

**WP 2016/2017-  
supporting research to find solutions to these challenges**

- **Feed 9 billion people by 2050**, by improving farming and food systems' capacity to sustainably supply sufficient and healthy food
- **Unlock the potential of seas and oceans**, which cover 70% of the Earth's surface and host 50% of known species
- **Raise the sustainable growth potential of rural areas**, and their ability to cope with demographic, climatic and economic change
- **Boost bio-based markets**, to create for example over 3% growth/ year in the bio-based chemistry sector

2



## WP 2016/2017- objectives

- **Ensure food and nutrition security, by fostering resilient and resource efficient** primary production and industry as well as **sustainable and healthy consumption**
- **Demonstrate the innovative potential of the oceans,** by bringing technology to market
- **Foster innovation and business opportunities for rural and coastal areas,** through new territorial approaches and business models
- **Re-industrialise Europe,** through new bio-based value-chains, while securing sustainable biomass

3



## The challenges and the Calls



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## Societal Challenge 2 Four Calls 2016-17

Sustainable  
food security

Blue  
Growth

Rural  
Renaissance

Bio-based  
innovation  
for  
sustainable  
goods and  
services



5



# CALL

## Sustainable Food Security (SFS)

6

## **Sustainable Food Security CALL** a global €431,5 million budget to:



Improve farming and food systems' capacity to sustainably supply sufficient and healthy food while safeguarding natural resources



Ensure global food and nutrition security



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## **Sustainable Food Security: our daily bread**



**Putting nature-based and resource-efficient approaches at the heart of research investments**



**Focusing on climate smart agri-food chains**



**Putting nutritious and healthy food from land and seas on our plates**

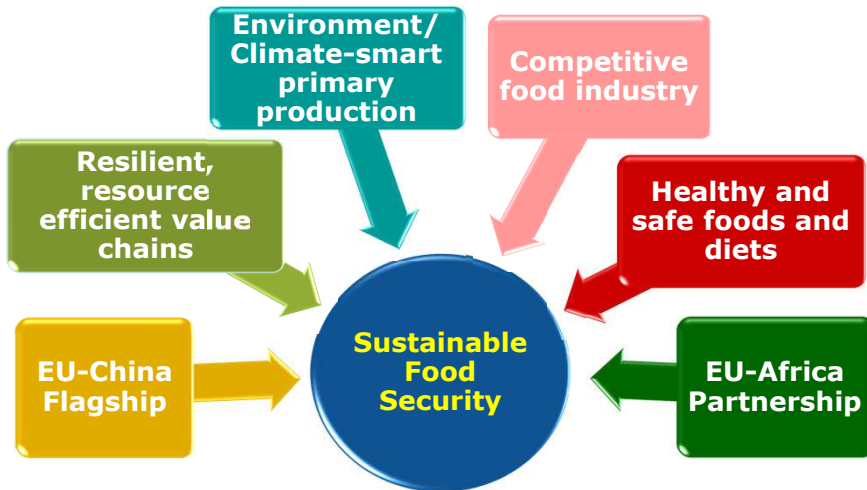


**Going global: joint actions with Africa and China**

8



## Sustainable Food Security - AREAS



9



## Sustainable food security TOPICS summary

Resilient, resource-efficient value chains	Environment Climate-smart primary production	Competitive food industry	Healthy food and diets for all
<ul style="list-style-type: none"> <li>• Abiotic stresses</li> <li>• Biotic stresses</li> <li>• Operationalising the resilience concept</li> <li>• Optimising use of critical inputs</li> <li>• Specific actions for organic farming</li> <li>• Sustainable fisheries and aquaculture</li> <li>• ERANETs/ SCAR</li> </ul>	<ul style="list-style-type: none"> <li>• Carbon and nitrogen cycling in agro-ecosystems</li> <li>• Specific production systems</li> <li>• Ecosystem services</li> <li>• Socio-economics, demography and resilience of farms</li> </ul>	<ul style="list-style-type: none"> <li>• Resilient, sustainable and transparent value chains</li> <li>• Food losses</li> <li>• Resource efficient processes in food chain</li> <li>• Food packaging; labelling</li> </ul>	<ul style="list-style-type: none"> <li>• One Health co-fund (zoonoses)</li> <li>• Dietary choices of children; consumers and food safety;</li> <li>• Diet/impulsivity/compulsivity; obesity; sweeteners</li> </ul>
25 topics 206 M€	7 topics 64 M€	3 topics 24 M€	5 topics 85,5 M€



