



International Cooperation in Horizon 2020

EU and South Africa

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Industrial Leadership

Horizon 2020 Pillar:	Industrial Leadership
Programme:	Leadership in enabling and industrial technologies (LEIT)
Call Title:	Information and Communication Technologies Call
Call Identifier:	H2020-ICT-2016-2017
Topic Title:	International partnership building in low and middle income countries
Topic Identifier:	ICT-39-2016-2017
Type of Action:	IA Innovation action
Deadline(s):	25-04-2017 (single-stage)

Participant Portal Weblink:

<http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/topics/ict-39-2016-2017.html>

Specific Challenge: To reinforce cooperation and strategic partnership with selected countries and regions in areas of mutual interest.

Targeted countries: Low and middle income countries^[1] in sub-Saharan **Africa** and ASEAN countries

Scope: Actions will address the requirements of end-user communities in developing countries. This may include technological improvements and adaptations as well as innovative service creation based on existing technologies.

Proposals could include specific technological targets such as co-design, adaptation, demonstration and validation (e.g. pilots) of ICT related research and innovation in relevant thematic areas addressed by Horizon 2020 including Content Technologies and Societal Challenges. Proposals are expected to address take up and scalability of the proposed solutions.

Activities under this topic should be led by a clearly defined user need/market opportunity for the technology being adapted; they should in particular include requirements of developing countries (at national and local level), and where possible, have the potential for wider impact by involving a number of countries from the same region. Proposals should feature an explicit element exploring technology adoption, through understanding and evaluating behavioural responses to the introduction of new technologies in different regional settings. Societal and gender issues will be taken into account. Proposals should be submitted by a partnership complementing each other with a particular focus on the participation of relevant developing country innovation stakeholders and end-user community representatives (e.g. relevant public, private, education and research, and societal sector organisations, Innovation Hubs or Living Labs).

The Commission considers that proposals requesting a contribution from the EU between EUR 1 and 2 million would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts.

Expected Impact:

- Development of relevant technology responding to specific needs and conditions of the target country;
- Sustainable uptake of results within the targeted countries, beyond the project completion date;
- Reinforced international dimension of the ICT and Innovation aspects of Horizon 2020 and a higher level of international cooperation with low and middle income countries in ICT R&D and Innovation, focusing on areas that are beneficial to the target countries/region;
- Reinforcement of strategic partnerships with selected countries and regions in areas of mutual interest and added value in jointly addressing important issues.

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

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[1] See World Bank country classification.

Societal Challenges

Horizon 2020 Pillar:	Societal Challenges
Programme:	Climate action, environment, resource efficiency and raw materials
Call Title:	Greening the Economy
Call Identifier:	H2020-SC5-2016-2017
Topic Title:	Closing the water gap
Topic Identifier:	SC5-33-2017
Type of Action:	ERA-NET-Cofund ERA-NET Cofund
Deadline(s):	07-03-2017 (single-stage)

Participant Portal Weblink:

<http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/topics/sc5-33-2017.html>

Specific Challenge: Growing water demands, mismanagement of water use and climate change are increasing the stress on water supply, water bodies, and associated ecosystems and existing infrastructures, and emphasise the need to close the water cycle gap, by reconciling water supply and demand in both quantitative and qualitative terms. Research needs to be deployed in a number of scientific fields to improve the knowledge base on water resources availability and use and must be systematically combined with a socio-economic approach investigating the questions of adaptation strategies, participation, behaviour and commitment of stakeholders. This challenge is of European interest and will require a concerted action. To be more effective and increase the added value of related investments, the efforts and strategic research agendas of the many funding networks and organisations existing in Europe need to be integrated to establish transnational and trans-disciplinary research and innovation actions.

