

Horizon 2020

Work Programme 2018 - 2020

16. Science with and for Society

DRAFT

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Introduction

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 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 has identified three strategic priorities, described in Open innovation, Open science, Open to the world¹ (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 Council³.

Far-reaching changes to the modus operandi of R&I

R&I systems are currently undergoing far-reaching changes to their *modus operandi*. These are enabled by digital technologies and driven by the globalisation as well as the increasing demand and need to address the societal challenges of our times. These have an impact on the entire R&I cycle, from the inception of research to publication, as well as on the way 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, 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.

In addition, increased expectations are put on science but citizens fear for the future and the most advanced scientific and technological breakthroughs are under intense 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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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 will, as appropriate, take into account all SwafS lines of activity, which includes public engagement, open science education (formal and informal), gender equality, ethics, open access/data, and governance as well as scientific careers, due and proportional precaution and communication of science. SwafS 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.

Strategic orientations:

The SwafS WP18-20 is built around the five following 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 in the description of the calls.

Specific contributions to cross-cutting issues

Furthermore, SwafS WP18-20 integrates all cross-cutting issues of Horizon 2020 and emphasise:

- Responsible research and innovation including gender,
- Enhancing the attractiveness of the research profession,
- Facilitating cross-border and cross-sectoral mobility of researchers, and
- Widening participation across the Union in research and innovation and helping to close the research and innovation divide in Europe.

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,
- International networks for excellent researchers and innovators such as European Cooperation in Science and Technology (COST),

- Cooperation with third countries.

Notably, all SwafS WP18-20 projects are expected to support one or more of the Sustainable Development Goals (SDGs, see 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 engagement of private social actors, such as civil society organisations, non-governmental organisations and social entrepreneurs.

Activities developed in the present SwafS WP18-20 should overlap several sectors in order to draw lessons and look for impacts as broad as possible. Where possible, they should pay attention to the development and application of key enabling and industrial technologies as well as future and emerging technologies, as well as areas relating to bridging from discovery to market application.

The present SwafS WP18-20 is built to foster the functioning and achievement of the 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 objectives. Several of the topics in the WP18-20 specify indicators which applicants should work towards, notably from the Sustainable Development Goals⁴ and from the study *Monitoring the Evolution and Benefits of Responsible Research and Innovation (MoRRI)*⁵; these suggestions do not preclude applicants also working towards other established indicators and objectives.

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)

⁴ <http://www.un.org/sustainabledevelopment/sustainable-development-goals/>. Applicants should examine and specify which target(s) they will work towards and how for each SDG.

⁵ See <http://www.technopolis-group.com/morri/> for details of MoRRI. See <http://www.technopolis-group.com/?report=metrics-indicators-responsible-research-innovation-progress-report-d3-2> for the list of 36 indicators.

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 follows: Responsible research and innovation is a process for better aligning research and innovation with the values, needs and expectations of society. It implies in particular 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 provides case studies and methodologies to integrate the needs and 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 involvement of all stakeholders in actually 'doing R&I'. The challenge is to make the involvement of societal actors and the integration of societal concerns more systemic and sustainable, e.g. through institutional changes in R&I organisations that have lasting effects beyond the lifetime of project funding.

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

Call - Science with and for Society

H2020-SwafS-2018-2020

Call mission statement

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. It will explore and support citizen science in its broadest 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.

1. Accelerating and catalysing processes of institutional change (2018-2020)

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 Performing (RPOs) and Funding Organisations (RFOs) 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 CSO 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: 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. 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 have a positive impact on the environment, health and medical care, and basic infrastructure in the future. 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: 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 (start-ups, SMEs, larger corporations) should be promoted. Gender 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: The proposed action targets the creation of new partnerships in local communities to foster improved science education for all citizens. It is expected that in the short term the development of partnerships between schools, local communities, 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.

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

Specific Challenge: In order to maximise the quality and societal impact of research, integrity⁶ 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

⁶ 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.

means of creating additional red tape. The new European code of conduct for research integrity (Link should be available in May 2017) is unambiguous: *"It is of crucial importance that researchers master the knowledge, methodologies and ethical practices associated with their field."*

Traditional methods of teaching research integrity/ethics do not appear to be efficient in raising awareness on ethics and research integrity. There is consequently a need to develop innovative educational methods, engaging all the actors (technicians etc.) of the research and innovation chain, not only the researchers. All age groups should be involved with particular emphasis on the engagement of adolescents and young researchers.

Scope: The action must develop innovative formal and informal educational methods aiming to raise awareness of students and young researchers on research integrity as addressed in the above mentioned European Code. Different curricula and educational tools and methods should be developed for two age groups: the first group will comprise of students between the ages of 14 and 17 years old; the second will comprise of undergraduate and graduate students in relevant fields, between the ages of 18 and 25 years old. The curricula should be largely interactive and aiming to engage students and young researchers in a dialogue. Such curricula should be adapted to the age of the students and may include drama, role play, case studies, debates, position papers and presentations as well as e-learning methods. These curricula should allow for a pluralism of opinions and for nuances, rather than a set of predetermined "right or wrong" answers. The work must also cover the design of training programs 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 the existing educational practices.

