



# *KET-Biotechnology* no H2020

## Perspetivas de financiamento em 2019-2020

Maria João Fernandes

Porto, 11 Julho 2018



Gabinete de Promoção do Programa Quadro ID&I



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



AGÊNCIA NACIONAL  
DE INOVAÇÃO



HORIZONTE

2020

# A BIOTECNOLOGIA NO HORIZONTE 2020



## 1. Leadership in Enabling and Industrial Technologies

a. Nanotechnologies, Advanced Materials, Advanced Manufacturing and Processing, and **Biotechnology**

b. Information and Communication Technologies

c. Space

## 2. Access to risk finance

## 3. Innovation in SMEs



## FP7 KBBE

Industrial biotechnology

Environmental biotechnology

Emerging trends in biotechnology

Novel sources of biomass and bioproducts

Marine and fresh-water biotechnology

Biorefinery

## Horizon 2020



### LEIT Biotechnology

**AREA 1.** Cutting-edge biotechnologies as future innovation drivers

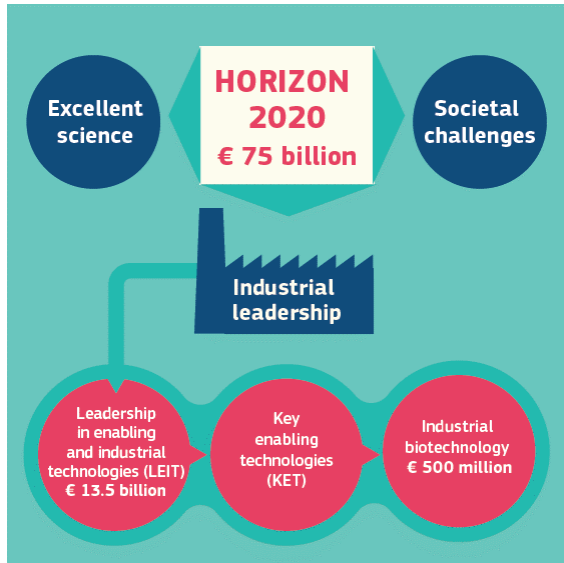
**AREA 2.** Biotechnology-based industrial processes driving competitiveness and sustainability

**AREA 3.** Innovative and competitive platform technologies

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

- Joint Technology initiative (JTI)
- Marine biotechnology research

- **I&D e inovação com uma forte dimensão industrial e em parceria com a indústria**
  - Actividades desenvolvidas principalmente através de roadmaps industriais relevantes (ETPs, PPPs)
  - Requisitos para business cases e estratégias de exploração para a industrialização
- **Reforço das capacidades industriais**, incluindo as PME, nomeadamente através de sinergias com outros fundos (privado - público)
  - KETs transversais, incluindo linhas-piloto e demonstradores, abordando os desafios societais
- **Orientação para resultados e impactos, desenvolvendo aspetos-chave da tecnologia e aproximando-os do mercado**
  - TRLs: de 3-4 a 6-7, com ênfase no impacto esperado
- **Orçamento global** no âmbito do Horizonte 2020: 3,8 mil milhões de euros



- Seis tecnologias estratégicas
- Impulsionam a competitividade e o crescimento
- Contribuem para resolver desafios sociais
- São transversais a vários setores

## Key Enabling Technologies (KETs)

Nanotecnologias

Materiais Avançados

Micro e Nanoelectrónica

Fotónica

Biotecnologia


Processos de Fabrico Avançados



## H2020 - BIOTEC

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

# CALL BIOTEC- H2020-NMBP-TR-IND-2018-2020

Tópico	TRL	Tipo proj.	M€/proj	Orçamento disponível (M€)
<b>BIOTEC-02-2019:</b> Boosting the efficiency of photosynthesis	3-5	RIA	6-8	31
<b>BIOTEC-05-2019:</b> Microorganism communities for plastics bio-degradation 	3-5	RIA	5	10
<b>BIOTEC-06-2020:</b> Reprogrammed microorganisms for biological sensors		IA	tbd	tbd
<b>BIOTEC-07-2020:</b> Multi-omics for the optimisation of genotype-phenotype associations		RIA	tbd	tbd

## Deadlines:

**BIOTEC-02:** 22 Jan 2019 | 3 Set 2019

**BIOTEC-05:** 5 Mar 2019

# BIOTEC-02-2019: Boosting the efficiency of photosynthesis

---

Proposals **should work towards the optimisation of photosynthesis** by capitalising on **multidisciplinary approaches**, such as functional genomics, systems biology, metabolic modelling, enzyme engineering, computational biology, synthetic biology, directed evolution and gene editing techniques.

Proposals **should work with plants or algae** and **deal with any of the biological components underlying the diversity of photosynthesis**.

Proposals **should cover at least one of the following**:

- new tools improving the performance of the catalytic enzymes involved in photosynthesis;
- new tools to increase the rate of CO<sub>2</sub>-fixation;
- engineered enzymes for novel CO<sub>2</sub>-fixation pathways

Proposals **should include Social Sciences and Humanities (SSH) elements** regarding the technologies used and the environmental and socio-economic impact of the expected output.



# BIOTEC-05-2019: Microorganism communities for plastics bio-degradation

---

Proposals will **develop environmentally friendly and sustainable solutions for managing the waste of plastics mixtures** based on the use of communities of microorganisms with a set of complementary enzymes.

The enzymes may be native or engineered using state of the art biotechnologies.