Scope: The action will support delivering on priorities identified in the Strategic Research and Innovation Agenda of the Water Joint Programming Initiative (JPI), by pooling together the necessary financial resources from the participating national (or regional) research programmes with a view to implementing a joint call for proposals resulting in grants to third parties with EU co-funding. The joint call should address research and innovation to support the implementation of EU water policy, in particular on the thematic area “Closing the Water Cycle Gap” of the Water JPI Strategic Research and Innovation Agenda, specifically the sub-themes of Enabling Sustainable Management of Water Resources; and Strengthening Socio-economic Approaches to Water Management. Water resources observation and modelling will be required to better understand hydrological processes and to analyse and forecast the effect of management options, in order to support improved decision-making to ensure the long-term viability of water resources and to enable the integrated management of water resources at the national, basin, and global scales. Observation and modelling should also help to mobilise investments into innovation water management and use solutions in line with the objective of creating a circular economy.

In line with the EU's strategy for international cooperation in research and innovation international cooperation with international partners is encouraged. Proposals should include other joint activities including additional joint call(s) without EU co-funding. The proposal should demonstrate that these co-funded other activities exclude any overlaps with related ongoing actions co-funded by the EC. Cooperation and coordination with other ERA-NETs and/or JPIs to increase synergies on cross-cutting issues, where appropriate, is encouraged.

Participation of legal entities from international partner countries and/or regions is encouraged in the joint call as well as in other joint activities including additional joint calls without EU co-funding. Participants from countries which are not automatically eligible for funding^[1] may nonetheless request a Union contribution (on the basis of the ERA-NET unit cost) for the co-ordination costs of additional activities.

The Commission considers that proposals requesting a contribution from the EU in the range of EUR 10 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: Projects are expected to lead to:

- improved use of scarce human and financial resources in the area of water research and innovation;
- reduced fragmentation of water research and innovation efforts across Europe;
- improved synergy, coordination and coherence between national and EU funding in the relevant research fields through transnational collaboration;
- improved implementation of research and innovation programmes in these fields through exchange of good practices;
- strengthened international leadership of European research in this area making the Water JPI, in collaboration with the European Commission, a privileged and attractive partner for global cooperation in research and innovation, in the context of the **Belmont Forum** and other international alliances;
- contribution to the implementation of the objectives of the JPI on Water;
- contribution to the implementation of the Sustainable Development Goals (SDGs), in particular SDG 6 'Ensure availability and sustainable management of water and sanitation for all' and SDG 13 'Take urgent action to combat climate change and its impacts', as well as the conclusions of the COP21 Paris Agreement^[2].

Cross-cutting Priorities: International cooperation, Socio-economic science and humanities, ERA-NET

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[1] http://ec.europa.eu/research/participants/docs/h2020-funding-guide/cross-cutting-issues/international-cooperation_en.htm

[2] The Paris Agreement was adopted at the 21st Conference of the Parties (COP) of the United Nations Framework Convention on Climate Change, in Paris on 12 December 2015.

Horizon 2020 Pillar:	Societal Challenges
Programme:	Climate action, environment, resource efficiency and raw materials
Call Title:	Greening the Economy
Call Identifier:	H2020-SC5-2016-2017
Topic Title:	Widening international cooperation activities on climate adaptation and mitigation
Topic Identifier:	SC5-31-2017
Type of Action:	CSA Coordination and support action
Deadline(s):	07-03-2017 (single-stage)

Participant Portal Weblink:

<http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/topics/sc5-31-2017.html>

Specific Challenge: The aim of this CSA is to further open the JPI Climate to international cooperation partners, including in Latin America, **Africa** or Asia, and to encourage engagement of a wider group of EU Member States and thus contribute to creating a coherent European Research Area open to the world. In addition, this action should consolidate the alignment of the R&I agendas of national, European Commission and other key players related to climate issues. Providing integrated, qualified climate knowledge and decision support services across sectors internationally is the main target, well in line with Horizon 2020 and SFIC strategies for internationalization of European skills at a time when research and innovation requirements for the Sustainable Development Goals (2016-2030) have been launched at United Nations level.

