EN

Horizon 2020

Work Programme 2018-2020

16. Science with and for Society

IMPORTANT NOTICE ON THIS WORK PROGRAMME

This Work Programme covers 2018, 2019 and 2020. The parts of the Work Programme that relate to 2020 (topics, dates, budget) have, with this revised version, been updated. The changes relating to this revised part are explained on the Funding & Tenders Portal.

(European Commission Decision C(2019)4575 of 2 July 2019)

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Introduction

A heightened policy interest in engaging society

The SWAFS Work Programme 2018-2020 (WP18-20) has been developed to reflect and support the evolution of science and society and the increased emphasis on their interplay at national and EU levels. There is recognition that co-design with citizens, stakeholders and end-users needs to be promoted in all policy instruments, including in Horizon 2020.

At European Union level, in 2015 Commissioner Moedas identified three strategic priorities, described in Open innovation, Open science, Open to the world[1] (the 3Os strategy), which proposed *inter alia* that "*many more actors will take part [in the research process] in different ways and the traditional methods of organising and rewarding research will also see many changes*"[2]. One important dimension of open science is citizen science, which is envisioned as "*linked with outreach activities, science education or various forms of public engagement with science as a way to promote Responsible Research and Innovation*". Giving impetus to this line of activity, citizen science was recently recognised as an open science priority by the Council[3].

Far-reaching changes to the modus operandi of research and innovation

Research and innovation (R&I) systems are currently undergoing far-reaching changes to their *modus operandi*. These are enabled by digital technologies and driven by globalisation as well as the increasing demand and need to address the societal challenges of our times. These changes have an impact on the entire R&I cycle, from the inception of research to publication, as well as on the ways in which innovation is organised. All R&I institutions are affected. For science this sees the rise of new scientific disciplines, innovative pathways in publishing (among them a substantial increase in open access journals), new scientific reputation systems, citizen science, and changes to the way the quality and impacts of research are evaluated. For innovation this sees the rise of user-led innovation and crowd funding initiatives.

Increased expectations are put on science yet citizens fear for the future and the most advanced scientific and technological breakthroughs are under intense public scrutiny. Asymmetries still exist in the ability of individuals to interact with and access science, creating inequalities in scientific and innovation outcomes and an ever more pressing need to promote responsible research and innovation. Furthermore, scientific consensus is seemingly being ignored by some policy makers, who are developing policies based on populist narratives rather than evidence.

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1 https://ec.europa.eu/digital-single-market/en/news/open-innovation-open-science-open-world-vision-europe

2 http://europa.eu/rapid/press-release_SPEECH-15-5243_en.htm.

3 http://data.consilium.europa.eu/doc/document/ST-9526-2016-INIT/en/pdf.

To respond to these challenges, Horizon 2020 requires an increasingly transdisciplinary and multi-stakeholder approach, involving citizens and end-users, the public sector, and industry, so as to link and take advantage of unique perspectives and knowledge.

The WP18-20 has been designed to respond to these fundamental concerns and developments by opening up science and society and supporting the 3Os strategy through five strategic orientations. Each strategic orientation, as appropriate, takes into account all SwafS lines of activity[4]: public engagement, science education (formal, informal and non-formal), gender equality, ethics/research integrity, open access/data, and governance, scientific careers, due and proportional precaution, and science communication. The WP18-20 will establish clear links with all Horizon 2020 parts (and notably with the Societal Challenges) as well as with all cross-cutting issues.

A clear response to the interim evaluation of Horizon 2020

The WP18-20 takes into account the results of the interim evaluation of Horizon 2020[5]. It focuses on a smaller number of topics so that, in general, more actions can be funded per topic and it introduces two-stage calls for some topics in order to increase the attractiveness to newcomers, CSOs and other societal stakeholders, and reduce over-subscription. It includes topics on due and proportionate precaution and science communication for the first time. It puts the emphasis on SMART impacts (see below). It also encourages all stakeholders, and in particular citizens/CSOs, to be involved in the development of R&I contents; this responds to the need for greater outreach to civil society identified in the interim evaluation.

Strategic orientations:

The SwafS WP18-20 is built around the following five strategic orientations:

1- Accelerating and catalysing processes of institutional change,

2- Stepping up the support to Gender Equality in Research & Innovation policy,

3- Building the territorial dimension of SwafS partnerships,

4- Exploring and supporting citizen science, and

5- Building the knowledge base for SwafS.

These strategic orientations are developed below.

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4 http://ec.europa.eu/research/participants/data/ref/h2020/legal_basis/fp/h2020-eu-establact_en.pdf (Part V, broad lines of activities) https://ec.europa.eu/info/publications/interim-evaluation-horizon-2020_en. s. http://www.un.org/sustainabledevelopment/sustainable-development-goals/.http://www.technopolis-group.com/wp-content/uploads/2016/12/2171_D3.2.pdfhttps://publications.europa.eu/s/jPcI. DOI: 10.2777/207020.

5 http://ec.europa.eu/research/participants/data/ref/h2020/legal_basis/fp/h2020-eu-establact_en.pdf (Part V, broad lines of activities) https://ec.europa.eu/info/publications/interim-evaluation-horizon-2020_en. s. http://www.un.org/sustainabledevelopment/sustainable-development-goals/.http://www.technopolis-group.com/wp-content/uploads/2016/12/2171_D3.2.pdfhttps://publications.europa.eu/s/jPcI. DOI: 10.2777/207020.

Specific contributions to cross-cutting issues

SwafS WP18-20 integrates Horizon 2020 cross-cutting issues and emphasises:

- Responsible research and innovation (RRI) including gender, and

- Enhancing the attractiveness of the research profession.

Moreover, all proposals should explicitly aim to achieve positive impacts in one or more of the following cross-cutting issues:

- Climate change, sustainable development, and biodiversity,

- Cooperation with third countries.

Notably, all SwafS WP18-20 projects are expected to support one or more of the Sustainable Development Goals[6] (SDGs, see "Expected impacts" below).

In their structure and processes, consortia should look as much as possible for interdisciplinary and cross-sectoral research and innovation, and due to the societal focus involve experts in the fields of the social and economic sciences and humanities. Consortia should aim to involve SMEs in research and innovation and broader private sector participation. They should look to maximise the engagement of private social actors, such as civil society organisations, non-governmental organisations and social entrepreneurs. All topics are open to international cooperation.

Activities developed in the present SwafS WP18-20 should involve many different actors in order to draw lessons and look for impacts as broadly as possible. Where possible, they should pay attention to the development and application of key enabling and industrial technologies, future and emerging technologies, and areas relating to bridging discovery to market application.

The present SwafS WP18-20 is built to foster the functioning and achievement of the European Research Area (ERA).

Expected impacts

All applicants should try to detail SMART (Specific, Measurable, Achievable, Realistic, Time-bound) impacts in their proposals, where possible aligned with existing EU or other international objectives. Applicants should state whether SMART impacts will be measurable within the lifetime of the project and/or evident after the project has ended.

The SWAFS Key Performance Indicator (KPI) is related to the number of institutional change actions promoted by the programme. These can take the form of a package of changes across

6 http://ec.europa.eu/research/participants/data/ref/h2020/legal_basis/fp/h2020-eu-establact_en.pdf (Part V, broad lines of activities) https://ec.europa.eu/info/publications/interim-evaluation-horizon-2020_en. s. http://www.un.org/sustainabledevelopment/sustainable-development-goals/.http://www.technopolis-group.com/wp-content/uploads/2016/12/2171_D3.2.pdfhttps://publications.europa.eu/s/jPcI. DOI: 10.2777/207020.

all or several of the five RRI dimensions: Gender (e.g. implementation of Gender Equality Plans), Science education (e.g. introduction of new curricula, new teaching methods, new means of systematically fostering informal learning in non-educational settings), Open access/open data (e.g. introduction of new rules or practices concerning open access and/or open data), Public engagement (e.g. new means of systematically engaging citizens/Civil Society Organisations in research and innovation activities such as through agenda setting, foresight and public outreach), Ethics (e.g. implementation of new rules concerning treatment of research ethics, codes of conduct, ethical reviews).

Several WP18-20 topics specify indicators which applicants should work towards, notably from the Sustainable Development Goals and from the study *Monitoring the Evolution and Benefits of Responsible Research and Innovation* (MoRRI)[7]

; these suggestions do not preclude applicants also working towards other established indicators and objectives (which may be based on qualitative or quantitative data).

European Research Area

Institutional change at the level of RPOs and RFOs is at the core of collaboration with Member States in the ERA. Open access, gender equality, and an open labour market for researchers are defined as key priorities in the ERA Communication of 2012. Concerning gender equality in particular, institutional change spurs RPOs and RFOs to remove cultural and institutional barriers that generate direct or indirect discrimination in scientific careers and decision making and to integrate a gender dimension in research content which should in turn contribute to scientific excellence. It could be complemented with institutional change contributing to a better engagement of civil society in R&I.

Responsible Research and Innovation (RRI)

RRI cuts across Horizon 2020, engaging society, integrating the gender and ethical dimensions, ensuring access to research outcomes, and encouraging formal and informal science education. At the occasion of the Competitiveness Council on 4-5 December 2014, RRI was characterised as a process for better aligning research and innovation with the values, needs and expectations of society, implying particularly close cooperation between all stakeholders in the following: science education, public engagement, access to research results and the application of new knowledge in full compliance with gender and ethics considerations.

For instance, Horizon 2020 supports collaboration between researchers and citizens in the research cycle, from defining research agendas to exploiting research results; the Gendered Innovations initiative[8] provides case studies and methodologies to integrate the needs and

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7 http://ec.europa.eu/research/participants/data/ref/h2020/legal_basis/fp/h2020-eu-establact_en.pdf (Part V, broad lines of activities) https://ec.europa.eu/info/publications/interim-evaluation-horizon-2020_en. s. http://www.un.org/sustainabledevelopment/sustainable-development-goals/.http://www.technopolis-group.com/wp-content/uploads/2016/12/2171_D3.2.pdfhttps://publications.europa.eu/s/jPcI. DOI: 10.2777/207020.

8 https://genderedinnovations.stanford.edu/what-is-gendered-innovations.html.

behaviours of women as well as men in research content. This trend towards opening research and innovation activities to societal actors and concerns is seen as an important means of improving the quality and relevance of R&I for society.

The challenge for Science with and for Society and Horizon 2020 is therefore to foster collaboration in the conduct of R&I so that it is 'with and for society'. This requires not only open debates, but also the active participation of all stakeholders in actually 'doing R&I'. The involvement of societal actors and the integration of societal concerns needs to be more systematic and sustainable, e.g. through institutional changes in R&I organisations that have lasting effects beyond the lifetime of project funding. Likewise, R&I organisations need to facilitate the production and uptake of scientific knowledge by society.

Open research data

Grant beneficiaries under this work programme part will engage in research data sharing by default, as stipulated under Article 29.3 of the Horizon 2020 Model Grant Agreement (including the creation of a Data Management Plan). Participants may, however, opt out of these arrangements, both before and after the signature of the grant agreement. More information can be found under General Annex L of the work programme.

Synergies

Project proposers should consider and actively seek synergies with, and where appropriate possibilities for further funding from, other relevant EU, national or regional research and innovation programmes (including ERDF/ESF+ or the Instrument for Pre-accession Assistance [IPA II]), private funds or financial instruments (including EFSI).

Examples of synergies are actions that build the research and innovation capacities of actors; mutually supportive funding from different Union instruments to achieve greater impact and efficiency; national/regional authorities actions that capitalise on on-going or completed Horizon 2020 actions aimed at market up-take/commercialisation.

In order to explore options for synergies, project proposers could seek contact with national/regional managing authorities and the authorities who developed the Research and Innovation Smart Specialisation Strategies (RIS3)[9] . For this purpose the 'Guide on Enabling synergies between ESIF, H2020 and other research and innovation related Union programmes [10] may be useful. Horizon 2020 project proposals should outline the scope for synergies and/or additional funding, in particular where this makes the projects more ambitious or increases their impact and expected results. Please note, however, that while the increase in the impact may lead to a higher score in the evaluation of the proposal, the reference to such additional or follow-up funding will not influence it automatically.

9 http://s3platform.jrc.ec.europa.eu/map
10 http://ec.europa.eu/regional_policy/sources/docgener/guides/synergy/synergies_en.pdf

Call - Science with and for Society

H2020-SwafS-2018-2020

Science with and for society will help citizens, organisations and territories to open a new chapter of their development through joint research and innovation activities in five strategic orientations. It will contribute to the implementation of Responsible Research and Innovation through institutional governance changes in Research Performing (RPOs) and Funding Organisations (RFOs), focusing on developing new partnerships and involving researchers, policy makers, citizens and industry. It will step up support for gender equality in R&I policy by promoting institutional changes and focusing on key areas of research to advance gender equality. It will build on the territorial dimension of SWAFS partnerships by opening up R&I broadly to society according to specific territorial contexts, where territories are understood as geographical areas sharing common features (e.g. economic, social, cultural, environmental). It will explore and support citizen science in a broad sense, encouraging citizens and other stakeholders to participate in all stages of R&I. Finally, it will build the knowledge base for SwafS through a combination of totally bottom-up and open topics and targeted topics including two looking for the first time at science communication and due and proportionate precaution.

Strategic orientation 1. Accelerating and catalysing processes of institutional change

This part will contribute to implementing the RRI keys (public engagement, science education, ethics including research integrity, gender equality, and open access) through institutional governance changes in Research Funding and Performing Organisations (RFPOs) in an integrated way and to disseminate good practices. In this strategic orientation, RFPOs should be understood broadly as organisations developing or funding activities in the field of R&I as one of their objectives (e.g. a civil society organisation engaged in R&I could be eligible). It will also allow projects to be developed that involve researchers, policy makers, citizens and industry and to monitor impact and progress. Developing new partnerships will be a priority. Results should contribute to the implementation of ERA priorities, a greater involvement of all stakeholders in R&I, and a better and more sustainable engagement with society.

Proposals are invited against the following topic(s):

SwafS-01-2018-2019-2020: Open schooling and collaboration on science education

Specific Challenge: At the moment, Europe faces a shortfall in science-knowledgeable people at all levels of society. This is a good time to expand opportunities for science learning, in formal, non-formal and informal settings[11]. Evidence shows that European citizens, young and old, appreciate the importance of science and want to be more informed, and that citizens want more science education. Over 40% believe science and technological innovation can

[11] http://ec.europa.eu/research/swafs/pdf/pub_science_education/KI-NA-26-893-EN-N.pdf.

have a positive impact on the environment, health and medical care, and basic infrastructure in the future[12]. Therefore, collaboration between formal, non-formal and informal science education providers, enterprises and civil society should be enhanced to ensure relevant and meaningful engagement of all societal actors with science and increase the uptake of science studies, citizen science initiatives and science-based careers, employability and competitiveness.

Scope: The proposed action targets the creation of new partnerships in local communities to foster improved science education for all citizens. This action aims to support a range of activities based on collaboration between formal, non-formal and informal science education providers, enterprises and civil society in order to integrate the concept of open schooling, including all educational levels, in science education.

"Open schooling" where schools, in cooperation with other stakeholders, become an agent of community well-being shall be promoted; families should be encouraged to become real partners in school life and activities; professionals from enterprises and civil and wider society should actively be involved in bringing real-life projects to the classroom. Relevant policy makers should also be involved, to encourage policy buy-in and the mainstreaming of good practices and insights into policies, and hence sustainability and impact beyond the lifetime of funding. Partnerships that foster expertise, networking, sharing and applying science and technology research findings across different enterprises (e.g. start-ups, SMEs, larger corporations) should be promoted. Gender, socio-economic and geographical differences should be considered.

The Commission considers that proposals requesting a contribution from the EU of the order of € 1.50 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: It is expected that in the short term the development of partnerships between schools, local communities, Civil Society Organisations, universities and industry should contribute to a more scientifically interested and literate society and students with a better awareness of and interest in scientific careers. In the medium term the activities should provide citizens and future researchers with the tools and skills to make informed decisions and choices and in the long-term this action should contribute towards the ERA objectives of increasing the numbers of scientists and researchers in Europe.

Type of Action: Coordination and support action

The conditions related to this topic are provided at the end of this call and in the General Annexes.

[12] http://ec.europa.eu/commfrontoffice/publicopinion/archives/ebs/ebs_419_en.pdf.

SwafS-02-2018: Innovative methods for teaching ethics and research integrity

Specific Challenge: In order to maximise the quality and societal impact of research, integrity[13] should be an integral part throughout the research and innovation process and more generally within the scientific system, rather than being considered as an add-on and as a means of creating additional red tape. The new European code of conduct for research integrity [14] is unambiguous: "*It is of crucial importance that researchers master the knowledge, methodologies and ethical practices associated with their field*".

Traditional methods of teaching ethics and research integrity do not appear to be efficient in raising awareness on these issues. There is consequently a need to develop innovative educational methods, engaging all those who are directly (e.g. young and senior researchers) or indirectly (e.g. pupils at all levels of education, educators and students educated in technical laboratory support studies) involved in research. In particular, the needs of two groups should be addressed: that of adolescents, and that of university students and early career researchers.

Scope: On the basis of existing successful educational practices, the action will develop and test innovative educational student-centred methods (formal and informal) aiming to promote a culture of research integrity and raise awareness of students and early career researchers. The above mentioned code of conduct for research integrity will be the reference document to be used as the basis for the proposed methodology. Different curricula and educational tools and methods should be developed for two groups: the first group will be composed of secondary school students; the second will be composed of undergraduate and graduate students in relevant fields (including technical education students) as well as early career researchers.

The curricula should be interactive, aiming to engage students and early career researchers in a dialogue. Such curricula should be adapted to the age of the students and take into account the gender dimension. The curricula may include, for example, drama, role play, service learning, case studies, debates, position papers and presentations as well as e-learning methods. These curricula should allow for plurality of opinions and for nuances, rather than a set of predetermined "right or wrong" answers.

The work will also cover the design of training programmes for educators that will be responsible for implementing the curricula. The work should be based (amongst others) on (i) a mapping of other existing innovative teaching techniques and (ii) an analysis of the benefits and potential impact of the proposed methodology compared to existing educational practices. The action will take into account and build on the output of the research projects financed by

[13] Research integrity should be here understood in its wide meaning, in particular as the respect of principles and practices which ensure a responsible conduct or research. It therefore covers the necessity to adhere to the highest ethics standards, notably related to the duty of care, in designing, performing, publishing, reviewing and communicating research.

[14] http://data.consilium.europa.eu/doc/document/ST-14853-2015-INIT/en/pdf

this Science with and for Society programme that covers training and educational aspects of research integrity (e.g. PRINTEGER, ENERI[15], project funded via SwafS-27-2017).

Close cooperation with the European Network of Research Ethics and Research Integrity is required.

In line with the strategy for EU international cooperation in research and innovation (COM (2012)479), international cooperation is encouraged.

The Commission considers that proposals requesting a contribution from the EU of the order of EUR 2.50 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: The implementation of this action will improve current educational methods, raise awareness of students and early career researchers and contribute to the establishment of a research integrity culture. The innovative methods for teaching research integrity developed by this project will improve short and long-term educational and training results and will contribute to the responsible conduct of research and research excellence.

Type of Action: Coordination and support action

The conditions related to this topic are provided at the end of this call and in the General Annexes.

SwafS-03-2018: Developing research integrity standard operating procedures

Specific Challenge: Research integrity is key to achieving excellence in research and innovation in Europe. It is widely acknowledged that research misconduct undermines the quality of research and may potentially lead to social and financial costs.

Research performing organisations (RPOs), including Higher Education Institutions, as well as research funding organisations (RFOs) play an important role in shaping the culture of scientific research. In this regard, it is important that RPOs and RFOs develop efficient mechanisms to promote the quality of science. As indicated in the first Council conclusions on research integrity[16], they are expected to "*define and implement policies to promote research integrity and to prevent and address research misconduct*". The implementation of these policies requires the development of standard operating procedures (SOP) and guidelines related to research integrity and the prevention of research misconduct. The crucial role of RPOs and RFOs is further underlined by the new the European code of conduct for research integrity[17]. In order to achieve the broadest embedding of research integrity and the minimisation of research misconduct, appropriate structures must be in place.

15 PRINTEGER: https://printeger.eu/; ENERI: http://www.eurecnet.org/eneri/.
16 1 December 2015 – 14853/15 RECH 296.
17 http://data.consilium.europa.eu/doc/document/ST-14853-2015-INIT/en/pdf.

Scope: The action aims to promote the development of Research Integrity Promotion Plans, i.e. concrete and efficient research integrity support processes and structures as "drivers" for institutional change within RPOs and RFOs. To this end, SOP and operative guidelines for effective and efficient prevention, detection and handling (including any legal and financial aspects) of research misconduct (hereafter "processes") will be developed, addressing the needs and expectations of the research funders, the research community and other relevant stakeholders.

In order to inform the development of such guidelines, discipline-related focus groups including stakeholders from research integrity structures (research integrity offices, academies, industry ethics departments, university research offices, etc.) should take place. The issue of promoting research integrity and the relation with scientific and research culture in general should also be discussed and analysed.

The outcomes of the focus groups will form the basis of a large-scale survey of researchers on issues around research integrity to be carried out by the action. This survey should be performed on the basis of the relevant literature and, in order to avoid duplication, take into account previous survey results including those conducted by the SwafS projects PRINTEGER[18], ENERI[19], DEFORM[20] and EnTIRE. Similarly, the results of EU Member State national surveys should also be used appropriately. The survey, to be conducted in all EU Member States and some key OECD countries, should cover the main scientific disciplines (including social sciences and humanities) in order to reflect the different realities and perceptions of research integrity within these fields. Ultimately, the survey results will inform the development of the research integrity support processes and structures.

The processes must be in line with the above mentioned new European code on research integrity. Overall, the action must facilitate the coherent implementation of the principles and practices contained in this code throughout the European Research Area. The elaborated SOPs/guidelines should be tested as a pilot, in selected institutions, and the feedback on their efficiency and effectiveness should be integrated into the outcomes of the project.

When designing such processes, the work shall explore, among others, factors that could have a negative influence on the culture of scientific research as well as on the means of promoting the quality of science, identifying in particular best standard practices, good laboratory practices (GLPs), conditions for reproducibility of results and standardisation of materials, encouraging the publication of negative results. The processes and structures should be comprehensive and practical, designed to address specific needs and expectations of the research community and other relevant stakeholders in the different fields. The work should also include cost-benefit analysis and suggestions as to how the proposed SOP/guidelines should be embedded in the RPOs internal procedures (e.g. acknowledging differences in size, scope of activities, budget, location, etc.)

[18] https://printeger.eu/
[19] http://eneri.eu/
[20] https://www.deform-h2020.eu/

A key element in developing the SOPs is the need to address, in a constructive manner, the roots of research misconduct (e.g. the lack of standardisation and GLPs, negative consequences of the "publish or perish" model and side effects of assessing excellence via bibliometric tools) and not to solely rely on repressive systems. In this regard and in addition to the identification of the most effective sanctions (from a short and long-term perspective), innovative ways of stimulating responsible research practices should be proposed and validated (preparatory work should be included in the survey). This should also address those researchers who have been involved in some form of misconduct ("innovative sanctions").

The scientific community and other relevant stakeholders should be involved in the co-design of research integrity plans for RPOs and RFOs**.** The research integrity plans should include actions such as the introduction of research integrity in Higher Education Institutions' curricula, continuing education actions on research integrity, SOP for establishing research integrity committees and a commonly accepted framework of principles and procedures dealing with issues of research misconduct.

The proposal should demonstrate how the Research Integrity Promotion Plans will contribute to the promotion of research integrity, fostering a culture of open science and open innovation. The work will also propose methods for monitoring the implementation of such integrity plans in RPOs and RFOs.