The action must take into account and build on the output of the research projects financed by this Science with and for Society programme that covers training and educational aspects of research integrity (e.g. PRINTEGER, ENERI, project funded via SwafS-27-2016).

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 raise awareness of students and young researchers on research integrity and contribute to engage them in a meaningful dialogue. Ultimately, the innovative methods for teaching research integrity developed by this action project will increase short and long term teaching results and will contribute towards the promotion of an EU research integrity culture effectively impacting upon the research and innovation process.

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 may undermine the quality of research and 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 (1 December 2015 – 14853/15 RECH 296), 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 (Link should be available in May 2017). In order to achieve the broadest embedding of research integrity and the minimization of research misconduct, appropriate structures must be in place.

Scope: The action aims to promote the development of concrete and efficient research integrity support processes and structures as "drivers" for institutional change within RPOs and RFOs (Research Integrity Promotion Plans). 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.

The development of these processes should be grounded on the results of a large-scale research integrity survey to be carried out by the action. This survey should be performed on the basis of the relevant literature and take into account previous survey results including those conducted by the SwafS projects PRINTEGER, ENERI and DEFORM. The survey, to be conducted in all EU Member States and some key OECD countries, must 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.

As a validation process, the results of the survey should be discussed in discipline related focus groups including stakeholders from research integrity structures (research integrity offices, academies, industry ethics departments etc.)

The proposed processes, in the form of, for example, templates and/or tool-kits, will be used by institutions that need to develop their own processes. 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 in pilot 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 standardization of materials. 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.)

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 standardization 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 conduct should be proposed and validated (preparatory work must 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 shall 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 from relevant EU funded research projects under the SWAFs programme (mainly PRINTEGER, ENERI; DEFORM, projects funded via SwafS-16-2016; SwafS-21-2017; SwafS-27-2017). Any IT communication infrastructure envisioned should use the existing EU communication tool SINAPSE (<http://europa.eu/sinapse>⁷)

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.

⁷ SINAPSE quick guide: <https://europa.eu/sinapse/sinapse/index.cfm?fuseaction=cmtty.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 change 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 open access to and re-use of research data. 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 address the following components to facilitate FAIR data re-use. 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 action will identify one or several areas of research where FAIR data is not yet common practice and what the barriers are 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 reuse can generate a ground breaking innovative product, service, or treatment. Ideally, the action itself will support the generation of a prototype of such a product, device, service, or treatment. As far as 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.⁸

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 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-fertilize 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:

- Availability of datasets produced by Horizon 2020 projects in open access
- Percentage of these datasets which are not only open but also FAIR (findable, accessible, interoperable and re-usable)
- Re-use of Horizon 2020 datasets by a) the scientific community, b) societal actors (e.g. for citizen science) and c) economic actors

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-05-2018-2019: Grounding RRI practices in society

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;

⁸ 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.

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 their governance frameworks to open up through a process of institutional change.

Scope: Consortia are expected to implement institutional changes in one or more of the five fields listed, either as discrete activities or in an integrated manner. Consortia 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 implementing 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 prominent 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, and to the Sustainable Development Goals (for instance goals 4, 5, 9, 12, 16 or 17). Consortia are expected to evaluate their activities and provide evidence of societal, democratic, economic and scientific impacts of institutional changes. It is expected that the topic will support 100 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-07-2019: EURAXESS TOP IV

Specific Challenge: the EURAXESS aims at helping researchers and entrepreneurs to advance their career in Europe and make thus 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 here. 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 career development of mainly young 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 to contribute to the 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 SME's 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 website 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 shall 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: Research innovation needs & skills training in PhD programmes

Specific Challenge: Within the Modernisation Agenda to be adopted in May 2017 further specifications on innovative employment oriented curricula recommendations will be described. For PhD education, it will be crucial to integrate new of existing skills courses into the different PhD courses offered today at HEI. Especially the interaction, cooperation and provision of skills courses in non-academic surroundings, formally integrated into curricula will be a specific challenge.

Scope: A broad package of skills related training, integration and intelligence (as adopted in the New Skills Agenda) for researchers and scientists in all career stages will be developed. Preferably the pilot will be organised with experienced projects funded under Erasmus+, Horizon2020, ETN, MCSA, or partners should demonstrate in the application proof of concept and initial impact of the PhD training and reasoning for improving skills training. Initial post graduate tracking exercise has to be integrated, counselling PhD students into focussed careers in and outside academia and being able to trace post graduates during employment.

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

Expected Impact: Expected impact on pilot post graduate students and early stage researchers in closing the skills gap between research employment in academia and beyond academy in business laboratories and research departments. Expected impact also on the improvement of the innovation potential of future PhD students, by joint design of skills training courses and curricula into renewed PhD programmes. Expected impact on the joint collaboration between academia and stakeholders in the regions (hubs) by improving skills intelligence; learning about future skills needs and employment potential of scientists of all fields. Expected impact on the interdisciplinary and international mobility of researchers in line with the current Innovative Doctoral Training Principles

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.