## Sustainable food security TOPICS

### EU-Africa Partnership

- ERANET Cofund
- Innovation for promoting food and nutrition security and sustainable agriculture in Africa
- Earth observation services for the monitoring of agricultural production in Africa

3 topics – 25 M€

### EU-China Flagship

- Water retention in soils
- Breeding of protein crops
- Urban agriculture
- Livestock production and antimicrobial drug use
- Authentication and traceability

5 topics – 27 M€

11



## Sustainable food security – TOPICS AND BUDGET

**Resilient, resource  
efficient value  
chains**



### 25 topics. Examples:

- Increasing the competitiveness of the organic breeding and farming sectors
- Bee health and sustainable pollination
- Smart fisheries technologies for an efficient, compliant and environmentally friendly fishing sector

**Total: 206 M€**

12



## Sustainable food security – TOPICS AND BUDGET

### Environment/ Climate-smart primary production



#### Seven topics. Examples:

- Closing loops at farm and regional levels to mitigate GHG emissions and environmental contamination;
- Promoting and supporting the eco-intensification of aquaculture production systems: inland, coastal zones and offshore
- Socio-economics in ecological approaches

**Total: 64 M€**

13



## Sustainable food security – TOPICS AND BUDGET

### Competitive food industry



#### Three topics. Examples:

- Understanding food value chains and networks dynamics;
- Innovative agri-food chains: unlocking the competitiveness and sustainability potential
- Innovative solutions for sustainable food packaging

**Total: 24 M€**

14



## Sustainable food security – TOPICS AND BUDGET

### Healthy and safe foods and diets



#### Five topics. Examples:

- Co-fund on "One Health" (zoonoses – emerging threats);
- The impact of consumer practices in food safety
- Impulsivity and compulsivity and the link with nutrition, lifestyle and the socio-economic environment

**Total: 85,5M€**

15



## Sustainable food security – TOPICS AND BUDGET

### EU-Africa Partnership



#### Three topics. Examples:

- EU-Africa Research and Innovation partnership on food and nutrition security and sustainable agriculture;
- Promoting food and nutrition security and sustainable agriculture in Africa: the role of innovation

**Total: 25M€**

16





## Sustainable food security – TOPICS AND BUDGET

### EU-China Flagship



#### Five topics. Examples:

- A joint plant breeding programme to decrease the EU's and China's dependency on protein imports
- Soil water resources management in the EU and China and its impact on agro-ecosystem functions

**Total: 27M€**

17



## CALL

# Blue Growth (BG)

18



## Blue Growth CALL € 129 million from different parts of Horizon 2020 to:

- ➔ Demonstrate the innovative potential of the oceans by bringing technologies to the market
- ➔ Ensure a healthy ocean for healthy people
- ➔ Seize the opportunities of integrated sea basin Strategies (the Mediterranean and the Arctic)



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## Blue Growth - AREAS



20



## Marine & Maritime Research in other parts of H2020

### SOCIETAL CHALLENGES:

- SC3 (Energy): 2 topics on ocean energy under Competitive Low Carbon Energy call & mentions across other 8 others.
- SC4 (Transport): 2 topics on waterborne transport under Mobility for Growth & mentions in 6 others.
- SC5 (Climate): 4 topics under Climate Services encompassing oceanic measurements, ocean climate, coastal areas, and plastic-free seas and oceans.

### LEIT- NMBP

Two topics on materials for buildings and infrastructure including offshore and on biotechnology opportunities for industry.