## Proposals should:

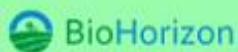
- produce cocktails of enzymes using communities of microorganisms capable of degrading mixtures of biodegradable and currently non-biodegradable plastics into more basic chemical constituents;
- use a multidisciplinary approach based on biotechnology;
- create high value products and valorise mixed plastic waste.

In addition to the minimum number of participants set out in the General Annexes, proposals **shall include as international partners under the grant agreement at least three legal entities from China** that apply for and are eligible for NSFC funding.

Proposals will only be selected on the condition that their corresponding projects of Chinese international partners will be funded by NSFC.



Food Security | Sustainable Agriculture and Forestry  
| Marine, Maritime and Inland Water Research |  
Bioeconomy | KET-Biotechnology |



#BioBrokerage

26 June 2018  
Brussels, Belgium

BioHorizon SC2 and KET-B  
Brokerage Event

Home Calls 2019 How it works **Flash Presentations** Contact Location

## Societal Challenge (SC) 2 in Horizon 2020: 'Food Security, Sustainable Agriculture and Forestry, Marine, Maritime and Inland Water Research and the Bioeconomy'

Do you intend to prepare a proposal addressing a topic under the challenge?

The European Commission organises an Info Day on Horizon 2020 Societal Challenge 2 (SC2) 'Food security, sustainable agriculture and forestry, marine and maritime and inland water research and the bioeconomy'. The event will take place in Brussels on 25 June 2018 and will showcase the calls for 2019 of the [new version of the SC2 Work Programme for 2018-2020](#). More detailed information on the Info Day programme is provided on [this page](#).

Register now  
Open until 27 May 2018

LOCATION  
Brussels, Belgium

ORGANISED BY



<https://foodbrokerage2018.b2match.io/>

# OPORTUNIDADES DE FINANCIAMENTO NOUTRAS PARTES DO H2020

Usando palavras-chave....

145 Results

Keyword Search: Find a topic SEARCH

If you don't find your topic, you can also use the **free text search**.

Programme:  H2020  RFCS  COSME  3rd HP  Cons Prog

Status:  Forthcoming  Open  Closed

Sort by:  (Planned) opening date  Deadline  Topic title  Call identifier

Topic: [EU Prize for Women Innovators:WIP-01-2015](#)  
Call title: [EU Prize for Women Innovators](#)  
Call identifier: [H2020-WIPRIZE-2015](#)

Topic: [Horizon Prize - Collaborative Spectrum Sharing:SpectrumPrize-01-2015](#)  
Call title: [Horizon Prize - Collaborative Sharing of Spectrum](#) Status: **Forthcoming**  
Call identifier: [H2020-SpectrumPrize-2015](#) Deadline: 17-12-2015

...ou por texto livre



Para encontrar tópicos com potencial interesse



## PARTICIPANT PORTAL – Search Topics



Bio-Based Industries  
Joint Undertaking

# 2018 CALL FOR PROPOSALS

[Brochura](#)

The catalyst for a sustainable  
bio-based economy in Europe



**Data de publicação: 11/04/2018**

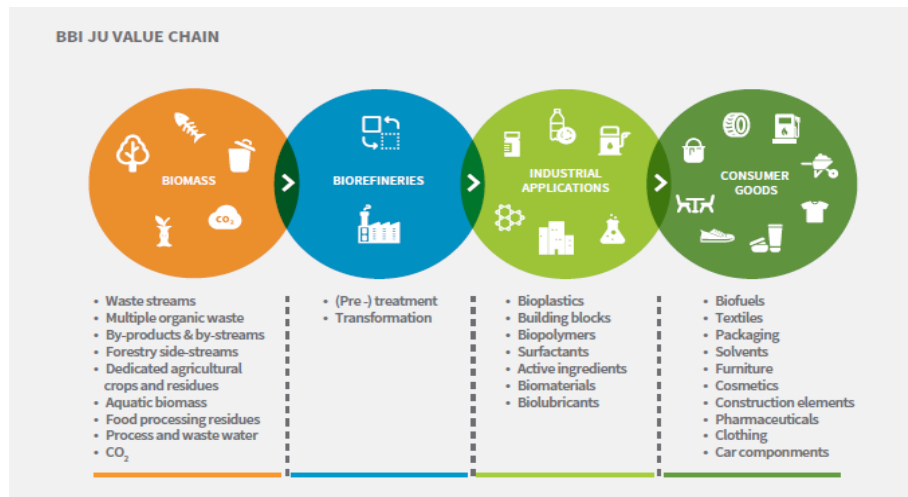
**Deadline: 6/09/2018**

**Orçamento indicativo: 115 M€**

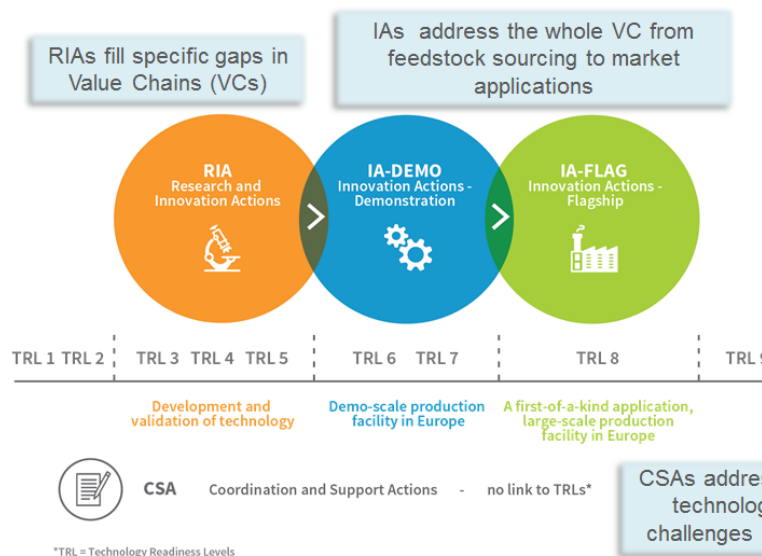
**21 tópicos (11 RIA, 3 CSA, 5 DEMO, 2 FLAG)**