The proposed actions will closely collaborate with and make use of the results form relevant EU funded research projects under the SWAFs programme (mainly PRINTEGER, ENERI, DEFORM and projects funded via SwafS-16-2016, SwafS-21-2017, SwafS-27-2017). The currently available results of these projects are accessible through the websites already listed (see previous footnote). Any IT communication infrastructure envisioned should use the existing EU communication tool SINAPSE[21]

The close cooperation with the European Network on Research Ethics and Research Integrity (ENERI) is of particular importance due to its current activities in this area. In order to improve the impact of the expected output, cooperation with organisations of research managers and administrators such as the European Association of research managers and Administrators (EARMA) is encouraged.

In line with the strategy for EU international cooperation in research and innovation (COM(2012)497), international cooperation is encouraged.

A project duration of at least 36 months is recommended.

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

[21] See http://europa.eu/sinapse. SINAPSE quick guide: https://europa.eu/sinapse/sinapse/index.cfm?fuseaction=cmty.downloadguide

Expected Impact: Overall, the action will actively contribute to the development in the EU of a strong research integrity culture and to a coherent adherence to the highest ethics and integrity standards. The resulting support processes and structures should ultimately lead to institutional changes within RPOs and RFOs that will fill in gaps in the existing system and promote responsible research and innovation while respecting the diverse circumstances that prevail in different scientific and research fields.

Type of Action: Coordination and support action

The conditions related to this topic are provided at the end of this call and in the General Annexes.

SwafS-04-2018: Encouraging the re-use of research data generated by publically funded research projects

Specific Challenge: All research builds on former work and depends on scientists' possibilities to access and share scientific information. In the context of Open Science and Responsible Research and Innovation the European Commission therefore strongly supports the optimal open access to and re-use of research data (considering e.g. robust opt-outs). As a concrete action the EC has extended the Open Research Data Pilot to cover all areas of Horizon 2020 (as of the 2017 Work Programme). This will result in more data becoming available for re-use. However, it is necessary to adopt further actions to reach the Commission's overall objective of findable, accessible, interoperable and re-usable (FAIR) data by 2020.

Scope: The action will identify one or several areas of research where FAIR data is not yet common practice and what the different barriers are (e.g. technical, legal, behavioural) as well as how to overcome them, covering both publicly funded entities and business actors. It will provide support to make data FAIR, in particular to address the quality of data (e.g. certification), its interoperability and its reproducibility.

The action will identify one or several areas of research funded in Horizon 2020 where sufficient and high-quality research data is available. The action will generate pathfinder case studies for innovative sharing and re-use of research data by publicly funded entities as well as business actors, which demonstrate how data sharing and data re-use can generate a ground breaking innovative product, service, or treatment. Furthermore, the action will financially support the generation of a prototype of such a product, device, service, or treatment. If relevant, the action will support trans/cross-disciplinary research data re-use in this endeavour. For the pathfinder case studies preference should be given to research data generated with EU funding, in particular in Horizon 2020 and, as far as available, previous framework programmes[22].

To address this specific challenge, proposals may benefit from a broad coverage. It is therefore suggested that consortia could include at least entities from 10 different Member

[22] The Horizon 2020 open research data mandate (extended Open Research data Pilot) covers primarily research data underlying a publication. However, projects can go beyond this and also make datasets which are not linked publications openly available.

States or Associated Countries, although smaller consortia will also be eligible and may be selected.

The Commission considers that proposals requesting a contribution from the EU of the order of EUR 3.00 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: The action will increase the visibility of the Commission's open FAIR data policy (extended Open Research Data Policy) and the research data which has become available as a result through a) dedicated communication activities, and b) networking of relevant actors with a cross-and inter-disciplinary perspective, including industry.

The re-use of research data generated with public funding is expected to have a beneficial impact for science, the economy and society. The wider accessibility of results is expected to increase the reproducibility of research. Additionally, re-use of research data can cross-fertilise interdisciplinary research, which is essential for addressing the grand challenges of our time. It can also boost citizen science. Furthermore, enabling the re-use of research data is expected to create added value for innovative companies (including SMEs and start-ups) which form the bed rock of the digital single market.

The Key Performance Indicators are the following:

1. Increase in FAIR data in those domains identified by the beneficiaries for action
2. Contribution of the pathfinder case studies to innovative data sharing and re-use

Type of Action: Research and Innovation action

The conditions related to this topic are provided at the end of this call and in the General Annexes.

SwafS-05-2018-2019: Grounding RRI practices in research and innovation funding and performing organisations

Specific Challenge: Institutional changes are required to respond to the increased interactions between R&I stakeholders in society. Through institutional changes, research funding and performing organisations become more "porous" and accept inputs from citizens and organisations that used to be considered outsiders to the world of R&I. Examples include citizen science, extended peer review in funding agencies, co-creation of public policies, agenda setting in research and innovation programmes, co-production of research and innovation content, and co-evaluation of proposals, activities or other R&I funding decisions.

Good practices are widespread in Europe in terms of:

1. Citizens' and citizens' associations engagement in science;

2. Formal and informal science education;

3. Gender equality in science;

4. Research ethics and integrity;

5. Open access to research results.

The good practices in these five fields are much more easily, efficiently and sustainably implemented when the organisations funding, performing or associated to R&I have adapted significantly their governance frameworks to open up through a process of institutional change.

Scope: Consortia are expected to implement institutional changes in at least one but preferably all five fields listed above as part of an integrated approach. All scientific disciplines are covered. Consortia members should aim to ensure that the institutional changes are sustainable beyond the lifetime of the project funding.

The action is addressed at organisations funding or performing activities in the field of R&I as one of their significant objectives or activities. All parts of the "quadruple helix" model, which sees close co-operation between industry, government, universities and society (e.g. citizens and Civil Society Organisations) in R&I, are addressed – and it is encouraged that consortia ensure truly engaged roles for all organisation types. Consortia should be composed of organisations that already have some experience of processes of institutional change and beginners, so as to encourage mutual learning. In addition, priority should be given to the development of new partnerships.

The Commission considers that proposals requesting a contribution from the EU in the order of €1.50 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: Results should contribute to a greater involvement of all stakeholders in R&I, and a better and more sustainable engagement with citizens and society as a whole. Consortia are expected to contribute to one or more of the MoRRI indicators, in particular GOV2 & GOV3[23], and to the Sustainable Development Goals (for instance goals 4, 5, 9, 12, 16 or 17)[24]. Consortia are expected to evaluate their activities and provide evidence of societal, democratic, economic and scientific impacts of institutional changes. The expected number of institutional changes, including their quality and sustainability in partner organisations, will be taken into account in evaluation. As such, it is expected that the topic will support a significant number of impactful and sustainable institutional changes in partner organisations.

Type of Action: Coordination and support action

[23] Link: http://www.technopolis-group.com/wp-content/uploads/2016/12/2171_D3.2.pdf (Table 3.2)
[24] http://www.un.org/sustainabledevelopment/sustainable-development-goals/.

The conditions related to this topic are provided at the end of this call and in the General Annexes.

SwafS-06-2018: Science4Refugees

Specific Challenge: The Science4Refugees initiative is directed towards researchers/scientists with refugee background, which will enable them to continue their educational path or enter the European research labour market. Under the header "Science4Refugees", as part of the EURAXESS initiative, the integration into the European researchers' community as part of the labour force shall be enhanced.

Information available on education level of recently arrived refugees and asylum seekers points to a rather wide distribution across education level. To integrate them into Europe's research system, specific measures are requested in terms of integrating the highly skilled refugees into the labour market and to better understand the different cultural backgrounds.

The objective of the call is raising the awareness of refugee researchers of jobs and career development opportunities in Europe. Activities can directly address support for the job seeker but should also address the relevant skills assessment and training of the refugee researcher to increase his/her chances on a competitive European labour market. They can also comprise activities like open lectures, academic networking initiatives and training on how to reach the appropriate qualifications for the higher education system in the new country.

Scope: This action is addressed to legal entities such as universities, NGOs, the EURAXESS Service Centres to bring involuntary immigrants with a refugee background into the European research labour market in the new host country.

Collaboration or coupling with national labour market initiatives are welcome, however the involvement of an accredited EURAXESS Centre would be beneficial for their experience in welcoming international researchers. These initiatives will give refugees researchers/scientists the opportunity to develop their knowledge and careers by improving their skills and employability.

The funded initiatives shall contribute to the overall scope of the EURAXESS initiative so that projects can be taken up and enlarged to a European level, e.g. webinars on entrepreneurship, research field specific training or any other training need will be uploaded in the relevant section of the EURAXESS portal.

The Commission considers that proposals requesting a contribution from the EU in the order of EUR 0.25 million would allow this specific challenge to be addressed appropriately. Nevertheless, this does not preclude submission and selection of proposals requesting other amounts.

Expected Impact: Provide support for the career development of refugee researchers, both women and men, to support their integration into their new employment settings and culture, and to prepare female and male refugees for the highly competitive and highly skilled job

market. In the medium term, the action aims at supporting research jobs and growth; it will increase the number of highly skilled workers who are sufficiently prepared to access the European labour market by using their newly gained skills and experience through the supported actions.

Type of Action: Coordination and support action

The conditions related to this topic are provided at the end of this call and in the General Annexes.

SwafS-07-2019: EURAXESS TOP V

Specific Challenge: EURAXESS aims at helping researchers and entrepreneurs to advance their career in Europe and thus make research and innovation more attractive, both for researchers in Europe who are facing career decisions and for those who are currently outside Europe and might consider relocating to Europe to develop their careers. From mainly mobility support, the EURAXESS network shall become the reference tool also for career development of researchers in public or private institutions.

Scope: The objective of the action is to further intensify the services provided by the EURAXESS Service Centres by expanding their mandate of taking care of the early career development of researchers and entrepreneurs in Europe with particular focus on female Higher Education Institution students and researchers. The services of the EURAXESS network will reach out to mobile and non-mobile researchers and entrepreneurs with the aim of contributing to European policy developments in this area on opening new career trajectories in industry, thus including start-ups. This action will support activities of the EURAXESS Service Network represented by Bridgehead Organisations to address strategic issues related to support services of the network. The further diversification of career development and/or support for dual careers centres will be expanded over a wider geographical range of the network, support to researchers and young entrepreneurs for start-ups in SMEs and industry and concepts for better integration of researchers into the culture of the host country and to the culture of a business environment, as well as mentoring programmes for researchers.

Other services for researchers will be proposed: for instance, national EURAXESS websites will provide information on start-up schemes and skills for researchers in the respective country and relate to policy information as provided on the European EURAXESS portal about EU research policies for researchers and EU schemes developing more career opportunities. This includes issues related to a Global and a European Research Area and Responsible Research and Innovation. Activities such as the deepening of existing services through trainings, seminars, networking and updating of national EURAXESS portals will also be part of this action.

The Commission considers that proposals requesting a contribution from the EU of the order of EUR 3.00 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: Better take up of career development guidance and the collaboration with start-ups and SME will open new career options for researchers and accelerate knowledge transfer to industry and fast take up of research results.

Increased job and funding opportunities on the EURAXESS Jobs portal and personalised assistance to researchers will accelerate the career development of young researchers, in particular female researchers. In the medium term, the action will produce efficiency gains and reduce transaction costs by creating a better match of existing talent and R&I needs and capacity in European research institutions and businesses. It will contribute directly to the Horizon 2020 objective of cross-national and international circulation of researchers; it will increase the number of researchers who have access to research infrastructures through Union support and the number of excellent researchers overall. It will contribute to meeting ERA objectives on gender equality. Over time, the action will contribute directly towards European targets on R&DI intensity and percentage of researchers in the active population, and to boost European research and innovation competitiveness.

By increasing the service level of the whole EURAXESS Services Network, the benefit for the research community will be long-lasting and far-reaching.

Type of Action: Coordination and support action

The conditions related to this topic are provided at the end of this call and in the General Annexes.

SwafS-08-2019-2020: Research innovation needs & skills training in PhD programmes

Specific Challenge: Within the New Skills Agenda (adopted in June 2016)[25] and in the Modernisation Agenda (adopted in May 2017)[26] specifications on innovative employment-oriented curricula recommendations are described. The Open Science Agenda incorporates activities which makes it crucial for Higher Education Institutions including for European Universities to integrate new or existing Open Science and entrepreneurship skills courses into PhD programmes and to train data stewards for example. Especially the formal integration of skills courses developed with and by non-academic actors and provided in non-academic surroundings into curricula, will be a specific challenge.

Scope: A broad package of Open Science and entrepreneurship skills-related training, integration and intelligence for researchers and scientists in all career stages should to be developed. In 2020, the focus should be on open science and open innovation practices and the training should be integrated into existing PhD programmes.

Projects need to be organised by (or in cooperation with) experienced projects, which already developed and implemented joint PhD curricula, for example under Erasmus+ or ITN. . In all

[25] http://ec.europa.eu/social/main.jsp?catId=1223
[26] https://ec.europa.eu/education/sites/education/files/he-com-2017-247_en.pdf

cases, partners should be able to demonstrate proof of concept and initial impact of the PhD training and reasoning for improving and formally integrating skills training. Initial postgraduate tracking exercises have to be integrated in the proposal, to demonstrate ability to trace postgraduates during employment (including sex-disaggregated data). Counselling initiatives of PhD candidates and PhD graduates into focussed careers in and outside academia should be provided.

In 2019, the Commission considers that proposals requesting a contribution from the EU between EUR 0.75 million and 1.00 million would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts.

In 2020, the Commission considers that proposals requesting a contribution from the EU between EUR 0.20 million and 0.30 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: Impact is expected on post-graduate candidates and early stage researchers' careers, in closing the Open Science and entrepreneurship skills gap between research employment in academia and beyond academia. Expected impact also on the improvement of the innovation potential of future PhD candidates, by joint design of skills training courses and curricula of consortium partners into modernised PhD programmes. Expected impact on the joint collaboration between academia and stakeholders in the regions (hubs) by improving skills intelligence, skills visibility and comparability for better career choices; learning about future Open Science and entrepreneurship skills needs and employment potential of scientists in various (interdisciplinary/intersectoral) fields. Expected impact on the interdisciplinary and international mobility of researchers working under Open Science and entrepreneurship practices, also in line with the Innovative Doctoral Training Principles (IDTP).[27]

Type of Action: Coordination and support action

The conditions related to this topic are provided at the end of this call and in the General Annexes.

SwafS-23-2020: Grounding RRI in society with a focus on citizen science[28]

Specific Challenge: Institutional changes are required to respond to the increased interactions between R&I stakeholders in society. Through institutional changes, research funding and performing organisations become more "porous" and accept inputs from citizens and organisations that used to be considered outsiders to the world of R&I. Examples include citizen science, extended peer review in funding agencies, co-creation of public policies, agenda setting in research and innovation programmes, co-production of research and innovation content, co-design of R&I programmes, and co-evaluation of proposals, activities or other R&I funding decisions.

[27] https://euraxess.ec.europa.eu/belgium/jobs-funding/doctoral-training-principles

[28] This activity is the continuation of SwafS.05.2018.2019 in 2020.

Good practices are widespread in Europe in terms of citizens' and citizens' associations engagement in science; formal, informal and non-formal science education"; gender equality in science; Research ethics and integrity; Open access to research results including data.

The good practices in these five fields are much more easily, efficiently and sustainably implemented when the organisations funding, performing or associated to R&I have adapted significantly their governance frameworks to open up through a process of institutional change.

Scope:

Consortia are expected to implement institutional changes to promote citizens' and their associations' engagement in science, and possibly through an integrated approach covering some or all five fields. All scientific disciplines are covered. Consortia members should aim to ensure that the institutional changes are sustainable beyond the lifetime of the project funding. Consortia are expected to evaluate their activities and provide evidence of societal, democratic, economic and scientific impacts of institutional changes.

The action is addressed at organisations funding or performing activities in the field of R&I as one of their significant objectives or activities. All parts of the "quadruple helix" model, which sees close co-operation between industry, government, research (e.g. universities of applied sciences) and society (e.g. citizens and Civil Society Organisations) in R&I, are addressed – and it is encouraged that consortia ensure truly engaged roles for all organisation types. Consortia should be composed of organisations that already have some experience of processes of institutional change and beginners (i.e. organisations that have not worked before on implementing institutional changes for SWAFS), so as to encourage mutual learning. Moreover, proposals will be favoured that involve partners that have not worked together in SwafS before, so as to increase the reach and potential impact of the programme's funding. Consortia should aim for broad geographical coverage (e.g. using the MoRRI study to involve partners from across different country clusters)[29].

The Commission considers that proposals requesting a contribution from the EU in the order of €1.50 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:

Results should contribute to a greater involvement of all stakeholders in R&I, a better and more sustainable engagement with citizens and society as a whole, and a more scientifically interested and literate society. Consortia are expected to contribute to one or more of the MoRRI indicators, in particular PE5, PE7, PE8, GOV2 & GOV3[30], and to the Sustainable Development Goals (for instance goals 4, 5, 9, 12, 16 or 17)[31] . The expected number of

[29] https://publications.europa.eu/s/jPcI. DOI: 10.2777/207020.
[30] https://publications.europa.eu/s/jPcI. DOI: 10.2777/207020.
[31] http://www.un.org/sustainabledevelopment/sustainable-development-goals/.

institutional changes, including their quality and sustainability, will be taken into account in evaluation. As such, it is expected that the topic will support a significant number of impactful and sustainable institutional changes in partner organisations.

Type of Action: Coordination and support action

The conditions related to this topic are provided at the end of this call and in the General Annexes.

SwafS-24-2020: Science education outside the classroom

Specific Challenge: Much analysis has been carried out on the importance of science education both in schools and in higher education. However, science education outside the classroom, which refers to informal science education, and the science education effects of non-educational activities, are not well explored in terms of their nature and effects. Acquiring knowledge, and in particular, evaluating knowledge, often with the help of the Internet, is happening in reality frequently, and should be recognised for what it contributes in terms of more sophisticated consumers and scientific citizenship. Consideration of what is available and what is being learnt would be useful to understand how science education outside the classroom influences today's citizens.

Scope: The available knowledge on science education outside the classroom and its impact on citizens (including students of all ages from school children to college students) need to be analysed, taking into account possible gender and geographical differences. The proposed action shall specify if this type of learning complements the classroom or succeeds where classrooms might have failed. Consideration should be given to the impact that can be achieved in science education outside schools and how this form of informal schooling might be accredited and whether there is a way of assessing the quality of the educational contents.

The Commission considers that proposals requesting a contribution between EUR 1.30 million and EUR 1.70 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: In the short term, the proposed action should identify good practices outside the classroom. It should consider what impact this information might have on formal and informal science education for students and citizens. In the medium term, the results of the present action will help the EU to better understand the effects of science education outside the regular education institutions and will increase the range of innovative products in science education that reflect societal needs. In the long term the results of the research should contribute to considerations on accrediting the available information.

Type of Action: Research and Innovation action

The conditions related to this topic are provided at the end of this call and in the General Annexes.

Strategic orientation 2. Stepping up support to Gender Equality in Research & Innovation policy

Gender Equality Plans are the main policy instruments promoted through the European Research Area to advance gender equality in research organisations and universities. Based on progress so far, actions will be adapted to catalyse the changes in response to the three objectives: gender equality in scientific careers, gender balance in decision making, and the integration of the gender dimension in research content. Additionally, considering the evolution of the research systems in Europe, gender aspects of scientific careers and decision-making processes will be investigated to gather updated evidence for future policy action. Finally, a major and recent challenge is to better integrate the gender dimension in research and innovation programmes and projects. Following the uptake of the gender dimension in Horizon 2020 and in some national research agencies, it is time to take stock of what has been done so far, and design the next steps in terms of process and knowledge. This will enhance the societal relevance of the produced knowledge, technologies and innovations and contribute to the production of goods and services better suited to potential markets.

Proposals are invited against the following topic(s):

SwafS-09-2018-2019-2020: Supporting research organisations to implement gender equality plans

Specific Challenge: Gender equality is a key priority set with the Member States and Associated countries in the European Research Area. Research funding and performing organisations, including universities, are invited to implement institutional change through Gender Equality Plans (GEPs). The Council conclusions of 1 December 2015[1] acknowledged the contribution of gender equality to the quality of research and innovation. It reaffirmed the need for sustainable cultural and institutional change along the three following objectives:

1. Removing barriers to the recruitment, retention and career progression of women researchers;
2. Addressing gender imbalances in decision making processes;
3. Integrating the gender dimension in research and innovation content[2].

The GEAR tool developed by the European Commission and EIGE[3] regrouped the state of the art knowledge and practices on institutional change and provided a step-by-step guide on how to set up and implement GEPs.

Scope: The action should focus on implementing Gender Equality Plans (GEPs) in research funding organisations and research performing organisations including universities, as "drivers" for systemic institutional changes. The GEPs should be developed using a coherent approach, referring to the GEAR tool step-by-step guide. The proposed GEPs structure will include at least the following:

- Conduct assessment / audit of procedures and practices with relevant data to identify gender bias at organisation level;
- Implement effective actions to be developed over time, according to the identified bias;
- Set targets and monitor progress via indicators at organisation level.

The proposals will explain the planned GEPs in the context of existing national provisions and national action plans and strategies (legislation, specific incentives, etc.) relating to gender equality in research and innovation. In 2020 they will also indicate to which extent they strengthen and/or complement national frameworks. The proposal should also explain previous steps taken by the organisation regarding gender equality.

The proposal will provide proof of long term commitment in the implementation of GEPs from their highest management level. The role of middle management and relevant departments of the partner organisations in the implementation of the GEPs should be described.

The proposals will include a methodology for impartially evaluating the progress made on the impact the gender equality plans had on structural change throughout the duration of the project. A specific work package(s) and deliverable(s) should be introduced in the proposal for this purpose.

Special emphasis will be placed on the sustainability of the GEPs to be implemented and on project follow-up initiatives.

In 2020 a further focus will be on impact at national level. It is therefore recommended the participation of national authorities as part of the projects' advisory structures.

The allocation of resources within the consortium will focus on the implementation of GEPs in the partner organisations. These partner organisations must be at a starting/initial stage in the setting-up and implementation of gender equality plans. Proposals should allocate the majority of funding to setting-up and implementing GEPS. The proposal will explain the role of partners not implementing GEPs and their specific contribution in line with the text and requirements of the topic.

Participation of professional associations in the consortium is recommended.

In 2020 other actors such as scientific publishers should also be considered, Furthermore special attention should be given to GEP-implementing organisations from countries for which the implementation of ERA Priority 4 (gender equality and gender mainstreaming in research) has shown slower progress as shown in the ERA Progress Report 2018.

The Commission considers that proposals requesting a contribution from the EU between EUR 2.50 million and 3.00 million and a duration of 48 months would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts or duration.

Expected Impact: The proposed action will contribute to increasing the number of research organisations and higher education establishments implementing gender equality plans. The individual implemented GEPs should be shared on the GEAR tool[4].

The expected impacts are:

- Increase in the participation of women in research and innovation and improvement of their careers prospects;
- Improvement of gender balance in decision-making bodies in research organisations;
- Inclusion, where relevant, of the gender dimension in research content and increase in the quality and societal relevance of produced knowledge, technologies and innovations.

In the medium to long term, the implementation of Gender Equality Plans will contribute to the achievement of the ERA.

Type of Action: Coordination and support action

The conditions related to this topic are provided at the end of this call and in the General Annexes.