**and other relevant parts of H2020**

21



# CALL

# Rural Renaissance

## (RUR)

22



## Rural Renaissance CALL a global € 128 million budget to:

- ➔ Grasp promising opportunities to boost rural growth and jobs
- ➔ Develop rural and coastal areas through new territorial approaches and business models



23



## Rural renaissance: our territories € 128 million to grasp promising opportunities to boost rural growth and jobs



**Invest in businesses:**  
new business models, new value chains and better connectivity



**Invest in people:**  
boost innovation, co-creation and exploitation of knowledge by improving skills and innovation systems

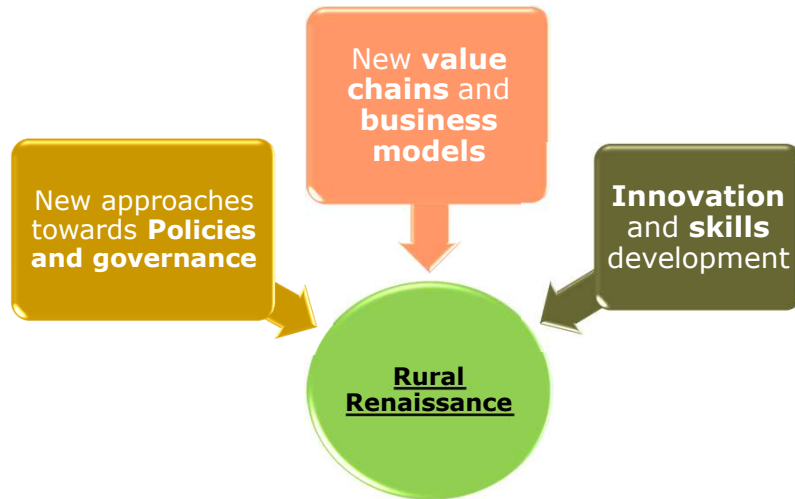


**Invest in better decision-making:**  
modernize policies and governance to make the most out of our resourceful territories sustainably

24



## Rural Renaissance areas



25



## Rural renaissance TOPICS summary

### Policies & governance

**Territorial interactions: enhance synergies, adapt policies, foster cross-sectorial cooperation**

- Rural-urban
- Land-sea

- 'Towards 2030': policies and decision tools for an integrated management of natural resources

- **Economic benefits from ecosystem services:**
  - Farming & drinking water
  - Forest ecosystem services (IA)

**5 topics 32 M€**

### Value chains & business models

- **Crop diversification systems for delivery of food, feed, industrial products and ecosystem services**

- **Resource-efficient and profitable industrial crops on marginal lands**

- **Demonstration of integrated logistics for food and non-food applications**

- **Business models for modern rural economies**

**4 topics 47 M€**

### Innovation and skill development

- **Thematic networks**
- **Experimental and demonstration farms:**

- **Building a future science and education system**

- **Advisors' role in AKIS**
- **Working together in EU countries where cooperation level is low**

- **Optimising interactive innovation projects and policies for innovation**

**7 topics 49 M€**

26



## Rural Renaissance – TOPICS AND BUDGET

**New approaches  
towards Policies  
and governance**



### **Five topics. Examples:**

- Coastal-rural interactions: enhancing synergies between land and sea-based activities
- Novel public policies, business models and mechanisms for the sustainable supply of and payment for forest ecosystem services

**Total: 32 M€**

27



## Rural Renaissance - TOPICS AND BUDGET

**New value chains  
and business  
models**



### **Four topics. Examples:**

- Resource-efficient and profitable industrial crops on marginal land
- Demonstration of integrated logistics centres for food and non-food applications
- Business models for modern rural economies

**Total: 47 M€**

28



## Rural Renaissance – TOPICS AND BUDGET

### Innovation and skills development



#### **Seven topics. Examples:**

- On-farm demonstrations: deepening farmer-to-farmer learning mechanisms
- Building a future science and education system fit to deliver to practice
- The benefits of working with others – fostering social capital in the farming sector

