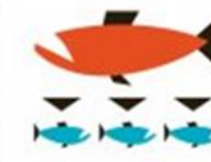
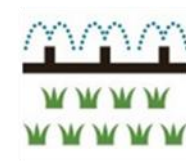


# Oportunidades no Desafio Societal da Bioeconomia (DS2)



**Maria João Fernandes | José Antão**

**Desafio Societal Bioeconomia, H2020**  
**Pontos de Contacto Nacional**



Gabinete de Promoção do Programa Quadro ID&I



# Estrutura da apresentação

- **Pilar Desafios Societais:** *calls* 2017 do **Desafio Societal Bioeconomia**
- **Pilar Liderança Industrial:** tópicos 2017 na temática da **Biotecnologia** do Programa NMBP



DS1. Saúde

**DS2. Bioeconomia**

DS3. Energia

DS4. Transportes

DS5. Ação climática

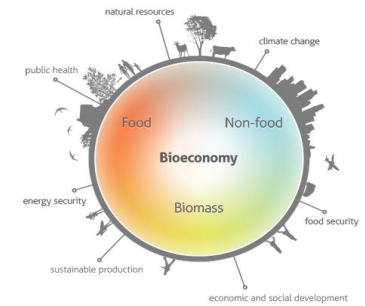
DS6. Sociedades inclusivas

DS7. Sociedades seguras

**H2020 – Societal Challenges**

## Objetivos do DS2

“Segurança alimentar, agricultura e silvicultura sustentáveis, investigação marinha, marítima e de águas interiores e a bioeconomia”



### H2020 – Bioeconomy

- ✓ Garantir o abastecimento adequado de alimentos seguros e de qualidade e outros produtos de base biológica
- ✓ Desenvolver sistemas de produção primária produtivos e eficientes na utilização de recursos
- ✓ Potenciar cadeias de abastecimento competitivas e hipocarbónicas

**Explorar de modo sustentável e eficiente os recursos biológicos**  
acelerando a transição para uma bioeconomia europeia sustentável



**Orientações políticas do Presidente Juncker:** “um novo impulso para o emprego, o crescimento e o investimento”

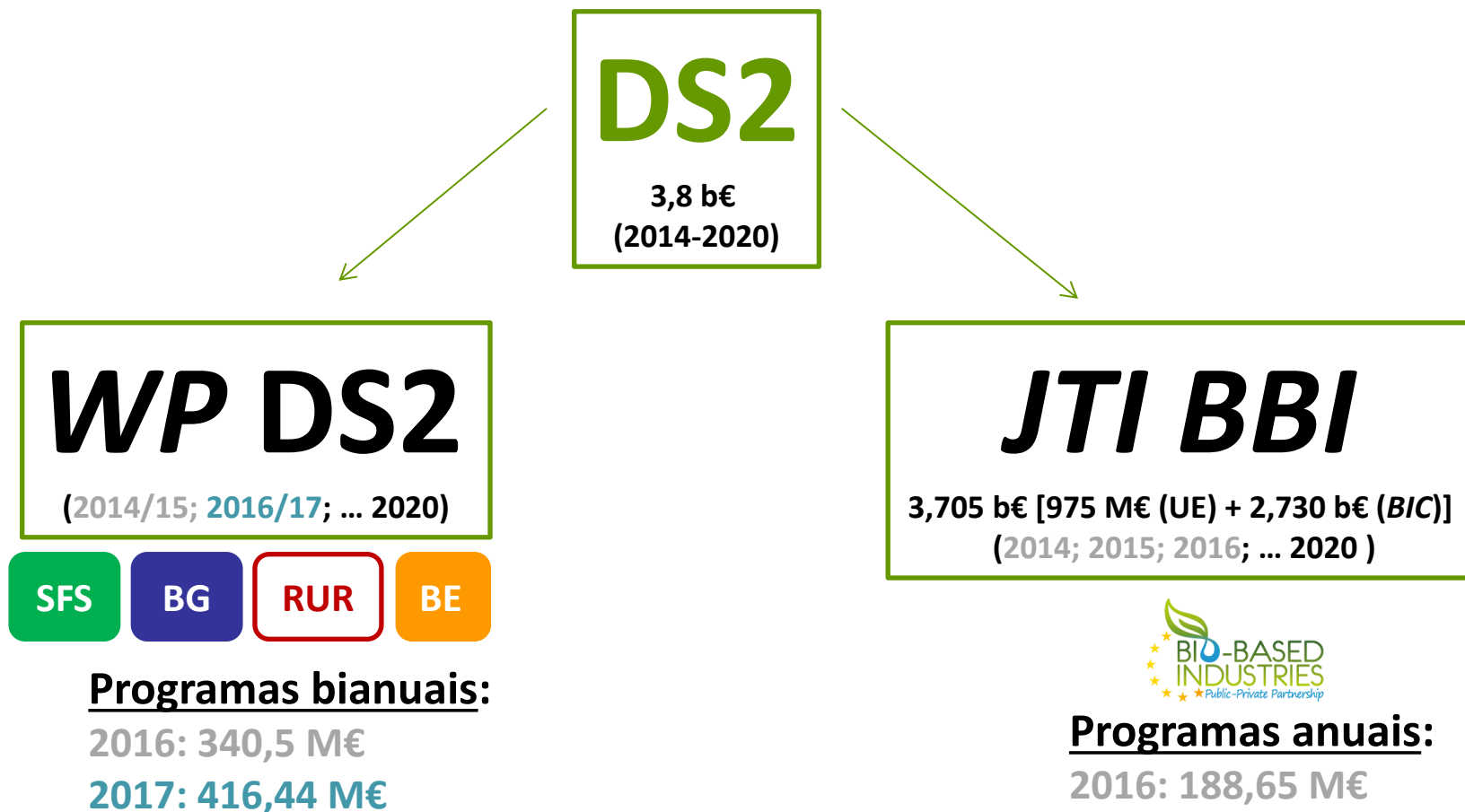
## **Principais áreas políticas relacionadas com o DS2:**

- Estratégia Europeia para a Bioeconomia
- Política Agrícola Comum
- Política Marítima Integrada
- Política Comum das Pescas
- Complementadas por outras políticas e iniciativas da EU (ambiente, industrial, saúde, segurança alimentar, florestal, social, energética,...)

