

# Biotechnology in ERA

**Biotechnology conference, Vodňany, 19 Sept. 2018**

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## TECHNOLOGY CENTRE CAS



- Not for profit organisation
- Established in 1994
- Supports the participation of the Czech Republic in the European Research Area – provides services of the NCPs for **Horizon 2020** programme
- Provides analytical and conceptual support for strategic STI policy-making
- Performs international technology transfer
- Supports creation and development of small innovative firms



Podpora podniků na dosah ruky



European Research Area

**EC:** The term "Bioeconomy" means an economy using **biological resources from the land and sea, as well as waste, as inputs to food and feed, industrial and energy production.** It also covers the use of bio-based processes for sustainable industries.

It includes agriculture, forestry, fisheries, food and pulp and paper production, as well as parts of chemical, **biotechnological** and energy industries.

Source: EC press release – Comission proposes strategy for sustainable bioeconomy in Europe (2012)



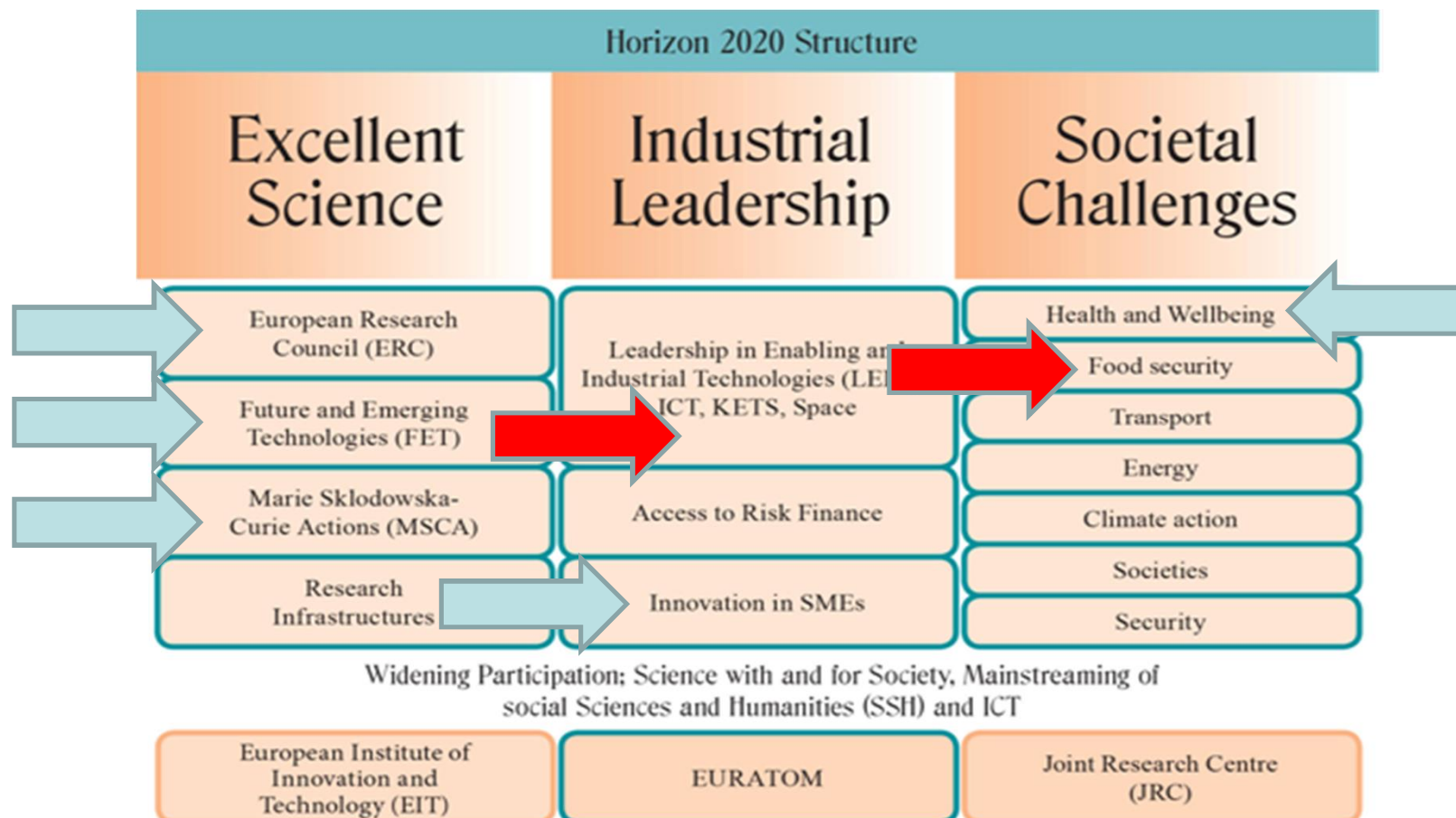
## Horizon 2020 (2014-2020)