29

**Total: 49 M€**



## **CALL**

# **Bio-based innovation for sustainable goods and services (BB)**

30



## Bio-based Innovation for Sustainable Goods and Services **CALL** a global € 27 million budget to:

- ➔ Boost bio-based markets (ex: to create over 3% growth/year in the bio-based chemistry sector)
- ➔ Re-industrialise the EU through new bio-based value chains, securing sustainable biomass



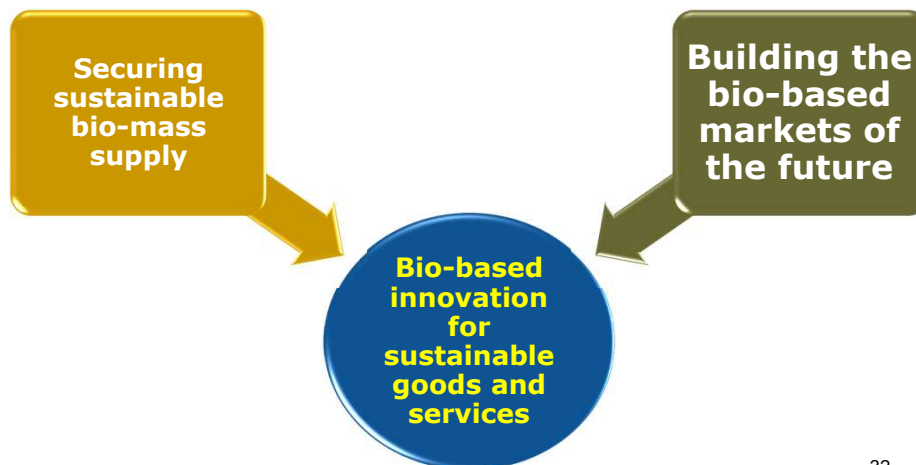
Activities of this call are complementary to the Joint Technology Initiative on Bio-based Industries 2016-17 Indicative Budget €300 million"



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## Bio-based innovation - AREAS



32





## Bio-based innovation TOPICS summary

### Securing Sustainable biomass supply

- Tree breeding strategies and tools
- Forest production systems
- Sustainability schemes
- Data on bio-based industries and products

- Circular economy – Potential of urban waste

### Building the bio-based markets of the future

- Mobilisation and mutual learning
- Widening regional dimension

33



## Bio-based innovation for sustainable goods and services – TOPICS AND BUDGET

### Securing sustainable bio-mass supply



#### Four topics. Examples:

- Sustainability schemes for the bio-based economy
- Towards a methodology for the collection of statistical data on bio-based industries and bio-based products
- Adaptive tree breeding strategies and tools for forest production systems resilient to climate change and natural disturbances

**Total: 23 M€**

34



## Bio-based innovation for sustainable goods and services – TOPICS AND BUDGET

Building the bio-based markets of the future



### Two topics:

- Bio-based products: mobilisation and mutual learning action plan
- Bio-based industries regional dimension

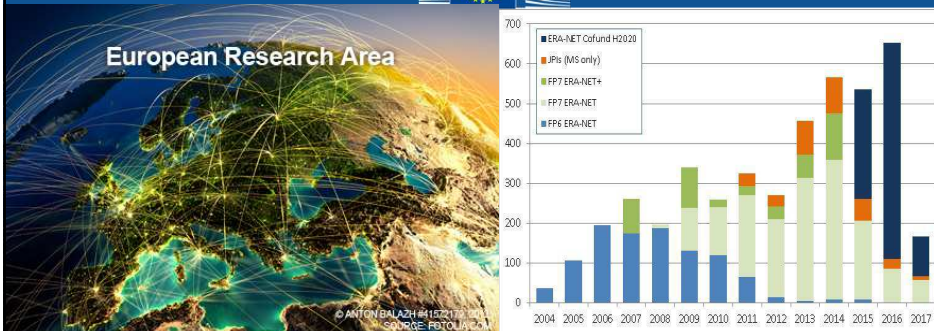
**Total: 4 M€**

35

## ERA-NETs 2016



European Research Area



### ERANET COFUND

#### - Public-Private Partnerships in the Bioeconomy

- Organic farming and food production
- Sustainable food production and consumption
- A knowledge platform for the intestinal microbiome