**É essencial mostrar as ligações entre os projetos e as políticas europeias!!**

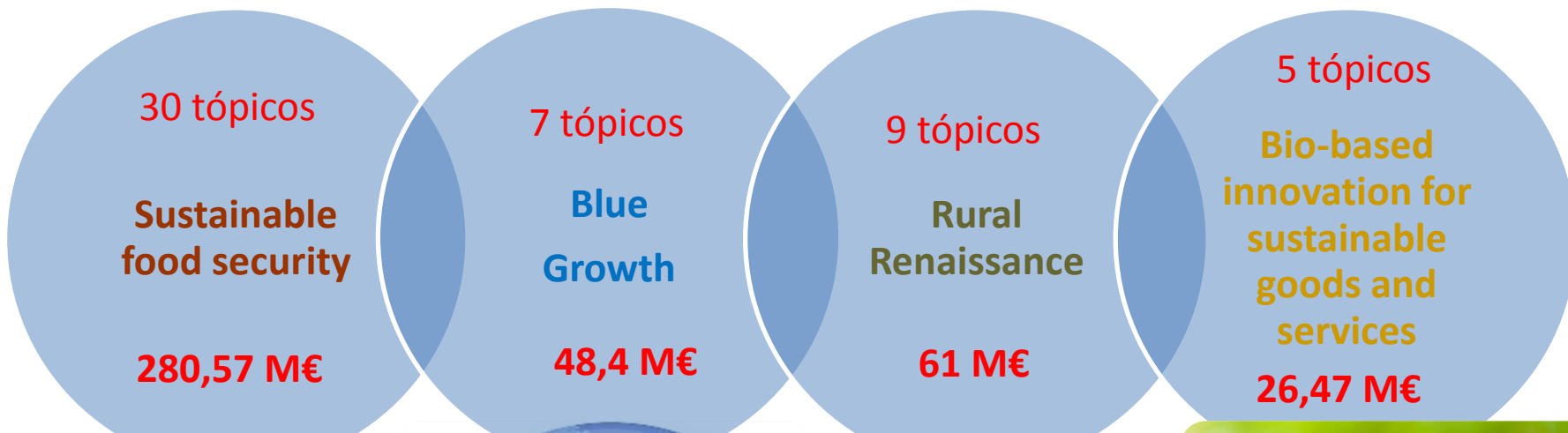
# Enquadramento do programa do Desafio Societal 2

Segurança alimentar, agricultura e silvicultura sustentáveis, investigação marinha, marítima e de águas interiores e a bioeconomia



# Programa de Trabalho 2017 do Desafio Societal Bioeconomia

4 calls | 51 tópicos | 416 M€



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[Lista de tópicos a concurso](#)

**Deadlines:**

14 Feb 2017 | 13 Set 2017



Gabinete de Promoção do Programa Quadro ID&I



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MINISTÉRIO DA CIÊNCIA, TECNOLOGIA E ENSINO SUPERIOR



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2020

## 4 objectivos centrais

- **Garantir a segurança alimentar**, promovendo uma produção primária e uma indústria **resilientes e eficientes**, bem como o **consumo sustentável e saudável**
- **Demonstrar o potencial de inovação dos oceanos**, trazendo novas tecnologias para o mercado
- **Promover a inovação e oportunidades de negócio nas áreas rurais e costeiras**, através de novas perspectivas territoriais e modelos de negócio
- **Re-industrializar a Europa, através de novas cadeias de valor de base biológica**, assegurando biomassa sustentável



SFS



BG



RUR

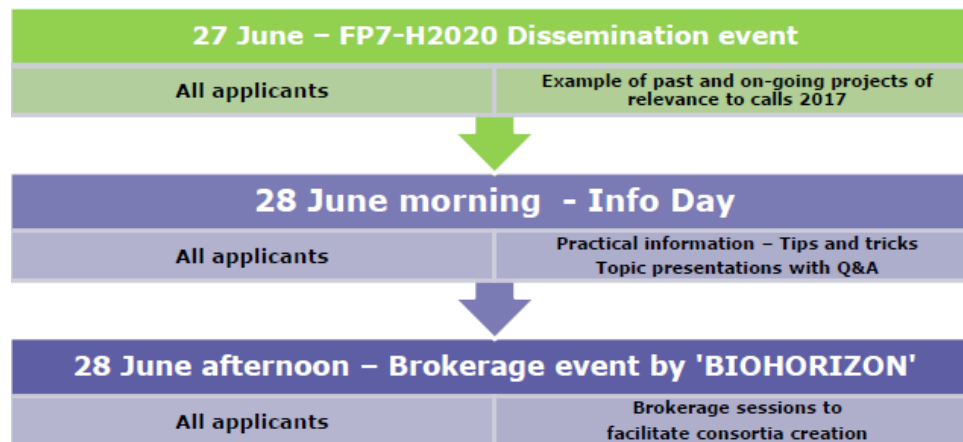


BE



# SC2 Info Day & Brokerage Event – calls 2017 → Bruxelas, Junho 2016

**Apresentações e webstream disponíveis online!!**



## Horizon 2020 Societal Challenge 2 Info Week- 27- 29 June 2016

The Societal Challenge 2 Info Week for the 2017 calls took place on 27- 29 June 2016 in Brussels.



This information week, jointly organised by the Research Executive Agency (REA), DG RTD, DG AGRI and the

BIOHORIZON consortium, gave an overview of available funding opportunities under the 2017 calls and updates on research results projects funded under Societal Challenge 2. This year, the Info Week was organised earlier than previous ones to anti-

the calls' deadline for the benefit of potential applicants.

## Dissemination Event & Info Day

## Brokerage Event

**Brokerage Event**  
Food Security | Sustainable Agriculture & Forestry |  
Marine, Maritime & Inland Water Research |  
Bioeconomy | KET-Biotechnology  
Brussels 28th June 2016

**BioHorizon**

The banner features a central network of icons representing various research areas: a globe, a leaf, a gear, a DNA helix, a microscope, and a plant. The BioHorizon logo is at the bottom left.

- **Interdisciplinary projects:** involve the **collaboration of several disciplines** in which concepts, methodologies or epistemologies are **explicitly exchanged and integrated**, resulting in a mutual enrichment (SFS-39; SFS-40; BG-4)
- **Transdisciplinary projects:** those in which researchers from different fields not only work together on a common problem **create a shared conceptual model of the problem that integrates and transcends each of their separate disciplinary perspectives.** (SFS-16; SFS-21; SFS-27; SFS-28; SFS-29; SFS-30; BG-6; BG-11)
- **Multi-actor approach:** aims at more demand-driven innovation through the **genuine and sufficient involvement of various actors** (end-users, such as farmers, fishers, advisors, enterprises, etc) **all along the project** → the adequate choice of key actors, with complementary types of knowledge (scientific/practical) **should be reflected in the consortium and in the description of the project concept and result in a broad implementation of project results** (SFS-4; SFS-7; SFS-8; SFS-10; SFS-16; SFS-17; SFS-20; SFS-27; SFS-28; SFS-30; SFS-34; SFS-39; SFS-48; RUR-2; RUR-5; RUR-9; RUR-10; RUR-12; RUR-13; RUR-15; RUR-16)

# Parceria Europeia de Inovação para a Agricultura (*EIP-AGRI*)

**EIP-AGRI**



Visa **fomentar a competitividade e a sustentabilidade da agricultura e da silvicultura**, de modo a que estas atividades consigam mais com menos recursos e se desenrolem em harmonia com o ambiente.