SwafS-10-2018: Analysing gender gaps and biases in the allocation of grants

Specific Challenge: In many countries in Europe and at European level the major part of the research budget is allocated in the form of grants. The allocation of grants and access to funding is consequently an essential component of scientific performance and career progression. She Figures 2015 shows that although the gender gaps in the funding success rates is decreasing at the EU level, men still have a higher success rate than women[32]. Research is needed to better understand the remaining institutional barriers which contribute to maintaining the gender gaps in research funding, as well as the policy changes required to remove such barriers.

Scope: From selected key research and/or innovation fields, the research will situate the role of grants in researchers' careers, identify, map, and analyse the possible differences between women and men researchers at various steps of grant allocation by research funding organisations and their potential consequences on their careers. Factors that create gender biases in the grant awarding processes of research funding organisations will be investigated. The research will give particular attention to the nature and mode of action of hindering and driving factors and investigate their relative weight in the grant awarding processes of research funding organisations. It will suggest how to overcome the hindering factors and arrive at a better level playing field for women and men researchers by adapting the grant systems (institutional change approach). The research will formulate recommendations targeting research funding policy and involve different stakeholders in this process.

A project duration of at least 48 months is recommended.

[32] https://ec.europa.eu/research/swafs/pdf/pub_gender_equality/she_figures_2015-final.pdf

The Commission considers that proposals requesting a contribution from the EU of the order of EUR 2.00 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: Contribute to more gender equal research grant systems in the EU and to advancing gender equality in research and innovation as requested in the European Research Area.[33] Help EU research and innovation benefit better from male and female scientists' talents and improve the quality of research and innovation and their relevance to society.

Type of Action: Research and Innovation action

The conditions related to this topic are provided at the end of this call and in the General Annexes.

SwafS-11-2019: Scenarios for an award/certification system for gender equality in research organisations and universities in Europe

Specific Challenge: Through the implementation of Gender Equality Plans (GEPs) in the last years in research organisations and universities a substantial knowledge base and a wide set of practices were established which is accessible in particular in the Gender Equality in Academia and Research - GEAR tool[34].

Gender Equality Plans are now common in some Member States and Associated Countries, but in others they are in their infancy. The implementation of the Plans as a key instrument for gender equality in the European Research Area and the institutional change they entail in research organisations and universities need to be further promoted and evaluated.

A promising option which is implemented in some countries, could be gender equality award schemes for R&I organisations. Some awarding schemes are also used as drivers for competition in attracting students and researchers and/ or as prerequisite to access funding.

Scope: The action will consist of a feasibility study of a European award/certification system for gender equality in research organisations, including universities. Several options should be investigated.

Based on the experiences of existing schemes and outcomes of previous research and initiatives (e.g. Horizon 2020 projects such as GEDII, and EFFORTI, FP7 ERA-Net Gender-NET[35]) , the action will:

- Conduct an in-depth qualitative and quantitative assessment of existing national award/certification schemes for gender equality in research organisations and universities. Particular attention will be given to the national context in terms of legislation, policy and

[33] http://ec.europa.eu/research/era/era_communication_en.htm
[34] http://eige.europa.eu/gender-mainstreaming/tools-methods/GEAR
[35] https://ec.europa.eu/research/swafs/index.cfm?pg=policy&lib=gender

research funding environment to understand the intended and non-intended impacts of each evaluated award scheme.

- Provide a clear framework for at least 3 different options of a European award/certification scheme encompassing the three objectives for gender equality in the ERA, i.e. gender equality scientific careers, gender balance in decision-making positions and in the integration of the gender dimension in R&I content. The options should take into account the possible synergies and linkages with the current Human Resources Strategy for Researchers (HRS4R).

A project duration of maximum 24 months is recommended.

The Commission considers that proposals requesting a contribution from the EU of the order of EUR 1.50 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: Strengthen the incentives for research organisations and universities to set up Gender Equality Plans. Make progress on gender equality along the three objectives set in the European Research Area, i.e. in scientific careers, in decision-making and in the integration of the gender dimension in R&I content.

Type of Action: Research and Innovation action

The conditions related to this topic are provided at the end of this call and in the General Annexes.

SwafS-12-2019: The gender perspective of science, technology and innovation (STI) in dialogue with third countries

Specific Challenge: In its Conclusions of 1 December 2015 on advancing gender equality in the European Research Area, the Council invited the Commission and the Member States to consider including, among others, a gender perspective in dialogues with third countries in the area of science, technology and innovation (STI).

The EU Member States and many countries outside the European Union are facing similar challenges in terms of gender equality in STI: gender-related biases are leading to horizontal (disparities among different scientific disciplines) and vertical (low levels of women representation on top positions) segregation. The perception of and support for gender equality varies significantly across cultures. Cultural and institutional barriers turn women away from STI and affect their careers. Also the take up of the gender dimension in research and innovation content[36] is still limited. The EU has developed a strategy for gender equality along three objectives relating to equality in careers, gender balance in decision-making and the integration of the gender dimension in R&I content.

[36] Taking into account the biological characteristics and cultural / social features of women and men in doing research, innovating and developing technologies

The Commission has pledged reinforced cooperation with third countries under one of the three goals set by the current Commissioner, i.e. *Open to the World*. There is increasing interest from third countries to cooperate with the EU in the field of STI and encourage the mobility of researchers. It is therefore important to develop common solutions for common challenges regarding gender inequalities in STI.

Scope: The project will investigate how gender equality matters are taken into consideration at different levels of international cooperation in the area of science, technology and innovation between the EU and a selected set of third countries, along three objectives, i.e. equality in scientific careers, gender balance in decision making, and the integration of the gender dimension in R&I content. The project will build on the work done by the ERA-related groups in charge of gender equality and international cooperation as well as EU funded projects. It will provide a mapping and a subsequent analysis of how gender equality is taken into account and promoted:

1. in the formal bilateral and multilateral agreements in the STI area between the EU Member States and Associated Countries on one side and the selected third countries on the other side;

2. in the bilateral and multilateral STI implementation activities, including access to grants and the evaluation process;

3. in the dissemination and promotion of the results of international dialogues and cooperation.

The project will also formulate recommendations to enhance the integration of gender equality objectives at the various stages mentioned above.

In line with the strategy for EU international cooperation in research and innovation (COM(2012)497), international cooperation is encouraged.

The Commission considers that proposals requesting a contribution from the EU of the order of 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: Improve awareness and implementation of gender equality objectives in the bilateral and multilateral activities between EU Member States and third countries in the area of STI. Contribute to removing potential barriers to the equal treatment of women and men scientists and to integrate the gender dimension in R&I content in international dialogues and cooperation.

Type of Action: Research and Innovation action

The conditions related to this topic are provided at the end of this call and in the General Annexes.

SwafS-13-2018: Gender Equality Academy and dissemination of gender knowledge across Europe

Specific Challenge: Gender equality is not only a matter of social justice but also of research performance. Indeed, including a sex and gender analysis enhances the research quality and the societal relevance of the produced knowledge, technologies and innovations. It is therefore recommended that researchers across Europe and beyond acquire adequate knowledge on gender equality and the gender dimension[37], in general and in their specific fields of research. Universities with gender studies departments are still a minority, and those including gender issues in the curricula of other disciplines are even fewer,[38] limiting the sharing of existing knowledge. The Horizon 2020 interim evaluation recommends further sharing and disseminating knowledge on gender in R&I.

Scope: In an initial phase, this project will design training material for trainers, practitioners and researchers on a variety of issues relevant for gender equality in research and innovation (gender balance, gender dimension, gender bias, etc.). The project should clarify the minimum quality standard of the training material. It should draw knowledge from the GEAR Tool and the Gendered Innovations report, as well as on new knowledge, developed in Horizon 2020, across and beyond Europe.

In a second phase, the project will carry out a series of trainings, such as Moocs[39], workshops, summer schools, modules, webinars accessible in all the Member States and Associated countries. The project shall target trainers and researchers, in particular in the early stage of their careers with tailored-made activities. The activities shall be designed in a way that they attract men as well as women. A pan-European network of trainers will be established, with the aim of enhancing the sharing of knowledge and practices.

To address this specific challenge, proposals may benefit from a broad coverage. It is therefore suggested that consortia could include at least entities from 10 different Member States or Associated Countries.

The Commission considers that proposals requesting a contribution from the EU of the order of EUR 2.00 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: A better understanding of gender issues within the R&I community. A better uptake of gender issues in R&I and consequently an improvement of the quality of the

[37] i.e. taking into account the biological characteristics and the social /cultural features of women and men

[38] Gender Equality Policies in Public research- 2013 – p.36- http://bookshop.europa.eu/en/gender-equality-policies-in-public-research-pbKINA26565/

[39] Massive Open Online Courses

produced research and innovation. A pan-European trainers' network to better share gender knowledge and practices.

Type of Action: Coordination and support action

The conditions related to this topic are provided at the end of this call and in the General Annexes.

SwafS-25-2020: Gender-based violence including sexual harassment in research organisations and universities

Specific Challenge: Gender-based violence (GBV) [40] is happening across the European Union (EU) and is a human rights violation. It is both a cause and a consequence of inequalities between women and men. There exist numerous reports of women and men within European universities and research institutions, who have experienced sexual harassment and who report its detrimental effects on their personal wellbeing as well as their scientific career. GBV including sexual harassment in European universities and research organisations tends to be underestimated and there is little knowledge about it. Several studies have shown that women in precarious working conditions (e.g. PhD students) or exchange students seem to be particularly at risk to experience GBV or sexual harassment.

Scope: Building on existing studies and knowledge generated in previous research initiatives, at national or European level, such as EU-funded Horizon 2020 Gender Equality Plan projects, the Gender Equality in Academia and Research (GEAR) tool[41], as well as projects[42] funded through the DAPHNE strand of the Rights, Equality and Citizenship Programme[43], this research and innovation action will:

- Investigate the various forms of GBV including sexual harassment in European higher education systems and research organisations, for both staff and students, including the particular situation of those with short-term affiliations to the organisation (e.g. visiting academic staff, exchange students) as well as potential additional social determinants, (e.g. ethnicity, sexual orientation). It will build on previous research and, where needed, collect quantitative and qualitative data from at least 15 Member States and Associated

[40] For the purpose of this call, GBV is defined as violence directed against a person because of that person's gender or as violence that affects persons of a particular gender disproportionately. Sexual harassment is defined as "any form of unwanted verbal, non-verbal or physical conduct of a sexual nature with the purpose or effect of violating the dignity of a person, in particular when creating an intimidating, hostile, degrading, humiliating or offensive environment" (Article 40 of Council of Europe Convention on preventing and combating violence against women and domestic violence).

[41] http://eige.europa.eu/gender-mainstreaming/toolkits/gear/action-toolbox See for example: http://usvreact.eu/ and http://www.itstopsnow.org/http://ec.europa.eu/justice/grants1/programmes-2014-2020/rec/index_en.htm

[42] http://eige.europa.eu/gender-mainstreaming/toolkits/gear/action-toolbox See for example: http://usvreact.eu/ and http://www.itstopsnow.org/http://ec.europa.eu/justice/grants1/programmes-2014-2020/rec/index_en.htm

[43] http://eige.europa.eu/gender-mainstreaming/toolkits/gear/action-toolbox See for example: http://usvreact.eu/ and http://www.itstopsnow.org/http://ec.europa.eu/justice/grants1/programmes-2014-2020/rec/index_en.htm

Countries, taking various geographical locations into account. National legal and policy frameworks should be also taken into account.

- Identify the role of universities and research organisations, including research funding organisations as well as the role of support networks in A) preventing various forms of GBV (e.g. changing social attitudes and behaviour in order to end tolerance of all forms of violence; awareness raising through e.g. forum theatre); B) protecting victims (e.g. psychological, medical and legal support; anti- retaliation policies; training staff, including bystanders, to respond to early signs of GBV; securing campuses and workplaces and C) prosecuting the perpetrators (e.g. procedures to document GBV incidents; consequences for perpetrators at organisation-level; reporting to the police)

- Develop evidence-based case studies of implemented measures at organisation-level for each of the above- mentioned aspects (prevention, protection and prosecution) and outline what works and what does not work in various contexts

- Formulate concrete recommendations for universities and research organisations, including research funding organisations, on how to combat GBV in its various forms; and develop prevention plans, hands-on tool-kits, training material and dissemination material (like videos, infographics, brochures, etc.) that can be implemented and used by universities and research organisations through their Gender Equality Plans or as stand-alone measures.

- Disseminate its outcomes and materials (case studies, recommendations, toolkits, awareness-raising material etc.) to European research organisations and universities on GBV including sexual harassment and carry out information sessions and trainings for decision-makers, staff and students. Produced material will be made available at the "Gender Equality in Academia and Research" (GEAR) tool's website[44].

The Commission considers that proposals requesting a contribution from the EU between EUR 2.80 million and EUR 3.20 million and duration of 36 months would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts or duration.

Expected Impact: Better understanding of GBV in European universities and research organisations. Effective policies and measures implemented at universities and research organisations. Increased capacity of staff and students to address GBV. Reduction of GBV in academic environments and research workplaces in Europe.

Type of Action: Research and Innovation action

[44] http://eige.europa.eu/gender-mainstreaming/toolkits/gear

The conditions related to this topic are provided at the end of this call and in the General Annexes.

SwafS-26-2020: Innovators of the future: bridging the gender gap

Specific Challenge: Female creativity and innovation potential are an under-exploited source of economic growth and creation of jobs. While women constitute 52% of the total European population, and 59% of first level university graduates[45], they only represent 40% of employed scientists and engineers[46], and 30% of start-up entrepreneurs. Women hold less than 10% of patent applications.

Innovation plays a key role in addressing and solving societal challenges. It is time to break gender stereotypes, in particular in innovation and entrepreneurship, and to create a smart, sustainable and inclusive innovation ecosystem that encourages young girls to become women innovators and that provides them with the support they need to be successful.

Scope: The topic will support initiatives such as hands on activities, seminars, mentoring sessions, gender-inclusive innovative tools, etc. to develop entrepreneurial competences and inspire the next generation of innovators. These will be implemented with the support of role models (e.g. former winners of the EU Prize for Women Innovators).

The activities will involve inter alia grass roots organisations, schools, foundations, science and technology museums, incubators, start-ups, innovative industries, etc. Activities will build on the work carried out by other European initiatives or funded projects, such as Scientix, Hypatia [47] and EUCYS (European Union Contest for Young Scientists). Activities should create sustainable collaborative networks and cover at least 16 Member States and/or Associated Countries.

The Commission considers that proposals requesting a contribution from the EU in the order of EUR 1.50 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: In the short term, the action will raise awareness of the gender gap in innovation. It will encourage sustainable collaboration among schools, science and technology museums, foundations, start-ups, etc, while involving young people in the innovation ecosystem. In the long term, it will contribute to increasing the number of female innovators in Europe. It will also contribute to wider European Union objectives by better matching skills to jobs.

Type of Action: Coordination and support action

The conditions related to this topic are provided at the end of this call and in the General Annexes.

[45] Eurostat data, EU 28, 2013 Eurostat data, EU 28, 2017
[46] Eurostat data, EU 28, 2013 Eurostat data, EU 28, 2017
[47] https://cordis.europa.eu/project/rcn/198205/factsheet/en

Strategic orientation 3. Building the territorial dimension of SwafS partnerships

SwafS will encourage partnerships between universities, formal and informal education institutions (including primary and secondary schools), science museums and centres, governments and public authorities (including regional and local administrations), businesses (including industry and the service sector) and CSOs operating at local, national and European levels. Connecting these different levels with a view to sharing scientific knowledge and supporting user-led innovation will require new working methods and governance relations. New ways of opening up R&I broadly to society according to specific contexts will be developed, thus ensuring the involvement of communities in different territorial contexts (e.g. rural vs. urban areas), promotion of gender equality, and consideration and involvement of all people, irrespective of their age, gender, ethnicity and socio-economic background. Territories are understood as geographical areas sharing common features (e.g. economic, social, cultural, environmental).

Proposals are invited against the following topic(s):

SwafS-14-2018-2019-2020: Supporting the development of territorial Responsible Research and Innovation

Specific Challenge: The Responsible Research and Innovation (RRI) approach supported by the European Commission since 2011 aims to encourage societal actors to work together during the whole research and innovation (R&I) process to better align R&I and its outcomes with the values, needs and expectations of society. Experience shows that strategies and practices based on RRI can open up R&I to all relevant actors, and improve co-operation between science and society, fostering the recruitment of new talent, and pairing scientific excellence with social awareness and responsibility.

Territories have a specific advantage to address the complexity of the challenges set by the interplay between science and society. Indeed local actors have an intimate knowledge of the physical territorial setting, and local ecology, i.e. the status quo of the complex relationships between cultural, social, economic and political actors, of the local dynamics, history, expectations and requirements as well as specific concerns.

During the last century, local and regional development policies have slowly, unevenly, but surely, integrated dimensions related to science, technology, and innovation (STI). For example, the European Commission supported regional technology plans in the 1990s and regional innovation strategies during the 2000s. Since 2010 the Commission has encouraged regions to develop smart specialisation strategies, based on comprehensive stakeholder involvement, to identify specific fields of industrial and research strengths with a potential for competitive advantages for the region[48]. A more comprehensive approach involving citizens and communities is likely to result in positive impacts on STI and local and regional development.

[48] See COM(2017)376 on Strengthening innovation in Europe's regions: Strategies for resilient, inclusive and sustainable growth.

Territories can work towards the establishment of self-sustaining R&I ecosystems that are characterised by a high degree of openness, democratic accountability, and responsiveness to need by taking action to promote all parts of RRI (i.e. gender equality, science education, open access/open data, public engagement, and ethics). This requires them to bring relevant quadruple helix R&I actors together, for instance citizens and civil society organisations (CSOs), universities, research institutions, formal and informal education institutions (including primary and secondary schools), governments and public authorities (including regional and local administrations and science policy institutions), businesses (including industry, the service sector and social entrepreneurs) and science mediators. New R&I working methods within and between organisations, including novel and transparent governance relations, would promote greater sustainability and inclusiveness at local, national, EU and global levels.

Scope: For the present topic, 'territory' should be understood broadly. Territories may be defined by any particular area characterised by certain geographical features, or any area with shared cultural, environmental or economic ties.

Consortia should focus activities in more than one territory in Europe (and possibly also in Third Countries), with a view to developing and promoting shared learning and diffusion of governance innovations. Local and regional authorities should be active partners of the consortia, in particular those institutions or parts of institutions responsible for research and innovation, alongside organisations representing the other parts of the quadruple helix. The RRI approach should be integrated in regional development policies, e.g. spatial planning, land use planning, coastal planning, urban development and urban structuring activities (list not exhaustive). Consortia should make strong efforts to ensure the involvement of all kind of citizens, irrespective of their age, gender, ethnicity and socio-economic background. Involvement of citizens must be in line with Article 21 of the Charter of Fundamental Rights of the European Union.

Consortia should lay out a sequence of actions that open up and transform the R&I ecosystem and governance systems so that they are more open and inclusive.

Consortia will:

- Map their current territorial R&I ecosystem, taking into account and complementing existing mapping exercises such as the Smart Specialisation Platform [49], the European Cluster Observatory, and the Regional Innovation Scoreboard[50],

- Reflect on how the system could be more open and inclusive, and

- Consider their place within larger societal, geographical, economic and environmental framework.

[49] http://s3platform.jrc.ec.europa.eu/.
[50] http://ec.europa.eu/growth/industry/innovation/facts-figures/regional_en.

- Consequently, proposals should develop concrete actions within individual beneficiaries' organisations (e.g. agenda setting and institutional changes in the fields of gender, ethics, public engagement, science education and open access) and in the territorial context (e.g. local and regional governance relations and decision-making processes).

Changes should be sustainable (i.e. last beyond the lifetime of funding), for instance through the introduction of new forms of decision-making, development of business plans or co-operation agreements, and institutional changes in participating organisations.

The actions should avoid duplicating the analytical and data collection activities of the Smart Specialisation Platform. Previous project findings and good practices should be considered as and when appropriate. Previous project findings and good practices should be considered as and when appropriate; projects such as TeRRIFICA[51], TeRRItoria, SeeRRI[52], ONLINE-S3[53] and SEiSMIC[54] could be useful in this regard. The ONLINE-S3 project aims to assist national and regional authorities in the EU to elaborate and revise their smart specialisation agendas, in terms of policies and strategy, whereas the SEiSMiC project helps tackle Europe's biggest urban problems by engaging citizens, identifying social innovation needs, and contributing to future urban policies and research strategies.

The Commission considers that proposals requesting a contribution from the EU of the order of € 2.00 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: Consortia are expected to elaborate and implement a more open, transparent and democratic R&I system in their defined territories. Consortia are expected to evaluate their activities and provide evidence of societal, democratic, environmental, economic and scientific impacts. Involvement in the project should have a measurable transformative and opening effect on organisations involved, which should be sustainable beyond the lifetime of funding. Consortia are expected to contribute to one or more of the MoRRI indicators (for instance GE1, SLSE1, SLSE4, PE1, PE2, PE5, PE7, PE8, E1, OA6, GOV2)[55], and to the Sustainable Development Goals[56] (for instance goals 4, 5, 9, 11, 12, 13, 16 or 17).

Type of Action: Coordination and support action

The conditions related to this topic are provided at the end of this call and in the General Annexes.

51 terrifica.eu/
52 https://seerri.eu/
53 http://www.onlines3.eu/.
54 http://www.seismicproject.eu/.
55 Link: http://www.technopolis-group.com/wp-content/uploads/2016/12/2171_D3.2.pdf (Table 3.2)
56 http://www.un.org/sustainabledevelopment/sustainable-development-goals/.

SwafS-22-2018: Mobilising Research Excellence in EU Outermost Regions (OR)[57]

Specific Challenge: The EU currently has nine Outermost Regions (ORs), which are an integral part of its territory: Guadeloupe, French Guiana, Martinique, Saint Martin, Réunion, Mayotte (France); the Canary Islands (Spain); and the Azores and Madeira (Portugal). Article 349 of the Treaty on the Functioning of the European Union (TFEU) recognises that the Outermost Regions differ from the rest of the EU in a number of ways that constrain their economic and social development: their remoteness, their insularity, their small size, their adverse topographical and climatic conditions and their dependence on a limited number of local industries. Under European law this Article allows the adoption of specific measures appropriate for the real situations of the ORs. As well as specific constraints, the ORs also have unique potential and assets which can benefit the Union. They provide a European presence in strategic areas of the world, and have exceptional geographical and geological characteristics which make them useful laboratories for research and innovation in scientific domains relevant of the future such as biodiversity, terrestrial and marine ecosystems, pharmacology, renewable energies, and the space sciences.

However, participation in Horizon 2020 is inhibited by the fragmentation of the research community in the OR due to the geographic isolation but also lack of commitment of research institutions and missing connectivity with excellent partners in Europe and internationally beyond the traditional links with the European mainland of the same country. Therefore, the potential for excellent research activities based on the above described assets remains largely unexploited. ORs of different countries face similar problems and assets but do not co-operate sufficiently among each other and with European and international partners. Geographical remoteness is an obstacle for visibility and integration into the global and international research communities. In particular improved linkages with neighbouring international co-operation partners outside the EU would facilitate the international dimension of Horizon 2020 in line with the 'Open to the World' strategic goal.

Scope: Proposals should aim to support the OR in preparing their research and innovation actors to participate in the Research Framework Programmes through:

- a mapping of their research and innovation fields of expertise including complementarities with their neighbouring countries' and regions expertise and capacities;
- a mapping of potential partners in the EU and third countries, in particular those in proximity with OR;
- an inventory of their needs to increase their research and innovation capacity;

[57] This activity directly aimed at supporting the development and implementation of evidence base for R&I policies and supporting various groups of stakeholders is excluded from the delegation to REA and will be implemented by the Commission services.

