepreneurial and better trained researchers
- Better communication of R&I results to society
- Increase in Europe's attractiveness as a leading destination for R&I
- Better quality research and innovation contributing to Europe's competitiveness and growth

Cross-cutting Priorities: International cooperation, RRI, Open Science

[1] These countries are aligned with Work Programme part 15, **Spreading Excellence and Widening Participation**.

Societal Challenges

Horizon 2020 Pillar:	Societal Challenges
Programme:	Health, demographic change and wellbeing
Call Title:	Better Health and care, economic growth and sustainable health systems
Call Identifier:	h2020-sc1-bhc-2018-2020
Topic Title:	Bridging the divide in health research and innovation – boosting return on investment
Topic Identifier:	SC1-HCO-03-2020
Type of Action:	CSA Coordination and support action
Deadline(s):	07.04.2020 (single-stage)

Participant Portal Weblink:

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/sc1-hco-03-2020>

Specific Challenges: The Innovation Union Scoreboard reveals significant disparities in terms of research and innovation performance among the different member states and regions within the European Union. The disparities are equally present in health research and innovation which unfortunately also translates into lower participation in the Union's research and innovation framework programme, Horizon 2020.

There are serious efforts deployed at national and European level to help to close the R&I divide. Many instruments provide direct investment to organisations from lagging regions and countries, such as the European Structural and Investment Funds, national grants, the **Spreading Excellence and Widening Participation** programme of Horizon2020 while others encourage networking such as the COST actions.

These European and national investments yield the most when beneficiaries have the necessary capabilities, adequate governance structure, and suitable science and HR policies. This call aims providing support in the health R&I domain to organisations from lower performing regions that are willing to carry out structural reforms to improve their R&I performance. The call builds on past efforts of the European Commission (especially the HCO-14 2014 and the HCO-08 2017 calls in H2020 SC1).

Scope: Applicants should propose actions that would shift benefiting organisations' R&I performance and would eventually increase their participation in EU funded collaborative projects. Proposed activities should aim to strengthen research development; improve governance, managerial and administration practices;

increase the organisations' international profile; develop HR policies to attract and retain talents, taking into account gender aspects; and create a culture that rewards scientific performance and innovation. Applicants may propose any actions that contribute towards these goals.

Beneficiaries of the activities should be active in the field of health research and innovation and should come from low performing^[1] Member States/regions that have identified health R&I as a priority in their Research and Innovation Strategies for Smart Specialisation (RIS3). Applicants shall seek synergies with European Structural and Investment Funds, with European and national research and innovation programmes and if applicable with EEA and Norway grants. Applicants are encouraged to leverage funding of this call with other resources.

The Commission considers that proposals requesting a contribution from the EU of between EUR 1.5 and EUR 2 million would allow this specific challenge to be addressed appropriately. Nonetheless this does not preclude submission and selection of proposals requesting other amounts.

Expected Impact: An increased number of organisations from low performing Member States/regions among the top international health R&I institute that are able to attract funding and talents and render these resources into scientific excellence and innovation.

Ultimately, increased participation rate of low performing countries in the EU's Research and Innovation Framework Programme.

Cross-cutting Priorities: Gender, Socio-economic science and humanities

[1] As defined by **Widening Participation and Spreading Excellence**: Member States below 70% of the EU average of the Composite Indicator of Research Excellence.

Spreading Excellence and Widening participation

Horizon 2020 Pillar: Spreading Excellence and Widening participation

Programme: Twinning of research institutions

Call Title: WIDESPREAD

Call Identifier: h2020-widespread-2018-2020

Topic Title: Twinning

Topic Identifier: WIDESPREAD-05-2020

Type of Action: CSA Coordination and support action

Deadline(s): 14.11.2019 (single-stage)

Participant Portal Weblink:

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/widespread-05-2020>

Specific Challenges: The specific challenge is to enhance networking activities between the research institutions of the **Widening Countries** and internationally-leading counterparts at EU level. Driven by the quest for excellence, research intensive institutions tend to collaborate increasingly in closed groups, producing a crowding-out effect for a large number of promising institutions. This is the challenge that a specific Twinning action will try to address.

Scope: Twinning aims at significantly strengthening a defined field of research in a university or research organisation from a **widening country** by linking it with at least two internationally-leading research institutions from two different Member States or Associated Countries. Twinning will:

1. Enhance the scientific and technological capacity of the linked institutions with a principal focus on the university or research organisation from the **widening country**;
2. Help raise the research profile of the institution from the **widening country** as well as the research profile of its staff.