Scope: Proposals should aim to create a framework and permanent dialogue to encourage, in a structured and strategic manner, the opening of the JPI Climate to international cooperation with key international climate research and innovation programmes, as well as funding and investment institutions. Proposals should also undertake activities to align with and support the 2030 Agenda for Sustainable Development, in particular on climate change resilience, adaptation, mitigation and disaster risk reduction. Flagship actions for possible joint funding with members of the JPI Water, JPI Urban Europe, JPI Oceans or key international cooperation partners and international programmes of strategic importance for the EU, such as the **Belmont Forum**, should also be identified and prepared for in advance.

This action should also organize and develop the knowledge base required to address climate challenges and EU policy priorities within a global perspective. This can be accomplished by providing open and integrated analysis of research results and recommendations to the United Nations Framework Convention on Climate Change to combat climate change and its impacts. It should aim to contribute to: strengthening resilience and adaptive capacity to climate related hazards; integrating climate change measures into national policies, strategies, and planning; improving education, awareness raising and human and institutional capacity on climate change mitigation, resource efficiency, adaptation, impact reduction, early warning and resilience to disasters; supporting

LICs/LMICs in the context of meaningful mitigation actions and transparency on implementation, operationalization and evaluation of the Green Climate Fund; promoting mechanisms for raising capacities for effective climate change related planning and management in LICs/LMICs, including focusing on women, youth, local and marginalized communities.

The Commission considers that proposals with a duration of four years requesting a contribution from the EU in the range of EUR 2 million would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts.

Expected Impact: Projects are expected to contribute to:

- increasing the scale and ambition of research and innovation activities for climate adaptation and mitigation for a resilient and efficient Europe that will valorise their know-how on climate solutions at global level in the context of the post-2015 sustainable development agenda;
- making the JPI Climate, in close collaboration with the European Commission and others European initiatives involving Member States (such as Copernicus, JPI Water, JPI Oceans, JPI Urban Europe, GPC and SFIC), a privileged and attractive partner for global cooperation in climate research and innovation, notably in the context of the Global Framework for Climate Services, the Future Earth platform on global sustainability and the **Belmont Forum**;
- strengthening the role of the JPI Climate for underpinning knowledge and evidence for supporting the implementation of related EU policies and for fostering the EU's common position in the global climate-related negotiations under UNFCCC;
- implementing the Sustainable Development Goals (SDGs), in particular SDG 13 'Take urgent action to combat climate change and its impacts', as well as the conclusions of the COP21 Paris Agreement.

Cross-cutting Priorities: International cooperation, Gender

Horizon 2020 Pillar:	Societal Challenges
Programme:	Climate action, environment, resource efficiency and raw materials
Call Title:	Greening the Economy
Call Identifier:	H2020-SC5-2016-2017
Topic Title:	Biodiversity scenarios
Topic Identifier:	SC5-32-2017
Type of Action:	ERA-NET-Cofund ERA-NET Cofund
Deadline(s):	07-03-2017 (single-stage)

Participant Portal Weblink:

<http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/topics/sc5-32-2017.html>

Specific Challenge: Evaluating and improving the sustainability of the management of biodiversity and ecosystem services is a major challenge of our time all over the world. Scenarios of biodiversity and ecosystem services have been a key component of forward-looking decision making as they contribute to

- i) better understanding and synthesizing a broad range of observations,
- ii) informing decision makers about future impacts of global changes such as climate change, land use change, resource overuse, invasive alien species or pollution,
- iii) providing decision support by developing adaptive management strategies, and
- iv) evaluating the implications of alternative social-economic development pathways and policy options.

Development of scenarios for biodiversity and ecosystem services, based on the understanding and modelling of their dynamics and the evaluation and reanalysis of past changes, is beginning to receive high priority in the research policy of the majority of countries worldwide. In this context, aligning research agendas and implementing them through international calls will promote synergies and optimal use of the available expertise and resources, avoiding duplication and ensuring robust outcomes of global relevance. To attain this, BiodivERSA is opening to third country partners and the **Belmont Forum** provides an excellent platform for international collaboration.