2. Stepping up the support to Gender Equality in Research & Innovation policy (2018-2020)

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: 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 organisations and universities are invited to implement institutional change through Gender Equality Plans (GEPs). The Council conclusions of 1/12/2015⁹ reaffirmed the need to advance gender equality with institutional change along the three following objectives:

1. Removing barriers to the recruitment, retention and career progression of female researchers;
2. Addressing gender imbalances in decision making processes;
3. Integrating the gender dimension in research and innovation content¹⁰.

The GEAR tool developed by the European Commission and EIGE¹¹ 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.

⁹ <http://data.consilium.europa.eu/doc/document/ST-14846-2015-INIT/en/pdf>

¹⁰ i.e. taking into account the biological characteristics and the social / cultural features of women and men

¹¹ <http://eige.europa.eu/gender-mainstreaming/tools-methods/GEAR> - GEAR Tool supports the research community with a practical steps-by-steps guide, an action toolbox as well as with many arguments, background

Scope: The action will focus on implementing Gender Equality Plans (GEPs) in research organisations and universities, as "drivers" for systemic institutional changes. The GEPs shall 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 (legislation, specific incentives, etc) relating to gender equality in research and innovation. The proposal shall also explain previous steps taken by the organisation for gender equality.

The proposal will describe the role of the administrative structures in the planned implementation of GEP's and provide proof of long term commitment in the implementation of GEPs from their highest management level.

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.

A special emphasis will be placed on their sustainability and on project follow-up initiatives.

The allocation of resources within the consortium shall 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. It is recommended that the proposals allocate at least 75% of the total EC contribution to the setting-up and implementing of the individual GEPs. The proposal will explain the role of partners not implementing GEP's and their specific contribution in line with the text and requirements of the topic.

Participation of research funding organisations and professional associations in the consortium is recommended.

Project duration of at least 48 months is recommended.

The Commission considers that proposals requesting a contribution from the EU of between EUR 2.50 million and 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.

information and good practices to develop tailor made Gender Equality Plans for universities and research organisations.

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

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.

The individual implemented GEPs should be shared on the GEAR tool with a view to share experience and inspire future GEPs.

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: Access to grants and gender dimension

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 is consequently an essential component of scientific performance and career progression. The Figures 2015 show that although the gender gaps in the funding success rate is decreasing at the EU level, yet men still have a higher success rate than woman¹². Research is needed to better understand the remaining institutional barriers which contribute to maintain the gender gaps

Scope: From selected key research and / innovation fields, the research will situate the role of grants in researchers careers, identify and analyse the possible differences between women and men researchers at various steps of grant allocation and their potential consequences on their careers. The research will give a particular attention to the nature and mode of action of hindering and driving factors and investigate their relative weight in the grant systems. It will suggest how to overcome the hindering factors and develop a more level playing field for women and men researchers by adapting the grant systems (institutional change approach). The research should start with an in-depth investigation of gender differences in national funding systems, develop a common approach/methodology, conduct in a second stage a comparative analysis and formulate recommendations. It is recommended to have the widest possible EU coverage, involving research partners from all the countries covered.

¹² https://ec.europa.eu/research/swafs/pdf/pub_gender_equality/she_figures_2015-final.pdf

Project duration of at least 48 months is recommended.

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: Ensure more gender equal research grant systems in the EU. Advance gender equality in research and innovation as requested in the European Research Area.¹³. Ensure that EU research and innovation benefit better from male and female scientists' talents. 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: Options for an award/certification system for gender equality in research organisations and universities in Europe

Specific Challenge: Through the implementation of Gender Equality Plans 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 tool¹⁴.

Gender Equality Plans are now common in some Member States and Associated Countries, in others they are in their infancy or non-existing. The implementation of the plans as key instrument for gender equality in the European Research Areas 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 an award/certification system for gender equality in research organisations, including universities at EU level. several options should be investigated.

Based on the experiences from existing schemes and outcomes of previous research and initiatives (e.g Horizon 2020 projects such as GEDII, and EFFORTI, FP7 ERA-Net Gender-NET¹⁵), the action will:

¹³ http://ec.europa.eu/research/era/era_communication_en.htm

¹⁴ <http://eige.europa.eu/gender-mainstreaming/tools-methods/GEAR>

¹⁵ <https://ec.europa.eu/research/swafs/index.cfm?pg=policy&lib=gender>

- Conduct an in-depth evaluation of existing national award/certification schemes for gender equality in research organisations and universities. A particular attention will be given to the national context in terms of legislation, policy and research funding environment to understand the impacts of each evaluated award scheme.

- Provide a clear framework for at least 3 different options of a new transnational / European award/certification scheme.

Project duration of at least 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. 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 1st 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 a horizontal (disparities among different scientific disciplines) and vertical (low levels of women representation on top positions) segregation. Cultural and institutional barriers turn women away from STI and affect their careers and limit the take up of the gender dimension in STI¹⁶ 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.