#### - Marine Technologies

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## SC2 contributions to other calls

- **SME dedicated call:**
  - **"Land"- 58M€:** Stimulating the innovation potential of SMEs for sustainable and competitive agriculture, forestry, agri-food and bio-based sectors (SME-Inst07)
  - **"Sea" – 19,5M€:** Supporting SMEs efforts for the development - deployment and market replication of innovative solutions for blue growth (SME-Inst08)
- **Cross-cutting activities:**
  - **Unlocking the potential of urban organic waste** (Industry 2020 and the circular economy; CIRC-05 – 3M€)
  - **Large scale pilot on smart farming (Internet of Things; Iot-01 – Pilot 2 - 30M€)**
- **Fast-track to innovation;**

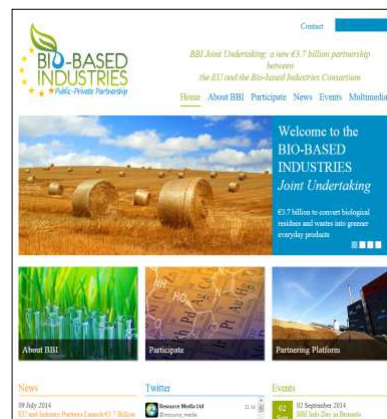
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## Bio-based Industries Joint Undertaking (BBI – JU)

Public Private Partnership supporting R&I for bio-based industries:

- **Partners:** European Commission and Biobased Industries Consortium (BIC)
- **Budget:** € 3.705 billion (about 75% from industry)
- **Implementation:**
  - Principles of **openness, transparency and excellence**
  - Horizon 2020 rules for participation
- **Objectives:** At least **5 new bio-based value chains** for Europe based on **2nd generation/advanced biorefineries**

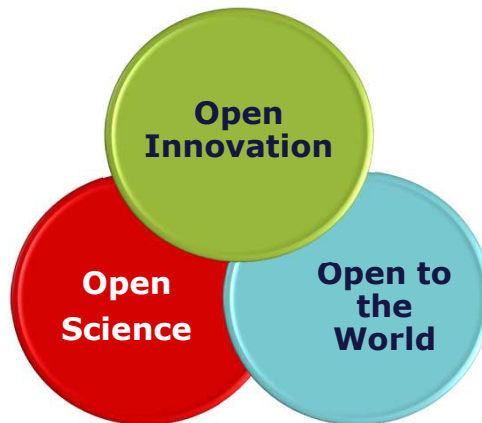


[www.bbi-europe.eu](http://www.bbi-europe.eu)

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## The Work Programme addresses three priorities

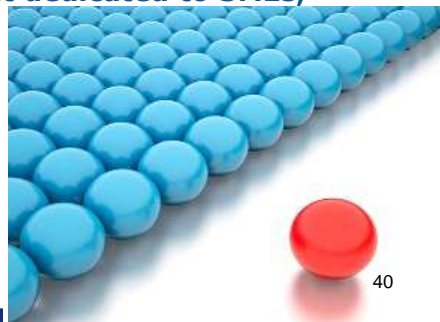


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## Open Innovation

- **Boosting private investment in research and innovation by maximising the use of EFSI and InnovFin**
- **Bringing research and innovation closer to markets by dedicating 1/3 of the budget dedicated to SMEs, demonstration and financial instruments**
- **Widening regional uptake**



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## Open Science

- **Open access to data**
- **Responsible Research and Innovation in particular through engagement and gender equality**



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## Open to the world

- **Tackling key challenges with global partners: Africa, South-East Asia, China, the Arctic**



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## Horizon 2020 *Open to the World!*