Scope: Proposals should pool the necessary financial resources from the participating national (and as needed local and regional) research programmes with a view to implementing a joint call for proposals with EU co-funding resulting in grants to third parties. The proposal should include other joint and follow-up activities, including possibly additional joint call(s) without EU co-funding. The proposal should demonstrate that these co-funded other activities exclude any overlaps with ongoing actions of this ERA-NET co-funded by the EC. Actions should build on the strategic roadmap of BiodivERSA ERA-NET Cofund and launch at least one international call on biodiversity and ecosystem services scenarios in collaboration with the

Belmont Forum specifically to promote trans-continental collaboration. Cooperation and coordination with other ERA-NETs and/or JPIs to increase synergies on cross-cutting issues, where appropriate, is encouraged.

Participation of legal entities from international partner countries and/or regions, particularly from countries participating in the **Belmont Forum**, is encouraged in the joint call as well as in other joint activities without EU co-funding. For the co-ordination costs of additional activities only, participants from countries which are not automatically eligible for funding^[1] may nonetheless request a Union contribution (on the basis of the ERA-NET unit cost).

The Commission considers that proposals requesting a contribution from the EU in the range of EUR 7 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: Actions are expected to lead to:

- the alignment of research and innovation agendas in the area of scenario development for biodiversity and ecosystem services and co-ordinated streamlining of the implementation of at least one call;
- enhanced excellence and global relevance of research and innovation activities on biodiversity and ecosystem services, improving the relevance and value of advances made in developing socio-economic scenarios and models of global change impacts on the dynamics of biodiversity and ecosystem services for decision makers at multiple scales;
- increased visibility of European biodiversity scientific community and research outcomes at international level;
- strong and lasting alliance with the funding agencies of key international partners for research and innovation actions on biodiversity and ecosystem services (e.g Brazil, China, India, Japan, Mexico, **South Africa**, USA);
- link with possible assessments as those conducted, e.g., by the IPBES to induce a wider, worldwide and regional use of scenarios to better assess future, plausible trends of biodiversity and ecosystem services and explore the role that nature-based solutions may play;
- contribution to the implementation of the Sustainable Development Goals (SDGs), in particular SDG 15 'Protection, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss'.

Cross-cutting Priorities: ERA-NET, International cooperation, Socio-economic science and humanities

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[1] http://ec.europa.eu/research/participants/docs/h2020-funding-guide/cross-cutting-issues/international-cooperation_en.htm

Horizon 2020 Pillar:	Societal Challenges
Programme:	Climate action, environment, resource efficiency and raw materials
Call Title:	Greening the Economy
Call Identifier:	H2020-SC5-2016-2017
Topic Title:	ERA-NET on Climate Services Roadmap: Cross-sector impact assessments (evaluation, comparison and integration)
Topic Identifier:	SC5-30-2017
Type of Action:	ERA-NET-Cofund ERA-NET Cofund
Deadline(s):	07-03-2017 (single-stage)

Participant Portal Weblink:

<http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/topics/sc5-30-2017.html>

Specific Challenge: Following the outcome of the European Workshop 'Towards a European Market of Climate Services' (18th March, 2014), a European Roadmap for Climate services has been prepared by an independent group of experts and presented in a subsequent European Conference on 17th March 2015. The Roadmap identifies a series of challenges and specific actions that need to be undertaken by various actors in Europe, in order to strengthen the European market of climate services. In the Horizon 2020 Work Programme of 2015 an ERA-NET Cofund action was already launched with the JPI Climate for developing scientific advances in support of climate services, involving mandated governmental research centres in the design of co-aligned actions. The challenge is to support the implementation of the Roadmap, building upon the layer of activities already launched, in order to support knowledge-based decision making, both in the public and private sector, to avoid risks and seize opportunities towards sustainable development. This requires cross-sectoral and robust impact assessments that nest climate change information into others socio-economic changes, as well as taken into account adaptation policies to reduce vulnerabilities and increase resilience in future.

