

Opportunities for African Participation in H2020

Work Programme 2016-2017



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Building Bi-regional Partnerships for Global Challenges



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8.11.2016



Societal Challenge 2: Food Security, sustainable agriculture and forestry, marine and maritime and inland water research and the bioeconomy

http://ec.europa.eu/research/participants/data/ref/h2020/wp/2016_2017/main/h2020-wp1617-food_en.pdf

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Societal Challenge 2: General Information

Food security, sustainable agriculture and forestry, marine and maritime and inland water research and the bioeconomy

- Leveraging research and innovation to address major societal challenges: ensuring food and nutritional security, resource efficiency, and facing climate change; sustainably exploiting the potential of the oceans; promoting dynamic territorial development, through the mobilisation of rural and coastal economies; boosting investment, employment and economic growth in the EU
- Aim to bring research and innovation to the heart of major primary to face the new challenges ahead, taking advantage of new potential in the biological, ecological, technical and information technology domains
- 2016-2017 focus on:
 - Sustainable Food Security
 - Blue Growth
 - Rural Renaissance
 - Bio-based innovation for sustainable goods and services

Societal Challenge 2: International Cooperation

Food security, sustainable agriculture and forestry, marine and maritime and inland water research and the bioeconomy

- Challenges addressed in the WP are of a global nature, requiring global solutions in cooperation with third countries and relevant international organizations or initiatives
- International cooperation will be encouraged and seek to maximize the benefits of collaboration with regions outside the EU in particular in view of solving common problems and meeting international commitments
- Particular priorities for international cooperation in this WP:
 - Blue Growth: support the implementation of the Atlantic Ocean Research Alliance (focus on Arctic) and the BLUEMED Initiative on marine and maritime research and innovation activities in the Mediterranean area;
 - Sustainable Food Security: support flagships initiatives with China and partnerships initiatives with East-Asian countries on aquaculture and **Africa on Food and Nutrition Security, Sustainable Agriculture, and the establishment of an International Research Consortium on animal health**

Societal Challenge 2: Sustainable Food Security

Sustainable Food Security - Resilient and resource-efficient value chains

- The focus area ‘sustainable food security’ will put greater emphasis on the resilience of primary production, coping with resource depletion and climate change, and research and innovation along the food value chain than the previous work programme (2014–2015).
- 2016-2017 focus on:
 - More resilient and resource efficient value chains
 - Environment-smart and climate-smart primary production
 - A competitive food industry
 - Healthy and safe foods and diets for all
- EU-Africa Cooperation:
 - Support to the implementation of the EU-Africa Partnership on Food and Nutrition Security and Sustainable Agriculture

Societal Challenge 2: Food Security / Overview

Topics

SUSTAINABLE FOOD SECURITY – RESILIENT AND RESOURCE-EFFICIENT VALUE CHAINS

SFS-4-2017: New partnerships and tools to enhance European capacities for in-situ conservation

SFS-5-2017: Robotics Advances for Precision Farming

SFS-7-2016/2017: Organic Breeding – Increasing the competitiveness of the organic breeding and farming sectors

SFS-8-2017: Organic Inputs – Contentious inputs in organic farming

SFS-10-2017: Research and approaches for emerging diseases in plants and terrestrial livestock

SFS-13-2017: Validation of diagnostic tools for animal and crop health

SFS-15-2016 -2017: Breeding livestock for resilience and efficiency

SFS-16-2017: Bee health and sustainable pollination

SFS-17-2017: Innovations in plant protection

SFS-18-2017: Framework Partnership Agreement supporting Joint Actions towards Public-Public Partnerships in the Bioeconomy

SFS-19-2016-2017: ERANET COFUND: Public-Public Partnerships in the bioeconomy

Societal Challenge 2: Food Security / Overview

Topics

SFS-20-2017: Towards a science-based regionalisation of the Common Fisheries Policy

SFS-21-2016/2017: Advancing basic biological knowledge and improving management tools for commercially important fish and other seafood species

SFS-22-2017: Smart fisheries technologies for an efficient, compliant and environmentally friendly fishing sector

SFS-27-2017: Permanent grassland – farming systems and policies

SFS-28-2017: Functional Biodiversity – Productivity gains through functional biodiversity – effective interplay of crop pollinators and pest predators

SFS-29-2017: Socio-Eco-Economics – Socio economics in ecological approaches

SFS-30-2017: Closing loops at farm and regional levels to mitigate GHG emissions and environmental contamination: focus on carbon, nitrogen and phosphorus cycling in agro-ecosystems

SFS-32-2017: Promoting and supporting eco-intensification of aquaculture production systems: inland (including fresh water), coastal zone and offshore

SFS-34-2017: Innovative agri-food chains: unlocking the potential for competitiveness and sustainability

SFS-35-2017: Innovative solutions for sustainable food packaging

SFS-36-2017: Co-fund on “One Health” (zoonoses – emerging threats)

Societal Challenge 2: Food Security / Overview

Topics

SFS-39-2017: How to tackle the childhood obesity epidemic?