Successful Twinning proposals will have to clearly outline the scientific strategy for stepping up and stimulating scientific excellence and innovation capacity in a defined area of research as well as the scientific quality of the partners involved in the twinning exercise. This scientific strategy should include arrangements for formulating new (or ongoing) joint research project(s) in the scientific area of choice and describe how Twinning will take this research to a new stage, by enlarging its scope and/or the research partnership. If relevant, any links with sustainable development objectives are to be outlined.

Such a strategy should include a comprehensive set of activities to be supported. These should include at least a number of the following: short term staff exchanges; expert visits and short-term on-site or virtual training; workshops; conference attendance; organisation of joint summer school type activities; dissemination and outreach activities.

A dedicated focus towards promoting the involvement of early stage researchers (as per the MSCA definition^[1]) in the coordinating institution from the **widening country** is expected. This should take the form of a dedicated work package or task in the proposal describing activities dedicated to early stage researchers from the coordinating institution that could include training, mentoring and networking measures within the Twinning exercise, with a special focus on the promotion of gender equality among early stage researchers.

One of the lessons learned from previous calls and from the interim evaluation of Horizon 2020, is the lack of experience with regard to research management and administration in **widening Countries**. That is why proposals should also focus on strengthening the research management and administration skills of the coordinating institution from the **widening country**. This should take the form of a dedicated work package or task, placing emphasis to specific activities, in view of helping the staff of the coordinating institution to improve their proposal preparation and project management/administration skills. If not yet in place, setting up/upgrading a research management/administration unit within the coordinating institution would be beneficial. This will be achieved by fully utilising the experience and best practices of the internationally leading partners and is expected to be a concrete deliverable of the Twinning exercise.

In general, costs relating to administration, networking, coordination, training, management, travel costs are acceptable under a Twinning project. While the action does not focus on equipment and research costs, these could be accepted if they constitute only a minor part (up to 10%) of the total Horizon 2020 funding requested and are deemed necessary to fulfil the action's specific scope and objective.

Therefore, for grants awarded under this topic and type of action the following cost categories will be ineligible costs:

- infrastructure costs;

The respective option of Article 6.5.C of the Model Grant Agreement will be applied.

The duration of a Twinning project can be up to 3 years.

If the coordinating entity has already been funded (as a coordinator) under other Horizon 2020 Twinning calls, these projects need to be described in the proposal. In particular, proposers need to clearly demonstrate the added value and impact of the proposal in achieving the Twinning programme objectives, in comparison to the already funded Twinning project within the coordinating entity.

The Commission considers that proposals requesting a contribution from the EU of EUR 0.9 million, would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting lower amounts.

Expected Impact:

- Increased research excellence of the coordinating institution in the particular field of research as a result of the twinning exercise.
- Enhancing the reputation, attractiveness and networking channels of the coordinating institution.
- Improved capability to compete successfully for national, EU and internationally competitive research funding.
- Illustrate quantitatively and qualitatively the expected potential impact of the twinning exercise within the coordinating institution (and possibly at regional/national level) based on indicators like expected future publications in peer reviewed journals, collaboration agreements with businesses, intellectual property, new innovative products or services.
- It should be explained how the leading scientific institutions in the partnership will contribute in terms of provision of access to new research avenues, creativity and the development of new approaches, as well as acting as a source for increased mobility (inwards and outwards) of qualified scientists.
- The benefits for the internationally leading scientific institutions and the way they would materialise through the partnership should be substantiated.

[1] Early stage researchers shall, at the time of recruitment by the host organisation, be in the first four years (full-time equivalent research experience) of their research careers and have not been awarded a doctoral degree. Full-time equivalent research experience is measured from the date when the researcher obtained the degree entitling him or her to embark on a doctorate, (either in the country in which the degree was obtained or in the country in which the researcher is recruited) even if a doctorate was never started or envisaged. Part-time research experience will be counted pro-rata.

Horizon 2020 Pillar:	Spreading Excellence and Widening participation
Programme:	Widening Fellowships
Call Title:	Widening Fellowships
Call Identifier:	h2020-wf-2018-2020
Topic Title:	Widening Fellowships
Topic Identifier:	WF-03-2020
Type of Action:	MSCA-IF-EF-ST Standard European Fellowships, MSCA-IF-EF-SE Society and Enterprise panel, MSCA-IF-EF-RI Reintegration panel, MSCA-IF-EF-CAR Career Restart panel
Deadline(s):	09.09.2020 (single-stage)

Participant Portal Weblink:

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/wf-03-2020>

Specific Challenges: The Marie Skłodowska-Curie actions (MSCA) contribute to boosting jobs, growth and investment by equipping researchers with the new knowledge, skills and international and inter-sectorial exposure to fill the top positions of tomorrow and solve current and future societal challenges. They are based on the principle of mobility, and researchers can receive funding on the condition that they move from one country to another to acquire new knowledge. The results from the first years of MSCA in Horizon 2020 also revealed the existence of a mobility gap across Europe and discrepancies between European countries in their ability to attract funding. To specifically address this gap in participation Widening Fellowships will provide an additional opportunity to researchers of any nationality to acquire and transfer new knowledge and to work on research and innovation in **widening countries**.