Scope: The action will support the implementation of the roadmap for climate services and align actions of the various national entities of Member States and Associated Countries active in climate services and climate research by developing, evaluating, and integrating impact assessments, methodologies, and models while adding to the development of Shared Socioeconomic Pathways (SSP). It requires transdisciplinary research – co-designed with key stakeholders – across key economic/societal sectors, including food, water, energy, health, finance, investment, equity and security. This action should be implemented through a close cooperation with Member States grouped around the JPI Climate, should take into account relevant actions already carried out in the first Horizon 2020 programming cycle and within other relevant JPIs, and should benefit from cooperation with advanced programmes and projects on climate regional modelling and knowledge gaps, such as the one foreseen in this work programme for 2016 (SC5-2, SC5-3). Furthermore, in line with the strategy for EU international cooperation in research and innovation (COM(2012)497), it should open

cooperation at international level with other key initiatives such as the **Belmont Forum** or at regional level in Latin America and/or **Africa**.

The proposal should pool the necessary financial resources from the participating national (or regional) research programmes with a view to implementing a joint call for proposals with EU co-funding resulting in grants to third parties. The proposal may include, in addition, publicly-funded research performing organisations that will contribute with their own resources (in-kind contributions from their institutional funding). In this case the joint call should include a separate topic for the participating research performing organisations. They will carry out the transnational projects resulting from this topic themselves. Their participation in the ERA-NET Cofund action must be mandated by the national/regional authorities in charge (normally the responsible Ministry).

Proposals should include other joint activities including additional joint calls without EU co-funding, while demonstrating at the same time that activities exclude any contextual or financial overlaps with related ongoing actions co-funded by the EC. Cooperation and coordination with other ERA-NETs and/or JPIs to increase synergies on cross-cutting issues, where appropriate, is encouraged.

Participation of legal entities from international partner countries and/or regions, including from **Belmont Forum** members and/or Latin America or **Africa**, is encouraged in the joint call as well as in other joint activities including additional joint calls without EU co-funding. Participants from countries which are not automatically eligible for funding^[1] may nonetheless request a Union contribution (on the basis of the ERA-NET unit cost) for the coordination costs of additional activities.

The Commission considers that a proposal requesting a contribution from the EU in the range of EUR 13 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 results of the projects launched through this ERA-NET are expected to:

- substantially increase the capability of quantifying the impacts of climate change at local/regional level in a cross sectoral risk-assessment framework including better quantification of uncertainties;
- increase the potential of using climate impact data in operational climate services;
- increase the integration of economic and impact model assessments in support of adaptation and mitigation decisions;
- align public funding on actions in support to the development of climate services within the JPI Climate member countries and beyond, including others relevant JPIs;
- support a network of key European research performing organizations;
- strengthen international leadership of European research, in particular its contribution to the Global Framework for Climate Services (WMO-GFCS), the Inter-Sectoral Impact Model Intercomparison Project (WCRP/ISI-MIP) and the Future Earth Programme, and eventually to IPCC assessments, UN-SDGs and the **Belmont Forum**;
- contribute to implementing the Sustainable Development Goals (SDGs), in particular SDG 13 'Take urgent action to combat climate change and its impacts', as well as the conclusions of the COP21 Paris Agreement.

Cross-cutting Priorities: International cooperation, Socio-economic science and humanities, ERA-NET

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[1] http://ec.europa.eu/research/participants/docs/h2020-funding-guide/cross-cutting-issues/international-cooperation_en.htm

Horizon 2020 Pillar:	Societal Challenges
Programme:	Smart, green and integrated transport
Call Title:	2016-2017 Mobility for Growth
Call Identifier:	H2020-MG-2016-2017
Topic Title:	Identification of gaps, barriers and needs in the aviation research
Topic Identifier:	MG-1-5-2016-2017
Type of Action:	CSA Coordination and support action
Deadline(s):	01-02-2017 (single-stage)