SFS-40-2017: Sweeteners and sweetness enhancers

SFS-43-2017: Earth observation services for the monitoring of agricultural production in Africa

SFS-46-2017: Alternative production system to address anti-microbial usage, animal welfare and the impact on health

SFS-47-2017: Management of soil water resources in EU and China and its impact on agro-ecosystem functions

SFS-48-2017: Resource-efficient urban agriculture for multiple benefits – contributions to the EU-China Urbanisation Partnership

SFS-49-2017 Better understanding the challenges facing agriculture and the impacts of policies – A European platform to support modelling in agriculture

SFS-50-2017 Supporting international cooperation activities on agriculture soil contribution to climate change mitigation and adaptation

Societal Challenge 2: Food Security

SFS-43-2017: Earth observation services for the monitoring of agricultural production in Africa

Call: H2020-SFS-2016-2017

Deadline: 14.2.2017

[Link](#)

Specific Challenge: The Fourth EU-Africa Summit of 2-3 April 2014 agreed on a roadmap for 2014-2017⁶⁴ 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 65 and AfriGEOSS⁶⁶ initiatives and relevant aspects of the EU's development policy.

Societal Challenge 2: Food Security

Scope (continued):

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 SIGMA67 –, 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.

Societal Challenge 2: Blue Growth

Blue Growth: Demonstrating an ocean of opportunities

- Aims at bringing technologies to the readiness level needed for commercial applications and will improve current European marine observing, surveying and monitoring capabilities in order to increase our knowledge and understanding of the complex marine environment and its interaction with human activities.
- 2016-2017 focus on:
 - Boosting innovation for emerging Blue Growth activities
 - Linking healthy oceans and seas with healthy people
 - The Arctic dimension
 - Valorising the Mediterranean Sea Basin
- International cooperation supporting the Mediterranean Sea Coast

Societal Challenge 2: Blue Growth / Overview

Topics

BLUE GROWTH – DEMONSTRATING AN OCEAN OF OPPORTUNITIES

BG-2-2016/2017: High value-added specialised vessel concept enabling more efficient servicing of emerging coastal and offshore activities

BG-4-2017: Multi-use of the oceans' marine space, offshore and near-shore: Enabling technologies

BG-6-2017: Interaction between people, oceans, and seas: a strategic approach towards healthcare and wellbeing

BG-7-2017: Blue green innovation for clean coasts and seas

BG-8-2017: Innovative sustainable solutions for improving the safety and dietary properties of seafood

BG-11-2017: The effect of climate change on arctic permafrost and its socio-economic impact, with a focus on coastal areas

BG-14-2017: Monitoring and assessing fish stocks, other pelagic species and habitats with an automated, non-invasive, opto-acoustic system

Societal Challenge 2: Rural Renaissance

Rural Renaissance: Fostering innovation and business opportunities

Aim to support a 'rural renaissance' by raising the natural, social, cultural and economic potential of rural areas and fostering policy coherence. It will aim to boost economic development, environmental services and entrepreneurial innovation, in particular in SMEs, in rural and coastal areas. This will be achieved by building on diversification and modernisation strategies and capitalising on local assets, including human, natural and cultural capital

- Focus areas:
 - New approaches towards policies and governance
 - New value chains and business models
 - Innovation and skills development

Societal Challenge 2: Rural Renaissance / Overview

Topics

RURAL RENAISSANCE – FOSTERING INNOVATION AND BUSINESS OPPORTUNITIES

RUR-2-2017: Coastal-rural interactions: enhancing synergies between land and sea-based activities

RUR-3-2017: Towards 2030: policies and decision tools for an integrated management of natural resources

RUR-5-2017: Novel public policies, business models and mechanisms for sustainable supply and payment of forest ecosystems services