Scope: Support is foreseen for individual, trans-national fellowships awarded to researchers of any nationality, in **widening countries**. Applications to the 2020 call for Marie Skłodowska-Curie actions Individual Fellowships (MSCA-IF), where the host organisation is located in an eligible **widening country**, will be resubmitted to this call upon the agreement of the applicant and in case their proposal fails to reach an adequate place in the ranking to be funded in the regular MSCA-IF call^[1]. Applicants who do not wish to be considered for this funding opportunity should specify this in the application form.

The proposals submitted under the Widening Fellowships must fulfil all the admissibility and eligibility conditions of the Marie Skłodowska-Curie actions Individual Fellowships and pass all the thresholds for that call.

The award criteria, scoring and threshold for Marie Skłodowska-Curie actions apply to eligible proposals. Proposals will be ranked according to the 2020 MSCA-IF call scores and evaluation procedure and will retain scores and comments included in the Evaluation Summary Report (ESR) of the MSCA-IF call. The MSCA-IF model grant agreement and the unit costs applicable to MSCA-IF will also apply to the Widening Fellowships.

Expected Impact: The expected impact indicated for the MSCA-IF-2020 Individual Fellowships call under the MSCA Work Programme will apply to this call.

In addition, the Widening Fellowships are expected to lead to the following:

- Enhanced cooperation and stronger networks including **widening countries**.
- Boosting of R&I capacity among participating organisations.
- Increase in international, interdisciplinary and intersectoral mobility of researchers in **widening countries**.

[1] The following "Types of Action" under MSCA-IF are eligible for resubmission: CAR – Career Restart panel, RI – Reintegration panel, SE - Society and Enterprise panel, Standard EF.

Horizon 2020 Pillar: Spreading Excellence and Widening participation

Programme: ERA chairs

Call Title: WIDESPREAD

Call Identifier: h2020-widespread-2018-2020

Topic Title: ERA Chairs

Topic Identifier: WIDESPREAD-06-2020

Type of Action: CSA Coordination and support action

Deadline(s): 14.11.2019 (single-stage)

Participant Portal Weblink:

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/widespread-06-2020>

Specific Challenges: With adequate institutional support outstanding researchers can have a decisive and positive impact on the culture and performance of research institutions. Yet issues such as the availability of research funding, institutional rigidities and access to resources can hamper their mobility to promising institutions, particularly in low R&I performing countries. ERA Chairs actions will address the specific challenge of creating the appropriate conditions for high quality researchers and research managers to move and engage with institutions willing to achieve excellence in the scientific domain of choice and modify their research and innovation landscape.

Scope: The ERA Chairs actions will support universities or research organisations with the objective of attracting and maintaining high quality human resources under the direction of an outstanding researcher and research manager (the "ERA Chair holder") and in parallel implement structural changes to achieve excellence on a sustainable basis.

The scientific field can be any domain of research and innovation addressed under the Treaty on the Functioning of the European Union^[1], however it needs to be closely connected with the activities of the ERA Chair holder and fully capitalise on his/her presence and expertise.

Research organisations interested in establishing an ERA Chair shall submit a proposal based on a strengths, weaknesses, opportunities, and threats (SWOT) analysis, aimed at structural change in the institution and ensuring that the conditions are in place to foster excellent research. Proposals should include arrangements for compliance with ERA priorities^[2] including the European Charter for Researchers & Code of Conduct for the Recruitment of Researchers^[3]. A description of the necessary investments in research projects, facilities and

infrastructures and how those will be achieved as, for example, through the use of Cohesion Policy funds, and/ or a better use of the installed research capacity (in particular of EU co-funded research infrastructures & facilities) should be made. Making full use of the latter (i.e. existing EU funded research infrastructure) will be an asset.

Proposals should outline how the proposed activities will positively induce a change in current practices.