*call single-stage*

# CALL H2020-BBI-JTI-2018

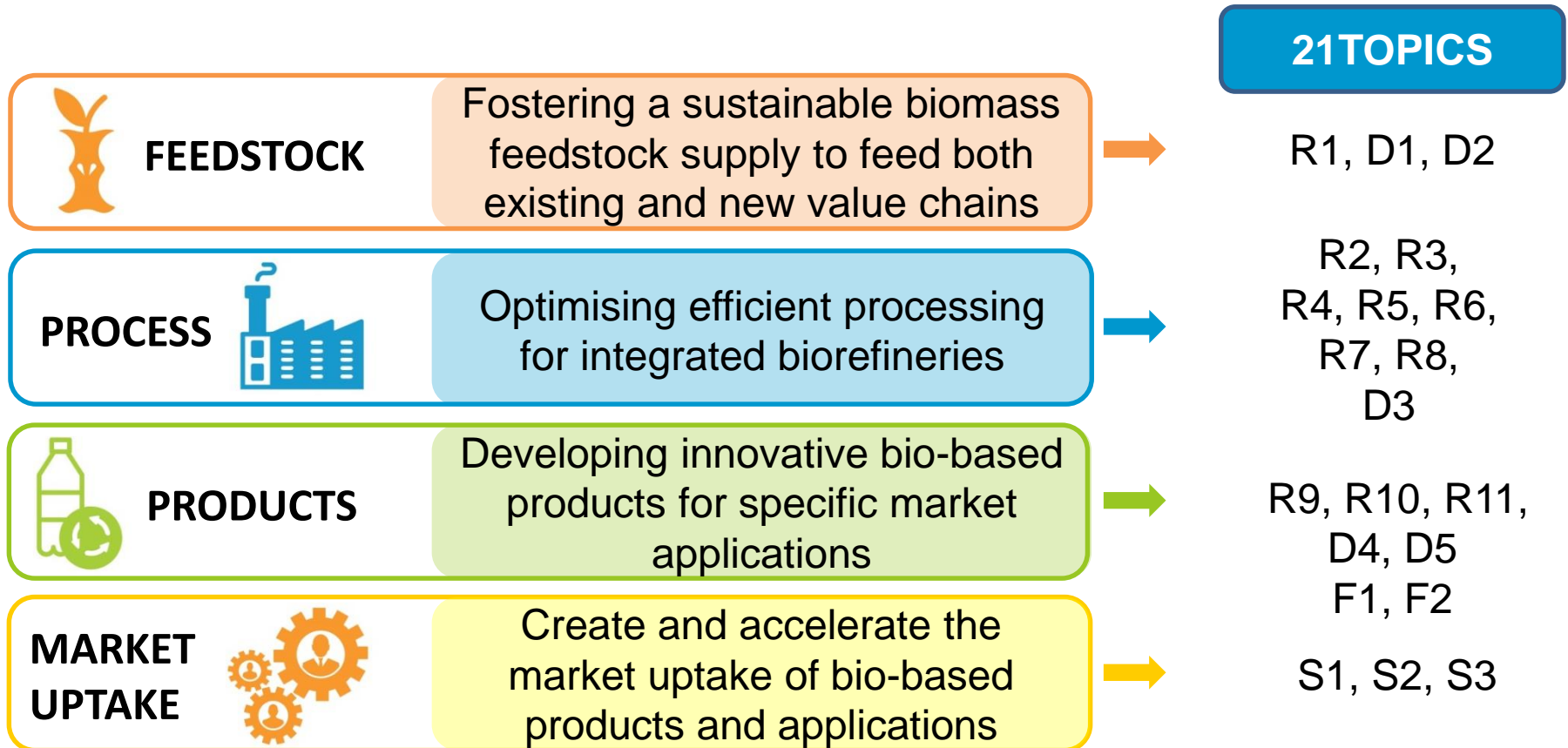


## BBI JU

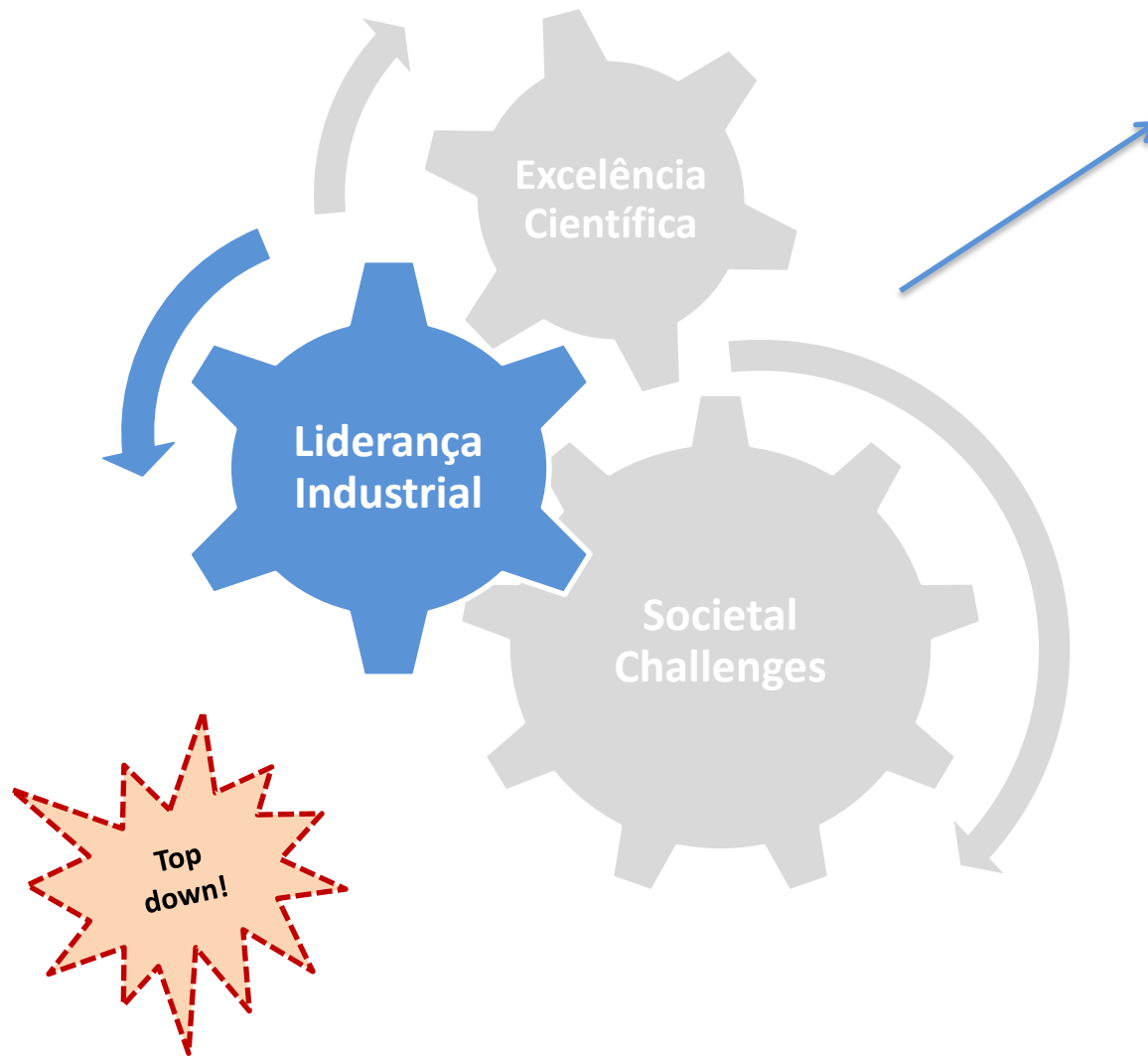


# Strategic Orientations in Call 2018

## Thematically



## H2020 - NMBP



Nanotechnologies,  
Advanced Materials,  
Advanced Manufacturing &  
Processing and  
Biotechnology

ICT

Space

Access to risk finance

Innovation in SMEs



**NCPs NMP**

[marta.candeias@gppq.pt](mailto:marta.candeias@gppq.pt)

[sofia.azevedo@gppq.pt](mailto:sofia.azevedo@gppq.pt)



## FOUNDATIONS FOR TOMORROW'S INDUSTRY

Open innovation test beds 4

Materials characterisation and computational modelling 4

Governance, science-based risk assessment and regulatory aspects 4

## TRANSFORMING EUROPEAN INDUSTRY

Factories of the future (FoF) 10

Biotechnology 4

Medical technology innovations 2

## INDUSTRIAL SUSTAINABILITY

Sustainable process industry (SPIRE) 7

Catalysing the circular economy 1

Clean energy through innovative materials 5

Cultural Heritage 0

Energy-efficient buildings (EEB) 4

# CALL FOUNDATIONS FOR TOMORROW'S INDUSTRY | GOVERNANCE, SCIENCE-BASED RISK ASSESSMENT AND REGULATORY ASPECTS

A gestão dos riscos de todas as tecnologias emergentes é de importância fundamental para a sua aceitação social