RUR-9-2017: Business models for modern rural economies

RUR-10-2016-2017: Thematic Networks compiling knowledge ready for practice

RUR-12-2017: Networking European farms to boost thematic knowledge exchanges and close the innovation gap

RUR-13-2017: Building a future science and education system fit to deliver to practice

RUR-15-2017: The benefits of working with others – fostering social capital in the farming sector

RUR-16-2017: Optimising interactive innovation project approaches and the delivery of EU policies to speed up innovation in rural areas

Societal Challenge 2: Bio-based Innovation / Overview

Bio-based innovation for sustainable goods and services: Supporting the development of a European Bioeconomy

- Aim is to embrace two main aspects of the bio-based innovation. Firstly, it will encompass the production, mobilisation and use of biomass including new business and service models, to sustainably secure raw material supply for a wide range of industrial products taking into account potential trade-offs of competing land-uses. Secondly, it will consider stakeholders' engagement and demand-side measures supporting market development of bio-based products.
- 2016-2017 focus on:
 - Securing sustainable biomass supply for bio-based goods and services
 - Building the "bio-based markets of the future"- mobilising stakeholders engagement

Societal Challenge 2: Bio-based Innovation/ Overview

Topics

BIO-BASED INNOVATION FOR SUSTAINABLE GOODS AND SERVICES – SUPPORTING THE DEVELOPMENT OF A EUROPEAN BIOECONOMY

BB 2 – 2017: Towards a method for the collection of statistical data on bio-based industries and bio-based products

BB 3 – 2017: Adaptive tree breeding strategies and tools for forest production systems resilient to climate change and natural disturbances

BB 5 – 2017: Bio-based products: Mobilisation and mutual learning action plan

BB-07-2017: Plan Molecular Factory

BB-08-2017 Strategies for improving the bioeconomy knowledge of the general public

Societal Challenge 2 – Topics for International Cooperation / Summarized

Topics

SFS-8-2017: Organic inputs – Contentious inputs into organic farming

SFS-10-2017: Research and approaches for emerging diseases in plants and terrestrial livestock

SFS-13-2017: Validation of diagnostic tools for animal and crop health

SFS-18-2017: Framework Partnership Agreement supporting Joint Actions towards Public-Public Partnerships in the Bioeconomy

SFS-20-2017 Towards a science-based regionalisation of the Common Fisheries Policy

SFS-21-2016/2017: Advancing basic biological knowledge and improving management tools for commercially important fish and other seafood species

SFS-27-2017 Permanent grassland – farming systems and policies

SFS-30-2017: Closing loops at farm and regional levels to mitigate GHG emissions and environmental contamination: focus on carbon, nitrogen and phosphorus cycling in agro-ecosystems

SFS-43-2017: Earth Observation services for the monitoring of agriculture production in Africa

SFS-50-2017 Supporting international cooperation activities on agriculture soil contribution to climate change mitigation and adaptation

BG-7-2017: Blue green innovation for clean coasts and seas

RUR-3-2017: Towards 2030: policies and decision tools for an integrated management of natural resources

RUR-13-2017: Building a future science and education system fit to deliver to practice

RUR-16-2017: Optimising interactive innovation project approaches and the delivery of EU policies to speed up innovation in rural areas



Societal Challenge 5: Climate action, environment, resource efficiency and raw materials

http://ec.europa.eu/research/participants/data/ref/h2020/wp/2016_2017/main/h2020-wp1617-climate_en.pdf

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Societal Challenge 5: General Information

Climate action, environment, resource efficiency and raw materials

Objective is to achieve a resource – and water – efficient and climate change resilient economy and society, the protection and sustainable management of natural resources and ecosystems, and a sustainable supply and use of raw materials, in order to meet the needs of a growing global population within the limits of the planet's natural resources and eco-systems.

- Actions will:
 - Address gaps in the knowledge base
 - Identifying policies, methods, & tools to tackle challenges
- 2016-2017 focus on:
 - Greening the economy

Societal Challenge 5: Green Economy

Climate Services

Aim to build Europe's capacity to respond to and improve resilience to climate change by strengthening significantly the nascent global market for demand-driven climate services for both climate change mitigation and adaptation needs.