Participant Portal Weblink:

<http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/topics/mg-1-5-2016-2017.html>

Specific Challenge: The Advisory Council for Aviation Research and Innovation in Europe (ACARE) has developed in 2012 a new Strategic Research and Innovation Agenda that describes the actions needed to meet the highly ambitious goals set by Flightpath 2050. In order to ensure the achievement of these goals, regular assessment of progress, gaps and barriers is necessary and strong collaboration between all European stakeholders is required. In 2017 attention will also be paid to collaborations with non-European stakeholders where relevant, in order to solve common challenges, leverage resources, mitigate risks and establish long-term relationships.

Scope: The actions should address one of the two following areas:

1. Provide on an annual basis a review of the state of the art of research and innovation including international benchmarking, identify gaps in the research landscape, bottlenecks to innovation (regulation, financing) and formulate recommendations to address those. The actions should address one or several of the following research domains of the ACARE Strategic Research and Innovation Agenda:
 - Mobility
 - Competitiveness
 - Environment and energy
 - Safety and security

A close cooperation with the relevant ACARE Working Groups and involvement of all main relevant stakeholders should be ensured. The actions should take into consideration R&D synergies with other sectors (e.g. batteries, composites, product lifecycle management). Special attention should be paid on the economic, environmental and mobility aspects of the long distance traveling.

2. Set up an open platform between EU and relevant third countries to reach out to research and innovation stakeholders (industry, research establishments and academia) and aviation research and innovation funding authorities in order to facilitate and increase

collaboration along common research and innovation roadmaps. Proposers should take into account achievements of past and on-going cooperation initiatives such as the H2020 coordinated calls with Canada, China and Japan, and previous support actions^[1]. Proposals can include organisation of workshops and studies to identify win-win opportunities, areas of common interest, barriers and solutions for improved cooperation in research and technology development as well as recommendations for future actions. Proposers should demonstrate relevant background in aviation research cooperation with third countries.

The Commission considers that proposals requesting a contribution from the EU of between EUR 1 to 2 million each 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 actions will support to reach the goals set by the aviation sector in a more efficient and optimal way thorough assessment of the progress towards Flightpath 2050 goals^[2], identification of future needs, gaps and barriers, and make recommendations for further actions. The actions will result also in providing solutions for improved research infrastructure for the European aviation sector adapted to the needs for achieving the long term goals. The actions will support also a more efficient use of the available research capabilities in Europe through creating new links between the stakeholders of EU Member States, Associated Countries and third Countries, stimulating the creation of transnational cooperation mechanisms in the aviation research.

Delegation Exception Footnote: The 2017 part of this activity is 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 the Innovation and Networks Executive Agency (INEA) and will be implemented by the Commission services.

Cross-cutting Priorities: International cooperation

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[1] Seventh Framework Programme support actions with Canada(CANNAPE), Brazil - Latin America (Coopair-LA), Japan (SUNJET), China (e.g. Aerochina, GRAIN2), **South Africa** (Aero**Africa**-EU), Ukraine (AeroUkraine) and United States of America (CooperateUS) & EU-US Memorandum of Cooperation on civil aviation research in addition to the multinational aviation research forum (IFARs).

[2] <http://www.acare4europe.org/sria/flightpath-2050-goals>

Societal Challenges, Industrial Leadership

Horizon 2020 Pillar:	Societal Challenges, Industrial Leadership
Programme:	Food security, sustainable agriculture and forestry, marine and maritime and inland water research, Climate action, environment, resource efficiency and raw materials, Leadership in enabling and industrial technologies (LEIT)
Call Title:	Sustainable Food Security – Resilient and resource-efficient value chains
Call Identifier:	H2020-SFS-2016-2017
Topic Title:	Research and approaches for emerging diseases and pests in plants and terrestrial livestock
Topic Identifier:	SFS-10-2017
Type of Action:	RIA Research and Innovation action
Deadline(s):	14-02-2017, 13-09-2017 (two-stage)