e consequente possível sucesso. O desafio é estabelecer uma forma adequada de **governança de risco** em nanotecnologia e garantir que as tecnologias para além do estado de arte sejam aceites pelos *stakeholders* (sociedade civil, indústria, reguladores).

Prioridades  
(2018-2020)

NMBP-13-2018: Risk Governance of nanotechnology (RIA)

NMBP-14-2018: Nanoinformatics: from materials models to predictive toxicology and ecotoxicology (RIA)

NMBP-15-2019: Safe by design, from science to regulation: metrics and main sectors (RIA)

NMBP-16-2020: Safe by design, from science to regulation: behaviour of multi-component nanomaterials (RIA)

**NMBP-17-2020:  
Regulatory science for medical technology products (RIA)**



# CALL FOUNDATIONS FOR TOMORROW'S INDUSTRY | MEDICAL TECHNOLOGY INNOVATIONS



As alterações demográficas da UE exigem inovação para melhorar a **prestação de cuidados de saúde**, a **qualidade de vida** e o **envelhecimento ativo**, sendo também uma **oportunidade industrial e um mercado em crescimento**.

## Prioridades NMBP (18-20)

- Desenvolver design inovador;
- Desenvolvimento e fabricação de tecnologias médicas centradas no utilizador, incluindo implantes;
- Regeneração de tecidos e (nano)biomateriais inteligentes.