## Co-criação e troca de conhecimento em projetos de I&I

- **Projetos multi-ator:** Os utilizadores finais da investigação e os multiplicadores têm de estar estreitamente envolvidos durante todo o projeto
- **Redes temáticas:** Enfoque nas boas práticas e nos resultados de investigação que precisam ainda de ser testados e adaptados às necessidades práticas

# Multi-actor approach → Elementos-chave

- ❑ **Descrição** e requisitos na **introdução do Programa de Trabalho do DS2**
- ❑ **Demonstrar** como o projeto responde às **necessidades dos utilizadores finais**
- ❑ **Envolvimento genuíno** dos vários atores **ao longo de todo o projeto**, da fase de planeamento à demonstração (“*inovação interativa*”)
- ❑ **Conhecimento prático facilmente acessível e compreensível** para os **utilizadores finais** (através dos canais de divulgação existentes e contribuição para a *EIP-AGRI*)
  - Produzir um número substancial de "*practice abstracts*" (formato *EIP-AGRI*)
  - Forte recomendação de **ligação aos Grupos Operacionais** existentes no tema específico (financiados pelo PDR)

[Workshop “Interactive innovation in motion: multi-actor projects and thematic networks under Horizon 2020”](#)

[BioHorizon webinar “practice abstracts’to facilitate contact and share information in the EU agricultural knowledge and innovation systems \(AKIS\)”](#)



Gabinete de Promoção do Programa Quadro ID&I





**1. More resilient, resource efficient value chains**



**2. Environment/Climate-smart primary production**



**3. Competitive food industry**



**4. Healthy and safe foods and diets**



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



# 1. More resilient, resource efficient value chains

| Tópico   | Tipo proj             | M€/proj | Orçamento disponível (M€) |
|--|-----------------------|---------|---------------------------|
| <b>SFS-4:</b> New partnerships and tools to enhance European capacities for <b>in-situ conservation</b>            | CSA                   | 2       | 2                         |
| <b>SFS-5:</b> Robotics advances for <b>precision farming</b>   | RIA<br>(single-stage) | 2-4     | 7                         |
| <b>SFS-7: Organic breeding:</b> -Increasing the competitiveness of the <b>organic breeding and farming sectors</b> | RIA                   | 6       | 12                        |
| <b>SFS-8:</b> Organic inputs – contentious inputs in <b>organic farming</b>  | RIA                   | 4       | 8                         |
| <b>SFS-10:</b> Research and approaches for <b>emerging diseases in plants and terrestrial livestock</b>            | RIA                   | 5       | 15                        |
| <b>SFS-13:</b> Validation of <b>diagnostic tools</b> for <b>animal and plant health</b>                            | IA                    | 3       | 6                         |
| <b>SFS-15:</b> <b>Breeding livestock</b> for resilience and efficiency   | RIA                   | 7       | 7                         |
| <b>SFS-16:</b> <b>Bee health</b> and sustainable pollination   | RIA                   | 9       | 9                         |
| <b>SFS-17:</b> Innovations in <b>plant protection</b>  | RIA                   | 3       | 10                        |
| <b>SFS-18:</b> Support to the development and implementation of <b>FOOD 2030 initiative</b>                        | CSA                   | 4       | 4                         |





| Tópico   | Tipo proj | M€/proj | Orçamento disponível (M€) |
|--|-----------|---------|---------------------------|
| <b>SFS-20:</b> Towards a science-based <b>regionalisation of the Common Fisheries Policy</b>   | RIA       | 6       | 6                         |
| <b>SFS-21:</b> Advancing basic <b>biological knowledge and improving management tools</b> for commercially important fish and other seafood species                  | RIA       | 5       | 5                         |
| <b>SFS-22:</b> Smart <b>fisheries technologies</b> for an efficient, compliant and environmentally friendly fishing sector   | IA        | 6       | 6                         |
| <b>SFS-32:</b> Promoting and supporting the <b>eco-intensification of aquaculture production systems:</b> inland (including fresh water), coastal zone, and offshore | RIA       | 6       | 12                        |



## 2. Environment/Climate-smart primary production

⇒ O objetivo é **reduzir a ‘pegada’ ambiental e climática da produção primária**, assim como aumentar o seu potencial de mitigação.

| Tópico   | Tipo proj | M€/proj | Orçamento disponível (M€) |
|--|-----------|---------|---------------------------|
| <b>SFS-27: Permanent grassland – farming systems and policies</b>  | RIA       | 10      | 10                        |
| <b>SFS-28: Functional biodiversity – productivity gains through functional biodiversity: effective interplay of crop pollinators and pest predators</b>                                  | RIA       | 10      | 10                        |
| <b>SFS-29: Socio-economic approaches – socio-economics in ecological approaches</b>  | RIA       | 5       | 5                         |
| <b>SFS-30: Closing loops at farm and regional levels to mitigate GHG emissions and environmental contamination – focus on carbon, nitrogen and phosphorus cycling in agro-ecosystems</b> | RIA       | 7       | 14                        |
| <b>SFS-49: Better understanding the challenges facing agriculture and the impacts of policies - A European platform to support modelling in agriculture</b>                              | CSA       | 1       | 1                         |





### 3. Competitive food industry

⇒ O objetivo é **abordar as questões críticas ao longo de todas as fases da produção de alimentos**, assim como os impactos sobre o ambiente e os aspetos socioeconómicos associados.

| Tópico   | Tipo proj | M€/proj | Orçamento disponível (M€) |
|--|-----------|---------|---------------------------|
| <b>SFS-34: Innovative agri-food chains: unlocking the potential for competitiveness and sustainability</b> | RIA       | 6       | 6                         |
| <b>SFS-35: Innovative solutions for sustainable food packaging</b>   | IA        | 6       | 12                        |



# 4. Healthy and safe foods and diets

⇒ O objetivo é **responder às necessidades e preferências dos consumidores**, minimizando o impacto associado à saúde e ao meio ambiente e assegurando a segurança alimentar

| Tópico  | Tipo proj | M€/proj | Orçamento disponível (M€) |
|---|-----------|---------|---------------------------|
| <b>SFS-39: How to tackle the childhood obesity epidemic</b> | RIA       | 10      | 20                        |
| <b>SFS-40: Sweeteners and sweetness enhancers</b>           | RIA       | 9       | 9                         |



Gabinete de Promoção do Programa Quadro ID&I



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HORIZONTE  
2020



1. Boosting innovation for emerging Blue Growth activities



2. Linking healthy oceans and seas with healthy people



3. The Arctic Dimension



4. Valorising the Mediterranean Sea basin

# Boosting Innovation for emerging Blue Growth activities

⇒ O objetivo é **testar, demonstrar, aumentar a escala e trazer para o mercado tecnologias marinhas e marítimas** novas ou existentes, apoiando produtos inovadores e o desenvolvimento de novos serviços

## 2 tópicos – 16 M€

|                    |  |                       |
|--------------------|--|-----------------------|
| <b>BG2-2016/17</b> | High value-added <b>specialised vessel concepts</b> enabling more efficient servicing of emerging <b>offshore activities</b><br>(IA) <span style="float: right;">TRL5</span> | 8 M€<br><b>1 proj</b> |
| <b>BG4-2017</b>    | Multi-use of the <b>oceans marine space</b> , offshore and near-shore: <b>enabling technologies</b><br>(IA) <span style="float: right;">TRL5</span>                          | 8 M€<br><b>1 proj</b> |



# Healthy oceans and seas for healthy people



⇒ O objetivo é **explorar a interação entre os oceanos e a saúde humana**

## 3 tópicos – 21 M€

|                 |   |                 |
|-----------------|---|-----------------|
| <b>BG6-2017</b> | <b>Interaction between humans, oceans and seas: a strategic approach towards healthcare and wellbeing (CSA)</b> | 2 M€<br>1 proj  |
| <b>BG7-2017</b> | <b>Blue green innovation for clean coasts and seas (IA)</b>   | 12 M€<br>2 proj |
| <b>BG8-2017</b> | <b>Innovative sustainable solutions for improving the safety and dietary properties of seafood (IA)</b>         | 7 M€<br>1 proj  |