The Commission has pledged for a reinforced cooperation with third countries under one of the three goals set by the current Commissioner, i.e. *Open to the World* and there is a raising interest from the side of third countries to cooperate with the EU in the field of STI and

¹⁶ Taking into account the biological characteristics and cultural / social features of women and men in doing research, innovating and developing technologies

encourage the mobility of researchers. It is therefore important to develop common solutions for common challenges regarding gender inequalities in STI.

However, so far there is little knowledge on whether and how the gender perspective is introduced and taken into account in international cooperation on STI activities and in the dialogues between EU Member States and third countries.

Scope: The study will investigate how the 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 third countries, along three objectives, equality in scientific careers, gender balance in decision-making, the integration of the gender dimension in R&I content. The study shall provide mapping on how gender equality is considered:

- in the formal bilateral and multilateral agreements in the STI area between the EU Member States and Associated Countries on one side and third countries on the other side;
- in the bilateral and multilateral STI policy implementation process, including the access to grants and the evaluation process
- in the dissemination and promotion of the results

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: Gender equality objectives are included and implemented in the bilateral and multilateral activities between EU Member States and third countries in the area of STI. Potential barriers to gender equality are removed and women and men scientists are treated equally at all levels of international cooperation initiatives between the EU and third countries.

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 dimension¹⁷, in general and in their specific

¹⁷ i.e. taking into account the biological characteristics and the social /cultural features of women and men

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,¹⁸ 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 on a variety of issues relevant for gender equality in research and innovation (gender balance, gender dimension, gender bias...). 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 Moocs¹⁹, 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 shall be established, with the aim of enhancing the sharing of knowledge and practices.

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 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.

3. Building the territorial dimension of SwafS partnerships (2018-2020)

SwafS will encourage partnerships between universities, formal and informal education institutions (including primary and secondary schools), 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),

¹⁸ Gender Equality Policies in Public research- 2013 – p.36- <http://bookshop.europa.eu/en/gender-equality-policies-in-public-research-pbKINA26565/>

¹⁹ Massive Open Online Courses

promotion of gender equality, and consideration and involvement of all people, irrespective of their age, gender, ethnicity and socio-economic background.

Proposals are invited against the following topic(s):

SwafS-14-2018-2019: 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 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 has supported regional technology plans in the 90's and regional innovation strategies during the years 2000. A more comprehensive approach involving citizens and communities is likely to result in positive impacts on STI and local and regional development.

In bringing all relevant R&I actors together, e.g. citizens and civil society organisations (CSOs), universities, formal and informal education institutions (including primary and secondary schools), governments and public authorities (including regional and local administrations), businesses (including industry, the service sector and social entrepreneurs), as well as science mediators, and taking action to promote all parts of RRI (i.e. gender equality, science education, open access/open data, public engagement, and ethics), 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. In turn, these open R&I systems can promote moves towards sustainability and inclusiveness at local, national, EU and global levels. Such an approach will require new working methods in the fields of R&I and novel and transparent governance relations.

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 beyond), with the view to developing and promoting shared learning and diffusion of governance innovations. Local and regional authorities should be active partners of the consortia. The RRI approach should be integrated in the 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.

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,
- Elaborate a reflection on how the system could be more open and inclusive, and
- Draw considerations of their place within larger societal, geographical, economic and environmental frameworks.

Consequently, develop concrete actions within individual beneficiaries' organisations (e.g. 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.

Previous project findings and good practices should be considered as and when appropriate. Projects such as ONLINE-S3²⁰ and SEiSMiC²¹ 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 (Societal Engagement in Science, Mutual Learning in Cities) 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 in order of € 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: 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

²⁰ <http://www.onlines3.eu/>.

²¹ <http://www.seismicproject.eu/>.

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), and to the Sustainable Development Goals (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.

4. Exploring and supporting citizen science

Citizen science is emerging as an important policy orientation but is still largely unexplored. It is much more than the collection of scientific data by citizens, which in itself calls for adherence to the highest standards of research ethics and integrity, and actually covers a range of different levels of participation: from informing citizens about science and encouraging citizens to participate in the scientific process by observing, gathering and processing data, right up to 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 all European citizens, and promote social inclusion and employability.

Proposals are invited against the following topic(s):

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

Specific Challenge: Citizen science is blooming in several areas such as environment, health and astronomy to quote a few among the most known areas. It can potentially bring a wide variety of benefits to researchers, citizens, policy makers and society as a whole across research and innovation cycle. Indeed, it can accelerate and sometimes even make possible the production of new scientific knowledge production; it can help policy makers monitor implementation and compliance with regulations; it increases public awareness about science and feeling of ownership of policies; it allows faster reactions to events and better territorial coverage; etc.

At the same time there are specific difficulties in optimising the setting up of citizen science initiatives; in choosing the optimum methodologies; in terms of quality assurance and validation of the outcomes; in linking the various governance levels, from local to global; in ensuring balanced participation of citizens (e.g. regardless of background and age). There are also specific difficulties regarding the integrity of methods and data; the recognition of the work of citizens participating in citizen science initiatives; etc.