*NMBP-22-2020: Osteo-articular tissues regeneration (RIA)*

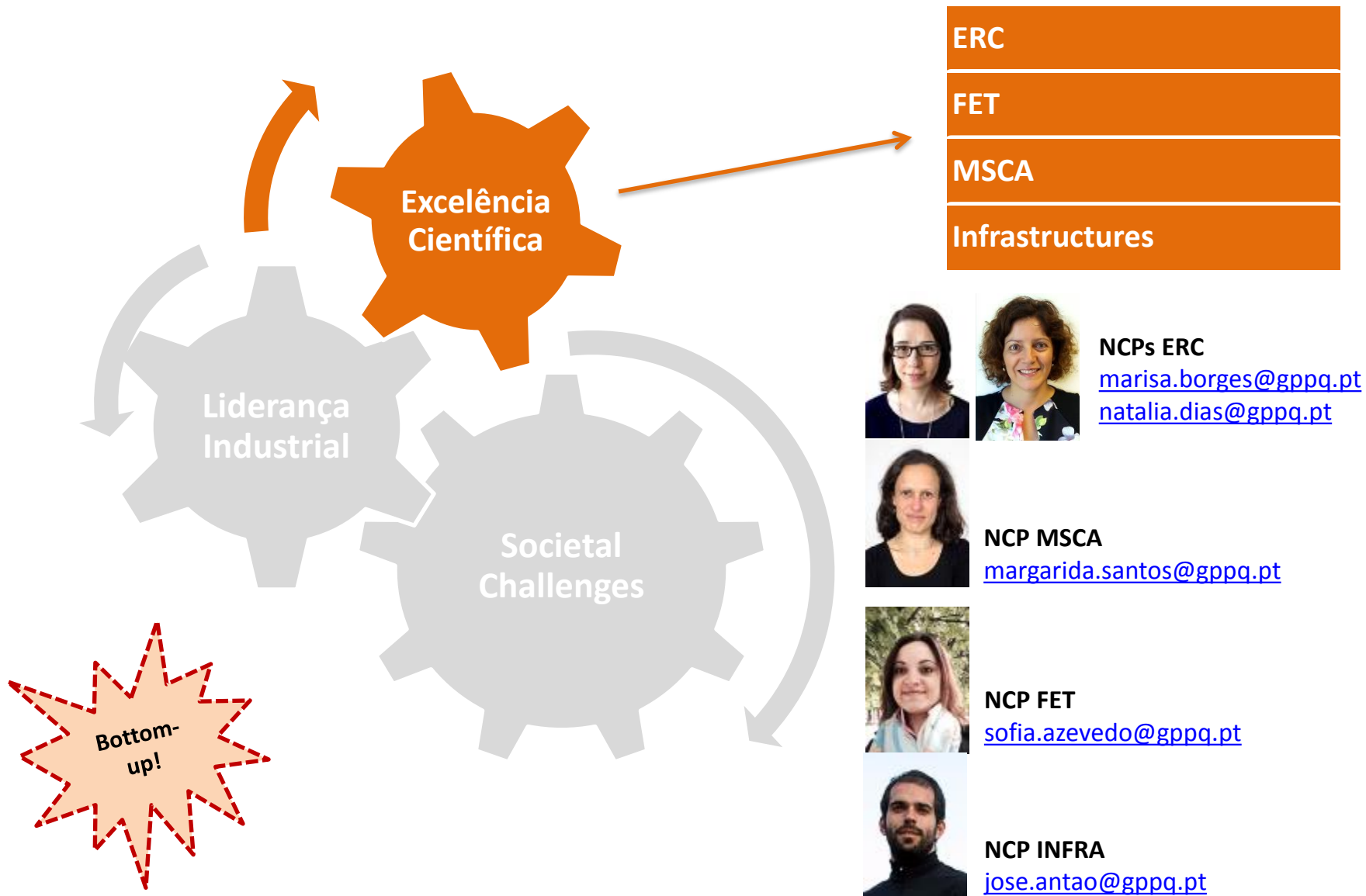
*NMBP-21-2020: Custom-made biological scaffolds for specific tissue regeneration and repair (RIA)*

*NMBP-23-2020: Next generation organ-on-chip (RIA)*

## Desafio para a indústria MEDTECH



**Transposição inclusiva** de soluções para **aplicações clínicas personalizadas**.



Grant	Description	Qualifications	Funding	Duration
<b>Core grant schemes</b>				
Starting grant	For early-career researchers to develop their career and establish their own team	PhD + 2-7 years' experience	Up to €1.5 million	Up to 5 years
Consolidator grant	For researchers to consolidate their own research team or programme	PhD + 7-12 years' experience	Up to €2 million	Up to 5 years
Advanced grant	For well-established researchers to develop a new and outstanding project	10-year excellent scientific track record	Up to €2.5 million	Up to 5 years
<b>Additional grant schemes</b>				
Proof of Concept grant	For ERC grantees to bridge the gap between research and marketable innovation	Holders of previous ERC grant	Up to €150 000	Up to 18 months



## H2020 - ERC

### Deadlines:

StG: 17/10/2018

CoG: 7/02/2019

AdG: 29/08/2019

PoC: 22/01 | 25/04 | 19/09/2019

**Let's try** even if it may fail!

H2020 - FET



**Science** and **technology** research by consortia exploring novel ideas for **radically new future technologies** that challenge current paradigms and venture into the unknown.

If you want to go further in your research career, use the Marie Skłodowska-Curie actions!