- an identification of the means to maintain and attract researchers in the OR and to foster the OR R&I ecosystems, as and further development of their smart specialisation strategies.
  The above information could also be used to define OR's friendly topics in the future Framework Programme.
  Proposals are also expected to include:

- organisation of events with potential identified partners;

- workshops and networking of research and business innovation partners in view of forming consortia for project proposals;

- awareness raising actions targeting the EU and international research community on the OR expertise and capacities.

The Commission considers that a proven track record of on-the-field experience in OR R&I systems will be an asset and contribute positively to the impact of the project.

The duration of the project should be up to three years.

The Commission considers that proposals requesting a contribution up to EUR four million would allow this specific challenge to be addressed appropriately.

Expected Impact: - Increasing the participation of the outermost regions (OR) in the Framework Programmes.

- Reinforce the visibility and recognition of the OR research and innovation expertise and capacities.

- Set up of consortia to prepare research proposals, including European and/or third country researchers.

- Facilitate the identification of future research issues and challenges/missions that are relevant for the needs and innovation potentials of OR and their smart specialisation priorities

- Develop concepts for considering ORs specificities in the future Framework Programme, in line with Article 349 TFEU.

- Strengthened links with European and international research centres.

- Improvement of research capacities in the OR and their participation in research projects.

- Emergence of sustainable R&I ecosystems in the OR.

- In order to ensure maximum impact of the initiative, participants are expected to build on their a proven track record of on-the-field experience in OR R&Is systems

Type of Action: Coordination and support action

The conditions related to this topic are provided at the end of this call and in the General Annexes.

Strategic orientation 4. Exploring and supporting citizen science

Citizen science is emerging as an important policy orientation but is still largely unexplored. It covers a range of different levels of participation: from raising public knowledge about science, encouraging citizens to participate in the scientific process by observing, gathering and processing data, right up to setting scientific agenda and co-designing and implementing science-related policies. SwafS will focus on the meanings, mechanisms and challenges facing citizen science from local to European and global levels, learning from on-going experiences and innovative grassroots initiatives. Potential aspects to explore include how citizen science can act as a catalyst to develop scientific skills and competences, act as a tool for informal and formal science education of young people and adults, counter perceived anti-intellectual attitudes in society, raise the scientific literacy of European citizens, and promote social inclusion and employability. Moreover, the backdrop of deep and profound implications on science as a discipline, a profession and as a practice, and also on science's relationship with and for society, should also be considered.

Proposals are invited against the following topic(s):

SwafS-15-2018-2019: Exploring and supporting citizen science

Specific Challenge: Citizen science is blooming across all scientific disciplines and the humanities. It can potentially bring a wide variety of benefits to researchers, citizens, policy makers and society across the research and innovation cycle, e.g; it can accelerate and sometimes even make possible the production of new scientific knowledge; it can help policy makers monitor implementation and compliance with regulations; it can increase public awareness about science and feeling of ownership of policies; and it can enable faster and evidence-informed reactions to events and better territorial coverage.

At the same time there are difficulties setting up citizen science initiatives – in terms of choosing the optimum methodologies; in terms of quality assurance and validation of the outcomes; in terms of linking the various governance levels, from local to global; in terms of ensuring balanced participation of citizens (e.g. regardless of background, gender and age); in terms of integrity of methods and data; in terms of recognising the work of citizens participating in citizen science initiatives; in terms of managing large numbers of volunteers for many months or even years (and keeping them motivated and responding to their questions).

Furthermore, questions remain unanswered about the potentials of citizen science for society e.g: what is the potential number of citizen scientists and who are they? What are the costs

and benefits of citizen science (e.g. in terms of scientific excellence and the economy)? What relationship can and does citizen science have to informal and formal science education? Are there limits to citizen science, and if so what are they?

For the present topic citizen science should be understood broadly, covering a range of different levels of participation, from raising public knowledge of science, encouraging citizens to participate in the scientific process by observing, gathering and processing data, right up to setting scientific agenda and co-designing and implementing science-related policies. It could also involve publication of results and teaching science.

Scope: There are the two sub-topics:

A, Coordination and Support Action - CSA (1 project in 2018): This will provide support to citizen science at the European level. It will also create a mutual learning space where citizen science projects/participants can exchange experiences and successful strategies. It will raise awareness of citizen science among the general public, provide co-ordination support between citizen science initiatives (in particular those funded by SwafS but also working in a spirit of co-operation with established networks of citizen scientists), identify training needs with a view to developing and implementing training to help citizen scientists, and support communication between citizen science and science journalists/science media. It will also identify good practices that incentivise career scientists to engage with citizen science activities.

B, Research and Innovation Actions - RIA (multiple projects in 2018-2019): This will support hands-on citizen science activities. Proposals may focus on one particular area of scientific enquiry or tackle several, though transdisciplinary approaches should be favoured. The intended activities should be clearly defined and result in the development of new knowledge, new technologies, or new means of using existing technological or social innovations better. Activities can explore how citizen science develops scientific skills and competences, act as a tool for informal and formal science education of young people and adults, counter perceived anti-intellectual attitudes in society, raise the scientific literacy of European citizens, and promote social inclusion and employability. Gender, geographical and socio-economic factors should be taken into account so as to ensure activities are open to people from all backgrounds. Effort should be made to evaluate the impacts on society, democracy, the economy, science itself, and the individual citizen scientists involved in the activities. Lines of communication should be established with other relevant SwafS projects in order to share evaluation data and data arising from the citizen science in the spirit of open science.

In line with the strategy for EU international cooperation in research and innovation (COM(2012)497), international cooperation is encouraged.

The Commission considers that proposals requesting a contribution from the EU in the order of € 2.00 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: A. Coordination and Support Action: Strengthened networks, co-ordination and communication among citizen science projects (particularly, but not limited, to those funded by SwafS). Availability of tools, guidelines, or other materials useful to actors inexperienced in organising and supporting citizen science initiatives. Increased awareness amongst the general public of citizen science. Delivery of training to citizen scientists (or potential science practitioners) and resultant increased skills, competences, and scientific excellence. Consortia should choose a basket of indicators to measure the impact of their work against. In particular, consortia are expected to contribute to one or more of the MoRRI indicators (for instance PE1 to PE10) and to the Sustainable Development Goals[58].

B. Research and Innovation Actions: Development of new knowledge and innovations by citizen scientists. Availability of evaluation data concerning the societal, democratic and economic costs and benefits of citizen science. Consortia should choose a basket of indicators to measure the impact of their work against. In particular, consortia are expected to contribute to one or more of the MoRRI indicators (for instance PE1 to PE10) and to the Sustainable Development Goals[59]

Type of Action: Research and Innovation action, Coordination and support action

The conditions related to this topic are provided at the end of this call and in the General Annexes.

SwafS-16-2019: Ethics of Innovation: the challenge of new interaction modes

Specific Challenge: Innovation, from idea to product, and including social innovation[60], is a main driver for change, a pillar of EU growth and globally for socio-economic development. It addresses key challenges in fields such as the environment and health and improving the quality of life and well-being of citizens.

Over the past years, the modes of interaction between the different stakeholders have evolved significantly. Active participation of citizens in science and innovation has gained prominence. At the same time, new IT tools have profoundly impacted the way in which researchers work and interact. These developments are promising and have numerous advantages. At the same time, however, these new modes of innovation also raise ethical and regulatory considerations, including concerns regarding the protection of participating citizens, their potential exploitation, the collection of big data and related privacy considerations, as well as intellectual property issues.

Scope: In order to maximise the social benefits derived from innovation, the action will assess the ethical, regulatory and governance issues potentially arising in this context. The action should identify what the distinctive elements of innovation ethics would be in this dynamic context.

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58 http://www.technopolis-group.com/wp-content/uploads/2016/12/2171_D3.2.pdf (Table 3.2)

59 http://www.un.org/sustainabledevelopment/sustainable-development-goals/.

60 Social innovation as defined and addressed by the 2014 BEPA report "Social innovation: a decade of changes" (pdf version: ISBN 978-92-79-39417-1). For this topic, innovation should be understood as explicitly covering social innovation.

The role of citizen participation in innovation (including social innovation[61]) must be analysed in order to maximise the effectiveness of this participation for all stakeholders, taking into account possible gender differences. Best practices for an active involvement of citizens and relevant stakeholders in the innovation processes should be identified. The design and use of IT tools should also be considered in order to optimise stakeholder participation.

In addition, the existing legal environment applicable to citizen participation in research and innovation should be identified, mapped and analysed. Potential regulatory and legal gaps (concerning for example IP rights and ownership of data) should be described and concrete proposals should be presented to address the highlighted gaps.

The analytical work should not be limited to the legal aspects, but also cover current practices (in the EU and beyond) with a view to discussing their ethics and values dimensions and taking into account the lessons learned so as to be able to identify best practices. In doing so, business ethics practices should also be considered.

The action must propose an ethics framework, based on accepted principles[62], which aim to ensure that innovation remains a process which responds to citizens' needs and values, improves access and avoids a technological divide. Such a framework should focus on the elaboration and implementation of publicly funded research and innovation programmes, as well as public–private partnerships. It should be developed, validated and translated into a set of practical guidelines that enable the effective handling of the identified ethical and regulatory issues.

Such a framework and guidelines must be compatible with and aim to complement the new European code of conduct for research integrity[63] and include, where applicable, measures for benefit sharing. This process necessitates the active involvement of relevant stakeholders to ensure an effective take-up. The effectiveness of the guidelines should be assessed and tested, notably via workshops and focus groups (such science cafes, etc.) involving citizens, industry, researchers and policy makers. In addition, the resulting guidelines should be applied in real-life pilots with quantifiable results. Piloting needs to be carried out in a representative set of Member States in order to test different cultural/socio-political context.

The action should involve innovation agencies and/or research and innovation funding organisations, which are called to apply the results of the project into their internal procedures.

In line with the strategy for EU international cooperation in research and innovation (COM(2012)497), international cooperation is encouraged.

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61 Social innovation as defined and addressed by the 2014 BEPA report "Social innovation: a decade of changes" (pdf version: ISBN 978-92-79-39417-1). For this topic, innovation should be understood as explicitly covering social innovation.

62 Including but not limited to sustainability, user and values lead design, duty of care, data quality and trust.

63 http://data.consilium.europa.eu/doc/document/ST-14853-2015-INIT/en/pdf

The Commission considers that proposals requesting a contribution from the EU of the order of EUR 3.00 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: Overall, this action will enable more effective handling of the ethical dimension of innovation, in particular regarding the new modes of interaction and participation. It will offer a practical and operative tool for all stakeholders confronted with the challenges related to co-design[64] and to new (IT-based) interaction modes. It will practically support the work of a) the designers and funders of research and innovation policies/programmes, b) the ethics committees tasked with evaluating and monitoring innovative programmes and projects, and c) the research integrity bodies responsible for promoting research integrity and research quality. The implementation of the guidelines in pilots are expected to increase their uptake and overall the impact of the action.

Type of Action: Coordination and support action

The conditions related to this topic are provided at the end of this call and in the General Annexes.

SwafS-27-2020: Hands-on citizen science and frugal innovation

Specific Challenge: Citizen science is blooming across scientific disciplines. It can potentially bring a wide variety of benefits to researchers, citizens of diverse socioeconomic and cultural backgrounds, policy makers and society across the research and innovation cycle, e.g.; it can accelerate and sometimes even make possible the production of new scientific knowledge; it can lead to innovations that meet the needs of disadvantaged population groups; it can contribute to active citizenship, civic education and empowerment of the individuals and society to build social capital in communities through stimulating social networking and knowledge exchange, and social capacity in terms of the knowledge-producing capacity of society, thus helping policy makers to make more informed and targeted policies; it can help policy makers monitor implementation and compliance with regulations; it can increase public awareness about science and feeling of ownership of policies; and it can enable faster and evidence-informed reactions to events and better territorial coverage.

At the same time, citizen science may have difficulties obtaining mainstream science funding, participating in international collaborations, sharing research data so that it can be used by other science actors, partnering with leading scientific establishments, building capacities and learning among the citizen scientists themselves, evaluating the impacts of the activities undertaken, and engaging in long-term activities as part of a structured and ambitious scientific agenda.

Citizen science should be understood broadly, covering a range of different levels of participation, from raising public knowledge of science, encouraging citizens to participate in

[64] In particular, the involvement of citizens/stakeholders and the agreement on shared priorities.

the scientific process by observing, gathering and processing data, right up to setting scientific agenda and co-designing and implementing science-related policies. It could also involve publication of results and teaching science.

Involvement of citizen scientists must be in line with Article 21 of the Charter of Fundamental Rights of the European Union, e.g. regardless of sex, age, social origin. In order to improve science-society relations, efforts should be made to include all parts of society, including hard-to-reach and vulnerable groups, in citizen science activities.

The present topic will focus on two specific aspects of citizen science.

Scope: Sub-topic A, Citizen science: This will focus on hands-on citizen science activities. Proposals may focus on one particular area of scientific enquiry or tackle several, though social sciences and humanities and/or transdisciplinary approaches would be particularly welcomed. The intended citizen science activities should be clearly defined and result in novel means of social inclusion, and the development of new knowledge, new technologies, or new means of using existing technological or social innovations better. Effort should also be made to evaluate the impacts on society, democracy, the economy, science itself, and the individual citizen scientists involved. Lines of communication should be established with SwafS projects (e.g. EU-Citizen.Science, CitieS-Health, MICS, ACTION, SUPER_MoRRI) in order to share information on activities, evaluation data and research and innovation content arising from the citizen science in the spirit of open science (see Grant Conditions).

Sub-topic B, Frugal innovation: This sub-topic will support hands-on activities to develop frugal innovations. Frugal innovations minimise cost and complexity and are aimed at low-income population groups in any part of the world that are scalable, durable and environmentally sustainable, but often using state-of-the-art technologies and know-how. The intended activities should involve citizens and/or civil society organisations alongside innovators, with the primary aim of developing frugal innovations. Particular attention should be paid to ethical issues related to the innovation processes, the involvement of low-income populations in the development processes themselves, the sustainability of the innovations, and their likely cost effectiveness; this sub-topic therefore requires the involvement of SSH expertise in consortia. Efforts should be made to showcase the developed innovation(s) with a view to encouraging their widespread adoption/market take-up. Effort should also be made to evaluate the impacts on society, democracy, the economy, innovation processes and the individual citizen innovators involved in the activities.Lines of communication should be established with other relevant SwafS projects (e.g. EU-Citizen.Science, CitieS-Health, MICS, ACTION, SUPER_MoRRI, RRING, RiConfigure, SISCODE, LIV.IN and I AM RRI) in order to share evaluation data arising from the activities in the spirit of open science (see Grant Conditions)..

In line with the strategy for EU international cooperation in research and innovation (COM(2012)497), international cooperation is encouraged in both sub-topics.

The Commission considers that proposals requesting a contribution from the EU between EUR 1.80 million and EUR 2,20 million would allow this specific challenge to be addressed

appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts.

1. Expected Impact:
   Citizen science: Development of new scientific knowledge and/or innovations with/by citizen scientists. Evaluation evidence concerning the societal, democratic and economic costs and benefits of citizen science. Consortia should choose a basket of indicators to measure the impact of their work. In particular, consortia are expected to contribute to one or more of the MoRRI indicators (for instance PE1 to PE10) and to the Sustainable Development Goals[65].

2. **Frugal innovation**: Development of one or more frugal innovations with/by citizens. Evaluation data concerning the societal, democratic and economic costs and benefits of the frugal innovation activities. Consortia should choose a basket of indicators to measure the impact of their work. In particular, consortia are expected to contribute to one or more of the MoRRI indicators (for instance PE1 to PE10) and to the Sustainable Development Goals[66]

Type of Action: Research and Innovation action

The conditions related to this topic are provided at the end of this call and in the General Annexes.

SwafS-28-2020: The ethics of organoïds

Specific Challenge: Organoïds are considered to be key in the modelling and studying the development of organs as well as the progress of diseases. As a result, organoïds may hold the key to new breakthroughs in clinical research and to the development of new drugs and toxicology testing.

At the same time, organoïds are also a source of complex ethical questions. For example, clarification is needed on whether donors have property rights over them and whether they differ from cells and tissues with regard to their legal/moral status. Moreover, the storage of organoïds may create challenges for the governance of biobanks. Due to its nature, this research may not allow for complete de-identification of data and consequently questions of informed consent, privacy and return of results are at stake. An additional ethical concern regarding organoïds relates to their application in clinical care, in particular for the capacity to assess and handle the safety related issues.

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65 https://publications.europa.eu/s/jPcI. DOI: 10.2777/207020 and http://www.un.org/sustainabledevelopment/sustainable-development-goals/
https://publications.europa.eu/s/jPcI. DOI: 10.2777/207020 and http://www.un.org/sustainabledevelopment/sustainable-development-goals/

66 https://publications.europa.eu/s/jPcI. DOI: 10.2777/207020 and http://www.un.org/sustainabledevelopment/sustainable-development-goals/
https://publications.europa.eu/s/jPcI. DOI: 10.2777/207020 and http://www.un.org/sustainabledevelopment/sustainable-development-goals/

Although these ethical dimensions have been explored in the past in the context of other types of biomedical research, the specific features of organoïd research and its potential for clinical application call for a re-evaluation of these aspects with a view to adapting, wherever necessary, the existing legal and ethics guidelines and policies.

Scope: The action intends to explore the attitudes of the various stakeholders, including the research community, patients, donors and the public (taking into account gender aspects, where relevant), towards this type of research and innovation and its ethical implications. A comparative analysis of the perceived ethical implications with a similar group/family of technologies (for example bioelectronics) should be carried out.

The action should examine the impact of organoïd-based technologies, with a view to identifying the necessary elements that could best support the research community in integrating the ethics dimension into their research protocols.

A comparison within the EU and with other regions of the world, on the legal/regulatory and procedural framework (existing or under development) as well as on the level of societal awareness and acceptance, constitutes an important element of the work. Such an analysis should integrate the role of ethics committees and other advisory and regulatory structures.

The work undertaken is expected to produce (A) operational guidelines for the field. The guidelines should ensure "ethics by design" and be drafted to support the work of the research community, research ethics committees and integrity bodies. They should be in line with the new European code of conduct for research integrity[67]. The guidelines should include clear guidance for informed consent processes as well as guidance for the clinical applications of such research. They must also cover the governance of organoid biobanks.

The action should also propose (B) a code of responsible conduct for researchers (in academia and industry), taking into account the expectations of the different stakeholders. This is best achieved by actively involving civil society organisations and panels of citizens from different socio-economic groups including vulnerable populations.

Considering the rapid scientific evolution of the field, ways to enhance the existing ethics and normative frameworks (C) should be proposed.

As regards the research integrity aspects *per se*, the need to complement the above mentioned European Code with specific guidelines should be assessed. If needed, a proposal for (D) a short document complementing the Code should be made.

The action should, via a dedicated horizontal coordination work package, be implemented in cooperation with the action funded further to the call SwafS-29-2020, on "The Ethics of technologies with high socio-economic impact" which aims at performing the same work with three or four other technologies with a view to developing a detailed ethics framework for new and emerging technologies.

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[67] European Code of Conduct for Research Integrity of ALLEA (All European Academies) http://ec.europa.eu/research/participants/data/ref/h2020/other/hi/h2020-ethics_code-of-conduct_en.pdf .

The action should include relevant expertise on ethics and research integrity as well as scientific and technical expertise. Furthermore, in line with the strategy for EU international cooperation in research and innovation (COM(2012)497), international cooperation is encouraged.

Publicly available results from relevant other EU funded research projects (notably PANELFIT, SHERPA, EnTIRE, SIENNA, I-CONSENT, ENERI, PRINTEGER, and TRUST) should be taken into account.

The Commission considers that proposals requesting a contribution from the EU of the order of EUR 3.00 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: This action will provide a comprehensive overview of the ethical and normative aspects stemming from organoïd and similar types of research. It should also enable an effective ethics governance of such research.

It will concretely provide support to the ethics committees, research integrity bodies and other organisations confronted with these issues and ultimately lead to reducing potential risks while providing an enabling framework for researchers and innovators.

Overall, the action will contribute to the establishment of an ethics framework for new technologies which, because of their fast growing impact on citizens' everyday life, is becoming a global societal priority.

Type of Action: Coordination and support action

The conditions related to this topic are provided at the end of this call and in the General Annexes.

SwafS-29-2020: The ethics of technologies with high socio-economic impact

Specific Challenge: Technologies with potentially high socio-economic impact[68] raising complex ethical issues must be analysed from an ethical perspective to maximise their societal benefit and minimise harm. The exponential scientific progress resulting in the mushrooming of these new technologies (e.g. gene editing, DNA digital data storage, Artificial Intelligence, etc.), calls for a coherent research and innovation ethics approach at EU level

Scope: This work aims at complementing the work started in the context of SwafS-18-2016 call that addressed three areas: genomics, human enhancement and man-machine interactions (project SIENNA[69]. The action should conduct a similar analysis and refine the model and guidelines produced by the project funded under the above call. In order to do so, the action should carry out a thorough scanning of the technology horizon to identify three or four different technologies (or family of technologies) with an equivalent socio-economic impact.

[68] http://www.technopolis-group.com/wp-content/uploads/2016/12/2171 D3.2.pdf(Table 3.2)
[69] http://www.sienna-project.eu/ http://www.sienna-project.eu/

This horizon scanning constitute an important part of the action since it aims at selecting the technologies that have or are likely to have the most significant ethics dimension and societal impact while best complementing the work already carried out by SIENNA. Cooperation and synergies with SIENNA [70] and other relevant projects (notably PANELFIT, SHERPA, EnTIRE, I-CONSENT, ENERI, PRINTEGER, and TRUST) will be established, via a dedicated horizontal coordination work package. This work package should also pay particular attention to the cooperation with the project(s) resulting from call SwafS-28-2020.

For each (family of) technology, the action should explore the attitudes of the various stakeholders, including the research community and the broader public, towards this type of research and innovation and its ethical implications.

The action should also examine the impact of these technologies notably with a view to identifying the necessary elements that could best support the research community in integrating the ethics dimension into their research protocols.

A comparison within the EU and with other regions of the world, on both the legal/regulatory and procedural framework (existing or under development) as well as on the level of societal awareness and acceptance, constitutes an important element of the work. This analysis should integrate the role of ethics committees and other advisory and regulatory structures.

The work undertaken should result in (A) operational guidelines for the research and innovation conducted in each of the studied fields. The guidelines should ensure "ethics by design" and be drafted to support the work of the research community, research ethics committees and integrity bodies. They must be in line with the new European code of conduct for research integrity[71].

The action should also propose (B) a code of responsible conduct for researchers (in academia and industry), taking into account the expectations of the different stakeholders. This should be achieved by actively involving civil society organisations and panels of citizens from different socio-economic groups including vulnerable populations, taking into consideration gender aspects.

Considering the rapid scientific evolution of the field, ways to enhance existing ethics and normative frameworks (C) should be proposed.

As regards the research integrity aspects *per se*, the need to complement the above mentioned European Code with specific guidelines should be assessed. If needed, a proposal for (D) short documents complementing the Code should be made.

The extension of the analysis to other new or emerging technologies, initiated by SwafS-18-2016, should be used as a basis to develop a detailed ethics framework for new and emerging technologies which should go through a validation process (e.g. using case studies involving key stakeholders).

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70 http://www.sienna-project.eu/ http://www.sienna-project.eu/

71 European Code of Conduct for Research Integrity of ALLEA (All European Academies) http://ec.europa.eu/research/participants/data/ref/h2020/other/hi/h2020-ethics_code-of-conduct_en.pdf .

The action should also assess the possible need for dedicated legislation at EU level. This tasks should be covered by the horizontal coordination work package mentioned above.