# The Arctic Dimension

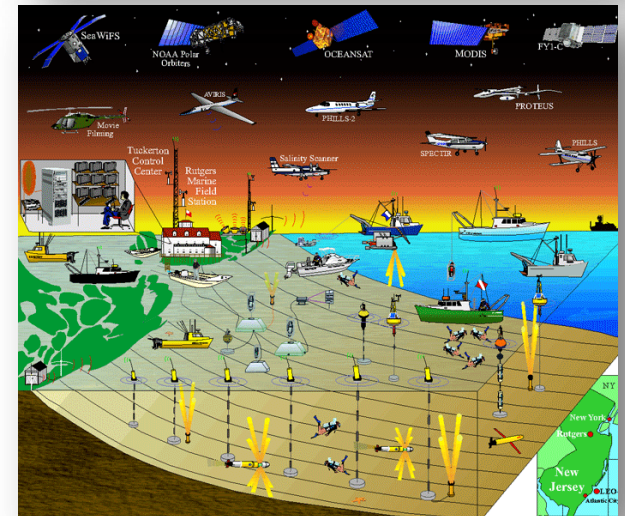
⇒ O objetivo é aprofundar os conhecimentos e identificar **abordagens sustentáveis e inovadoras para enfrentar os desafios das alterações climáticas na região do Ártico**

## 1 tópico – 10 M€

BG11-2017

**Climate impacts on Arctic permafrost** and its socio-economic impact, with a focus on coastal areas (RIA, single-stage)

10 M€  
1 proj



# Valorising the Mediterranean Sea basin



⇒ O objetivo é aprofundar o conhecimento sobre os ecossistemas marinhos e reforçar as capacidades de observação e monitorização.



## 1 tópico – 1.4 M€



|           |  |                  |
|-----------|--|------------------|
| BG14-2017 | <b>Monitoring and assessing fish stocks</b> , other pelagic species and habitats with an automated, non-invasive, <b>opto-acoustic system</b> (IA) | 1.4 M€<br>1 proj |
|-----------|--|------------------|



1. New approaches towards policies & governance



2. Value chains & business models



3. Innovation & skill development



# 1. New approaches towards policies & governance



⇒ O objetivo é **melhorar as políticas e a governança** em várias escalas geográficas para **promover o crescimento sustentável nas zonas rurais**, incluindo aspetos como as ligações territoriais e abordagens políticas coerentes para a gestão e utilização dos recursos naturais e para a prestação de serviços ecossistémicos e bens públicos

| Tópico  | Tipo proj | M€/proj | Orçamento disponível (M€) |
|---|-----------|---------|---------------------------|
| <b>RUR-2: Coastal-rural interactions:</b> Enhancing synergies between land and sea-based activities   | RIA       | 5       | 5                         |
| <b>RUR-3: Towards 2030 – policies and decision support tools for an integrated approach to the management of land</b> as a resource         | RIA       | 7       | 7                         |
| <b>RUR-5: Novel public policies, business models and mechanisms for the sustainable supply of and payment for forest ecosystem services</b> | IA        | 4       | 8                         |





### 3. Innovation and skill development

⇒ O objetivo é promover atividades que irão **reforçar a capacidade das comunidades rurais para mobilizar novos conhecimentos e tecnologias** para o desenvolvimento de suas atividades.

| Tópico   | Tipo proj | M€/proj | Orçamento disponível (M€) |
|--|-----------|---------|---------------------------|
| <b>RUR-10: Thematic Networks</b> compiling knowledge ready for practice  | CSA       | 2       | 10                        |
| <b>RUR-12: Networking European farms</b> to boost thematic knowledge exchanges and close the innovation gap                                      | CSA       | 7       | 7                         |
| <b>RUR-13: Building a future science and education system</b> fit to deliver to practice   | RIA       | 7       | 7                         |
| <b>RUR-15: The benefits of working with others – fostering social capital in the farming sector</b>  | CSA       | 3       | 3                         |
| <b>RUR-16: Optimising interactive innovation project approaches</b> and the delivery of EU policies to <b>speed up innovation in rural areas</b> | RIA       | 5       | 5                         |

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

(...)

Scope: The activities of thematic networks include summarising, sharing and presenting, in a language easily understandable for agricultural/forestry practitioners, existing best practices and research results that are near to be put into practice, but not sufficiently known by practitioners. To this end, the networks shall involve a wide range of actors covering both science and agricultural/forestry practice on the specific themes, e.g. scientists, farmers/farmers' groups, advisory services. Also EIP Operational Groups and interactive innovation groups operating in the context of the EIP-AGRI, enterprises or supply chain actors should be involved if relevant for the chosen theme. The specific themes of the networks, which may be chosen 'bottom-up', should contribute to a more competitive and sustainable agriculture and forestry. They must focus on the most urgent needs of specific agricultural or forestry production sectors, or on important or promising cross-sectoral issues, including where primary production needs to improve its linkages to the supply chain. A comprehensive description of the state of the art on the chosen theme should explain the added value of the proposal, the relevance of the theme and how it avoids duplication with existing or completed projects and networks. The resulting easily accessible end-user material should be substantial in number and feed into the European Innovation Partnership (EIP) 'Agricultural Productivity and Sustainability' for broad dissemination to agricultural/forestry practitioners. In the exceptional event that minor testing of specific solutions would be needed, a maximum of 20% of the project budget may be used for this purpose. Proposals should fall under the concept of the 'multi-actor approach'<sup>123</sup>.

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

(...)

Type of Action: Coordination and support action

## RUR-10-2016-2017

Estado de maturação dos temas a abordar

Ligação aos Grupos Operacionais - PDR

São os consórcios que decidem o tema a abordar

Atenção aos temas já tratados noutros thematic networks

Excecional. Se é necessário conduzir testes, provavelmente a maturidade do tema não é suficiente.

Orçamento disponível 10M€  
Serão financiados 5 projetos



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FCT

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HORIZONTE

2020

# Thematic Networks: projetos já aprovados anteriormente

| Tópico        | Acrónimo      |   |
|---------------|---------------|---|
| ISIB-2-2014   | Hennovation   | Practice-led innovation supported by science and market-driven actors in the laying hen and other livestock sectors   |
|               | AGRISPIN      | Space for Agricultural Innovation   |
|               | OK-Net Arable | Organic Knowledge Network Arable  |
|               | WINETWORK     | Network for the exchange and transfer of innovative knowledge between European wine-growing regions to increase the productivity and sustainability of the sector |
| ISIB-2-2015   | Smart-AKIS    | Smart Farming Technology: Farm Management Information Systems, Precision Agriculture and Agriculture automation and robotics                                      |
|               | HNV-Link      | Support HNV farmlands through knowledge and innovation  |
|               | AGRIFORVALOR  | Valorization of biomass side-streams from agriculture and forest  |
|               | 4D4F          | Data and sensor driven decision making on dairy farms   |
|               | EuroDairy     | Practice-based innovations in dairy farming: resource efficiency, biodiversity, animal care, socio-economic resilience  |
|               | EUFRUIT       | Fruit: cultivar development, minimise residues, storage and fruit quality, sustainability of production systems   |
| WATER-4b-2015 | FERTINNOWA    | Optimise water and nutrient use efficiency: dbase on innovative technologies and practices for fertigation of horticultural crops                                 |



## 1. Securing sustainable biomass supply



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



# 1. *Securing sustainable biomass supply*

⇒ O objetivo é **diversificar e aumentar a produtividade, a qualidade e a produção de biomassa** a partir da floresta, de terrenos agrícolas e marginais e do mar, evitando a degradação dos ecossistemas, desbloqueando o potencial dos resíduos e subprodutos industriais.