H2020- MSCA



Which action?	<b>ITN</b> Innovative Training Networks <i>(Host applies)</i>  <b>Necessário consórcio</b>	<b>IF</b> Individual Fellowships <i>(Individuals apply)</i>	<b>RISE</b> Research and Innovation Staff Exchange <i>(Host applies)</i>  <b>Necessário consórcio</b>
What does it offer?	High-quality research training delivered through international and interdisciplinary networks, industrial doctorates or joint doctorates	Opportunities to work on personal research projects by moving between countries and possibly sectors to acquire new skills	International and/or intersectoral exchanges of staff members involved in research and innovation to develop sustainable collaborative projects and transfer knowledge
Who is it for?	Networks of organisations that train researchers at doctoral level (less than four years of full-time research experience and no doctoral degree)	Postdoctoral researchers (doctoral degree or at least four years of full-time research experience)	Partnerships of organisations that undertake a joint research project supported by the exchange of their staff (researchers, technical, administrative and managerial staff)

**Deadlines:**  
 ITN: 15/01/2019 | 9/01/2020  
 RISE: 2/04/2019 | 7/04/2020  
 IF: 11/09/2019 | 9/09/2020

*Bottom up*

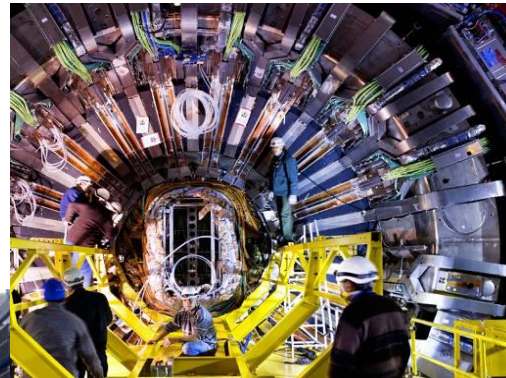
Research infrastructures are **facilities, resources and services** that are used by the research communities to conduct research and foster innovation.

Could be "**single sited**", "**distributed**" or "**virtual**"

## Knowledge-based resources



## Major scientific equipments



## e-infrastructures

[H2020 - INFRA](#)

## Integrating Activities for Starting communities

- RI Communities never supported for their integration under EU FPs
- **Bottom-up** approach

Networking  
Activities

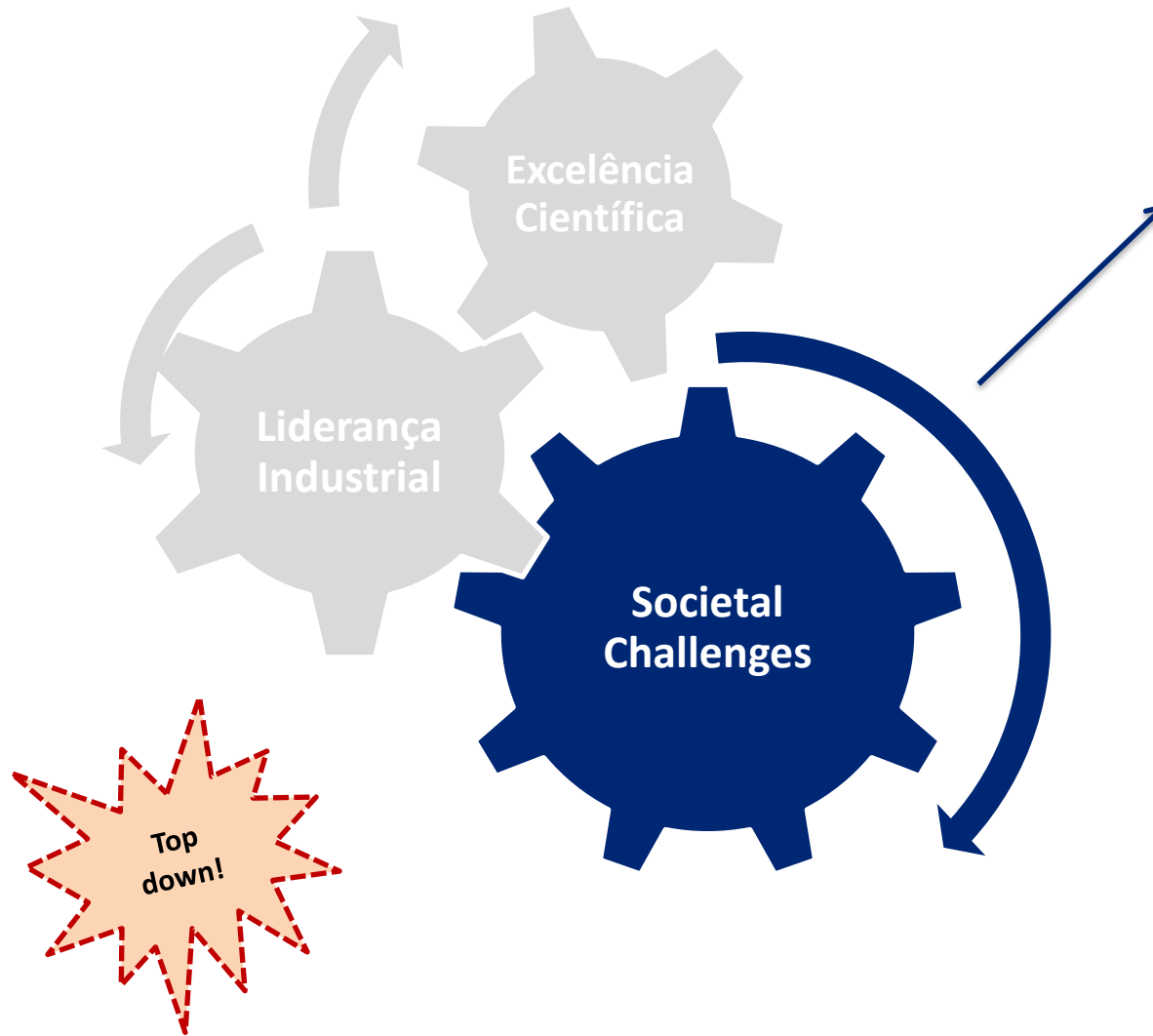
Trans-  
-National  
Access

Joint  
Research  
Activities

- Indicative budget 110 M€, up to 5 M€ of EU contrib. per GA (RIA)
- Emphasis on **networking**, standardisation and **common access procedure**, **complementarity** and coherence with the existing European RI landscape; on the contribution to a **catalogue of RI services** and on the adoption of the **European Charter for Access to RI**