The action should include relevant expertise on ethics and research integrity as well as scientific and technical expertise. Furthermore, in line with the strategy for EU international cooperation in research and innovation (COM(2012)497), international cooperation is encouraged.

Publicly available results from relevant other EU funded research projects (the projects covered by the horizontal coordination work package should be taken into account.

The Commission considers that proposals requesting a contribution from the EU of the order of EUR 4.00 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: The proposed action will address the growing ethics challenges and expectations *vis-à-vis* new technologies to ensure the highest ethics standards at EU and at an international level. It will provide an ethics framework, which should enable the effective ethics governance of these technologies.

The work undertaken will help reconciling the needs of the research teams and the legitimate concerns of the citizens, while stimulating innovation and contributing to the reduction of socio-economic inequalities including, in health treatment, social status and social inclusion and gender equality. It will support the work of the field actors confronted with these issues. Overall, the action will lead to reducing the risks while proving an enabling framework for researchers and innovators.

Overall, it will contribute to the development of new approaches in addressing ethical issues of new and emerging technologies, promoting research integrity and responsible conduct of research.

Type of Action: Coordination and support action

The conditions related to this topic are provided at the end of this call and in the General Annexes.

SwafS-30-2020: Responsible Open Science: an ethics and integrity perspective

Specific Challenge: Open Science constitutes a "new approach to the scientific process based on cooperative work and new ways of diffusing knowledge by using digital technologies and new collaborative tools."[72] As opposed to traditional practices in science and technology, which largely focus on the publication of research results in scientific journals, Open Science

[72] https://ec.europa.eu/digital-single-market/en/news/open-innovation-open-science-open-world-vision-europe Idem https://ec.europa.eu/research/openscience/index.cfm?pg=citizen&section=monitorhttps://ec.europa.eu/research/openscience/index.cfm?pg=home&section=monitorhttp://data.consilium.europa.eu/doc/document/ST-14853-2015-INIT/en/pdf

focuses on sharing and (re)using all available knowledge and data throughout the research process.[73] This includes among others, the more active participation of citizens in the scientific process (citizen science)[74], open access to peer-reviewed scientific publications and scientific research data[75],open peer reviews and metrics for measuring research output (e.g. altmetrics). [76]

Open Science aims to promote transparency and reproducibility of results, increase and widen the diffusion of knowledge and may overall accelerate scientific progress and innovation.

At the same time, in order to maximize the benefits of Open Science, there are several ethical, legal and social challenges that need to be addressed. Such challenges include:

- possible development of new forms of malpractice

- risk of diluting research results of high quality (emergence of fake science)

- risk of new bias in the assessment of the quality of the research output and impact notably via the alternative metrics

- issues related to content-mining, the privacy of data subjects, potential conflicts with intellectual property and data protection rights

- the emergence of questionable dissemination/publication practices like the proliferation of predatory journals that exploit the open access publishing business model.

The strong connection between Open Science and research integrity has been underlined in the Council conclusions on research integrity, where the Member States recognise "the importance of open science as a mechanism for reinforcing research integrity, while, at the same time, research integrity contributes to open science."[77]

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73 https://ec.europa.eu/digital-single-market/en/news/open-innovation-open-science-open-world-vision-europe Idem https://ec.europa.eu/research/openscience/index.cfm?pg=citizen&section=monitorhttps://ec.europa.eu/research/openscience/index.cfm?pg=home&section=monitorhttp://data.consilium.europa.eu/doc/document/ST-14853-2015-INIT/en/pdf

74 https://ec.europa.eu/digital-single-market/en/news/open-innovation-open-science-open-world-vision-europe Idem https://ec.europa.eu/research/openscience/index.cfm?pg=citizen&section=monitorhttps://ec.europa.eu/research/openscience/index.cfm?pg=home&section=monitorhttp://data.consilium.europa.eu/doc/document/ST-14853-2015-INIT/en/pdf

75 https://ec.europa.eu/research/openscience/index.cfm?pg=openaccess

76 https://ec.europa.eu/digital-single-market/en/news/open-innovation-open-science-open-world-vision-europe Idem https://ec.europa.eu/research/openscience/index.cfm?pg=citizen&section=monitorhttps://ec.europa.eu/research/openscience/index.cfm?pg=home&section=monitorhttp://data.consilium.europa.eu/doc/document/ST-14853-2015-INIT/en/pdf

77 https://ec.europa.eu/digital-single-market/en/news/open-innovation-open-science-open-world-vision-europe Idem https://ec.europa.eu/research/openscience/index.cfm?pg=citizen&section=monitorhttps://ec.europa.eu/research/openscience/index.cfm?pg=home&section=monitorhttp://data.consilium.europa.eu/doc/document/ST-14853-2015-INIT/en/pdf

Scope: The action should examine and map the ethical, legal and social implications/challenges as well as the research integrity issues related to Open Science, and consequently identify and analyse the necessary elements to support the integration of research ethics and integrity as structural component of Open Science.

Issues to be addressed include, among others, the need to develop appropriate infrastructure and tools for handling sensitive personal data (especially with regards to the anonymisation/pseudonymisation mechanisms, the possibility to seek the informed consent of the data subject in case of further research, data storage and security measures in place). In this context, the action should explore, among others, to what extent the application of Blockchain in the context of open data could address concerns related, for example, to privacy, and examine further the use of this technology in the context of open data, evaluating the opportunities and limitations.[78]

The action should also explore ethical issues and opportunities related to the implications of Open Science on reproducibility, on the evaluation of science and scientific reputation, on scholarly communication and on the involvement of citizens in the scientific process.

The specificities of different disciplines should be clearly delineated (e.g. with regards to qualitative data from social sciences and humanities research) and issues related to inter-institutional, inter-disciplinary and international collaboration among all actors in research and innovation should be explored.

The work should be based on a bottom-up approach, gauging the attitudes of all relevant stakeholders (e.g. researchers, research funders, publishers and citizens) through the organisation of workshops and consultations and encourage change in the research culture by promoting communication and dialogue.

Ultimately, the work undertaken should result in (A) a detailed strategic/policy assessment that will enable the Commission to establish policy options as well as practical ways to support the work of relevant stakeholders in promoting responsible Open Science - defined as Open Science adhering to the highest research ethics and integrity standards. The European code of conduct for research integrity[79] will be a main reference.

The work undertaken should also result in (B) operational guidelines to support the work of research teams. This should notably address the need to respect Open Science related obligations in the preparation of proposals to request funding at EU level or in other contexts.

The need to complement the European Code with specific guidelines should be also assessed. If needed, a proposal (C) for short documents complementing the Code should be made.

In addition, this action should produce (D) traditional and online training material (reflecting the guidelines) on responsible Open Science for students, young and experienced researchers. The material will form part of the training e-platform created by European Network of

[78] https://www.europeandataportal.eu/en/highlights/open-data-and-blockchain-match-made-heaven

[79] European Code of Conduct for Research Integrity of ALLEA (All European Academies) http://ec.europa.eu/research/participants/data/ref/h2020/other/hi/h2020-ethics_code-of-conduct_en.pdf

Research Ethics and Research Integrity (ENERI)[80] and hosted by European Commission platform SINAPSE[81].

In addition to the above cited network, it is essential to ensure that the publicly available results from relevant EU funded research projects (e.g. PRINTEGER[82], EnTIRE[83] TRUST, MoRRI[84] and RRI-Practice[85]) are taken into account. Cooperation with the projects should be the subject of a dedicated horizontal coordination work package.

In line with the strategy for EU international cooperation in research and innovation [COM(2012)497], international cooperation is encouraged.

The Commission considers that proposals requesting a contribution from the EU of the order of EUR 2.50 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: The action will provide a comprehensive overview of the ethics and research integrity issues and opportunities related to Open Science and how they can be effectively handled at EU level. Furthermore, the action will promote a model balancing the need for openness with relevant ethical, legal, social and research integrity considerations.

Type of Action: Coordination and support action

The conditions related to this topic are provided at the end of this call and in the General Annexes.

Strategic orientation 5. Building the knowledge base for SwafS

Understanding the co-evolution of science and society will help proactive and anticipatory policy making. SwafS will examine how societal actors, including young people, behave, understand, react to and interact with science and scientific developments, and their motives for engaging in science-related activities. This includes investigating science communication and science advocacy in the digital world and how science and technology studies and different disciplines (e.g. behavioural sciences, communication studies, gender studies, linguistics, and social anthropology) – and multi/transdisciplinary approaches – can help explain interactions between science and society. This will include a focus on blind spots of research and innovation in relation to people's needs and concerns, in particular due and proportional precaution, scientific uncertainty, means of measuring the integration of RRI in science and innovation, and the gender dimension in research content. Moreover, consideration could be given to rewarding achievement in RRI in its various dimensions to signal the organisations that are more RRI-aware (answering questions such as how such a

80 http://www.eurecnet.org/eneri/http://europa.eu/sinapse
81 http://www.eurecnet.org/eneri/http://europa.eu/sinapse
82 https://cordis.europa.eu/project/rcn/197299/factsheet/en
83 https://cordis.europa.eu/project/rcn/210253/factsheet/en
84 http://morri-project.eu/
85 https://www.rri-practice.eu/

reward could work and based on which criteria). Another area is implications of deep changes in science and innovation and its interactions with society and the economy, such as the transition to open science and open innovation, and resultant changes in the relationships between science and society.

Proposals are invited against the following topic(s):

SwafS-17-2019: Consolidating and expanding the knowledge base on citizen science

Specific Challenge: Grassroots initiatives related to citizen science are blooming across the world. Citizen science has the potential to bring a wide variety of benefits to researchers, citizens, policy makers and society and across research and innovation (R&I) cycles. It can make science more socially relevant, accelerate and enable production of new scientific knowledge, help policy makers monitor regulatory implementation and compliance, increase public awareness about science and ownership of policy making, and increase prevalence of evidence-based policy making.

The growth of citizen science brings with it a need to understand its breadth and consequences. How is citizen science conducted, who is involved and in what way(s), and what effect(s) does it have on R&I systems, scientists and the citizens involved? What are the different incentives and disincentives for career scientists to get involved in citizen science? What are the enablers and the barriers of citizen science, what are good practices, and what are its limits? It is also important to identify the democratic, societal, economic and scientific benefits of citizen science. Moreover, the deep and profound implications on science as a discipline, a profession and as a practice, and also on science's relationship with and for society, need to be considered.

Scope: This topic will deepen scientific knowledge on citizen science. It will work very closely with and examine and synthesise data arising from existing citizen science projects (in particular, but not limited to, those funded by SWAFS) to better understand participation patterns in citizen science, the types of activities conducted, the transformative potentials of participating in citizen science, challenges faced by citizen scientists, enablers and barriers to participating in citizen science (e.g. in terms of socio-economic status, gender, age, and in terms of R&I policies), and a strengthened knowledge base on its benefits. It will place developments in global and European historical contexts, and develop understanding about the implications of citizen science on science itself, and on science's relationship with and for society. It will involve stakeholders from local to European levels, from all parts of the quadruple helix, and taking into account gender, geographical and socio-economic differences, to develop policy messages that work towards an enabling R&I policy environment for citizen science and maximisation of the benefits of citizen science.

In line with the strategy for EU international cooperation in research and innovation (COM(2012)497), international cooperation is encouraged.

The Commission considers that proposals requesting a contribution from the EU of the order 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 other amounts.

Expected Impact: Consortia should aim to consolidate and expand the scientific and policy knowledge base about citizen science. They should identify key incentives, disincentives, barriers and enablers to involvement of citizens and scientists. They should document, synthesise, and present evidence about the societal, democratic, economic and scientific benefits (and potential caveats) of citizen science. They should aim to impact on R&I policies by developing implementable policy recommendations and targeting them at key stakeholders. They should aim to indirectly work towards MoRRI indicators[86] (e.g. SLSE4, PE1, PE2, PE3, PE5, PE6, PE7, PE8, PE9, PE10, OA6) and identified and appropriate Sustainable Development Goals[87].

Type of Action: Research and Innovation action

The conditions related to this topic are provided at the end of this call and in the General Annexes.

SwafS-18-2018: Taking stock of the application of the precautionary principle in R&I

Specific Challenge: In 2000, the European Commission adopted a Communication on the precautionary principle[88] (PP) following several crises in the fields of health and food safety. PP was then seen as enabling rapid response in case of possible danger to human, animal or plant health or to protect the environment, especially in cases where scientific evidence was lacking. The Communication proposed common guidelines on the application of the precautionary principle. Since then, the application of PP has become controversial, with some stakeholders advocating an Innovation Principle (IP), by which potential innovation benefits should be favoured when weighed against potential risks. Yet debate and controversy related to the need to take due and proportionate precautions in research and innovation activities, and to anticipate and assess the potential environmental, health and safety impacts of policies and technologies, continue today. The challenge is to find a balanced approach that allows decisions to be made on a case-by-case basis, responding to the question "how safe is safe enough and how risky is too risky".

Scope: Consortia will take stock of the implementation of PP since 2000 in various contexts, analyse the effects of the PP and propose several scenarios for the future of the PP and IP. Consortia are expected to examine international, EU, national (and sub-national) level initiatives and policies related to due and proportionate precaution. They should examine and analyse recent and on-going controversies, understanding the competing interests and concerns of different stakeholders, and analyse whether and how their views are taken into account, for instance in the media, by pressure groups, citizens, governments, and in policy making.

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86 See http://www.technopolis-group.com/wp-content/uploads/2016/12/2171_D3.2.pdf (Table 3.2).

87 http://www.un.org/sustainabledevelopment/sustainable-development-goals/.

88 (COM(2000) 1final)

Consortia should strive to develop new tools or approaches to PP or IP, in order to help policy makers and other stakeholders apply RRI principles, that is, build effective cooperation between science and society, and pair scientific excellence with social awareness and responsibility. These new tools should be created in a full co-creation approach with the different actors involved.

The Commission considers that proposals requesting a contribution from the EU in the order of 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: Consortia are expected to contribute to one or more of the MoRRI indicators[89] (in particular PE 1 to 10, E 1 to 3 and GOV1 to 3) and to the Sustainable Development Goals[90] (for instance goals 6, 9, 11, 12, 13, 14 and 15). Consortia are expected to evaluate their activities and provide evidence of societal, democratic, economic and scientific impacts.

Type of Action: Research and Innovation action

The conditions related to this topic are provided at the end of this call and in the General Annexes.

SwafS-19-2018-2019-2020: Taking stock and re-examining the role of science communication

Specific Challenge: Science and innovation are undergoing deep and fundamental changes, in particular thanks to digitalisation (e.g. social media and citizen science). Science communication, which is a discipline, an activity conducted by scientists and other R&I stakeholders, and a career path followed by journalists, informs citizens about science and innovation, opens up R&I to society, and empowers citizens to participate in activities and debate.

Two concurrent developments lead to the growing need to ensure the quality and reliability of science communication: firstly, dwindling resources in science journalism lead to reduced critical assessment and reporting of science[91]; secondly, the rapid diffusion of open access publications and science-related news through social media increase opportunities for all citizens and civil society groups to reach large audiences about science-related issues but sometimes without the editorial oversight and fact-checking established in the traditional media.

Scope: This topic aims to better understand how results from research and scientific methodologies are communicated and perceived by citizens (taking into account age, gender, and socio-economic status), develop improved ways to measure and assess science communication, and identify good practices and policy guidelines to increase the accuracy of

89 See http://www.technopolis-group.com/wp-content/uploads/2016/12/2171_D3.2.pdf (Table 3.2).
90 http://www.un.org/sustainabledevelopment/sustainable-development-goals/.
91 See for instance https://www.aps.org/publications/apsnews/200904/journalism.cfm

(and therefore trust in) science communication. It will increase knowledge about science communication at international, EU and member state levels. It will propose innovative ways to open up science and innovation broadly to society by improving the quality and effectiveness of interactions between scientists and other R&I stakeholders, the media and the public. It will examine the teaching of science communication within scientific disciplines and as a dedicated academic discipline. It will also give attention to existing incentive (and disincentive) structures for scientists and other R&I stakeholders to engage in science communication, for instance in terms of career and scientific reputation. Applicants are welcome to propose other innovative ideas in relation to the above specific challenge.

To address this specific challenge, proposals will include a multi-disciplinary team able to explore well defined communication strategies (journalists, science communicators, scientists and other R&I stakeholders, educators, enterprises, economists, civil society/citizens, legal experts, etc.). Specificities related to gender, culture, territorial context and the environment should also be considered.

The Commission considers that proposals requesting a contribution from the EU of the order of EUR 1.20 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: Dissemination of the results should increase the communication of science in terms of quantity and quality, favour the opening of R&I, and the up-take of RRI. It should eventually improve the quality and effectiveness of interactions between scientists, general media and the public.

Type of Action: Research and Innovation action

The conditions related to this topic are provided at the end of this call and in the General Annexes.

SwafS-20-2018-2019: Building the SwafS knowledge base

Specific Challenge: Understanding the evolution of science and society will help proactive and anticipatory policy making. This includes examining how societal actors, including young people, behave, understand, react to and interact with science and scientific developments, and their motives for engaging in science-related activities. It encompasses investigating science communication and science advocacy in the digital world, and how science and technology studies and different disciplines (e.g. behavioural sciences, communication studies, gender studies, linguistics, and social anthropology) – and multi/transdisciplinary approaches – can help explain interactions between science and society. This includes a focus on blind spots of research and innovation in relation to people's needs and concerns and in any of the areas or dimensions covered by RRI. Moreover, consideration could be given to rewarding achievement in RRI in its various dimensions to signal the organisations that are more RRI aware (answering questions such as how such a reward could work and based on which criteria). Another area is implications of deep changes in science and innovation and

their interactions with society and the economy, such as the transition to open science and open innovation, and resultant changes in the relationships between science and society.

Scope: The present topic is completely bottom-up. Research and innovation actions are invited, using the above specific challenge to help stimulate ideas about where research is most needed.

The Commission considers that proposals requesting a contribution from the EU of the order of € 1 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: Consortia should choose a basket of indicators to measure the impact of their work against. In particular, consortia are expected to contribute to one or more of the MoRRI indicators[92] and/or to the Sustainable Development Goals[93]. R&I outcomes should help build effective cooperation between science and society, foster the recruitment of new talent for science, and pair scientific excellence with social awareness and responsibility. Scientific and other types of publication should be foreseen.

Type of Action: Research and Innovation action

The conditions related to this topic are provided at the end of this call and in the General Annexes.

SwafS-21-2018: Advancing the Monitoring of the Evolution and Benefits of Responsible Research and Innovation

Specific Challenge: Understanding the evolution and the benefits of RRI is crucial to furthering inclusivity, collaboration and transparency in R&I systems. The MoRRI project[94] has developed a monitoring system which provides a first picture of the evolution and benefits of RRI. This needs to be built upon, to deepen understanding of whether and how RRI leads to measurable societal, democratic, scientific and economic benefits, to provide stakeholders with user-friendly yet advanced tools that aid their efforts to improve the outcomes of R&I, and to enable benchmarking with countries in other regions of the world.

Scope: Based on the outcomes of MoRRI, consortia should work to implement an improved RRI monitoring system. One improvement that should be foreseen is consideration of scientific benefits of RRI, in addition to the societal, democratic and economic ones examined and elaborated on by MoRRI. Another improvement that should be foreseen is the development and collection of data on indicators of the benefits of RRI, building on the preliminary work conducted by MoRRI. Other improvements could relate to data reliability, efficiency of data collection, country coverage, balanced stakeholder representation in the monitoring system, ensuring synergies (and avoiding duplication) with other monitoring systems, and the comprehensibility of the indicator system to stakeholders. These and any

92 See http://www.technopolis-group.com/wp-content/uploads/2016/12/2171_D3.2.pdf (Table 3.2).
93 http://www.un.org/sustainabledevelopment/sustainable-development-goals/.
94 http://www.technopolis-group.com/morri/.

other improvements may be introduced incrementally, so as to ensure there is sufficient continuity with MoRRI to enable comparison across different data collections. Consortia should publish the results of data collections at suitable regular intervals (e.g. in the second and the fourth year of the project).

This will require thorough review of the existing monitoring system developed by MoRRI, highlighting strengths and areas where improvements could be envisaged; a number of focused desk-based reviews and empirical in-depth studies could be envisaged to fill knowledge gaps about the evolution and benefits of RRI. Links should be established to relevant SWAFS and RRI-related projects, with a view to analysing and synthesising data they have collected concerning the impacts of their activities and the benefits of RRI. A clear intervention logic for the entire monitoring system should be developed so that the impact pathways between indicators and benefits can be perceived and so that stakeholders at national and EU levels can easily identify where efforts need to be made to improve the outcomes of R&I. Development of an RRI dashboard/online tool should be foreseen, to help stakeholders self-diagnose and react to the monitoring data with concrete policy responses. Technical fiches for every indicator along with detailed notes on data collection should be prepared to enable data collection after the lifetime of the project. Peer-review and other publications and participation in high-level scientific and policy fora are expected. Cross- and/or trans-disciplinarity should be envisaged if the methods and knowledge of different disciplines are required to implement the monitoring system and/or establish causal links between RRI activities and benefits. An advisory board consisting of experts from society, policy, science and innovation should provide yearly independent feedback on the work to the consortium.

In line with the strategy for EU international cooperation in research and innovation (COM(2012)497), international cooperation is encouraged.

The Commission considers that proposals requesting a contribution from the EU in the order of EUR 3 million would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts. A project duration of five years should be envisaged.

Expected Impact: This topic is expected to lead to an improvement in the monitoring of the evolution and benefits of RRI. Building upon and improving the monitoring system developed by MoRRI, it should implement a robust and replicable monitoring system consisting of a basket of indicators covering the five RRI dimensions and governance. It should provide time-series data with enough continuity with MoRRI's to enable meaningful comparison across data collections. It should enable benchmarking with countries in other regions of the world.

Type of Action: Research and Innovation action

The conditions related to this topic are provided at the end of this call and in the General Annexes.

SwafS-31-2020: Bottom-up approach to build SwafS knowledge base[95]

Specific Challenge: The objectives of the SwafS part of Horizon 2020 are to build effective co-operation between science and society, foster the recruitment of new talent for science, and to pair scientific excellence with social awareness and responsibility. There are eight lines of actions (science careers, gender equality, public engagement, science education, open access/open data, governance and ethics, the precautionary principle, science communication), all of which are pertinent to reaching the SwafS' objectives.

The SwafS Work Programmes have included a range of topics that may be characterised as being relatively open ('bottom-up') or closed ('prescriptive'), the choice of which has depended on the area of activity, the policy/research demands, and awareness of the need to open up space for creativity and good ideas to flow from applicants on transdisciplinary issues of concern. Even with this balance of open and closed topics, it is necessary to create space for ideas that fill gaps, 'connect the dots' between projects, activities and objectives, or focus on innovative or emerging issues that have so far not been broached.

Scope: This topic is completely bottom-up ("open"), and therefore a challenge to applicants to propose innovative research and innovation actions that are needed to help meet SwafS objectives.

To respond this specific challenge, applicants could choose to consider: how societal actors, including young people, behave, understand, react to and interact with science and scientific developments, and their motives for engaging in science-related activities; how digital technologies can lead to new forms of science-based advocacy, and how science and technology studies and different disciplines (e.g. behavioural sciences, communication studies, gender studies, linguistics, and social anthropology) – and multi/transdisciplinary approaches – can help explain interactions between science and society; research and innovation gaps in relation to people's needs and concerns and in any of the areas or dimensions covered by RRI; RRI achievement rewards to highlight the organisations that are more RRI aware (answering questions such as how such a reward could work and based on which criteria);the implications of deep changes in science and innovation and their interactions with society and the economy, such as the transition to open science and open innovation, and resultant changes in the relationships between science and society.