| Tópico   | Tipo proj | M€/proj | Orçamento disponível (M€) |
|--|-----------|---------|---------------------------|
| <b>BB-2:</b> Towards a method for the <b>collection of statistical data</b> on bio-based industries and bio-based products                         | RIA       | 6       | 6                         |
| <b>BB-3:</b> Adaptive <b>tree breeding strategies</b> and tools for forest production systems resilient to climate change and natural disturbances | RIA       | 6       | 6                         |
| <b>BB-7:</b> <b>Plant Molecular Factory</b>  | IA        | 9       | 9,07                      |

## • SME dedicated call:

- "Agriculture, Forestry, Agri-food and bio-based sectors"- 37.8M€

*Stimulating the innovation potential of SMEs for sustainable and competitive agriculture, forestry, agri-food and bio-based sectors (SME-Inst07)*

- "Blue Growth" – 12.5M€

*Supporting SMEs efforts for the development - deployment and market replication of innovative solutions for blue growth (SME-Inst08)*



Para PME de vocação altamente inovadora, de rápido crescimento e com ambições globais, com capacidade de introduzir alterações disruptivas nos mercados atuais

IDEIA Coaching empresarial e serviços complementares MERCADO

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

Parceria Público-Privada que **apoia a I&I das indústrias de base biológica:**

- **Parceiros:** Comissão Europeia & Consórcio das Bioindústrias (BIC)
- **Orçamento:** 3.7 b€ (cerca de 75% proveniente da indústria)
- **Implementação:**
  - **Regras de participação do H2020** (grandes empresas sem financiamento nas RIA e CSA)
  - Com base na **Agenda Estratégica de I&I** desenvolvida pela indústria (SIRA)
- **Objetivos:** contribuir para uma economia de baixo carbono mais eficiente na utilização de recursos, através do **desenvolvimento de indústrias de base biológica sustentáveis e competitivas com base em biorefinarias avançadas** que se abasteçam de forma sustentável



[BBI-JU website](http://www.bbi-ju.eu)



# Strategic Innovation & Research Agenda

## SIRA

- **Value Chain 1: From lignocellulosic feedstock to advanced biofuels, bio-based chemicals & biomaterials** realising the feedstock and technology base for the next generation of fuels, chemicals and materials
- **Value Chain 2: Next generation forest-based value chains** utilisation of the full potential of forestry biomass by improved mobilisation and realisation of new added value products and markets
- **Value Chain 3: Next generation agro-based value chains** realising the highest sustainability and added value by improved agricultural production, and new added value products and markets
- **Value Chain 4: New value chains from (organic) waste** from waste problems to economic opportunities by realising sustainable technologies to convert waste into valuable products
- **Value Chain 5: Integrated energy, pulp and chemicals biorefineries** realising sustainable bio-energy production, by backwards integration with biorefinery operations isolating higher added value components



# Iniciativas relevantes na área da Bioeconomia

## ETPs

|                          |
|--------------------------|
| <b>Bio-based economy</b> |
| EATIP                    |
| ETPGAH                   |
| FABRE TP                 |
| Food for Life            |
| Forest-based             |
| Plants                   |
| TP Organics              |



EIP-AGRI



BBI JU



Bioeconomy  
ERA-NET Actions

PLATFORM



EIT



HDHL



FACCE



OCEANS



COST

**Importante posicionar-se estrategicamente!!**

# Projetos já financiados na área da Bioeconomia

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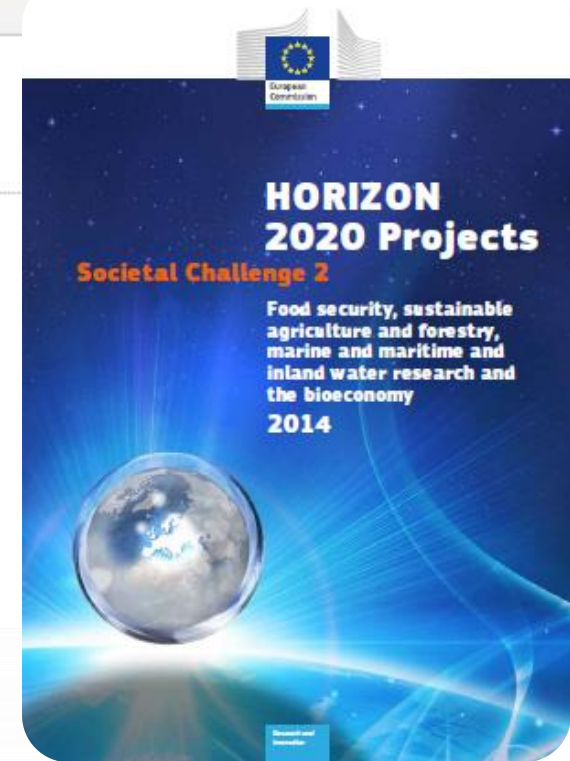
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### Publications library



Para posicionar a sua proposta e identificar quem já concorre!!



Gabinete de Promoção do Programa Quadro ID&I

**FCT**

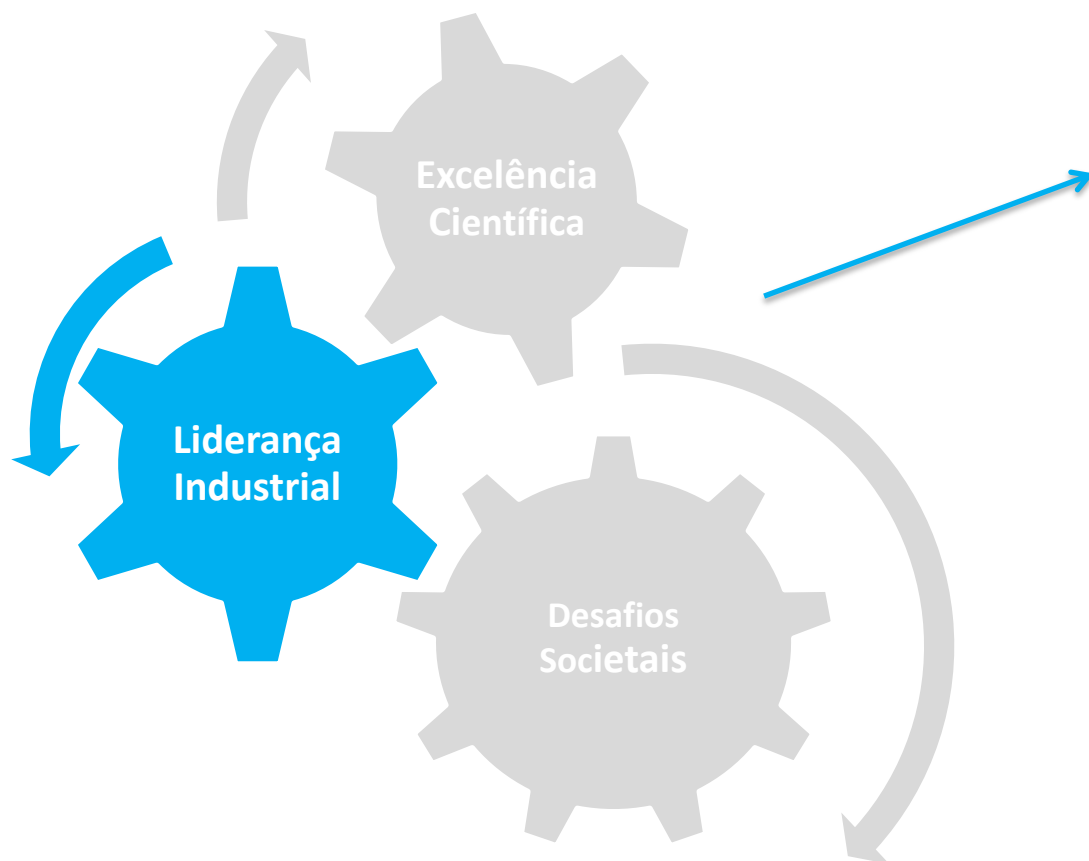
Fundação para a Ciência e a Tecnologia  
MINISTÉRIO DA CIÊNCIA, TECNOLOGIA E ENSINO SUPERIOR