Furthermore, questions are still pending about the potential of citizen science for society: what is the potential number of citizen scientists? Who are they? What is the cost-benefit

analysis of citizen science (e.g. in terms of scientific excellence and the economy)? What are the relations to informal and formal science education? What are the limits of citizen science? Etc.

Scope: This topic will provide support to citizen science initiatives at European level. Proposals should be innovative and show a solid rationale for involving citizens in science. For the present topic, citizen science should be understood broadly: it should go well beyond the collection of scientific data by citizens and cover a range of different levels of citizen participation, from informing citizens about science and encouraging citizens to participate in the scientific process by observing, gathering and processing data, right up to co-designing and implementing science-related policies and using scientific results in policy settings.

Proposals may choose to focus on one particular area of scientific enquiry right up to promoting transdisciplinarity. Efforts should be made to understand the meanings, benefits and drawbacks of participation, the mechanisms by which citizens become involved in citizen science, and the challenges facing citizen science with a view to producing good practice guidance and strengthening networks. 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 all European citizens and promote social inclusion and employability. Efforts should be made to evaluate the impacts of the actions undertaken in the fields of society, democracy, the economy and science. Lines of communication and co-operation should be established with other relevant Science with and for Society projects in order to share data deriving from the citizen science and to allow the synthesis of evaluation data concerning the benefits of citizen science and RRI.

The fields of activities could cover exchange of experience, evaluation and comparison of citizen science performances, communication and awareness raising, valorisation of past initiatives, etc.

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: 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 (for instance goals 3, 7, 12).

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

Specific Challenge: Innovation, from idea to product, and including social innovation²², 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 significantly evolved. Active participation of citizens in science and innovation has gained significant prominence. At the same time, new IT tools have profoundly impacted the way in which researchers work and interact. This evolution is promising, very positive and has numerous advantages.

Scope: In order to maximize the social benefits derived from innovation, the action will assess whether this evolution raises new ethical, regulatory and governance issues. If appropriate, the action must thereafter propose an ethics framework, based on accepted principles²³, which aims at ensuring that innovation remains a process which responds to citizens' needs and values, reduces inequalities, 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 private-public partnerships.

The actions must identify what the distinctive elements of innovation ethics would be in this dynamic context.

The role of citizen participation in innovation (including social innovation¹) must be analysed in order to maximise the effectiveness of this participation for all stakeholders. The design and use of IT tools should also be considered with a view to their optimisation.

In addition, the existing legal environment applicable to citizen participation as well as to other new interaction modes in the Union should be identified, mapped and analysed. Potential regulatory and legal gaps 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 the current practices (in the EU and beyond, in particular in OECD countries) with a view to discussing their ethics and values dimensions; taking into account the lessons learned so as to be able to identify the best practices. In doing so, business ethics practices should be also considered.

If the need for an ethics framework is established, it should be developed, validated and translated into a set of practical guidelines that should enable the effective handling of the identified ethical and regulatory issues. This process necessitates the active involvement of the relevant stakeholders to ensure an effective take-up.

²² 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.

²³ Including but not limited to sustainability, user and values lead design, duty of care, data quality and trust.

Such a framework and guidelines must be compatible with and aim at complementing the new European code of conduct for research integrity (REM Link to the doc will be available around May 2017) and include, where applicable, measures for benefit sharing. If needed, a proposal for a short document complementing the Code should be made.

The effectiveness of the guidelines should be assessed and tested, notably via workshops and focus groups involving citizens, industry, researchers and policy makers, where the decision processes will be simulated on the basis of case studies.

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 a more effective handling of the ethics dimension of innovation, in particular regarding the new modes of interaction and participation.

It will offer a practical and operative tool for all bodies confronted with the challenges related to co-design²⁴ 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.

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.

5. Building the knowledge base for SwafS (2018-2020)

Understanding the 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 reward could work and based on which criteria). Another area is implications of deep changes

²⁴ In particular, the involvement of citizens/stakeholders and the agreement on shared priorities.

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 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 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 closely with existing citizen science projects (whether funded or not 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 (including from personal/demographic and policy perspectives), and a strengthened knowledge base on its benefits. It will additionally implement a small number of citizen science activities itself (possibly working alongside organisations that carry out citizens science activities) to build a strengthened evidence base concerning the economic, scientific, democratic and societal benefits of citizen science. It will place developments in historical context, both in Europe and globally, and develop understanding about the implications of citizen science for science itself, and on science's relationship with and for society. It will involve stakeholders from local to European levels and from all parts of the quadruple helix 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 M€ 2.5 over 3 years 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 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. they should aim to indirectly work towards MoRRI indicators (e.g. SLSE4, PE1, PE2, PE3, PE5, PE6, PE7, PE8, PE9, PE10, OA6) and identified and appropriate Sustainable Development Goals.

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 principle²⁵ (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 favored 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 today²⁶. 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, governments, and in policy making. Consortia should strive to develop new tools or approaches to PP or IP, in order to help policy makers and other stakeholders build effective cooperation between science and society, and pair scientific excellence with social awareness and responsibility.