Participant Portal Weblink:

<http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/topics/sfs-10-2017.html>

Specific Challenge: Trade and the movement of goods and people have facilitated the transfer and spread of plant and animal diseases and pests, the prevalence of which is expected to increase further as a result of intensification, changes in agricultural practices and climatic variations. Emerging diseases and pests in plants or emerging infectious diseases in terrestrial animals can have a substantial impact on agricultural and forest productivity, trade and public health. **African Swine Fever** is such a highly infectious animal disease emerging in Europe, with an epidemiological situation raising serious concerns and for which a vaccine would be very useful to improve its control. Appropriate and rapid responses by decision-makers need to be informed by scientific evidence, addressing as far as possible all components of management in particular with regard to epidemiology (e.g. source, transmissibility, susceptible species), host-pathogen interactions, diagnostics, means of prevention and control, as well as risk management.

Scope: Proposals will contribute to understanding the drivers of emergence and to finding adequate responses to emerging pests and diseases in plants (work on *Xylella fastidiosa* is excluded under this call topic) and emerging infectious diseases in terrestrial animals. They will target one or more of the pests and diseases threatening EU agriculture/forestry (regulated or non-regulated, invasive or native) and causing significant economic losses, such as **African Swine Fever**. The choice of target species should consider the potential threat in terms of development and spread as well as potential impact on agricultural production, public health, or trade. Proposals should increase knowledge on the biology, development and spread of pests/diseases. They should improve methods and strategies for risk assessment, prevention and containment and enlarge the range of tools for integrated and sustainable pest/disease management. International cooperation with countries affected or threatened by the same pest(s)/disease(s) is encouraged. Proposals should fall under the concept of the

'multi-actor approach'[1] and be based on the active participation of stakeholders from research, plant/animal health authorities and the farming and business sectors. Partners from non-EU regions particularly affected by the targeted pests and disease(s) should also be involved. As regards livestock, proposals should contribute as appropriate to the objectives of the STAR-IDAZ[2] international research consortium (see SFS-12-2016). They should involve cooperation as appropriate with relevant initiatives, e.g. in the context of such as EUPHRESCO and STAR-IDAZ, and other funded projects in this field, e.g. those selected under SFS-14-2016.

Individual proposals should tackle either plant pests/diseases or animal infectious diseases. Funding will allow for support for up to two projects on plant pests/diseases and one animal diseases.

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

Expected Impact: Knowledge and solutions generated by this action should contribute to:

- understanding drivers for pest/disease emergence
- improved management of pests/diseases by the farming and forestry sectors;
- development of environmentally sound tools for the prevention, detection and diagnosis, of pests/diseases;
- reduction of economic losses by the farming and forestry sectors;
- improved food quality and food safety; and
- implementation of EU plant and animal health policies.

In the longer term, project outputs will help the agricultural sector to remain productive and contribute to food security.

Cross-cutting Priorities: International cooperation

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[1] See definition of the 'multi-actor approach' in the introduction to this Work Programme part.

[2] <http://www.star-idaz.net>

Horizon 2020 Pillar:	Societal Challenges, Industrial Leadership
Programme:	Food security, sustainable agriculture and forestry, marine and maritime and inland water research, Climate action, environment, resource efficiency and raw materials, Leadership in enabling and industrial technologies (LEIT)
Call Title:	Sustainable Food Security – Resilient and resource-efficient value chains
Call Identifier:	H2020-SFS-2016-2017
Topic Title:	Earth observation services for the monitoring of agricultural production in Africa
Topic Identifier:	SFS-43-2017
Type of Action:	RIA Research and Innovation action
Deadline(s):	14-02-2017 (single-stage)

Participant Portal Weblink:

<http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/topics/sfs-43-2017.html>

Specific Challenge: The Fourth EU-**Africa** Summit of 2-3 April 2014 agreed on a roadmap for 2014-2017^[1] including actions specifically targeted at delivering Earth observation services in priority domains for **Africa** such as food security. This topic aims to contribute to this roadmap by providing food supply projection and agricultural risk assessment for **Africa**. These kinds of projection remain very challenging tasks, requiring a lot of information on environmental and weather conditions, climate change, crops and livestock. This information is usually derived from both remote and in-situ Earth observation systems. The challenge is therefore to make agricultural production in **Africa** more predictable by using Earth observation assets, including – but not limited to – those made available through the Global Earth Observation System of Systems (GEOSS) and Copernicus programmes.