- 2016-2017 focus on:
 - Exploiting the added value of climate services
 - Integrated European regional modelling and climate prediction system
 - Climate services market research
 - Towards a robust and comprehensive greenhouse gas verification system
 - A 1.5 million year look into the past for improving climate predictions

> Research and innovation actions

Societal Challenge 5: Climate/ Overview

Topics

SC5-1-2016/2017: Exploiting the added value of climate services

SC5-2-2017: Integrated European regional modelling and climate prediction system

SC5-4-2017: Towards a robust and comprehensive greenhouse gas verification system

SC5-6-2016/2017: Pathways towards the decarbonisation and resilience of the European economy in the timeframe 2030-2050 and beyond

SC5-7-2017: Coordinating and supporting research and innovation actions on the decarbonisation of the EU economy

SC5-8-2017: Large-scale demonstrators on nature-based solutions for hydrometeorological risk reduction

SC5-13-2016-2017: New solutions for sustainable production of raw materials

SC5-14-2016-2017: Raw materials Innovation actions

SC5-15-2016-2017: Raw materials policy support actions

SC5-16-2016-2017: Raw materials international co-operation

SC5-18-2017: Novel in-situ observation systems

SC5-19-2017: Coordination of citizen observatories initiatives

SC5-21-2016-2017: Cultural heritage as a driver for sustainable growth

SC5-22-2017: Innovative financing, business and governance models for adaptive re-use of cultural heritage

Societal Challenge 5: Climate/ Overview

Topics

SC5-26-2017: Pre-commercial procurement on soil decontamination

SC5-30-2017: ERA-NET on Climate Services Roadmap: Cross-sector impact assessments (evaluation, comparison, and integration)

SC5-31-2017: Widening international cooperation activities on climate adaptation and mitigation

SC5-32-2017: Biodiversity scenarios

SC5-33-2017: Closing the water gap

Societal Challenge 5: Climate Services

SC5-04-2017: Towards a robust and comprehensive greenhouse gas verification system

Call: H2020-SC5-2016-2017

Deadline: 7.3.2017

[Link](#)

Specific Challenge: According to the IPCC's 5th Assessment Report, atmospheric concentrations of CO₂, CH₄ and N₂O have increased to levels unprecedented in at least the last 800 000 years. CO₂ alone has increased by 40% since pre-industrial times, primarily from fossil fuel emissions and also from net land use change emissions. Trust in any international agreement under UNFCCC aimed at limiting global warming will depend on our ability to make accurate estimates of greenhouse gas (GHG) emissions as well as provision of mitigation services allowing robust reporting and verification against independent data and analyses.

However, a better understanding of the carbon and nitrogen cycle in the earth-climate system remains one of the key knowledge gaps. It is therefore essential that we increase our capability to identify more accurately the stocks and fluxes of these important greenhouse gases and at the same time develop methods and technologies that will enable us within the next five to ten years to accurately estimate and also verify CO₂, CH₄ and N₂O emissions from key sources.

Scope: Actions should quantify more accurately the stocks and fluxes of CO₂, CH₄, and N₂O in Europe at both regional and continental scales through improved descriptions of key processes and feedbacks, state-of-the-art methodologies, models and tools and by exploiting observations from a wide range of monitoring networks (in-situ and satellite). Special attention should be given to independent verification of data reported in countries' greenhouse gas inventories and to the improvement of the methods/approaches currently used for estimating greenhouse gas emissions (e.g. national inventories, tracer transport inversion using atmospheric and oceanic measurements, land-use measurements and models). Proposals should aim to develop widely accepted and scientifically robust methodologies in order to decrease to acceptable levels uncertainties associated with emission estimates and better identify human-induced emissions. The development and improvement of methodologies should also address the need for versatility of application, for example for the tracking of land-based mitigation activities and provision of results relevant to current and potential future land-based GHG accounting systems. Furthermore, **issues such as data standards, transfer of information and tools, and replicability of methodologies and tools outside Europe (mainly in developing countries) should also be addressed.**

Societal Challenge 5: Climate Change

SC5-31-2017: Widening international cooperation activities on climate adaptation and mitigation

Call: H2020-SC5-2016-2017

Deadline: 7.3.2017

[Link](#)

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.

Societal Challenge 5: Climate Change

Scope (continued):

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.

Want more information?

Horizon 2020: <http://ec.europa.eu/programmes/horizon2020/>

All Open Calls: <http://bit.ly/1NsU9yZ>

International Cooperation in Horizon 2020:
<http://bit.ly/1mupFMK>

Reference Documents: <http://bit.ly/IFEGf1>

Check out the **2018-2020 Work Programme Preparation** from the sections' sites:

<http://ec.europa.eu/programmes/horizon2020/h2020-sections>

Thank you



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