AGÊNCIA NACIONAL  
DE INOVAÇÃO



HORIZONTE  
2020



Liderança em  
Tecnologias Facilitadoras  
e Industriais (LEIT) –  
NMP, ICT,  
**Biotecnologia**,  
Espaço

Acesso a financiamentos  
de risco

Inovação em PME

*H2020 – Industrial Leadership*

## 3 linhas gerais de atividades no Programa Específico do H2020:

- **Bioteχνologias de vanguarda como futuros motores da inovação:** biologia sintética, biologia de sistemas, bioinformática, nanobioteχνologia
- **Processos industriais à base de bioteχνologias:** bioteχνologia industrial p/ desenvolvimento de produtos/processos competitivos c/ aplicação em diferentes setores
- **Tecnologias de plataforma inovadoras e competitivas:** genómica, metagenómica, proteómica, ferramentas moleculares



## Objetivos Específicos:

### H2020 - Biotechnology

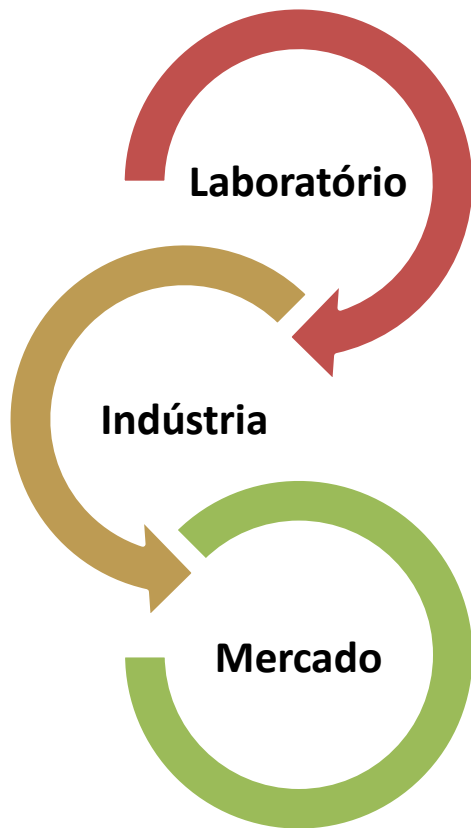
- Desenvolver produtos e processos industriais competitivos, sustentáveis, seguros e inovadores;
- Funcionar como **motor de inovação em vários setores europeus**, como a agricultura, a silvicultura, a alimentação, a energia, os produtos químicos e a saúde, assim como a bioeconomia.
  - ⇒ **Enfoque em 2016/17:**
    - Ultrapassar o hiato de implementação do laboratório para o mercado
    - Acelerar a inovação
    - Novas plataformas tecnológicas

Promoção de sinergias com outras áreas do H2020 (DS2, DS3, BBI, NMP)

| Tópico   | TRL | Tipo proj. | M€/proj | Orçamento disponível (M€) |
|--|-----|------------|---------|---------------------------|
| <b>BIOTEC-05-2017:</b> Microbial platforms for <b>CO2-reuse processes</b> in the low-carbon economy  | 3-5 | RIA        | 5-7     | 48                        |
| <b>BIOTEC-06-2017:</b> Optimisation of <b>biocatalysis and downstream processing</b> for the sustainable production of high value-added platform chemicals | 5-7 | IA         | 5-7     |                           |
| <b>BIOTEC-07-2017:</b> <b>New Plant Breeding Techniques (NPBT) in molecular farming:</b> Multipurpose crops for industrial bioproducts                     | 3-5 | RIA        | 5-7     |                           |
| <b>BIOTEC-08-2017:</b> Support for enhancing and demonstrating the <b>impact of KET Biotechnology projects</b>   |     | CSA        | 0,7-1   | 1                         |

**Deadlines:**  
 27 Out 2016 | 4 Mai 2017  
 CSA: 19 Jan 2017

# TRLs – Technology Readiness Levels



**TRL 1** – Princípio básico observado

**TRL 2** – Conceito tecnológico formulado

**TRL 3** – Prova de conceito experimental

**TRL 4** – Tecnologia validada no laboratório

**TRL 5** – Tecnologia validada em ambiente relevante (ambiente industrial no caso das KETs)

**TRL 6** – Tecnologia demonstrada em ambiente relevante (ambiente industrial no caso das KETs)

**TRL 7** – Demonstração do Protótipo do Sistema em ambiente operacional

**TRL 8** – Sistema completo e qualificado

**TRL 9** – Sistema Real Comprovado em ambiente operacional (produção competitiva no caso das KETs)

NMP+B



# BIOTEC-05-2017:

Microbial platforms for CO<sub>2</sub>-reuse processes in the low-carbon economy

27 Out 2016 | 4 Mai 2017  
5-7 M€/Projeto  
TRL 3-5  
RIA



- *CO<sub>2</sub> re-use technologies through the utilisation of microbial platforms*
- *Development and validation of at least two microbial cell factories*
- *Proposals should address SSH issues*

[CO<sub>2</sub> reuse](#) - platform for sharing information on CO<sub>2</sub> reuse technologies and activities in Europe

# BIOTEC-06-2017:

Optimisation of biocatalysis and downstream processing for the sustainable production of high value-added platform chemicals

27 Out 2016 | 4 Mai 2017  
5-7 M€/Projeto  
TRL 3-5  
IA



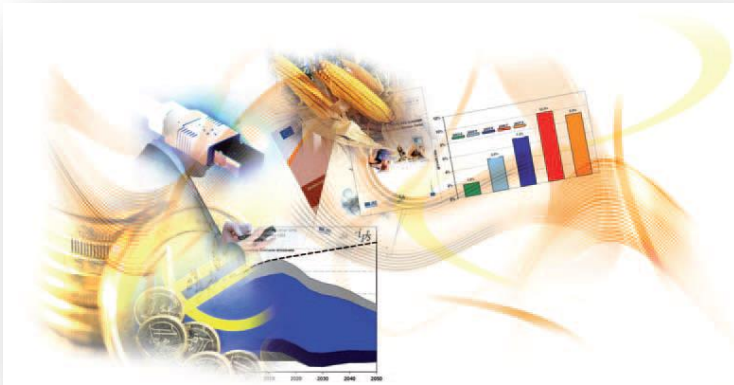
***Optimisation of platform cell factories for the production of platform and fine chemicals and biofuels (excluding pharmaceuticals), following the cascading use of resources***

- *Include bioinformatics, systems biology and synthetic biology where appropriate*
- *strong industry driven*
- *Include demonstration activities to prove the techno-economic viability of the proposed VC*

# BIOTEC-07-2017:

New Plant Breeding Techniques (NPBT) in molecular farming: Multipurpose crops for industrial bioproducts