ERA Chair holders should be excellent researchers and research managers in the given field of research, with a proven record of effective leadership. They should establish their own research team fully integrated in the coordinator's institution to significantly improve its research performance in the scientific domain of choice and to be more successful in obtaining competitive funding. The ERA Chair holder should have a position within the organisation/university, professor or similar, that will allow her/him to make appropriate resource allocation decisions, supervise team members and freely apply for research funding. A letter of the head of the institution clearly describing the intended remuneration package of the ERA Chair holder and the criteria on which the level of remuneration^[4] has been established, as well as his/her roles, level of responsibility and obligations should be included within the proposal. This will allow for the determination of the commitment of the institution and feasibility of the ERA Chair tasks.

The position of the ERA Chair holder must be open to all EU and non-EU nationals but shall match the profile of an "Established Researcher (R3)" or "Leading Researcher (R4)" as set out in the European Framework for Research Careers^[5]. Moreover, given the objectives of the action, internal mobility within the institution hosting the grant is excluded except in exceptional and duly justified cases. The appointment of an ERA Chair holder will be undertaken by the host institution at the beginning of the action and must follow an open, transparent and merit-based recruitment process that will be monitored by the European Commission.

It is expected that the Chair holder commits him/herself for the full duration of the grant. The ERA Chair holder is to be appointed in a full-time position (permanent or non-permanent) in accordance with the national legislation of the institution hosting the grant.

Provisions should also be made in the proposal to ensure the sustainability of the action after the end of the Horizon 2020 funding. This should be demonstrated clearly in the proposal (e.g. through the inclusion of a sustainability plan). Concretely, proposals need to outline how the ERA Chair holder and his/her team will continue to contribute within the institution after the end of the Horizon 2020 project. In case this is not possible, an outline of transitional arrangements needs to be explained to ensure the work, progress and structural changes achieved will continue to be implemented in the future.

The grant that can have a duration of six years maximum will cover the appointment of the ERA Chair holder and a number of team members (e.g. their salaries, recruitment costs^[6], administrative costs, travel and subsistence costs).

One of the lessons learned from previous calls and from the interim evaluation of Horizon 2020, is the lack of experience with regard to research management and administration in **widening countries**. That is why proposals should also focus on strengthening the research management and administration skills of the institution. This should take the form of a dedicated work package or task, placing emphasis to specific activities, in view of helping the staff of the coordinating institution to improve their proposal preparation and project management/administration skills. If not yet in place, setting up/upgrading a research management/administration unit within the institution would be beneficial, involving the ERA Chair holder and his/her experience and is expected to be a concrete deliverable of the action.

The grant will also provide a contribution towards measures aimed at facilitating structural changes in the institution (e.g. costs for trainings, meetings, publications and managing Intellectual Property Rights (IPR)). While the action does not focus on equipment and research costs, these could be accepted if they constitute only a minor part (up to 10%) of the total Horizon 2020 funding requested and are deemed necessary to fulfil the action's specific scope and objective. For grants awarded under this topic and type of action, the following cost categories will be ineligible costs:

- Infrastructure costs;

The respective option of Article 6.5.C of the Model Grant Agreement will be applied.

The duration of an ERA Chair project can be up to 6 years.

If the coordinating entity has already been funded under other Horizon 2020 ERA Chairs calls, these projects need to be described in the proposal. In particular, proposers need to clearly demonstrate the added value and impact of the proposal in achieving the ERA Chair programme objectives, in comparison to the already funded ERA Chair project within the coordinating entity.

The Commission considers that proposals requesting a contribution from the EU of EUR 2.5 million, would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting lower amounts.

Expected Impact:

- Institutional changes within the ERA Chair host institution allowing for its full participation in the European Research Area.
- Increased attractiveness of the institution for internationally excellent and mobile researchers (including a policy of compliance to the European Research Area priorities like an open recruitment policy, gender balance, peer review and innovative doctoral training).
- Increased research excellence of the institution in the specific fields covered by the ERA Chair holders illustrated quantitatively and qualitatively through indicators such as expected future publications in peer reviewed journals, collaboration agreements with businesses, intellectual property, new innovative products or services.

- Improved capability to compete successfully for internationally competitive research funding.

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- [1] <http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:12012E/TXT&from=en>
- [2] <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2012:0392:FIN>
- [3] <http://eur-lex.europa.eu/eli/reco/2005/251/oj>
- [4] As prescribed in the Annotated Model Grant Agreement (AGA) at http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/amga/h2020-amga_en.pdf
- [5] https://cdn5.euraxess.org/sites/default/files/policy_library/towards_a_european_framework_for_research_careers_financial.pdf
- [6] That can be considered under the category of "other direct costs".