²⁵ (COM(2000) 1final)

²⁶ The SwafS Specific Programme is requested/required to "take due and proportional precautions in research and innovation activities by anticipating and assessing potential environmental, health and safety impacts".

The Commission considers that proposals requesting a contribution from the EU of between EUR 1.8 and 2.3 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 (in particular PE 1 to 10, E 1 to 3 and GOV1 to 3) and to the Sustainable Development Goals (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: 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 an emergent discipline, an activity conducted by scientists, and a career path followed by journalists, has a role to play in informing citizens about R&I developments, acting as a catalyst for opening up R&I broadly to society and thereby empowering 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; secondly, the rapid diffusion of 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 support research activities that investigate and re-examine the goals, nature and roles of science communication within science and at the interface between science and society with a view to building effective cooperation between science and society, recruiting new talent for science, and pairing scientific excellence with social awareness and responsibility. It will increase knowledge about the state of the art of 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, the media and the public. It will also examine the teaching of science communication within scientific disciplines as a dedicated academic discipline, and the roles this can play. Applicants are welcome to propose other innovative ideas in relation to the above specific challenge.

To address this specific challenge, the proposal will include a multi-disciplinary team able to explore well defined communication strategies (journalists, science communicators, scientists,

educators, enterprises, economists, civil society, 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 € 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.

Expected Impact: The topic aims to better understand how science is communicated and to develop improved ways to measure and assess science communication. Dissemination of the results should increase the communication of science in quantity and quality and favour the opening of R&I and the up-take of RRI approach. 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 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 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 in all lines of SwafS, individually or in combinations, using the above specific challenge to help stimulate ideas about where research is most needed and can eventually have the most impact on building effective cooperation between science and society, foster the recruitment of new talent for science, and pair scientific excellence with social awareness and responsibility.

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 are expected to contribute to one or more of the MoRRI indicators, in particular [SLSE1 to 4, PE4, OA1 to 6], and to the Sustainable Development Goals (for instance goals 16 and 17). 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-21-2018: Advancing the Monitoring of the Evolution and Benefits of Responsible Research and Innovation

Specific Challenge: Responsible Research and Innovation 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. Understanding the evolution and the benefits of RRI is crucial to furthering inclusivity, collaboration and transparency in R&I systems. The MoRRI project²⁷ has developed a monitoring system which provides a first picture of the evolution 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, and to provide stakeholders with user-friendly yet advanced tools that help their efforts to improve the outcomes of R&I.

Scope: Based on the outcomes of MoRRI, consortia should work to implement an improved RRI monitoring system. Improvements should be introduced incrementally, and increase the reliability of the data, coverage of the RRI dimensions, synergies (and avoidance of duplication) with other monitoring systems, efficiency of data collection, and the comprehensibility of the indicator system. As such, the indicators in the system may evolve and change as the system becomes increasingly established. At the same time, there should be enough 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 peer review of the monitoring system developed by MoRRI, highlighting strengths and areas where improvements could be envisaged. A small number of in-depth studies should be implemented to provide additional empirical evidence of the benefits of RRI and the findings should lead to improvements in the monitoring system. Links should be established to relevant SWAFS and RRI-related projects, with a view to analysing and synthesising their evaluation data concerning the impacts of their activities and the benefits of RRI. A small number of additional focused and rigorous desk-based reviews could

²⁷ <http://www.technopolis-group.com/morri/>.

also be envisaged. A clear intervention logic of the monitoring system should be developed so that the impact pathways between indicators and benefits can be easily perceived and so that stakeholders at national and EU levels can 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 where they stand in terms of the evolution of RRI and intervene to improve the outcomes of R&I. Technical fiches for every indicator, along with detailed notes on data collection, should be prepared to enable data to be collected after the lifetime of the project. Publications, including in peer-reviewed journals, and participation in high-level scientific and policy fora is also expected.

Consortia should include partners from different EU countries striving to ensure broad coverage. Cross- or trans-disciplinarity should be envisaged where 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 policy, science, innovation, and society should provide yearly independent feedback to the consortium.

The Commission considers that proposals requesting a contribution from the EU in the order of EUR 3.50 million and for a duration of five years 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 project is expected to lead to an improvement in the monitoring of the evolution of RRI, an increase in policy attention to RRI, and better and more appropriate R&I outcomes. An additional expected scientific impact is the filling of evidence gaps concerning causal links between RRI activities and RRI benefits.

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):

Topics (Type of Action)	Budgets (EUR million)		Deadlines
	2018	2019	
16 Jan 2018			
SwafS-01-2018-2019 (CSA)	3.00	3.00	
SwafS-02-2018 (CSA)	2.50		
SwafS-03-2018 (CSA)	4.00		

SwafS-04-2018 (CSA)	3.00		
SwafS-05-2018-2019 (CSA)	4.50	6.00	
SwafS-09-2018-2019 (CSA)	6.00	9.00	
SwafS-10-2018 (RIA)	2.00		
SwafS-11-2019 (RIA)		1.50	
SwafS-12-2019 (RIA)		2.00	
SwafS-13-2018 (CSA)	2.00		
SwafS-14-2018-2019 (CSA)	6.00	9.00	
SwafS-15-2018-2019 (CSA)	6.00	8.50	
SwafS-16-2019 (CSA)		5.00	
SwafS-18-2018 (RIA)	7.00		
SwafS-21-2018 (RIA)	3.50		
SwafS-19-2018-2019 (RIA)	4.00	3.00	
SwafS-20-2018-2019 (RIA)	6.00	6.00	
SwafS-07-2019 (CSA)		3.00	
SwafS-08-2019 (CSA)		2.00	
SwafS-17-2019 (RIA)		2.50	
27 Nov 2018			
			21 Nov 2019
21 Nov 2019			
Overall indicative budget	59.50	60.50	

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.