27 Out 2016 | 4 Mai 2017  
5-7 M€/Projeto  
TRL 3-5  
RIA



<http://ftp.jrc.es/EURdoc/JRC63971.pdf>

***Plants amenable to be used as green factories in order to yield industrial high-value products:***

- *Minor, underutilized and non-food crops suitable for the extraction of bioactive compounds*
- *Crops that grow more efficiently and have higher yields of the target bioproduct, while being more tolerant to adverse environmental conditions*
- *Address SSH issues*

# BIOTEC-08-2017:

Support for enhancing and demonstrating the impact of KET Biotechnology projects

19 Jan 2017  
0,7-1 M€/Projeto  
CSA



## ***Cluster existing activities under the KET-B and FP7:***

- *Reviews of recent technological developments*
- *Workshops to elaborate future KET-B priorities & identify research gaps*
- *Gather information on business trends and market prospects*
- *Promotional activities*

**[EC Workshop on Maximising the impact of KET-B](#)**  
(22 Set 2015)



## Key Enabling Technologies projects from first Horizon 2020 calls

Horizon 2020 supports the strengthening of Europe's industrial base through research and innovation activities.

Since 2014 a number of interesting projects have been launched that will develop innovative solutions to address societal challenges in the following areas :

- Energy-efficient Buildings
- Factories of the Future

### • Biotechnology

 [Download PDF \[523kb\]](#)

- Nanotechnology and advanced materials for Low-Carbon Energy Technologies and Energy Efficient
- Nanotechnologies and advanced materials to drive competitiveness and sustainability
- Bridging the gap between nanotechnology research and markets



Horizon 2020, the EU's EUR 80 billion Research and Innovation Programme, supports "Key Enabling Technologies (KETs)". KETs have a broad industrial base in Europe, including SMEs and start-ups and they drive innovation to solve societal challenges. Many new goods and services build on KETs and KETs also underpin more efficient and sustainable production processes in industry. They drive the economy and contribute to new job creation.

The NMBP Work Programmes (2014-2015 and 2016-2017) of Horizon 2020 cover the following KETs : *Nanotechnologies, Advanced Materials, Biotechnology and Advanced Manufacturing and Processing.*

A number of very interesting research and innovation projects have been launched under Horizon 2020. In the following articles, you will find an overview, with links to further specific information:

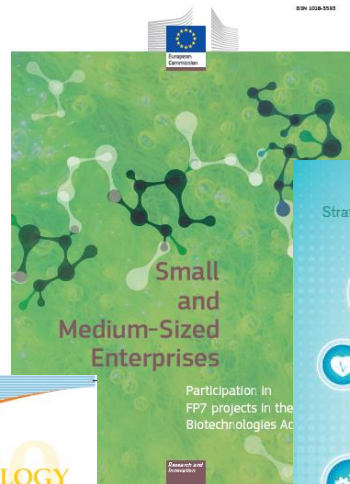
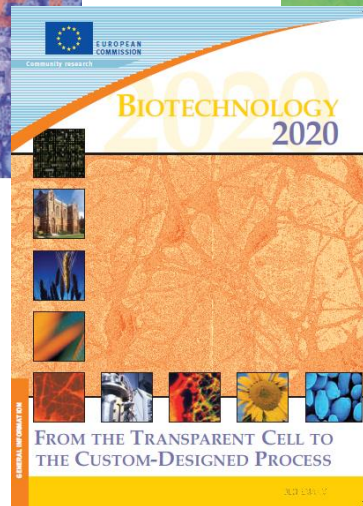
### Key Enabling Technologies : Biotechnology

*Biotechnology-based industrial processes drive the competitiveness and sustainability of Europe's industry. Activities in this field aim at bridging the gap from lab to market and at creating a path for SMEs and large industries to continue investing in the commercialisation of the knowledge generated. They address the challenges of "Cutting-edge biotechnologies as future innovation driver" and "Innovative and competitive platform technologies".*

[Full list of BIOTEC-2014 projects](#)

[Full list of BIOTEC-2015 projects](#)

# Algumas publicações c/ relevância para a Biotecnologia



<http://ec.europa.eu/research/bioeconomy/index.cfm?pg=library>

<https://ec.europa.eu/programmes/horizon2020/en/newsroom/publications/biotechnology>

# Plataformas para procura de parceiros



[BH archived profiles](#)

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 652637



[HOME](#) [ABOUT](#) [FUNDING OPPORTUNITIES](#) [PROFILES](#) [NEWS](#) [SUPPORT](#) [EVENTS](#)

## Profiles

### General information about the archived profiles

One of BioHorizon's main objectives is to simplify access to Horizon 2020 calls under the Societal Challenge 2 and the Key Enabling Technology Biotechnology, to widen participation in those fields, and to stimulate international research cooperation. To this end, a series of three international brokerage events based in Brussels and two decentralized, regional events dedicated to specific thematic areas will be organized.

BioHorizon's brokerage events will support the trans-national networking between researchers and other stakeholders by providing suitable thematic platforms to discuss and develop ideas and projects, thus fostering access to collaboration opportunities. Interested researchers/stakeholders are requested to create an online profile of their institution and their own expertise which will be used to pre-arrange meetings between potential project partners in a structured way.

Profiles from all participants in BioHorizon's brokerage events as well as all flash presentations will be archived on the respective B2Match websites. You can use the B2Match quick find search tool to browse the profiles for partners with a relevant expertise.

### 1st International Brokerage Event (26.11.2015)

Due to the uncertain security situation in Brussels (highest terrorism alert level from 21 - 30 November 2015), and upon the recommendation of the European Commission, we had to cancel this event. We deeply regret the great inconvenience that this has caused.

You can find the profiles of all validated registrants here: <https://www.b2match.eu/foodbrokerage2015/participants>

All flash presentations are accessible here: <https://www.b2match.eu/foodbrokerage2015/pages/flash-presentations>

## [CORDIS Partners Service](#)



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# Casos de sucesso de participação nacional



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# Entidades nacionais a participar no DS2. Bioeconomia (incl. SME Instr.)

71 participações | 11 coordenações | 14,8 M€

## Ensino Superior

COFAC - Cooperativa de Formação e Animação Cultural - CRL

FACULDADE DE MEDICINA VETERINARIA

Instituto Politécnico de Bragança

Instituto Politécnico de Coimbra (3)

Instituto Politécnico de Viana do Castelo

Instituto Superior de Agronomia (3)

Instituto de Geografia e Ordenamento do Território da Universidade de Lisboa

Instituto de Tecnologia Química e Biológica da Universidade Nova de Lisboa

Universidade de Aveiro

Universidade de Coimbra

Universidade de Trás-Os-Montes e Alto Douro

Universidade de Évora (6)

Coordenação Nacional

Universidade do Algarve

Universidade do Minho

Universidade do Porto

## Outros

ADVID - Associação para o Desenvolvimento da Viticultura Duriense

AFVS - ASSOCIACAO FLORESTAL DO VALE DO SOUSA

Ciência Viva - Agência Nacional Para a Cultura Científica e Tecnológica (2)

Câmara Municipal de Almada

DIRECAO-GERAL DE POLITICA DO MAR

Fundação Eurocean (2)

Fundação para a Ciência e a Tecnologia (5)

SECRETARIA REGIONAL DO MAR, CIENCIA E TECNOLOGIA

## PME

ACESSOMATIC - Comércio Componentes Pneumáticos Hidráulicos, e Eléctricos Lda. [SME Instr]

Boereboom Invitro Portugal, Unipessoal, Lda. [SME Instr]

Doiseco Unipessoal, Lda.