## H2020 - Health



### SC1. Health

SC2. Bioeconomy

SC3. Energy

SC4. Transports

SC5. Climate Action

SC6. Inclusive societies

SC7. Secure societies



**NCP SC1. Health & IMI**  
[patricia.calado@gppq.pt](mailto:patricia.calado@gppq.pt)



## INFO DAY calls 2019 (12/07/2018)

### CALL 1 - BETTER HEALTH AND CARE, ECONOMIC GROWTH AND SUSTAINABLE HEALTH SYSTEMS (BHC)

- 1.1 Personalised medicine
- 1.2 Innovative health and care industry
- 1.3 Infectious diseases and improving global health
- 1.4. Innovative health and care systems - Integration of care
- 1.5 Decoding the role of the environment for health and well-being



### CALL 2 - DIGITAL TRANSFORMATION IN HEALTH AND CARE (DHT)



### CALL 3 - TRUSTED BIG DATA SOLUTIONS AND CYBERSECURITY FOR HEALTH AND CARE (TDS)



# Horizonte 2020

**Propostas submetidas: 9043**

**2014 - 2017**

**Projetos aprovados: 1269**

**Projetos coordenados: 363\***

**Participantes: 1829**

**Financiamento para PT: 555,29 M€**

**% PT: 1,57**

*\*154 são contratos monobeneficiário (ERC, MSCA, SMEi)*



Propostas submetidas: 67

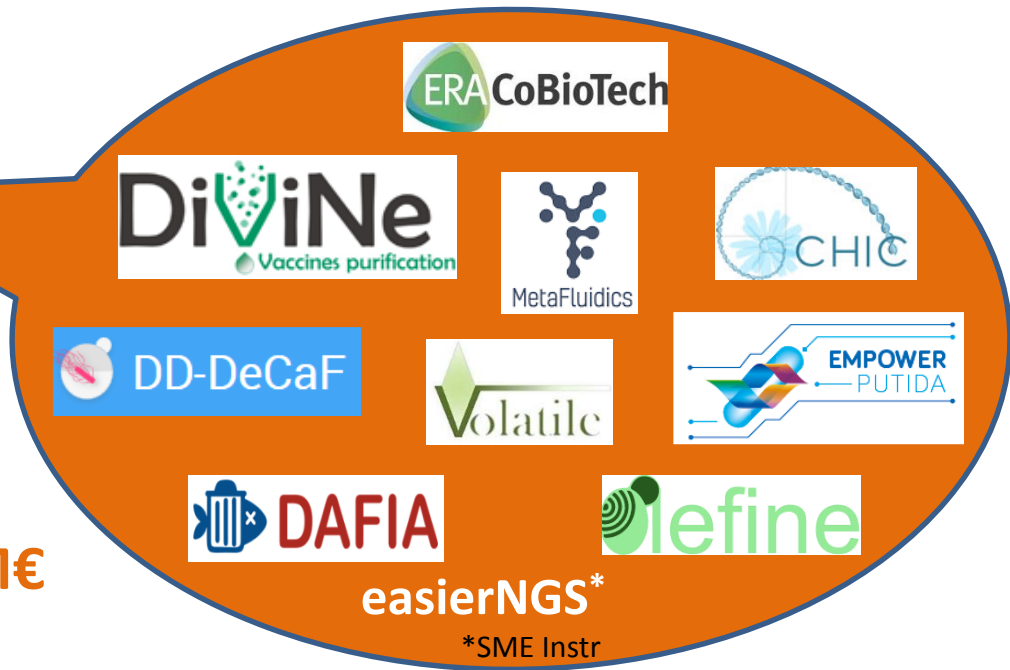
**Projetos aprovados: 10**

Participantes: 14

**Projetos coordenados: 2**

Taxa sucesso: 14,9% (EU: 6,6)

**Financiamento para PT: 6,04M€**



## Instituições participantes:



**Coordenador**





**Coordenador**



Gabinete de Promoção do Programa Quadro ID&I





ACRÓNIMO	TÍTULO	TIPO DE PROJETO	ENTIDADE PT
EmPowerPutida	Exploiting native endowments by re-factoring, re-programming and implementing novel control loops in Pseudomonas putida for bespoke biocatalysis	RIA	ITQB-UNL
DiViNe	Sustainable downstream processing of vaccines through incorporation of nanobiotechnologies : novel affinity ligands and biomimetic membranes	IA	iBET  GENIBET
METAFLUIDICS	Advanced toolbox for rapid and cost-effective functional metagenomic screening - microbiology meets microfluidics	RIA	CNC
DD-DeCaF	Bioinformatics Services for Data-Driven Design of Cell Factories and Communities	RIA	UMINHO SilicoLife
DAFIA	Biomacromolecules from municipal solid bio-waste fractions and fish waste for high added value applications	RIA	BIOTREND
VOLATILE	Biowaste derived volatile fatty acid platform for biopolymers, bioactive compounds and chemical building blocks	RIA	BIOTREND UMINHO PA RESIDEL
CoBioTech	Cofund on Biotechnologies	ERA-NET	FCT
OLEFINE	OLEAginous yeast platforms for FINE chemicals	IA	BIOTREND
CHIC	Chicory as a multipurpose crop for dietary fibre and medicinal terpenes	RIA	iBET
easierNGS	CERTIFIED PACKS FOR EASIER NEXT-GENERATION SEQUENCING CLINICAL DIAGNOSTICS	SMEi	StabVida 