Applicants should demonstrate that they aim to fill important gaps in the evidence base, how they will fill these gaps, and how they will deepen the evidence base. Scientific and other types of publication should be foreseen. Activities to involve stakeholders from all parts of the quadruple helix within the research and innovation activities will be favoured.

The Commission considers that proposals requesting a contribution from the EU between EUR 0.90 million and EUR 1.10 million would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts.

[95] This activity is the continuation of SwafS.20.2018-2019 in 2020.

Expected Impact: Consortia should choose a basket of indicators to measure the impact of their work. In particular, consortia are expected to contribute to one or more of the MoRRI indicators [96]. R&I outcomes should help build effective cooperation between science and society, foster the recruitment of new talent for science, and pair scientific excellence with social awareness and responsibility. Scientific and other types of publication should be foreseen.

Type of Action: Research and Innovation action

The conditions related to this topic are provided at the end of this call and in the General Annexes.

Conditions for the Call - Science with and for Society

Opening date(s), deadline(s), indicative budget(s):[97]

Topics (Type of Action)	Budgets (EUR million)			Deadlines
	2018	2019	2020	
Opening: 05 Dec 2017				
SwafS-01-2018-2019-2020 (CSA)	3.00			10 Apr 2018 (First Stage) 13 Nov 2018 (Second Stage)
SwafS-20-2018-2019 (RIA)	6.00			
SwafS-02-2018 (CSA)	2.50			10 Apr 2018
SwafS-03-2018 (CSA)	4.00			
SwafS-04-2018 (RIA)	3.00			
SwafS-05-2018-2019 (CSA)	4.50			
SwafS-06-2018 (CSA)	2.00 [98]			
SwafS-09-2018-2019-2020 (CSA)	6.00			
SwafS-10-2018 (RIA)	2.00			

[96] See http://www.technopolis-group.com/wp-content/uploads/2016/12/2171_D3.2.pdf (Table 3.2) and/or to the Sustainable Development Goals http://www.un.org/sustainabledevelopment/sustainable-development-goals/

[97] The Director-General responsible for the call may decide to open the call up to one month prior to or after the envisaged date(s) of opening.
The Director-General responsible may delay the deadline(s) by up to two months.
All deadlines are at 17.00.00 Brussels local time.
The budget amounts for the 2020 budget are subject to the availability of the appropriations provided for in the draft budget for 2020 after the adoption of the budget 2020 by the budgetary authority or, if the budget is not adopted, as provided for in the system of provisional twelfths.

[98] of which EUR 1.00 million from the 'Europe in a changing world – Inclusive, innovative and reflective societies' WP part.

SwafS-13-2018 (CSA)	2.00			
SwafS-14-2018-2019-2020 (CSA)	6.00			
SwafS-15-2018-2019 (RIA) SwafS-15-2018-2019 (CSA)	6.00			
SwafS-18-2018 (RIA)	6.00			
SwafS-19-2018-2019-2020 (RIA)	3.50			
SwafS-21-2018 (RIA)	3.00			
SwafS-22-2018 (CSA)	4.00			
Opening: 11 Dec 2018				
SwafS-01-2018-2019-2020 (CSA)		4.50		02 Apr 2019 (First Stage) 07 Nov 2019 (Second Stage)
SwafS-20-2018-2019 (RIA)		6.00		
SwafS-05-2018-2019 (CSA)		6.00		02 Apr 2019
SwafS-07-2019 (CSA)		3.00		
SwafS-08-2019-2020 (CSA)		2.00		
SwafS-09-2018-2019-2020 (CSA)		9.00		
SwafS-11-2019 (RIA)		1.50		
SwafS-12-2019 (RIA)		2.00		
SwafS-14-2018-2019-2020 (CSA)		9.50		
SwafS-15-2018-2019 (RIA)		10.00		
SwafS-16-2019 (CSA)		3.00		
SwafS-17-2019 (RIA)		2.50		
SwafS-19-2018-2019-2020 (RIA)		3.50		
Opening: 10 Dec 2019				
SwafS-08-2019-2020 (CSA)			3.20	15 Apr 2020
SwafS-09-2018-2019-2020 (CSA)			9.00	
SwafS-14-2018-2019-2020 (CSA)			6.00	
SwafS-19-2018-2019-2020 (RIA)			3.50	

SwafS-23-2020 (CSA)			6.00	
SwafS-25-2020 (RIA)			3.00	
SwafS-26-2020 (CSA)			1.50	
SwafS-27-2020 (RIA)			8.00	
SwafS-28-2020 (CSA)			3.00	
SwafS-29-2020 (CSA)			4.00	
SwafS-30-2020 (CSA)			2.50	
SwafS-31-2020 (RIA)			6.00	
SwafS-01-2018-2019-2020 (CSA)			4.50	15 Apr 2020 (First Stage) 17 Nov 2020 (Second Stage)
SwafS-24-2020 (RIA)			3.00	
Overall indicative budget	63.50	62.50	63.20	

Indicative timetable for evaluation and grant agreement signature:

For single stage procedure:

- Information on the outcome of the evaluation: Maximum 5 months from the final date for submission; and
- Indicative date for the signing of grant agreements: Maximum 8 months from the final date for submission.

For two stage procedure:

- Information on the outcome of the evaluation: Maximum 3 months from the final date for submission for the first stage and maximum 5 months from the final date for submission for the second stage; and
- Indicative date for the signing of grant agreements: Maximum 8 months from the final date for submission of the second stage.

Eligibility and admissibility conditions: The conditions are described in General Annexes B and C of the work programme.

Evaluation criteria, scoring and threshold: The criteria, scoring and threshold are described in General Annex H of the work programme. The following exceptions apply:

SwafS-27-2020	For the action SwafS.27.2020, grants will be awarded to proposals according to the ranking list. However, in order to ensure a balanced portfolio of supported actions, at least the

	highest-ranked proposal per sub-topic will be funded provided it attains all thresholds.

Evaluation Procedure: The procedure for setting a priority order for proposals with the same score is given in General Annex H of the work programme.

The full evaluation procedure is described in the relevant guide published on the Funding & Tenders Portal.

Grant Conditions:

SwafS-01-2018-2019-2020, SwafS-05-2018-2019, SwafS-14-2018-2019-2020, SwafS-15-2018-2019, SwafS-23-2020, SwafS-27-2020, SwafS-28-2020	For grants awarded under this topic [beneficiaries may provide support to third parties as described in part K of the General Annexes of the Work Programme. The support to third parties can only be provided in the form of grants. The respective options of Article 15.1 and Article 15.3 of the Model Grant Agreement will be applied.
SwafS-05-2018-2019, SwafS-15-2018-2019, SwafS-17-2019, SwafS-19-2018-2019-2020, SwafS-21-2018, SwafS-23-2020, SwafS-27-2020, SwafS-28-2020, SwafS-29-2020, SwafS-30-2020	Grants awarded under this topic will be subject to the following additional dissemination obligations: consortia must make active efforts to freely share, in a timely manner and as appropriate, the research strategies, methodologies, and raw and analysed data deriving from their activities (including any evaluation activities), with the other projects funded by SWAFS subject to these same additional dissemination obligations. . Applicants must acknowledge and incorporate these obligations in their proposal, outlining the efforts they will make towards this in Annex 1 of the proposal. The respective option of Article 29.1 of the Model Grant Agreement will be applied. For SwafS.30.2020, the material will form part of the training e-platform created by European Network of Research Ethics and Research Integrity (ENERI)[99] and by the European Commission platform SINAPSE[100]

Consortium agreement:

SwafS-01-2018-2019-	Members of consortium are required to conclude a consortium

99 http://www.eurecnet.org/eneri/http://europa.eu/sinapsehttp://www.eurecnet.org/eneri/http://europa.eu/sinapse

100 http://www.eurecnet.org/eneri/http://europa.eu/sinapsehttp://www.eurecnet.org/eneri/http://europa.eu/sinapse

2020, SwafS-02-2018, SwafS-03-2018, SwafS-04-2018, SwafS-05-2018-2019, SwafS-06-2018, SwafS-07-2019, SwafS-08-2019-2020, SwafS-09-2018-2019-2020, SwafS-10-2018, SwafS-11-2019, SwafS-12-2019, SwafS-13-2018, SwafS-14-2018-2019-2020, SwafS-15-2018-2019, SwafS-16-2019, SwafS-17-2019, SwafS-18-2018, SwafS-19-2018-2019-2020, SwafS-20-2018-2019, SwafS-21-2018, SwafS-22-2018, SwafS-23-2020, SwafS-24-2020, SwafS-25-2020, SwafS-26-2020, SwafS-27-2020, SwafS-28-2020, SwafS-29-2020, SwafS-30-2020, SwafS-31-2020	agreement, in principle prior to the signature of the grant agreement.

Other actions[101]

1. Expert group to update and expand "Gendered Innovations/ Innovation through Gender" [102]

Gender and sex analysis is still not fully integrated in all areas of research and innovation in Europe. In 2011, the expert group "Gendered Innovations" was funded by FP7 and developed methods of gender and sex analysis, and case studies on the creative power of the gender dimension in research and innovation[103]. They help scientists integrate the gender dimension into research & innovation (R&I) content. Building on new research and Horizon 2020, it is time for an extensive update of its existing content and the development of new content to showcase state-of-the-art case studies and methods of gender and sex analysis.

Whereas in some disciplines, such as health and social sciences, awareness of the gender dimension has increased over the past years across Europe, much remains to be done in all scientific disciplines. Taking the gender dimension in R&I into account, improves research quality and societal relevance and widen market opportunities. The H2020 interim evaluation underlines the importance to further develop gender knowledge and expertise.

An expert group will be set up, composed of experts with gender expertise from the various fields of R&I and experts with communication expertise. The expert group will analyse how gender and sex analysis in research stimulates innovation and responds better to social needs and interests by opening new perspectives, new questions, and how it can contribute to a more gender equal society. Based on the results of the EU FP7-funded expert group "Innovation through gender" (2011-2012) and Horizon 2020 projects, the expert group will

a) update previously identified case studies and develop new ones, further refine the methodologies, checklists and other resources adapted to the various fields of research, and,

b) design awareness raising / training material, including videos and webinars, to promote "Gendered Innovations".

This activity will improve the quality and societal relevance of R&I, or conversely, to show how research is compromised if gender is not taken into account; encourage scientists to integrate the gender dimension in order to ensure innovative solutions to the societal challenges that Europe is facing; encourage diverse thinking and consequently lead to innovation in science.

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101 The budget amounts for the 2020 budget are subject to the availability of the appropriations provided for in the draft budget for 2020 after the adoption of the budget 2020 by the budgetary authority or, if the budget is not adopted, as provided for in the system of provisional twelfths.

102 This activity directly aimed at supporting the development and implementation of evidence base for R&I policies and supporting various groups of stakeholders is excluded from the delegation to REA and will be managed by the Commission services.

103 Available in the Gendered Innovations report and its website (http://ec.europa.eu/research/swafs/gendered-innovations/index_en.cfm?pg=home)

The experts will be highly qualified, specialised, independent experts selected on the basis of objective criteria, following a call for applications published in accordance with Article 10 of Decision C(2016)3301.

These experts, who will be appointed in their personal capacity, acting independently and expressing their own personal views, will be paid a special allowance of EUR 450/day for each full working day spent assisting the Commission, in terms of Article 21 of Decision C(2016)3301. This amount is considered to be proportionate to the specific tasks to be assigned to the experts, including the number of meetings to be attended and possible preparatory work.

Type of Action: Expert Contracts

Indicative timetable: 2018-2020

Indicative budget: EUR 0.50 million from the 2018 budget

2. Monitoring gender equality in Research and Innovation - Development, implementation and dissemination of indicators [104]

The European Commission has defined for the period 2016-2019 a Strategic engagement for gender equality[105] in all EU policies. Gender Equality in Research and Innovation is part of this Strategic Engagement. Furthermore gender equality is one of the priorities of a "Reinforced European Research Area Partnership for Excellence and Growth[106]" (ERA). In its 2015 Conclusions on Advancing Gender Equality in the ERA[107], the Council invites Member States to ensure regular collection of sex-disaggregated data and in cooperation with the Commission to monitor, with appropriate indicators, the implementation of gender policies, objectives, guiding targets and actions at institutional, national and EU level. In addition The Commission is invited to continue to strengthen the implementation, monitoring and evaluation of all Horizon 2020 objectives related to gender equality.

Overtime a wide-ranging set of statistics on Gender Equality in Research and Innovation has been published, and new impetus is needed to provide sound factual basis for Gender Equality policy in Research and Innovation. This study will update data and indicators on human resources in Science and Technology, Research & Development personnel, seniority grades, education, work- life balance, inclusion of the gender dimension in research and innovation content, boards' composition, funds, institutional change, gender and innovation collected insofar[108]. In addition it will go beyond taking stock of these data and indicators to match policy needs, with new indicators, based on commonly accepted definitions and with clearly specified coverage.

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104 This activity directly aimed at supporting the development and implementation of evidence base for R&I policies and supporting various groups of stakeholders is excluded from the delegation to REA and will be managed by the Commission services.

105 http://ec.europa.eu/justice/gender-equality/files/documents/160111_strategic_engagement_en.pdf

106 http://ec.europa.eu/research/era/era_communication_en.htm

107 http://data.consilium.europa.eu/doc/document/ST-14846-2015-INIT/en/pdf

108 SHE Figures 2015

The study will serve as one of the key tool in monitoring Member States and research organisations towards the achievement of the objectives set in the ERA Roadmap and in other relevant EU or national policies. Policy makers, Research Performing or Funding Organisations as other stakeholders will take benefit of updated statistics which will be used as a benchmark to evaluate the outcome and impact of the undertaken activities.

The budget requested for this action is based on past experience.

Expected impact: It is expected that the development, implementation and wide dissemination of a reliable set of indicators on gender equality in research and innovation will be one of the key tool in driving Member States and research organisations towards the objectives set in the ERA Roadmap and in other relevant EU or national policies.

Policy makers, Research Performing or Funding Organisations as other stakeholders will take benefit of up to date statistics which will be used as a benchmark to evaluate the outcome and impact of the activities undertaken.

Type of Action: Public Procurement - Public procurement - One direct contract

Indicative timetable: 4th Quarter 2018

Indicative budget: EUR 0.45 million from the 2018 budget

3. European Union Contest for Young Scientists (EUCYS) 2018 [109]

The European Union Contest for Young Scientists brings together first prize winners of national contests for pre-Higher Education Institution school science projects to compete for prizes and awards. The EU Contest takes place each year in a different location. This Contest provides additional stimulus to young people who have already demonstrated that they are applying science to solve problems. Many go on to become successful scientists. It attracts a considerable level of co-funding in the host country, and high levels of international media attention. International research organisations and similar bodies donate many of the non-monetary prizes.

This action allows for the provision of financial support to third parties in line with the conditions set out in Part K of the General Annexes.

Expected Impact: The contest will bring a greater level of awareness, and an interest in science and research among high school leavers. In the medium term, it will help close the skills gap in STEM, as more young people consider enrolling in scientific career paths. In the

[109] This activity directly aimed at supporting the development and implementation of evidence base for R&I policies and supporting various groups of stakeholders is excluded from the delegation to REA and will be managed by the Commission services.
This grant will be awarded without call for proposals in line with Article 190(1)(e) of the Rules of applications of Regulation (EU, Euratom) 966/2012, Regulation No 1268/2012 and Article 11(2) of the Rules for participation and dissemination in "Horizon 2020 - the Framework Programme for Research and Innovation (2014-2020)", Regulation (EU) No 1290/2013

long term, it will directly contribute towards the objective of a science literate, knowledge society where scientists are aware of social needs.

Legal entities:

Young Scientist of the Year Limited, , c/o BT, Grand Canal Plaza, Grand Canal St., Dublin 4, Ireland

Type of Action: Grant to identified beneficiary - Coordination and support actions

Indicative timetable: 2nd Quarter of 2018

Indicative budget: EUR 0.80 million from the 2018 budget

4. European Union Contest for Young Scientists (EUCYS) 2019 [110]

The European Union Contest for Young Scientists brings together first prize winners of national contests for pre-Higher Education Institution school science projects to compete for prizes and awards. The EU Contest takes place each year in a different location. This Contest provides additional stimulus to young people who have already demonstrated that they are applying science to solve problems. Many go on to become successful scientists. It attracts a considerable level of co-funding in the host country, and high levels of international media attention. International research organisations and similar bodies donate many of the non-monetary prizes.

This action allows for the provision of financial support to third parties in line with the conditions set out in Part K of the General Annexes.

The standard evaluation criteria, thresholds, weighting for award criteria and the maximum rate of co-financing for this type of action are provided in parts D and H of the General Annexes.

Expected Impact: The contest will bring a greater level of awareness and an interest in science and research among school students. This action will seek to garner collaboration from industry.

Legal entities:

Ministry of Education and Science, 2A Dondukov blvd, Sofia 1000, Bulgaria

Type of Action: Grant to identified beneficiary - Coordination and support actions

[110] This activity directly aimed at supporting the development and implementation of evidence base for R&I policies and supporting various groups of stakeholders is excluded from the delegation to REA and will be managed by the Commission services.
This grant will be awarded without call for proposals in line with Article 190(1)(e) of the Rules of applications of Regulation (EU, Euratom) 966/2012, Regulation No 1268/2012 and Article 11(2) of the Rules for participation and dissemination in "Horizon 2020 - the Framework Programme for Research and Innovation (2014-2020)", Regulation (EU) No 1290/2013
It is expected that this action will continue in 2020.

Indicative timetable: 3rd Quarter of 2019

Indicative budget: EUR 0.80 million from the 2019 budget

5. The Euroscience Open Forum (ESOF) 2020 [111]

The EuroScience Open Forum (ESOF) is a biennial, pan-European, general science conference dedicated to scientific research and innovation.

It is held under the auspices of the researcher organisation Euroscience and dedicated to scientific research and innovation.

It is designed by Euroscience as a unique opportunity in Europe to:

- the latest advances in science.
- dialogue on the role of science and technology in public policy.
- and provoke public interest and engagement, excitement and debate about science and technology.
- the European science community with global partners and perspectives.
- the interplay between science and society and inspire public debate on science-related societal change

A grant support will be offered to this inter/trans-disciplinary pan-European meeting to ensure that a structured and expanded dialogue among all societal actors (researchers, citizens, policy makers, business, third sector organisations, including all social groups) will be developed along the lines of the Science with and for Society Programme. In this context a special emphasis will be put on exploring and supporting further citizen science as an important dimension of open science and as a way to promote further Responsible Research and Innovation through outreach activities, science education or various forms of public engagement with science.

An inclusive and integrated combination of seminars, workshop, debates and round table discussion using new interactive and engaging formats will be provided and centred on Horizon 2020 key societal challenges.

[111] This activity directly aimed at supporting the development and implementation of evidence base for R&I policies and supporting various groups of stakeholders is excluded from the delegation to REA and will be managed by the Commission services.
This grant will be awarded without call for proposals in line with Article 190(1)(e) of the Rules of applications of Regulation (EU, Euratom) 966/2012, Regulation No 1268/2012 and Article 11(2) of the Rules for participation and dissemination in "Horizon 2020 - the Framework Programme for Research and Innovation (2014-2020)", Regulation (EU) No 1290/2013.
It is expected that this action will continue in 2020.

A special emphasis will be put on Science Journalism in the ESOF programme. A European prize award on the topic will be delivered during an ESOF2020 ceremony in the presence of European Commission representatives.

For grants awarded under this topic beneficiaries may provide support to third parties as described in part K of the General Annexes of the Work Programme either in form of grants or prizes. The respective options of Article 15 of the Model Grant Agreement will be applied.

Expected impact: The Euroscience Open Forum will raise awareness among a very large public on the further integration of Responsible Research and Innovation (RRI) and Citizen science as a way to contribute to the goal of Open Science. It will also give a picture of the fundamental changes undergoing in science and innovation landscape and its implications for the interactions with society and the economy.

Legal entities:

Trieste International Foundation for Scientific Progress and Freedom , c/o Strada Costiera, 11 34151 TRIESTE

EuroScience, 1 Quai Lezay Marnésia, F-67000 Strasbourg

Type of Action: Grant to identified beneficiary - Coordination and support actions

Indicative timetable: 2nd quarter 2019

Indicative budget: EUR 1.10 million from the 2018 budget

6. Use of individual experts to evaluate desk based applications and implementing on-site visits under the promotion of HR Strategy [112]

More and more employers of researchers and funders recognise the importance of making research careers in Europe more attractive, and enabling researchers to undertake work of a high calibre in a supportive environment. As a result, a steadily growing number of institutions are voluntarily participating in the Human Resources Strategy for Researchers (HRS4R). Promoting Human Resources Management (HRM) will increase the attractiveness of European research careers, particularly for early stage researchers and young people considering research as a career option. The HRS4R is gaining traction across Europe and is accepted as a valuable tool to promote continued improvement in human resources practices for researchers. In the context of the peer-review process to be implemented under the HRS4R, institutions undergo every two and then three years an external assessment by three individual experts. Moreover, as part of the HRS4R procedure, on-site visits will be carried out in all research institutions, after they received the HR award. Peer-review experts will assess whether the HR Awards received by research institutions should be maintained or withdrawn.

[112] This activity directly aimed at supporting the development and implementation of evidence base for R&I policies and supporting various groups of stakeholders is excluded from the delegation to REA and will be managed by the Commission services.

A special allowance of EUR 450/day will be paid to the expert appointed in its personal capacity who acts independently and in the public interest.

Type of Action: Expert Contracts

Indicative timetable: For 2018, 3rd - 4th Quarter 2018 and for 2019, 1st – 4th Quarter 2019

Indicative budget: EUR 0.25 million from the 2018 budget and EUR 0.65 million from the 2019 budget

7. HR Strategy mutual learning seminars [113]

The activity aims to improve working conditions for researchers. Promoting and increasing awareness and implementation of the HRS4R across Europe will lead to all major research institutions awarded with the HR logo, while contributing to further recognition of the Strategy. The activity aims at facilitating the take-up of the HRS4R as to advance the human resources policy of an institution. A number of workshops will be organised in selected countries.

Type of Action: Public Procurement - Two specific contract using an existing framework contract.

Indicative timetable: 2nd Quarter 2018 and 2nd Quarter 2020

Indicative budget: EUR 0.10 million from the 2018 budget and EUR 0.25 million from the 2020 budget

8. Development, maintenance and promotion of EURAXESS portal and associated websites and tools + IS Coordinator[114]

Different activities will be undertaken to increase the capacity and ensure the user-friendliness of the EURAXESS portal and associated websites and tools. They also include technical maintenance, architectural developments, and graphical and functional enhancements related to the most recent political developments. These activities will also encompass services by external information system provider who, on the basis of inputs provided by the responsible Commission services, guarantees the smooth running of the EURAXESS portal and tools.

The promotion activities will increase awareness about ERA and its priorities, more specifically priority 3: An open labour market for researchers, and its policy instruments (among which EURAXESS, RESAVER, etc.). The promotion activities will also address the barriers to the mobility of researchers across borders, sectors and disciplines, with a focus on

113 This activity directly aimed at supporting the development and implementation of evidence base for R&I policies and supporting various groups of stakeholders is excluded from the delegation to REA and will be managed by the Commission services.
The budget requested for this action is based on past experience.
It is expected that this action will continue in 2020.

114 This activity directly aimed at supporting the development and implementation of evidence base for R&I policies and supporting various groups of stakeholders is excluded from the delegation to REA and will be managed by the Commission services.

creating and stimulating conditions for open, transparent and merit-based recruitment, as well as attractive career options for researchers across Europe and beyond.