### General opening

Horizon 2020 is fully open to participation of entities from across the globe

### Targeted opening

Many topics are flagged as being specifically relevant for international cooperation, identifying upfront the targeted area and partner country or region

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## Automatically eligible for EU funding

- EU Member States including their overseas departments
- Overseas Countries and Territories linked to the MS
- Countries Associated to Horizon 2020:
  - Iceland, Norway, Albania, Bosnia and Herzegovina, Former Yugoslav Republic of Macedonia, Montenegro, Serbia, Turkey, Israel, Moldova, Switzerland (partial association), Faroe Islands, Ukraine
- International European interest organisations
- Exhaustive list of countries identified in Annex A to the work programme ('developing countries')



## Not automatically eligible for EU funding

Entities in non-EU/non-Associated/non-'developing countries' may only be granted EU funding when:

- Provision in the work programme; or
- Provision under a bilateral S&T agreement; or
- Commission deems participation essential for carrying out the action (project case-by-case assessment, based on proposals evaluations )

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## Matching funds for international partners

A number of non-EU/non-Associated countries make funding available for their participants in Horizon 2020 actions:

- Republic of Korea, Mexico, Russia, China, Japan etc.\*  
– some cover all topics – others selected topics
- See [http://ec.europa.eu/research/participants/docs/h2020-funding-guide/cross-cutting-issues/international-cooperation\\_en.htm#countries](http://ec.europa.eu/research/participants/docs/h2020-funding-guide/cross-cutting-issues/international-cooperation_en.htm#countries)

\* Also Switzerland makes funding available for their participants in those parts of Horizon 2020 where Switzerland is not associated

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## The multi-actor approach under WP2016-2017 Key elements

- Description now in the WP introduction pages 9-10
- Multi-actor projects are about interactive innovation
- Beyond dissemination requirement and stakeholders' board
- Genuine and sufficient involvement of various actors all along the project, from planning to demonstration
- Demonstrate how project will respond to end-users needs
- Substantial practical knowledge easily accessible and understandable
- Material → EIP-AGRI (for EIP-AGRI related areas)
  - Common format
  - Connect with operational groups

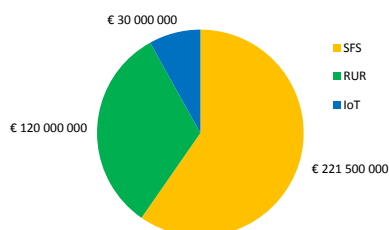
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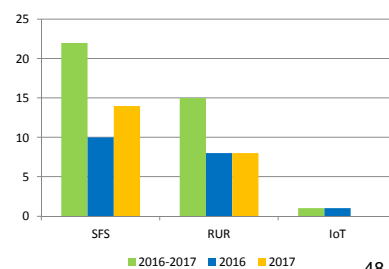
## The Multi-actor approach under WP2016-2017

- Investment X 2,5 → 371,5 Million euros
- 38 topics in 3 calls: SFS, RUR, IoT

Distribution of budget for multi-actor projects



Number of multi-actor topics in WP2016-2017



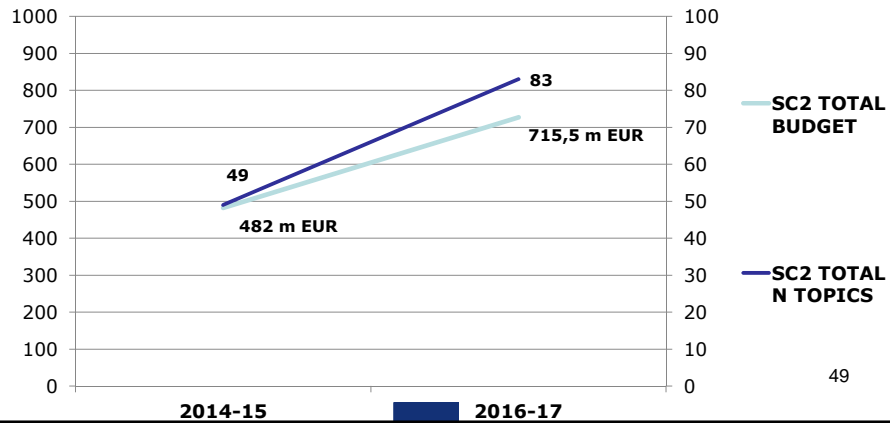
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## SC2 Topics & Budget : 2014-15 to 2016-17