CORPORATE SERVICES RESEARCH CAREERS NEWS EVENTS PRESS CONTACTS SEARCH



## DIVINE - SUSTAINABLE DOWNSTREAM PROCESSING OF VACCINES THROUGH INCORPORATION OF NANOTECHNOLOGY: NOVEL AFFINITY LIGANDS AND BIOMIMETIC MEMBRANES

Date: 2013 - 2020  
Info: H2020-BIOTEC-2014-2015/H2020-LEIT-BIO-2014-3-635770. Funded by the EU.  
Link: <http://www.divineproject.eu>



In the vaccine industry, downstream processing is of extreme importance. Prophylactic vaccines aim at protecting healthy people, so any contaminant has to be discarded with the most drastic measures. But such « negative » approach of eliminating the contaminants comes at the expense of the recovery of product. Yields are poor, thereby

### RESEARCH

- Health & Pharma Division
- Food & Health Division
- Biopilot Plant
  - Main Activities
  - Group Members
  - Research Projects
  - Equipment
  - Publications
- ASU - Analytical Services Unit
- UMS - Mass Spectrometry Unit
- Interface

## DiViNe – Cheap vaccines



Vaccine-preventable diseases remain a major cause of illness and death, especially in developing countries. There are a variety of reasons for this, and cost is one of them – vaccines can be expensive. DIVINE is developing an innovative approach to vaccine manufacture to reduce these

expenses by implementing two major nanotechnology innovations to produce an integrated vaccine purification platform offering a drastic reduction in processing costs.

Total EU contribution: € 5 790 580,50

Consortium: PT | FR | DE | DK | IT

PT partners: IBET | Genibet

Coordinator: Manuel Carrondo



Gabinete de Promoção do Programa Quadro ID&I



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



AGÊNCIA NACIONAL  
DE INOVAÇÃO



HORIZONTE

2020

# HORIZON EUROPE | 2021-2027 | ~97 mil milhões euros

## Specific objectives of the Programme

## HORIZON EUROPE

Support the creation and diffusion of high-quality knowledge

Strengthen the impact of R&I in supporting EU policies

Foster all forms of innovation and strengthen market deployment

**Optimise the Programme's delivery for impact in a strengthened ERA**

### Missions!



**Pillar 1** 25,8 b€  
Open Science

European Research Council

Marie Skłodowska-Curie Actions

Infrastructures



**Pillar 2** 52,7 b€  
Global Challenges and Industrial Competitiveness

**Clusters**

- Health
- Inclusive and Secure Society
- Digital and Industry
- Climate, Energy and Mobility
- Food and natural resources

Joint Research Centre



**Pillar 3** 13,5 b€  
Open Innovation

European Innovation Council

European innovation ecosystems

European Institute of Innovation and Technology

### Strengthening the European Research Area

2,1 b€

Sharing excellence

Reforming and Enhancing the European R&I system



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

## Pillar 2

### Global Challenges and Industrial Competitiveness

- Health
- Inclusive and Secure Society
- Digital and Industry
- Climate, Energy and Mobility
- Food and natural resources

### Cluster 1 – Health (7,7 mil milhões euros)

#### 1.2.5. Tools, technologies and digital solutions for health and care



**Health biotechnology** applications

### Cluster 5 - Food and natural resources (10 mil milhões euros)

#### 5.2.6. Bio-based Innovation Systems



**Biotechnology**, including cross sectoral cutting-edge biotechnology, for application in competitive, sustainable and novel industrial processes, environmental services and consumer products

# GRUPO NACIONAL DE APOIO AO HORIZON EUROPE

---

O envolvimento da comunidade nacional de I&I na negociação do HORIZON EUROPE é fundamental!!



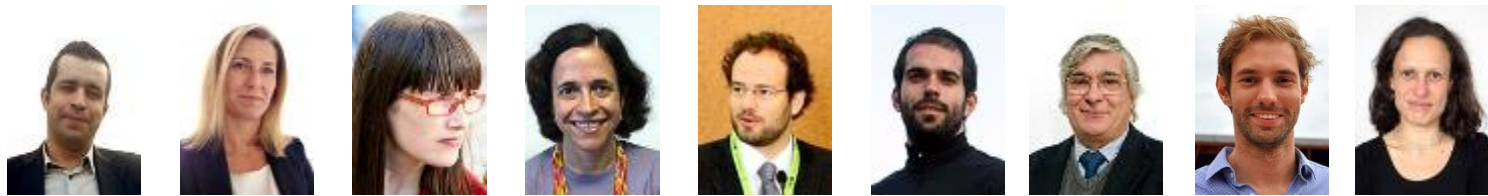
Convidamos todos os interessados a participar neste debate e assim orientar a posição nacional nas negociações que agora se iniciam.

Inscreva-se no [Grupo nacional de apoio à discussão do HORIZON EUROPE](#)

[Horizonte Europa - Breve súmula da posição nacional](#)



# Pontos de Contacto Nacional Horizonte 2020



1. Informamos

2. Aconselhamos

3. Conectamos

[Website GPPQ](#)



Gabinete de Promoção do Programa Quadro ID&I