The budget requested for this action is based on past experience

Type of Action: Public Procurement - Up to eight contracts using an existing framework contract f or IT

Indicative timetable: For 2018: 1st Quarter of 2018 (IS coordinator) and 2nd Quarter 2018 (Maintenance). For 2019: 1st Quarter of 2019 (IS coordinator) and 2nd Quarter 2019 (Maintenance). For 2020: 1st Quarter of 2020 (IS coordinator) and 2nd Quarter of 2020 (Maintenance)

Indicative budget: EUR 0.30 million from the 2018 budget(Maintenance, IS Coordinator) and EUR 0.47 million from the 2019 budget(IS Coordinator, maintenance and promotion) and EUR 0.53 million from the 2020 budget(IS coordinator, maintenance and promotion)

9. Researchers' Conference 2019 [115]

The researchers' Conference on ERA related matters will discuss topics that directly influence researchers careers, such as gender, open recruitment, access to information, ethics in research, science education, refugee researchers and more.

Type of Action: Public Procurement - One specific contract using an existing framework contract.

Indicative timetable: 2nd Quarter 2019

Indicative budget: EUR 0.25 million from the 2019 budget

10. EURAXESS Biennial Conference [116]

The conference to be held in 2019 will bring together around 200 participants from the 40 EURAXESS member countries and the overseas destinations. It aims at providing an update on the policy agenda, exchange of best practices, enhancement of networking between the members and further strategic development of the activities. The Conference objective is to further discuss how to support the mobility and career development of researchers at European and national level to give visibility to the achievements reached so far, and create a new momentum for the "EURAXESS-Researchers in Motion" activities, supporting the EU's policy agenda in this matter. A particular focus should be placed on the international

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The budget for this action is calculated according to past experience.
It is expected that this action will continue in 2020.

116 This activity directly aimed at supporting the development and implementation of evidence base for R&I policies and supporting various groups of stakeholders is excluded from the delegation to REA and will be managed by the Commission services.
It is expected that this action will continue in 2020.

dimension covered by the EURAXESS Links initiative addressing the "researchers' diaspora" issue.

The budget for this action is calculated according to past experience.

Type of Action: Public Procurement - One specific service contracts under an existing Framework contracts.

Indicative timetable: 2nd quarter 2019

Indicative budget: EUR 0.35 million from the 2019 budget

11. Promotion of the EURAXESS initiative[117]

The promotion of the EURAXESS initiative will put a special emphasis on the online presentation (EURAXESS portal). Increased job and funding opportunities on the EURAXESS Jobs portal and personalised assistance to researchers will accelerate the career development of researchers and thus contribute to the policy objective of more jobs and growth.

The budget for this action is calculated according to past experience.

Type of Action: Public Procurement - one specific service contracts under an existing a Framework contract.

Indicative timetable: 2nd quarter 2018,

Indicative budget: EUR 0.10 million from the 2018 budget

12. Industrial Talents dimension of the Innovative Doctoral Training Principles [118]

In order to remain competitive, Europe must not only invest in generating a sufficiently large pool of human resources for research and innovation, but it must also train researchers to acquire the appropriate set of skills that may enable them to embrace a research and innovation career outside of academia. As a result, many European countries and indeed universities encourage partnerships between academia and industry, but coverage is patchy and uneven across sectors and countries.

This action will put into practice recommendations that will be set out in a feasibility study on fostering industrial talents at European level that will take stock of and evaluate current intersectoral mobility schemes, and if and how an EU initiative could be replicable across different contexts, sectors and countries. Following the study, a series of seminars will be held

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It is expected that this action will continue in 2020.

118 This activity directly aimed at supporting the development and implementation of evidence base for R&I policies and supporting various groups of stakeholders is excluded from the delegation to REA and will be managed by the Commission services.

in 2018 with eminent experts in the field of intersectoral mobility, who will analyse the recommendations from the above-mentioned study and propose a way forward. This action will serve as the implementation of the proposals put forward by the experts.

The EU level initiative, which will be outlined by experts in the seminars carried out in 2018, is expected to facilitate an increase in the level of inter-sectoral mobility in Europe across sectors and borders, thereby equipping researchers with the skills needed for a career outside of academia.

Type of Action: Public Procurement - One direct service contract

Indicative timetable: 3rd Quarter 2019

Indicative budget: EUR 2.00 million from the 2019 budget

13. International EURAXESS Conference (WORLDWIDE) [119]

The EURAXESS WORLDWIDE conference shall attract around 150 participants (target audience: European and Brazilian researchers) from all over the country as well as some invited European guest speakers and contributors. The EURAXESS WORLDWIDE conference aims at strengthening cooperation between researchers in the different international communities with the final aim of promoting science as engine of growth and Europe as the place for excellent science. It will focus on topics related to mobility and international cooperation. The event will also be an excellent opportunity to approach the European research-intensive industries.

The budget for this action is calculated according to past experience.

Type of Action: Public Procurement - One specific contract under an existing framework contract.

Indicative timetable: 4th Quarter of 2020

Indicative budget: EUR 0.20 million from the 2020 budget

14. EURAXESS WORLDWIDE implementation[120]

The objective of the international arm of the EURAXESS initiative is to link Europe to the rest of the world and to promote international collaboration of researchers, mobility and career development. Through their websites, monthly newsletters and activities the EURAXESS WORLDWIDE country representatives maintain the link between Europe and the world. The aim is to promote the attractiveness of Europe to undertake research of EU and

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non-EU researchers outside Europe. EURAXESS WORLDWIDE officers are located in the following countries and regions: ASEAN, China, India, Japan and North America & South-America. New countries that could be opened during the implementation phase of the framework contract are Russia, Australia-New Zealand and/or South-Africa.

This action will consist of concluding a follow-up framework contract (budget 9 Mio) to support the EURAXESS WORLDWIDE network. The new framework contract will cover more countries or hubs during the contractual period. The first specific contract implementing the EURAXESS WORLDWIDE Framework Contract will cover the animation of the network. This specific contract will guarantee the continuity of the operations of the network in the different destinations and allow the extension of the activities to new countries and tasks.

The budget for this action is calculated according to past experience.

Type of Action: Public Procurement - Specific Contract.

Indicative timetable: New framework contract: 1st Quarter 2018. Two specific contract under the new EURAXESS WORLDWIDE framework: 4th Quarter 2019 and 4th Quarter 2020

Indicative budget: EUR 2.00 million from the 2019 budget and EUR 2.00 million from the 2020 budget

15. RESAVER- Support to RESAVER Pension Fund[121]

The overall aim of RESAVER Pension Fund is to ensure free circulation of researchers by removing pension as an obstacle to mobility which corresponds to the strategic objectives of the Union policy as stipulated in Article 179 TFEU on the establishment of a European Research Area.

RESAVER Pension Fund is the first multi-country, multi-employers pension fund that enables mobile employees of the research institutions to remain affiliated to the same supplementary pension fund (2nd pillar and 3rd pillar) when moving between different countries and changing jobs.

The pension fund is based on the IORP directive ((2003/41/EC) Institutions for Occupational Retirement Provision) which provides a framework for institutions providing occupational

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This grant will be awarded without call for proposals in line with Article 190(1)(e) of the Rules of applications of Regulation (EU, Euratom) 966/2012, Regulation No 1268/2012 and Article 11(2) of the Rules for participation and dissemination in "Horizon 2020 - the Framework Programme for Research and Innovation (2014-2020)", Regulation (EU) No 1290/2013.
According to article 6.2 E of the Model Grant Agreement, beneficiaries receiving an operating grant financed by the EU or EURATOM budget cannot declare indirect costs for the period covered by the operating grant, unless they can demonstrate that the operating grant does not cover any costs of the action.

pensions in all EU countries. The pension fund complies with national social and labour law and does not interfere with Member States prerogative in the area of 1st pillar pension.

Operational from 2017, the pension fund is being rolled-out across the European Economic Area.

The purpose of the operating grant is to provide financial support towards the functioning of the RESAVER pension fund in its core activities - over a period that is equivalent to its accounting year - in order to carry out a set of activities detailed in a work programme. Such support is provided not to the implementation of a specific action but to the RESAVER Pension Fund annual operating budget or part of it according to Article 177(b) of Regulation (EU) No 1268/2012. To this end, an operating grant will be awarded to RESAVER Pension Fund for 2019.

In the future the eligible costs will be covered from two sources of revenue, namely an additional contribution (membership fee) paid by the employers and a percentage of the total accumulated assets in the pension fund. However, due to the gradual increase of participating institutions and the limited size of assets, a third source of revenue is necessary during the initial phase to cover costs that are eligible according to the Financial Regulation and the Horizon 2020 Rules of Participation.

Funding rate: The maximum rate of Union co-financing is 100% of eligible costs not covered by membership fees and fees on accumulated assets in the pension fund.

Expected impact: RESAVER will remove one of the barriers to researchers' mobility by providing a cross-border supplementary pension fund, and it will thereby contribute to the establishment of a European Research Area in which researchers circulate freely as set out in Article 179 TFEU.

Selection Criteria: The standard evaluation rules are listed in Annex H of the Work Programme

Award criteria, scores and weighting: The standard evaluation rules are listed in Annex H of the Work Programme

Evaluation procedure: The applicant must submit a work programme for the budgetary year concerned, which will be evaluated by the Commission according to Article 15(8) of Regulation (EU) No 1290/2013. The Commission will provide Member States with detailed information on the evaluation procedure used and its outcome.

Submission and other procedures: By way of derogation from Article 22 of Regulation No 1290/2013 and part B of the General Annexes, the applicant's proposal and the work programme will be submitted on paper. All procedures and templates used for the publication, submission, evaluation, award and monitoring of the grant will be on paper, whereas the online system that supports Horizon 2020 actions does not allow proceeding electronically or does not provide the relevant template.

Legal entities:

'RESAVER Pension Fund OFP' (Retirement Savings Vehicle for European Research Institutions),, 22, Rue de Pascale, 1040 Brussels. Belgium

Type of Action: Grant to identified beneficiary - Operating Grant

Indicative timetable: 1st quarter of 2019

Indicative budget: EUR 0.29 million from the 2018 budget

16. Fostering transnational cooperation between National Contact Points (NCP) in the area of Science with and for Society: follow-up project[122]

The action will facilitate transnational cooperation between Horizon 2020 NCPs in the area of Science with and for Society, with a view to identifying and sharing good practices and raising the general standard of support to programme applicants, taking into account the diversity of actors that make up the constituency of the Science with and for Society sector. It will involve one consortium of NCPs focussing on transnational cooperation on issues specific to the Science with and for Society sector, within the context of Horizon 2020 calls for proposals.

All activities must be tailored according to the nature of this sector.

The proposal should show that the activities put forward will deliver tangible benefits to potential applicants. Activities should capitalise on relevant work of the previous NCP network project in this sector, and of the 'NCP Academy' (*www.ncpacademy.eu*). Various mechanisms may be included, such as benchmarking, joint workshops, enhanced cross-border brokerage events, and specific training linked to the Science with and for Society sector and Responsible Research and Innovation (RRI) and gender as cross-cutting issues.

Where relevant, activities should make use of commonly available tools (e.g. for brokerage and partner search, benchmarking tools, guidebooks, promotional tools etc).

To help close the innovation divide, a substantial component of the proposed activities must be devoted to activities aimed at helping NCPs in those countries that have been participating at low levels in the programme up to now. These activities should help these NCPs rapidly acquire the know-how on NCP operations accumulated in other countries including, for example, training, mentoring, and twinning. They may also include awareness raising actions aimed at increasing visibility of well-qualified potential applicant organisations in the above mentioned countries.

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The legal entities listed below are the host organisations of NCPs from EU Member States and Associated Countries that have been officially appointed by the relevant national authorities, and which have expressed a willingness to participate in this proposal. NCPs opting not to be a beneficiary are nevertheless invited and encouraged to participate in the project activities (e.g. workshops), and costs for such participation (e.g. travel costs paid by the consortium) may be included in the estimated budget and be eligible for funding by the Commission.

In line with Articles 2, 31.6 and 41.4 of the Model Grant agreement, the project arising from this grant will complement other NCP network projects. This means that the beneficiaries and those of the complementary grants must cooperate and provide access to their results. They must conclude a written collaboration agreement regarding the coordination of the complementary grants and the work of the action.

The project must end by August 2020.

Expected impact:

- An improved, more consistent and professionalised NCP service across Europe, thereby helping simplify access to Horizon 2020 calls, and lowering the entry barriers for newcomers,
- An increase in the quality and quantity
- of proposals submitted, including those from countries where success rates are currently lower than average.

The conditions related to this topic are provided at the end of this call and in the General Annexes.

Legal entities:

THE ICELANDIC CENTRE FOR RESEARCH (RANNIS), Laugavegur 13, 101, REYKJAVIK, ICELAND

SIHTASUTUS EESTI TEADUSAGENTUUR (ETAg), SOOLA 8, 51013, TARTU, ESTONIA

OESTERREICHISCHE FORSCHUNGSFOERDERUNGSGESELLSCHAFT MBH (FFG), Sensengasse 1, 1090, VIENNA, AUSTRIA

AGENZIA PER LA PROMOZIONE DELLA RICERCA EUROPEA (APRE), VIA CAVOUR 71, 00184, ROMA, ITALY

FUNDACION ESPANOLA PARA LA CIENCIA Y LA TECNOLOGIA (FECYT), Calle Pedro Teixeira 8, Planta 2, 28020, MADRID, SPAIN

INSTYTUT PODSTAWOWYCH PROBLEMOW TECHNIKI POLSKIEJ AKADEMII NAUK (IPPT PAN), Adolfa Pawinskiego 5B, 02-106, WARSAW, POLAND

TECHNOLOGICKE CENTRUM AKADEMIE VED CESKE REPUBLIKY (TC AV CR), Ve Struhach 1076/27, 160 00, PRAHA, CZECH REPUBLIC

DEUTSCHES ZENTRUM FUER LUFT - UND RAUMFAHRT EV (DLR), Linder Hoehe, 51147, KOELN, GERMANY

FUNDACAO PARA A CIENCIA E A TECNOLOGIA (FCT), AVENIDA D CARLOS I 126 000, 1249 074, LISBOA, PORTUGAL

NATIONAL TECHNOLOGICAL INNOVATION AUTHORITY, Hamered Street 29 , 6812511 TEL AVIV YAFFO, ISRAEL

ACADEMY OF SCIENTIFIC RESEARCH AND TECHNOLOGY (ASRT), KASR EL AINI STREET 101 000, 11516, CAIRO, EGYPT

DIENST VOOR WETENSCHAPPELIJKE EN TECHNISCHE INFORMATIE/ SERVICE D'INFORMATION SCIENTIFIQUE ET TECHNIQUE (STIS/BELSPO), AVENUE LOUISE- LOUIZALAAN 231, 1050, BRUXELLES, BELGIUM

AGENCIJA ZA MOBILNOST I PROGRAME EUROPSKE UNIJE (AMEUP), FRANKOPANSKA 26 000, 10000, ZAGREB, CROATIA

IDRYMA PROOTHISIS EREVNAS (RPF), STROVOLOS 123 23422, 2042, LEFKOSIA, CYPRUS

ETHNIKO IDRYMA EREVNON (NHRF (EIE)), VAS KONSTANTINOU 48 000, 11635, ATHINA, GREECE

ASSOCIATION DES MUSEES ET CENTRE POUR LE DEVELOPPEMENT DE LA CULTURE SCIENTIFIQUE, TECHNIQUE ET INDUSTRIELLE (AMCSTI), 292 RUE DU FAUBOURG SAINT MARTIN 000, 75003, PARIS, FRANCE

Type of Action: Grant to identified beneficiary - Coordination and support actions

Indicative timetable: 1st Quarter 2018

Indicative budget: EUR 0.60 million from the 2018 budget

17. Debate Science! European Youth Parliaments[123]

The Commission will support the final event of the 'Debate Science! European Student Parliaments'. This activity is in line with the main objectives of the Science with and for Society Programme and Responsible Research and Innovation policy (RRI), and in particular

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the main objectives of the science education as an integral part of the RRI policy : to build effective cooperation between science and society, to attract youth towards scientific studies and careers, to pair the interest of youth in science with social awareness and responsibility, and to help them to become more active citizens in the field of science. This activity also aligns with the overall objectives of ESOF 2018 to foster European dialogue on science and technology by engaging citizens, and in this case youth, to increase communication and cooperation between science and society. This activity enables to engage youth in debates about science and the solutions it can bring to the challenges European Society will face in the future (alongside of learning the democratic decision process).

'Debate Science! European Student Parliaments' is a unique opportunity for European youth to engage in debate on issues relating to science and technology with the help of scientists, and thus to provide insights on the views of youth on themes that will be of importance for future European research and innovation policy. The 'Debate Science! European Student Parliaments' held in Toulouse will be the culmination of a series of local debates carried out in Europe by students at the secondary level of education in different Member States. It consists of a series of events during the period of two years, the final event during the Euroscience Open Forum (ESOF) in July 2018 in Toulouse, France.

This action allows for the provision of financial support to third parties in line with the conditions set out in Part K of the General Annexes.

Expected impact: The impact of this action is important at the national level as well as at European and international levels, given that the activity will take place during the Euroscience Open Forum (ESOF) 2018 in Toulouse. This action will raise awareness among the general public of the importance of science education and on the need to attract youth to scientific careers, especially young girls, in this case through informal science education activities, as part of the concept of Responsible Research and Innovation (RRI) as a cross cutting issue for Horizon 2020 and in the context of European Research Area (ERA).

Legal entities:

Wissenschaft im DIALOGUE Gmbh, Wissenschaft im Dialog, Charlottenstraße 80, D-10117 Berlin, Germany

Type of Action: Grant to identified beneficiary - Coordination and support actions

Indicative timetable: 1er Quarter 2018

Indicative budget: EUR 0.10 million from the 2018 budget

18. Stocktaking of 20 years of Gender equality in Research and Innovation[124]

A conference on gender equality is planned to take place under the Finnish Presidency. The conference will take stock of the policy achievements 20 years after the Communication "Women and Science: mobilising women to enrich European research". It will be also an opportunity to reflect on the future strategy and actions at EU level. The conference will enhance the dialogue and knowledge sharing between policy makers, academia, research institutions, research funding agencies, researchers and society.

One of the main focus of the conference will be on institutional change. the project will include an assessment of the experience and results/impact of the ERA strategy and the EU co-funded projects on institutional change under FP7 and Horizon 2020.

Expected Impact: the conference will give policy inputs to on-going initiatives relating to gender equality in the European Research Area (ERA) and in Horizon 2020, and feed in the upcoming new framework programme as well as joint policy initiatives.

Legal entities:

Department for Higher Education and Science Policy at the Ministry of Education and Culture- Finland, P.O. Box 29 FI-00023 Government, Finland

Type of Action: Grant to identified beneficiary - Coordination and support actions

Indicative timetable: 2nd Quarter 2019

Indicative budget: EUR 0.20 million from the 2019 budget

19. EU Prize for Women Innovators[125]

Women are underrepresented in terms of creating innovative enterprises. This is an untapped potential for Europe, which needs to optimise all available resources to remain competitive and find solutions to our societal challenges.

This award scheme recognises the role of women in bringing about game-changing innovations to market honouring the outstanding achievements of women running innovative companies. The "EU Prize for Women Innovators" will be awarded to up to four women innovators in total (three women and one young woman innovator, so-called 'rising innovator') who have created the largest impact on the innovation ecosystem by transforming

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It is expected that this action will continue in 2020.

ideas into new and advanced products and/or services for the benefit and wealth of the European citizens.

Three prizes of EUR 0.10 million each and one prize of EUR 0.05 million in the 'rising innovator' category: EUR 0.35 million from the 2018 budget, EUR 0.35 million from the 2019 budget and EUR 0.35 million from the 2020 budget.

The specific rules of the contest will be published each year by the European Commission (on the Participant Portal but also actively publicised elsewhere to maximise participation), which will directly launch and manage the contest and award the prize based on the judgement of independent experts.

Essential award criteria:

Eligible applications will be evaluated by a High-Level Jury. The High-Level Jury will consist of a group of independent experts from business, finance and academia appointed by the Commission.

The prize will be awarded, after closure of the contest, to the contestants who in the opinion of the jury best address the following cumulative criteria:

- Breakthrough Innovation – the company funded/co-funded by the contestant provides cutting edge product or service

- Impact – the cutting edge product or service brings major benefits to citizens and society and the economy

- Inspiration – the contestant has shown active leadership and her role has influenced the success of the company. The contestant has the potential to inspire others.

Eligibility criteria:

The contestant must be a woman. For the Rising Innovator Award, the contestant must be a woman aged 35 years or under.

The contestant must be an ordinarily resident of an EU Member State or of a country associated to Horizon 2020.

The contestant must be the founder or co-founder of an existing and active company which was registered before 1 January year-1[126]].

The contestant will have to provide proof of eligibility and a written presentation of her achievements, as well as support their applications with a link to a video of maximum 90 seconds. The submission consists of a complete application.

For the common Rules of Contest for Prizes please see General Annex F of the work programme.

[126] For the contest opening in 2018: 1 January 2017;
for the contest opening in 2019: 1 January 2018; for the contest opening in 2020: 1 January 2019.

Expected results: The prizes will boost public awareness of the potential, importance and contribution of women to the innovation ecosystem and create strong role models inspiring other women to become innovators themselves.

Indicative timetable of contest(s):

Stages	Date and time or indicative period
Opening of the contest	Third quarters of 2018, 2019 and 2020
Deadline for submission of application	Fourth quarters of 2018, 2019 and 2020
Award of the prize	First quarters of 2019, 2020 and 2021

Type of Action: Recognition prize

Indicative timetable: Third Quarter 2018, Third Quater 2019 and Third Quarter 2020

Indicative budget: EUR 0.35 million from the 2018 budget and EUR 0.35 million from the 2019 budget and EUR 0.35 million from the 2020 budget

20. Expertise[127]

This action will support the use of appointed independent experts for the monitoring of actions (grant agreements, grant decisions, procurements, financial instruments), and where appropriate include ethics checks.

Type of Action: Expert Contracts

Indicative timetable: 4th quarter 2018 and 4th quarter 2019 and 4th Quarter 2020

Indicative budget: EUR 0.95 million from the 2018 budget and EUR 0.95 million from the 2019 budget and EUR 0.95 million from the 2020 budget

21. External expertise for ad hoc tasks related to the implementation of Horizon 2020 Ethics Appraisal scheme[128]

This action will support the use of independant experts to advise on or assist with the implementation of the Horizon 2020 Ethics Appraisal scheme in view of ensuring and maintaining its quality and effectiveness.

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It is expected that this action will continue in 2020.

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It is expected that this action will continue in 2020.

Since the above tasks requires specialised knowledge in research ethics/integrity and the related national and European legal framework (e.g. data protection and privacy, dual use, benefit sharing, etc.) a special allowance of EUR 450/day will be paid to the experts appointed in their personal capacity who act independently and in the public interest.

Type of Action: Expert Contracts

Indicative timetable: 1st Quarter 2018, 1st Quarter 2019 and 1st Quarter 2020

Indicative budget: EUR 0.05 million from the 2018 budget and EUR 0.05 million from the 2019 budget and EUR 0.05 million from the 2020 budget

22. EURAXESS Armenia start-up[129]

For enlarging the EURAXESS network, a grant will be awarded to the legal entities officially designated by the relevant Ministry in Armenia for a maximum duration of action of 36 months. The Commission contributions are designated for the start-up phase for the organisation of the national EURAXESS network.

Similar type of support has been provided for all new Associated Countries to current and previous framework programmes.

Expected impact: The action will increase the efficiency and effectiveness of Armenia's participation in the EURAXESS network.