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.

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 Participant Portal.

Other requirement:

SwafS-15-2018-2019, SwafS-17-2019, SwafS-05-2018-2019, SwafS-14-2018-2019, SwafS-21-2018	For grants awarded under these topics 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-15-2018-2019, SwafS-05-2018-2019, SwafS-20-2018-2019, SwafS-04-2018	For grants awarded under these topics eligible costs may take form of a lump sum as defined in the Commission Decision [insert reference and title to the Decision].
SwafS-17-2019, SwafS-19-2018-2019, SwafS-05-2018-2019, SwafS-15-2018-2019, SwafS-21-2018	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), in particular with other projects funded by SWAFS. 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.
SwafS-17-2019, SwafS-15-2018-2019	For grants awarded under this topic and type of action beneficiaries will be subject to the additional exploitation obligations: to share data derived from citizen science activities with other EU-funded citizen science projects, and to share data deriving from their evaluation of the impacts of their work with projects funded under Science with and for Society.

	<p>Applicants must acknowledge and incorporate these obligations in the proposal and Annex I to the Grant Agreement. The respective option of Article 28.1 (and Articles 9 and 30.2) of the Model Grant Agreement will be applied.</p>
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Other actions

1. Expert group to update and expand "Gendered Innovations/ Innovation through Gender"²⁸

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 innovation²⁹. 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 widens 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.

²⁸ 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.

²⁹ 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 indicators³⁰

The European Commission has defined for the period 2016-2019 a Strategic engagement for gender equality³¹ 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 Growth³²” (ERA). In its 2015 Conclusions on Advancing Gender Equality in the ERA³³, 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 insofar³⁴. In addition it will go beyond taking stock of these data and indicators to match

³⁰ 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.

³¹ http://ec.europa.eu/justice/gender-equality/files/documents/160111_strategic_engagement_en.pdf

³² http://ec.europa.eu/research/era/era_communication_en.htm

³³ <http://data.consilium.europa.eu/doc/document/ST-14846-2015-INIT/en/pdf>

³⁴ SHE Figures 2015

policy needs, with new indicators, based on commonly accepted definitions and with clearly specified coverage.

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.

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 - 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) 2018³⁵

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 long term,

³⁵ 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 will directly contribute towards the objective of a science literate, knowledge society where scientists are aware of social needs.

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 ³⁶

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.

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

Indicative timetable: TBD

Indicative budget: EUR 0.80 million from the 2019 budget

5. The Euroscience Open Forum (ESOF) 2020 ³⁷

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

³⁶ 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.

³⁷ 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 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.

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.

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

Indicative timetable: 2nd quarter 2019

Indicative budget: EUR 1.00 million from the 2018 budget

6. Tender accreditation HR Strategy ³⁸

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). Improving 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. Therefore an outsourcing and full coordination of the HRS4R for ongoing and new participating institutions is foreseen on a pan-European scale.

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

Type of Action: Public Procurement - Direct contract

Indicative timetable: 1st Quarter 2018

Indicative budget: EUR 1.50 million from the 2018 budget

7. HR Strategy group cohorts/Mutual learning seminars ³⁹

The activity aims to improve working conditions for researchers. Increased 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.

Type of Action: Public Procurement - One specific contract using an existing framework contract (not possible to state at this stage. to be added later on)

Indicative timetable: 2nd Quarter 2018

Indicative budget: EUR 0.25 million from the 2018 budget

³⁸ 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.

³⁹ 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

8. EURAXESS Portal + IS Coordinator⁴⁰

Different activities will be undertaken to increase the capacity and ensure the user-friendliness of the EURAXESS portal. 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.

The budget requested for this action is based on past experience

Type of Action: Public Procurement - Up to three specific contracts using an existing framework contract (Normally we use the inhouse FWC for IS coordinators – the next one is not signed yet)

Indicative timetable: 1st Quarter of 2018 and first Quarter 2019

Indicative budget: EUR 0.30 million from the 2018 budget and EUR 0.30 million from the 2019 budget

9. Researchers' Conference 2019⁴¹

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 . (A event organisation contract for RTD is in preparation – not awarded yet)

Indicative timetable: 2nd Quarter 2019

Indicative budget: EUR 0.25 million from the 2018 budget

10. EURAXESS Biennial Conference⁴²

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

⁴⁰ 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.

⁴¹ 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 for this action is calculated according to past experience.