EnergyPulse Systems, Lda. (2) [1 SME Instr]

UBQ II, Lda. (2) [2 SME Instr]

ALGPLUS - Produção e Comercialização de Algas e seus Derivados, Lda.

Aveleda, S.A. [SME Instr]

BioMimetx Lda [SME Instr]

CoolFarm, Lda. [SME Instr]

MAGNOMICS SA [SME Instr]

OCEANSCAN - Marine Systems & Technology, Lda.

ORIZONVISION LDA [SME Instr]

Sagremarisco - Viveiros de Marisco, Lda. (2)

setenta e três mil e cem, lda

## Centros de investigação

Associação do Instituto Superior Técnico para a Investigação e

CENTRO PARA A VALORIZACAO DE RESIDUOS ASSOCIACAO

CIIMAR - Centro Interdisciplinar de Investigação Marinha e Ambiental (4)

Centro de Ciências do Mar do Algarve

Fundação Gaspar Frutuoso

IMAR - Instituto do Mar (4)

Instituto Nacional de Investigação Agrária e Veterinária

Instituto Português do Mar e da Atmosfera, I.P.

Instituto de Ciência e Inovação em Engenharia Mecânica e Engenharia

Instituto de Investigação Científica Tropical



# H2020 | BIOTECNOLOGIA: Participação PT em 2014-2015

Propostas submetidas: 42

**Projetos aprovados: 5**

Participantes: 7

**Projetos coordenados: 2**

Taxa sucesso: 11,9% (EU: 7,2)

**Financiamento para PT: 3,97M€**



METAFLUIDICS



easierNGS\*

\*SME Instr

Nº médio participantes/projeto: 9-10 | Orçamento médio/projeto: 7 M€

## Instituições participantes:



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Call  
2014

## PROcesses for Value added fibres by Innovative Deep Eutectic Solvents

Funding scheme: RIA

**VC2: forest-based**

Duration: 2015-2018

BBI JU contribution:  
1.079.551 €

Coordinator: PPP ISPT (NL)



2014-2015

4 Projetos

5 Participantes

0,8 M€

Call  
2015

**+** 3 projetos em processo de preparação do GA

BIOCOM (Globaz, SA)  
FUNGUSCHAIN (Biotrend ,SA)  
LIBBIO (ISA-UL & Lusosem, SA)

**VC3: agro-based**

ay 2016

# Algumas informações sobre o futuro...

(WP 2018-2020)



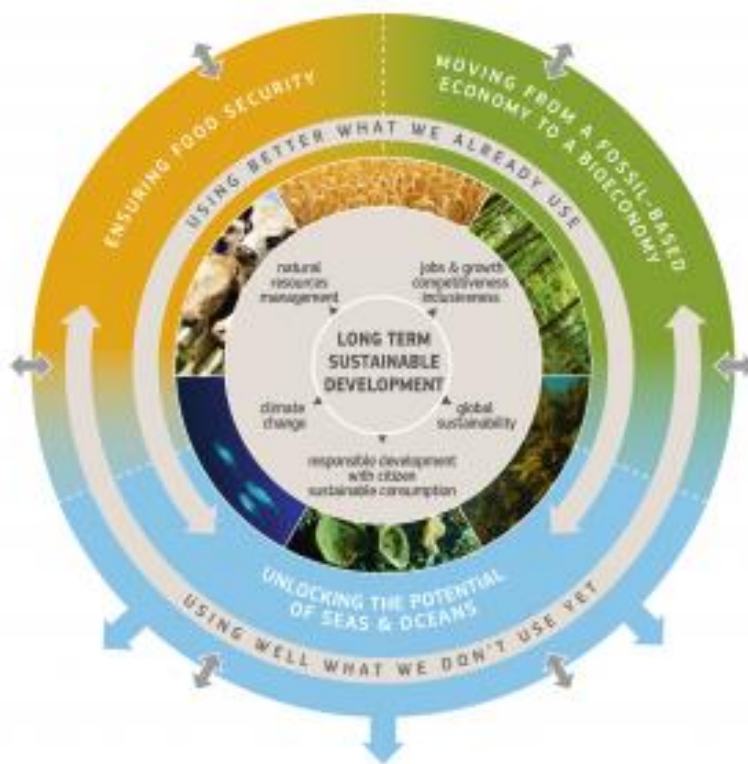
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# Desafio Societal 2

## Processo de preparação do WP 2018-2020

### Work Programme 2018-2020 preparation



## Food Security, Sustainable Agriculture and Forestry, Marine, Maritime and Inland Water Research and the Bioeconomy - Work Programme 2018-2020 preparation

Article   **Newsroom**

Preparation of the work programme 2018-2020 for Societal Challenge 2 has started and will involve various stakeholder engagement activities and consultations.

Preparations for the last work programme started at the end of 2015. They will take into account the political priorities of the European Union and refer to several foresight exercises.

Consultation of stakeholders will be an integral part of this programming process which will be managed as a participatory process. In this respect Societal Challenge 2 particularly considers the following inputs:

- Advisory group report:** The [advisory group](#) started to work on programming for 2018/2020 in February 2016. Building on the outcomes of their work for 2016/2017, they will produce a report by summer 2016.
- Stakeholder consultation:** a consultation questionnaire will be made available on-line in the course of April 2016. Contributions are especially expected from stakeholder organisations including SC2 relevant European Technology Platforms, Joint Programming Initiatives, European Research Area Networks (ERANETs), European Innovation Partnerships, science organisations, industry organisations. Results will be assembled in a report which is expected in June 2016.
- Strategic approach to EU agricultural research and innovation:** a large participatory process has been launched in June 2015 to elaborate a long-term strategy for EU agricultural research and innovation, the final version of which is expected in April-May 2016. This strategy will be an important input into the programming process. The content of the strategy builds on:
  - one kick-off workshop in EXPO Milan - [Event page](#) - [Final report](#)
  - two on-line targeted stakeholder consultations;
  - a large conference on 26-28 January 2016 - [Conference page](#);
- European Innovation Partnership for Agricultural productivity and sustainability (EIP-AGRI):** agriculture and forestry stakeholders are also engaged in reflection on the research agenda via the [EIP-AGRI](#) network and activities, in particular through [focus groups](#), through various [workshops](#) and events which will be organised on themes such as [Data revolution](#) (June 2016), 'Food and cities' (sept 2016), 'forest value chains' (October 2016) or sustainability indicators (January 2017). In addition, EIP-AGRI keeps collecting needs for research from practice via the e-form on [EIP-AGRI interactive platform](#). Finally, outcomes of activities undertaken for [2016/2017](#) will still be taken into account.
- AGRI Research workshops:** In addition to workshops organised for preparation of work programme 2016-2017, many of which provided outcomes which are also relevant for 2018-2020, specific working sessions are organised to deepen the gap analysis and formulate research questions with key selected experts. Specific themes tackled so far were:
  - 'Bee health and sustainable pollination' (10.03.2016) - [Event page](#)

# Para mais informações & apoio

## GPPQ – Contactos dos Pontos de Contacto Nacionais DS2. Bioeconomia

Bio Economia  
BBI  
Biotecnologia



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Infraestruturas  
Bio Economia



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<http://www.gppq.pt/h2020>