Scope: The action should lead to substantially increasing the use of Earth observing capabilities and supporting application systems to produce timely, objective, reliable, and transparent crop and livestock production projection at the national and regional level for the **African** continent. It should support the GEOGLAM^[2] and AfriGEOSS^[3] initiatives and relevant aspects of the EU's development policy. Moreover, it should design and develop methods to assess/monitor agricultural production in **Africa**, taking into account its main drivers and the longer term impacts of its dynamics. Building on the outcomes of existing EU projects stimulating innovation for global agricultural monitoring – such as SIGMA^[4] –, the research and innovation activities should cover as a minimum all the following domains: crop and livestock identification and crop and livestock area estimation, crop and livestock condition and stress, yield prediction and forecasting, crop cover mapping, and the impact of extreme events on food production.

The action should foster participatory approaches to collecting relevant information and data, taking advantage of the growing number of mobile communication devices owned by **African**

citizens. The participatory approaches should also take into account, and build on, widespread women's engagement in agricultural production and food supply. There should be an emphasis on 'consensus of evidence approaches', integrating data from multiple sources including Earth observations, crop models, weather forecast, climate predictions and projections, surveys and ground observations to reach evidence-based assessments using repeatable and scientifically sound methods.

Large proof-of-concept actions, showing the capacity to deliver food supply prediction and agriculture risk assessment beyond the current state-of-the art at regional/pan-**African** level should be performed by the action. Proposals should contribute to supporting the implementation of an EU-**Africa** partnership on Food and Nutrition Security and Sustainable Agriculture and should include partners clearly representing the diversity of **African** countries.

In line with the strategy for EU international cooperation in research and innovation (COM(2012)497), international cooperation is encouraged, in particular with **African** countries. The action should establish cooperation with institutions/networks engaged in the development of climate services in **Africa** and with agencies which have developed mapping and assessment tools used in humanitarian decision making.

The Commission considers that proposals requesting a contribution from the EU of up to EUR 10 million would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude the submission and selection of proposals requesting other amounts.

Expected Impact: Proposals are expected to:

- move projection of food supply and agricultural risk assessment at the level of the **African** continent beyond the current capability;
- improve decision making capacity regarding food supply and management in **Africa**;
- contribute to independent and neutral evaluation of agricultural production in **Africa**;
- strengthen collaboration between EU and **African** organisations in the domain of food projection;
- increased involvement of citizens and stakeholders in food production and food supply chain management in **Africa**, taking into account the gender dimension and women's role in food production and supply;
- provide a strong Earth observation building blocks for an EU-**Africa** Research and Innovation Partnership focusing on food and nutrition security and sustainable agriculture;
- improve participation of **African** organisations in GEO and Copernicus (GMES & **Africa** initiative);
- foster cooperation with initiatives developing the Global Framework for Climate Services (GFCS)^[5] in **African** countries;
- contribute to implementing the Sustainable Development Goals (SDGs), in particular SDG 2 'End hunger, achieve food security and improved nutrition and promote sustainable agriculture' and SDG 13 'Take urgent action to combat climate change and its impacts'.

Cross-cutting Priorities: International cooperation, Gender

[1] <http://www.Africa-eu-partnership.org/sites/default/files/documents>

[2] <http://www.geoglam-crop-monitor.org>

[3] <http://www.earthobservations.org/afrigeoss.php>

[4] <http://www.geoglam-sigma.info>

[5] <http://www.gfcs-climate.org>