⁴² 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.

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 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 - Two specific service contracts under existing Framework contracts. (An event organisation contract for RTD is in preparation – not awarded yet).

Indicative timetable: 2nd quarter 2019

Indicative budget: EUR 0.35 million from the 2019 budget

11. Promotion of the EURAXESS initiative⁴³

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 existing a Framework contract. (DG COMM framework contract on communication activities)

Indicative timetable: 2nd quarter 2018 and second Quarter 2019

Indicative budget: EUR 0.10 million from the 2018 budget and EUR 0.10 million from the 2019 budget

12. Industrial Talents dimension of the Innovative Doctoral Training Principles⁴⁴

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

⁴³ 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.

⁴⁴ 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.

universities encourage partnerships between academia and industry, but coverage is patchy and uneven across sectors and countries.

This action will put into practice the recommendations as set out in the feasibility study on fostering industrial talents at European level that took stock of and evaluated current intersectoral mobility schemes in 2017; and as set out in a series of seminars, held in 2018, with eminent experts in the field of intersectoral mobility and academic – non-academic cooperation, who analysed the recommendations from the above-mentioned study on if and how an EU initiative could be replicable across different contexts, sectors and countries and proposed a way forward.

The EU level initiative, as 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 - Direct contract

Indicative timetable: 3rd Quarter 2019

Indicative budget: EUR 4.00 million from the 2019 budget

13. International EURAXESS Conference (LINKS) ⁴⁵

The EURAXESS LINKS 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 LINKS 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. (A event organisation contract for RTD is in preparation – not awarded yet)

Indicative timetable: 2nd Quarter of 2020

Indicative budget: EUR 0.20 million from the 2019 budget

⁴⁵ 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.

14. EURAXESS LINKS implementation⁴⁶

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 Links 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 non-EU researchers outside Europe. EURAXESS Links 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 support to the EURAXESS Links network during the implementation of the new framework contract covering more countries or hubs during the period 2020-2024. The first specific contract implementing the EURAXESS Links 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 - One specific contract to be signed under the new EURAXESS LINKS Framework contract (2019-2022) to be published on 1st Semester 2018

Indicative timetable: 1st quarter of 2020

Indicative budget: EUR 2.00 million from the 2019 budget

15. RESAVER- Support to RESAVER Pension Fund⁴⁷

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.

⁴⁶ 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.

⁴⁷ 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 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. 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.

Type of Action: Grant to identified beneficiary - Operating Grant

Indicative timetable: 1st quarter of 2019

Indicative budget: EUR 0.30 million from the 2018 budget

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Call and other actions 2020

Calls continued in 2020

1. Accelerating and catalysing processes of institutional change (2018-2020)

Budget: EUR 24.0 million

SwafS.01.2020: Grounding RRI Practices in Society

SwafS.02.2020-Open Schooling and collaboration on science education

SwafS.03.2020-Ethics of Organoids

SwafS.04.2020-The ethics of technologies with high socio-economic impact

SwafS.05.2020-Research Innovation Needs & Skills Training in PhD programmes

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

Budget: EUR 12.0 million

SwafS.06.2020: Support to research organisations to implement gender equality plans

SwafS.07.2020-Gender-based violence in research organisations and universities

3- Building the territorial dimension of SwafS partnerships,

Budget: EUR 12.0 million

SwafS.08.2020-Supporting Territorial RRI Development

4. Exploring and supporting citizen science

Budget: EUR 12.0 million

SwafS.09.2020-Exploring and supporting citizen science

5. Building the knowledge base for SWAFS.

Budget: EUR 12.0 million

SwafS.10.2020-Building the SwafS Knowledge Base

Other Actions 2020

Budget: EUR 1.2 million

1.2020-The Euroscience Open Forum (ESOF) 2022

2.2020-European Union Contest for Young Scientists (EUCYS) 2020

3.2020-HR Strategy group cohorts/Mutual learning seminars

4.2020-Researchers' Conference 2021

5.2020- EURAXESS Biennial Conference 2021

6.2020-Promotion of the EURAXESS initiative

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Budget⁴⁸

	Budget line(s)	2018 Budget (EUR million)	2019 Budget (EUR million)
Calls			
H2020-SwafS-2018-2020		59.50	60.50
	<i>from 08.020600</i>	59.50	60.50
Other actions			
Expert Contracts		0.50	
	<i>from 08.020600</i>	0.50	
Public Procurement		2.85	6.95
	<i>from 08.020600</i>	2.85	6.95
Grant to Identified beneficiary		2.10	0.80
	<i>from 08.020600</i>	2.10	0.80
Estimated total budget		64.95	68.25

⁴⁸ The budget figures given in this table are rounded to two decimal places.

The budget amounts for the 2018 budget are subject to the availability of the appropriations provided for in the draft budget for 2018 after the adoption of the budget 2018 by the budgetary authority or, if the budget is not adopted, as provided for in the system of provisional twelfths.

The budget amounts for the 2019 and 2020 budget are indicative and will be subject to separate financing decisions to cover the amounts to be allocated for 2019 and for 2020.