Legal entities:

National Academy of Sciences of the Republic of Armenia, 24 Marshal Baghramjan Avenue 375019 Yerevan, Armenia

Type of Action: Grant to identified beneficiary - Coordination and support actions

Indicative timetable: 4th Quarter 2018

Indicative budget: EUR 0.20 million from the 2018 budget

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This grant will be awarded without call for proposals in line with Article 190(1)(e) of the Rules of applications of Regulation (EU, Euratom) 966/2012, Regulation No 1268/2012 and Article 11(2) of the Rules for participation and dissemination in "Horizon 2020 - the Framework Programme for Research and Innovation (2014-2020)", Regulation (EU) No 1290/2013

23. EURAXESS Georgia start-up[130]

For enlarging the EURAXESS network, a grant will be awarded to the legal entities officially designated by the relevant Ministry in Georgia running for a maximum duration of action of 36 months. The Commission contributions are designated for the start-up phase for the organisation of the national EURAXESS network.

Similar type of support has been provided for all new Associated Countries to current and previous framework programmes.

Expected impact: The action will increase the efficiency and effectiveness of Georgia's participation in the EURAXESS network.

Legal entities:

Shota Rustaveli National Science Foundation,, Aleksidze Str 1, 0193 Tbilisi, Georgia

Type of Action: Grant to identified beneficiary - Coordination and support actions

Indicative timetable: 4th Quater 2018

Indicative budget: EUR 0.20 million from the 2018 budget

24. EUCYS 2020[131]

The European Union Contest for Young Scientists brings together first prize winners of national contests for pre-Higher Education Institution school science projects to compete for prizes and awards. The EU Contest takes place each year in a different location. This Contest provides additional stimulus to young people who have already demonstrated that they are applying science to solve problems. Many go on to become successful scientists. It attracts a considerable level of co-funding in the host country, and high levels of international media attention. International research organisations and similar bodies donate many of the non-monetary prizes.

This action allows for the provision of financial support to third parties in line with the conditions set out in Part K of the General Annexes.

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131 This activity directly aimed at supporting the development and implementation of evidence base for R&I policies and supporting various groups of stakeholders is excluded from the delegation to REA and will be managed by the Commission services.
This grant will be awarded without call for proposals in line with Article 190(1)(e) of the Rules of applications of Regulation (EU, Euratom) 966/2012, Regulation No 1268/2012 and Article 11(2) of the Rules for participation and dissemination in "Horizon 2020 - the Framework Programme for Research and Innovation (2014-2020)", Regulation (EU) No 1290/2013

The standard evaluation criteria, thresholds, weighting for award criteria and the maximum rate of co-financing for this type of action are provided in parts D and H of the General Annexes.

Expected Impact: The contest will bring a greater level of awareness and an interest in science and research among school students. This action will seek to garner collaboration from industry.

Legal entities:

Universidad de Salamanca, Patio de Escuelas 1, 37008, Salamanca, Spain

Type of Action: Grant to identified beneficiary - Coordination and support actions

Indicative timetable: 3rd Quarter 2020

Indicative budget: EUR 0.80 million from the 2020 budget

25. Eurobarometer on public knowledge, perceptions, values and expectations of Responsible Research and Innovation[132]

Research and innovation (R&I) is undergoing far-reaching changes to its *modus operandi*, which impacts upon the entire R&I cycle and affects all R&I institutions and the practice of science itself. Asymmetries exist in the ability of individuals to interact with and access science, and policies continue to be developed without adequate regard to scientific consensus. Increased expectations are put on R&I, yet scientific and technological breakthroughs continue to be scrutinised intensely.

Responding to these changing conditions, policy responses and discussions at EU level have included e.g. the 3Os Strategy (Open innovation, open science, open to the world), mission-oriented approaches to research and innovation, and the responses to the interim evaluation of Horizon 2020 as proposed in the 'Lamy Report'[133].

Up-to-date and robust evidence is therefore needed of European public knowledge, perceptions and expectations of R&I, in order to take stock of the relationship between science and society, enable the identification of changes in these and trajectories over time, and inform the continued development of policy responses at different levels of governance.

This Eurobarometer will provide a snapshot of public knowledge, perceptions, values and expectations of science, technology and R&I, enabling time-series comparisons to relevant

132 This activity directly aimed at supporting the development and implementation of evidence base for R&I policies and supporting various groups of stakeholders is excluded from the delegation to REA and will be managed by the Commission services.

133 https://ec.europa.eu/info/sites/info/files/mazzucato_report_2018.pdf.https://ec.europa.eu/research/evaluations/pdf/archive/other_reports_studies_and_documents/hlg_2017_report.pdf. https://ec.europa.eu/research/evaluations/pdf/archive/other_reports_studies_and_documents/hlg_2017_report.pdf.

and appropriate questions in previous Eurobarometers[134]. In addition, it will capture data needed for the continued monitoring the evolution and benefits of responsible research and innovation[135]. Finally, it will focus on newer developments in science, technology and R&I that have not previously been captured extensively in the Eurobarometers, such as the rise of citizen science and user-led innovation and public expectations of governance frameworks for responsible research and innovation.

Type of Action: Public Procurement - One specific contract

Indicative timetable: 1st Quarter 2020

Indicative budget: EUR 1.50 million from the 2020 budget

26. Conference 'A citizen science decade (2020-2030) in support to the Sustainable Development Goals'[136]

Citizen science is blooming across all scientific disciplines and the humanities and is promoted as part of open science under the 3Os Strategy. Responding to this, citizen science is a strategic priority in the Science with and for Society Work (SwafS) Programme 2018-2020. The present Work Programme supports one project to co-ordinate citizen science initiatives (SwafS-15-2018-2020, CSA), multiple projects to obtain novel scientific and innovation results through citizen science (SwafS-15-2018-2020, RIA), one project to analyse the ethical implications of interactions between different stakeholders (including citizens) in innovation processes (SwafS-16-2019), and one project to carry out research on citizen science itself (SwafS-17-2019).

Building on and helping valorise the support given to citizen science through the SwafS Work Programme 2018-2020, the Commission will support a conference on citizen science to be held during the second semester of 2020. This will be an opportunity to reflect on the future strategy for citizen science and actions at EU and global levels. It will enhance dialogue and

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134 https://publications.europa.eu/s/kVnl. https://ec.europa.eu/info/sites/info/files/mazzucato_report_2018.pdf.https://ec.europa.eu/research/evaluations/pdf/archive/other_reports_studies_and_documents/hlg_2017_report.pdf. https://ec.europa.eu/research/evaluations/pdf/archive/other_reports_studies_and_documents/hlg_2017_report.pdf.

135 https://publications.europa.eu/en/publication-detail/-/publication/527ea7ce-36fc-11e7-a08e-01aa75ed71a1https://ec.europa.eu/info/sites/info/files/mazzucato_report_2018.pdf. https://ec.europa.eu/research/evaluations/pdf/archive/other_reports_studies_and_documents/hlg_2017_report.pdf. See http://ec.europa.eu/COMMFrontOffice/publicopinion/index.cfm. See Monitoring the Evolution and Benefits of Responsible Research and Innovation (MoRRI). http://www.technopolis-group.com/morri/. See also SwafS-21-2018: Advancing the Monitoring of the Evolution and Benefits of Responsible Research and Innovation (http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/topics/swafs-21-2018.html).

136 This grant will be awarded without call for proposals in line with Article 195(e) of the Financial Regulation, Regulation (EU, Euratom) No 1046/2018 and Article 11(2) of the Rules for participation and dissemination in "Horizon 2020 - the Framework Programme for Research and Innovation (2014-2020)", Regulation (EU) No 1290/2013.
This activity directly aimed at supporting the development and implementation of evidence base for R&I policies and supporting various groups of stakeholders is excluded from the delegation to REA and will be managed by the Commission services.

knowledge sharing between the stakeholders engaged in the quadruple helix (e.g. policy makers, academia, research institutions, research funding agencies, researchers, citizens and civil society organisations), with the aim of achieving the United Nations' Sustainable Development Goals (SDGs) by 2030.

The conference will take stock of and draw conclusions from the varied citizen science projects supported so far, focusing not only on SwafS-funded citizen science projects, but also on those supported by different parts of Horizon 2020 and notable examples emanating from global, national, regional and grassroots initiatives. One area of focus of the conference will be on institutional changes towards Responsible Research and Innovation related to citizen science, taking stock of the SwafS achievements in this field. It will also include an assessment of the experience and results/impacts of the Open Science strategy and the EU funded citizen science projects.

Overall, the conference will cover the state of citizen science in Europe in comparison to other regions, the challenges encountered to promoting and conducting citizen science, the potentials and drawbacks of greater involvement of citizens in R&I processes, and the policy needs of citizen science. Through discussion, the conference will also re-examine long-standing questions relating to science itself – as an institution, methodology, and career path.

Expected impact: The conference will help the Commission and other research funding organisations to assess the latest developments, impacts, benefits and challenges posed by citizen science. It will provide policy input to on-going initiatives relating to citizen science under the Open Science strategy, in the European Research Area (ERA), Horizon 2020 and to its successor, the proposed Horizon Europe programme. It will enable lessons to be drawn and preparation of suitable funding and policy responses for the beginning of the decade 2020-2030 in order to harness the potentials and maximise the benefits of citizen involvement in R&I for the SDGs. The action will progress towards the targets of the SDG 17 on 'Partnerships for the goals'.

Legal entities:

Museum für Naturkunde, Invalidenstr. 43 · 10115 Berlin, Germany

Type of Action: Grant to identified beneficiary - Coordination and support actions

Indicative timetable: 4th Quarter 2020

Indicative budget: EUR 0.25 million from the 2020 budget

27. SCIENTIX IV - Building and managing Science Education Community in Europe by promoting Inquiry-Based Science Education and other initiatives at national level[137]

There is a need to maintain and strengthen the promotion of Science, Technology, Engineering, Arts and Maths (STEAM) education projects in order to attract more and more young European citizens to scientific careers and to increase globally the skills and knowledge in science of all active European citizens. To this end, science teachers in Europe should be offered professional development opportunities as well as access to STEAM pedagogical materials. Moreover, exchange of knowledge and expertise between European countries and beyond should continue to be encouraged and further developed, especially in terms of STEAM to guarantee a future STEAM aware and educated society.

For these reasons, Scientix, the community for science education in Europe should be continued and further developed, building on the success of the support provided until 2019 to Scientix III. A particular attention to the STEAM dimension should be provided, as the introduction of arts links the creativity dimension to innovative teaching activities in the area of science, technology and maths.

A strategy should be developed to significantly increase the numbers of science teachers, regular users and other users visiting and using the Scientix portal.

Scope: The project will ensure the continuation and adaptation of the current Scientix III activities and will contribute to the development of national strategies for a wide uptake and dissemination of IBSE (Inquiry Based Science Education) and other projects, expanding to cover STEAM education practices, which will help educate future citizens in the importance of STEAM in society (including Responsible Research and Innovation and STEAM in everyday life).

This will be addressed in particular by the following 5 main items:

- *The portal*

The portal/internet platform developed under previous Scientix programmes will be maintained and modernised in order to ensure permanent searchable access to projects and further dissemination. A particular attention will be provided to the availability of at least 3 new additional EU languages. A strategy will be developed to significantly increase the numbers of science teachers, regular users and other users visiting and using the Scientix portal.

[137] This grant will be awarded without call for proposals in line with Article 195(e) of the Financial Regulation, Regulation (EU, Euratom) No 1046/2018 and Article 11(2) of the Rules for participation and dissemination in "Horizon 2020 - the Framework Programme for Research and Innovation (2014-2020)", Regulation (EU) No 1290/2013.
This activity directly aimed at supporting the development and implementation of evidence base for R&I policies and supporting various groups of stakeholders is excluded from the delegation to REA and will be managed by the Commission services.

- *Professional development*
  The professional development activities will be continued and increased. Scientix has undoubtedly made a significant impact on teachers, their teaching practices, and consequently, their students throughout Europe, for example, by encouraging new, more collaborative ways of teaching and providing access to high quality resources in teachers' national languages. However, a key challenge facing the project going forward is how to engage all teachers (and not only the ones who are already convinced). Future professional development activities of Scientix must favour the engagement of these teachers.

- *Community building*
  Community building aspects also will be maintained and the number of face-to-face meetings will be increased. The expansion of the Ambassador programme is one of the key successes of Scientix. The level of interest from teachers in becoming a Scientix Ambassador is indicative of the positive way in which Scientix is viewed by teachers and the benefits they feel it is able to offer. The increase in Ambassador numbers has many encouraging implications, in particular, extending the reach of Scientix to more remote localities less often included in national or international projects. Moreover, one of the aspects of Scientix that has been among the most challenging is ensuring regular contact within the key organizations involved: National Contact Points (NCPs), Ministries of Education through their STEM representatives Working Group (MoE STEM WG) members, and Scientix Teacher Ambassadors. The opportunity to learn from each other and to share experiences is an important feature of Scientix for all groups. Thus, it is important to ensure that this sense of connection is maintained and further deepened. In this regard, an appropriate effort should be provided to the development of activities carried out with Scientix NCPs and the number of face-to-face meetings should also be increased in the future.

- *STEAM European partnerships*

In light of the current achievements obtained within the previous Scientix activities, and to expand the professional development activities and the community building of items 2 and 3, Scientix 4 will test the setting up of STEAM European partnerships at national level. These partnerships will develop new approaches for creative and innovative science, technology, engineering and maths teaching and learning opportunities, connected to existing national practices. These new approaches would be tested in all countries in Europe, with the support of various Future Classroom labs established in some countries. The conditions for large scale deployment of these approaches will also be investigated. Finally, the results will be shared between this European network of STEAM European partners.

- *The conference*

The conference bringing together the major STEAM teachers' communities in Europe will be maintained. These events represent one of the major networking events about STEAM education in Europe.

The duration of the project will be for a maximum three years. The proposal should include a plan for the sustainability and long term maintenance of Scientix activities after the end of the grant. An impartial assessment of the actions implemented should be ensured throughout the duration of the project in relation to its objectives and expected impacts. The beneficiary shall develop a convincing, sustainable, viable business model for the operation and further development of Scientix, ensuring that at least 50% of the budget needs for its annual operations will come from sources other than the EU budget by 2022.

The standard evaluation criteria, thresholds, weighting for award criteria and the maximum rate of co-financing for this type of action are provided in General Annexes D and H of the work programme.

Expected Impact: Overall, to bring about a change in the way that science is taught in schools through European collaborative activities focusing on teacher training on the use of techniques that have been successfully piloted, adapting and applying them on a European scale. The action will have significant wider benefits across Europe beyond those accruing directly to project participants. The long-term impact looked for is a significant increase in the number of young people in Europe taking up scientific careers as well as a general increase of the skills and knowledge in science needed by all active citizens to become responsible researchers/innovators and scientifically active citizens, regardless of their career paths.

More particularly, specific impacts are also expected on:

- Contextualisation of STEAM teaching
- Development actions for mainstreaming mechanisms linked to the innovation in STEAM teaching for a large-scale adoption at the level of schools and STEAM teachers all over Europe, including through the design to establish STEAM European partnerships in all countries.
- Attractiveness of STEM jobs and in society in general.
- Creative and innovative learning approaches for all teachers in Europe in the STEAM area
- Significant increase in the number of visitors and regular users to the Scientix portal

Legal entities:

EUN Partnership AISBL, rue de Trêves, 61B, 1040 Brussels, Belgium

Type of Action: Grant to identified beneficiary - Coordination and support actions

Indicative timetable: 1st quarter 2020

Indicative budget: EUR 3.00 million from the 2020 budget

28. Get H2020 compliant![138]

After the first four years of Horizon 2020, it is observed that many projects have not fully or have not been made available publicly in the required manner, meaning in compliance with the requirements of article 29 of the Horizon 2020 Model Grant Agreement, their research results and / or data (including negative ones). While indent 6 of this article described the consequences for being non-compliant (i.e. a grant reduction), it is proposed to establish a pilot providing services to Horizon 2020 grant beneficiaries in order to be compliant.

Without duplicating existing schemes, the retained contractor should offer a series of services to a set of Horizon 2020 (H2020) grant beneficiaries in order to help them to be in compliance with the requirements of article 29 of Horizon 2020 Model Grant Agreement. The initiative would in particular assist the Commission in helping the grant beneficiaries to get a Horizon 2020 Compliance Certificate stating that all results of a beneficiary in a project (e.g. papers, gold Open Access (OA) publications, green OA-publications, etc.) are compliant and in conformity with a methodology agreed with the Commission . The pilot should also propose to H2020 grant beneficiaries relevant measures and actions in case of non-compliance of its results.

The tools of this pilot, especially if it is successful, should be portable in view of a possible future scaling-up by any other legal entity/ies, including the Commission.

The services should be offered until 31 December 2020. The independent character and transparency of the assessment are essential and they will be part of the requirements requested in the tender specifications.

The Commission considers that the estimated amount of this procurement is EUR 1.5 million in order to allow this specific challenge to be addressed appropriately.

With this procurement, it is expected that the share of Horizon 2020 grant beneficiaries compliant with the requirements relating to dissemination of results, open access and visibility of EU funding in the Horizon 2020 grant agreement will substantially increase.

Type of Action: Public Procurement - Public procurement framework contract

Indicative timetable: 1st Quarter 2019

[138] This activity directly aimed at supporting the development and implementation of evidence base for R&I policies and supporting various groups of stakeholders is excluded from the delegation to REA and will be managed by the Commission services.

Indicative budget: EUR 1.50 million from the 2019 budget

29. EURAXESS Tunisia start-up[139]

For enlarging the EURAXESS network, a grant will be awarded to the legal entities officially designated by the relevant Ministry in Tunisia running for a maximum duration of action of 36 months. The Commission contributions are designated for the start-up phase for the organisation of the national EURAXESS network.

Similar type of support has been provided for all new Associated Countries to current and previous framework programmes.

The standard evaluation criteria, thresholds, weighting for award criteria and the maximum rate of co-financing for this type of action are provided in General Annexes D and H of the work programme.

Expected impact: The action will increase the efficiency and effectiveness of Tunisia's participation in the EURAXESS network.

Legal entities:

UGPE (European Project Management Unit) within the Ministry of Higher Education and Scientific Research, 7ième Etage. Bur. 710, DG R&I Horizon2020 - 50 Av. Mohamed V, 1002, Tunis -TUNISIE

Type of Action: Grant to identified beneficiary - Coordination and support actions

Indicative timetable: 1st Quarter 2020

Indicative budget: EUR 0.20 million from the 2020 budget

30. RESAVER- Support to RESAVER Pension Fund 2020[140]

The overall aim of RESAVER Pension Fund is to ensure free circulation of researchers by removing pension as an obstacle to mobility which corresponds to the strategic objectives of the Union policy as stipulated in Article 179 TFEU on the establishment of a European Research Area.

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139 This grant will be awarded without call for proposals in line with Article 195(e) of the Financial Regulation, Regulation (EU, Euratom) No 1046/2018 and Article 11(2) of the Rules for participation and dissemination in "Horizon 2020 - the Framework Programme for Research and Innovation (2014-2020)", Regulation (EU) No 1290/2013.
This activity directly aimed at supporting the development and implementation of evidence base for R&I policies and supporting various groups of stakeholders is excluded from the delegation to REA and will be managed by the Commission services.

140 This grant will be awarded without call for proposals in line with Article 195(e) of the Financial Regulation, Regulation (EU, Euratom) No 1046/2018 and Article 11(2) of the Rules for participation and dissemination in "Horizon 2020 - the Framework Programme for Research and Innovation (2014-2020)", Regulation (EU) No 1290/2013

RESAVER Pension Fund is the first multi-country, multi-employers pension fund that enables mobile employees of the research institutions to remain affiliated to the same supplementary pension fund (2nd pillar and 3rd pillar) when moving between different countries and changing jobs.

The pension fund is based on the IORP directive ((2003/41/EC) Institutions for Occupational Retirement Provision) which provides a framework for institutions providing occupational pensions in all EU countries and on the recent IORP II directive (2016/2341). The pension fund complies with national social and labour law and does not interfere with Member States prerogative in the area of 1st pillar pension.

Operational from 2017, the pension fund is being rolled-out across the European Economic Area.

The purpose of the operating grant is to provide financial support towards the functioning of the RESAVER pension fund in its core activities - over a period that is equivalent to its accounting year - in order to carry out a set of activities detailed in a work programme. Such support is provided not to the implementation of a specific action but to the RESAVER Pension Fund annual operating budget or part of it according to Article 177(b) of Regulation (EU) No 1268/2012. To this end, an operating grant will be awarded to RESAVER Pension Fund for 2020.

In the future the eligible costs will be covered from two sources of revenue, namely an additional contribution (membership fee) paid by the employers and a percentage of the total accumulated assets in the pension fund. However, due to the gradual increase of participating institutions and the limited size of assets, a third source of revenue is necessary during the initial phase to cover costs that are eligible according to the Financial Regulation and the Horizon 2020 Rules of Participation.

Funding rate: The maximum rate of Union co-financing is 100% of eligible costs not covered by membership fees and fees on accumulated assets in the pension fund.

Expected impact: RESAVER will remove one of the barriers to researchers' mobility by providing a cross-border supplementary pension fund, and it will thereby contribute to the establishment of a European Research Area in which researchers circulate freely as set out in Article 179 TFEU.

Selection Criteria: The standard evaluation rules are listed in Annex H of the Work Programme

Award criteria, scores and weighting: The standard evaluation rules are listed in Annex H of the Work Programme

Evaluation procedure: The applicant must submit a work programme for the budgetary year concerned, which will be evaluated by the Commission according to Article 15(8) of Regulation (EU) No 1290/2013. The Commission will provide Member States with detailed information on the evaluation procedure used and its outcome.

Submission and other procedures: By way of derogation from Article 22 of Regulation No 1290/2013 and part B of the General Annexes, the applicant's proposal and the work programme will be submitted on paper. All procedures and templates used for the publication, submission, evaluation, award and monitoring of the grant will be on paper, whereas the online system that supports Horizon 2020 actions does not allow proceeding electronically or does not provide the relevant template.

Legal entities:

'RESAVER Pension Fund OFP' (Retirement Savings Vehicle for European Research Institutions), 22 rue de Pascale, 1040-Bruxelles, Belgium

Type of Action: Grant to identified beneficiary - Operating Grant

Indicative timetable: 1st Quarter 2020

Indicative budget: EUR 0.28 million from the 2020 budget

Budget[141]

	Budget line(s)	2018 Budget (EUR million)	2019 Budget (EUR million)	2020 Budget (EUR million)
Calls				
H2020-SwafS-2018-2020		62.50[142]	62.50	63.20
	from 08.020600	*62.50*	*62.50*	*63.20*
Other actions				
Expert Contracts		1.75	1.65	1.00
	from 08.020600	*1.75*	*1.65*	*1.00*
Public Procurement		0.95	6.57	4.48
	from 08.020600	*0.95*	*6.57*	*4.48*
Grant to Identified beneficiary		3.29	1.00	4.53
	from 08.020600	*3.29*	*1.00*	*4.53*
Prize		0.35	0.35	0.35
	from 08.020600	*0.35*	*0.35*	*0.35*
Estimated total budget		68.84	72.07	73.56

141 The budget figures given in this table are rounded to two decimal places.
The budget amounts for the 2020 budget are subject to the availability of the appropriations provided for in the draft budget for 2020 after the adoption of the budget 2020 by the budgetary authority or, if the budget is not adopted, as provided for in the system of provisional twelfths.

142 To which EUR 1.00 million from the 'Europe in a changing world – Inclusive, innovative and reflective societies' WP part will be added making a total of EUR 63.50 million for this call.