**Whole Societal Challenge 2: four Calls, 83 topics, 727.5M €**  
 Proportional increase in budget and topics vs 2014-15



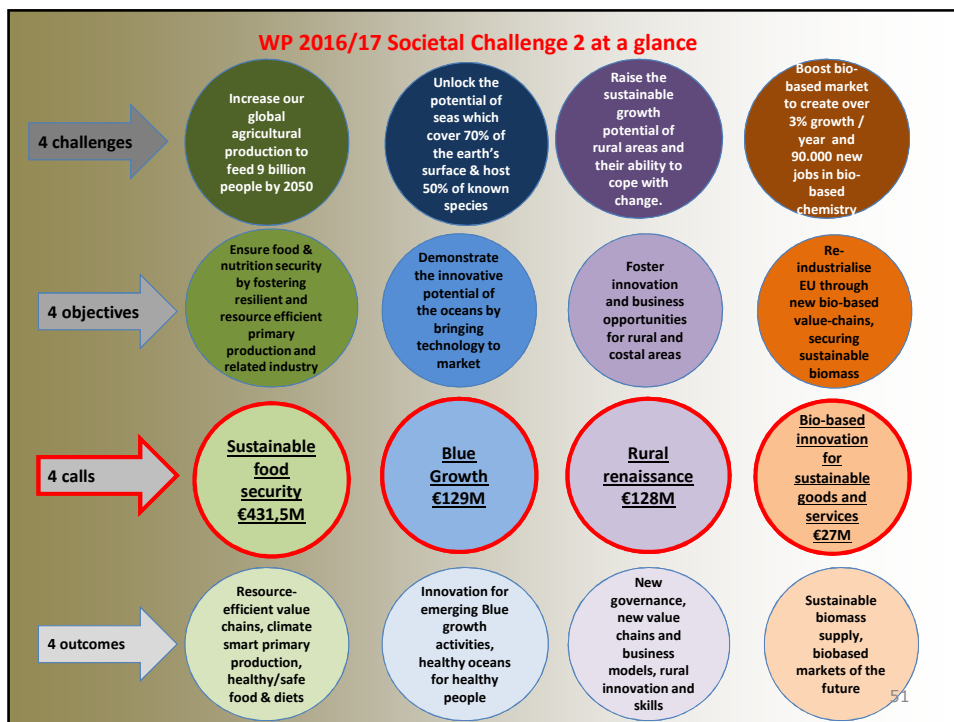
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## SC2 Calls 2016 - DATES

Publication	Submission		<u>Deadlines</u>	Information to applicants	Grant Agreements
14 OCT 2016	two-stage submission (RIA with some exceptions)	1st stage	17 Feb 2016	May 2016	-
		2nd stage	13 Sept 2016	Nov 2016	May 2017
	single stage submission (IA, CSA, ERA Net)	Single stage	17 Feb 2016	May 2016	October 2016

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European Commission

## Work Programme pre-publication

Draft versions of the Horizon 2020 work programmes for 2016-2017 are made public just before the adoption process.

These versions are not yet endorsed by the Commission and they do not in any way prejudge the final decision of the Commission.

The adoption and the publication of the work programme by the Commission are expected in mid-October 2015.

**Only the adopted work programme will have legal value.**

<https://ec.europa.eu/programmes/horizon2020/en/draft-work-programmes-2016-17>

This presentation shall neither be binding nor construed as constituting commitment by the European Commission



# HORIZON 2020

**Thank you  
for your attention!**

Find out more:  
[www.ec.europa/research/horizon2020](http://www.ec.europa/research/horizon2020)



HORIZON 2020