- **European programme** supporting transnational collaboration in research, development and innovation
- **Coupling research to innovation** from research to retail, all forms of innovations
- **Focus on societal challenges** facing EU society e.g. health, food security, clean energy and transport
- **Open** for all companies, universities, research institutes in all EU countries and beyond

NEXT EU framework programme **Horizon Europe** proposed  
(2021-2027)

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## Biotechnology in Horizon 2020



## HORIZON 2020



## Societal challenges in H2020

Total funding for 2014-2020

€ million

Health, demographic change & wellbeing	7 472
Food security, sustainable agriculture and forestry, marine/maritime/inland water research and the bioeconomy	3 851
Secure, clean & efficient energy	5 931
Smart, green & integrated transport	6 339
Climate action, environment, resource efficiency & raw materials	3 081
Inclusive, innovative & reflective societies	1 310
Secure societies	1 695

Agriculture  
& Forestry

Marine  
Resources

Food

BioIndustries

Rural areas

- “ Actions in support of "**Climate readiness**" of terrestrial and aquatic production systems (food and non-food)
  - “ Support to **circular economy** - production systems based on Reducing, Reusing and Recycling
  - “ **Healthy production systems**, healthy food, impact of production systems (environmental, economic, social)
  - “ Enhancing mechanisms, **delivery and uptake of innovations**
  - “ The territorial dimension of activities in primary production, food and bio-based industries: Focus on **rural and coastal perspectives**
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## HORIZON 2020



## Industrial leadership in H2020

Total funding for 2014-2020

€ million

**Leadership in enabling &  
industrial technologies (LEITs)**

(ICT, nanotechnologies, materials,  
biotechnology, manufacturing,  
space)

13 557

**Access to risk finance**

Leveraging private finance &  
venture capital

2 842

**Innovation in SMEs**

Fostering all forms of innovation in  
all types of SMEs

616

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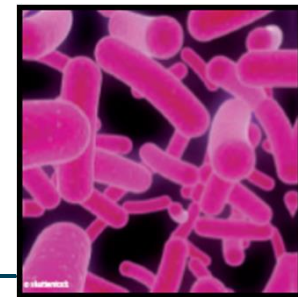
## HORIZON 2020 – INDUSTRIAL LEADERSHIP - KEY ENABLING BIOTECHNOLOGIES

**Cutting-edge  
biotechnologies**

**Biotech-based  
ind.processes**

**Platform  
technologies**

- “ Synthetic biology, Systems biology, Bioinformatics, Nano-biotechnology, Biotechnology in convergence with ICT, biological sensors
- “ Novel and improved biocatalysts and processes, novel and improved microorganisms including microbial communities and pathways, new generation of bioreactors, biotechnology for detecting, monitoring, preventing and removing pollution, environmental remediation, plastics bio-degradation
- “ Platform technologies, industrial applications derived from advancements on "omics" technologies





# SME instrument

## Phase 1: Concept and feasibility assessment

**Input:** Idea/Concept:  
"Business Plan 1"  
(~ 10 pages)

**Activities:**  
Feasibility of concept  
Risk assessment  
IP regime  
Partner search  
Design study  
Pilot application  
etc.

**Output:** elaborated  
"Business plan 2"

**Lump sum: 50.000 €**  
~ 6 months

## Phase 2: R&D, demonstration, market replication

**Input:** "Business plan 2" plus description of activities under Phase 2 (~ 30 pages)

**Activities:**  
Development,  
prototyping, testing,  
piloting,  
miniaturisation,  
scaling-up, market  
replication,  
research

**Output:** "investor-  
ready Business plan 3"

**1-3 (5) M€ EC funding**  
~ 12 to 24 months

## Phase 3: Commercialisation

Promote instrument as  
quality label for  
successful projects  
Facilitate access to  
private finance  
Support via networking ,  
training, information,  
addressing i.a. IP  
management,  
knowledge sharing,  
dissemination

SME window in the EU  
financial facilities (debt  
facility and equity  
facility)

No direct funding

- “ **Created under the umbrella of Horizon 2020**
  - “ **In the year 2014 a Council regulation established this public-private partnership (PPP) developing sustainable and competitive bio-based industries in Europe**
  - “ **Partners:**
    - “ European Union (European commission)
    - “ Bio-based industries consortium (BIC)
- Funding: 2,7 bil.euro private investmens +  
975 mil. euro EC

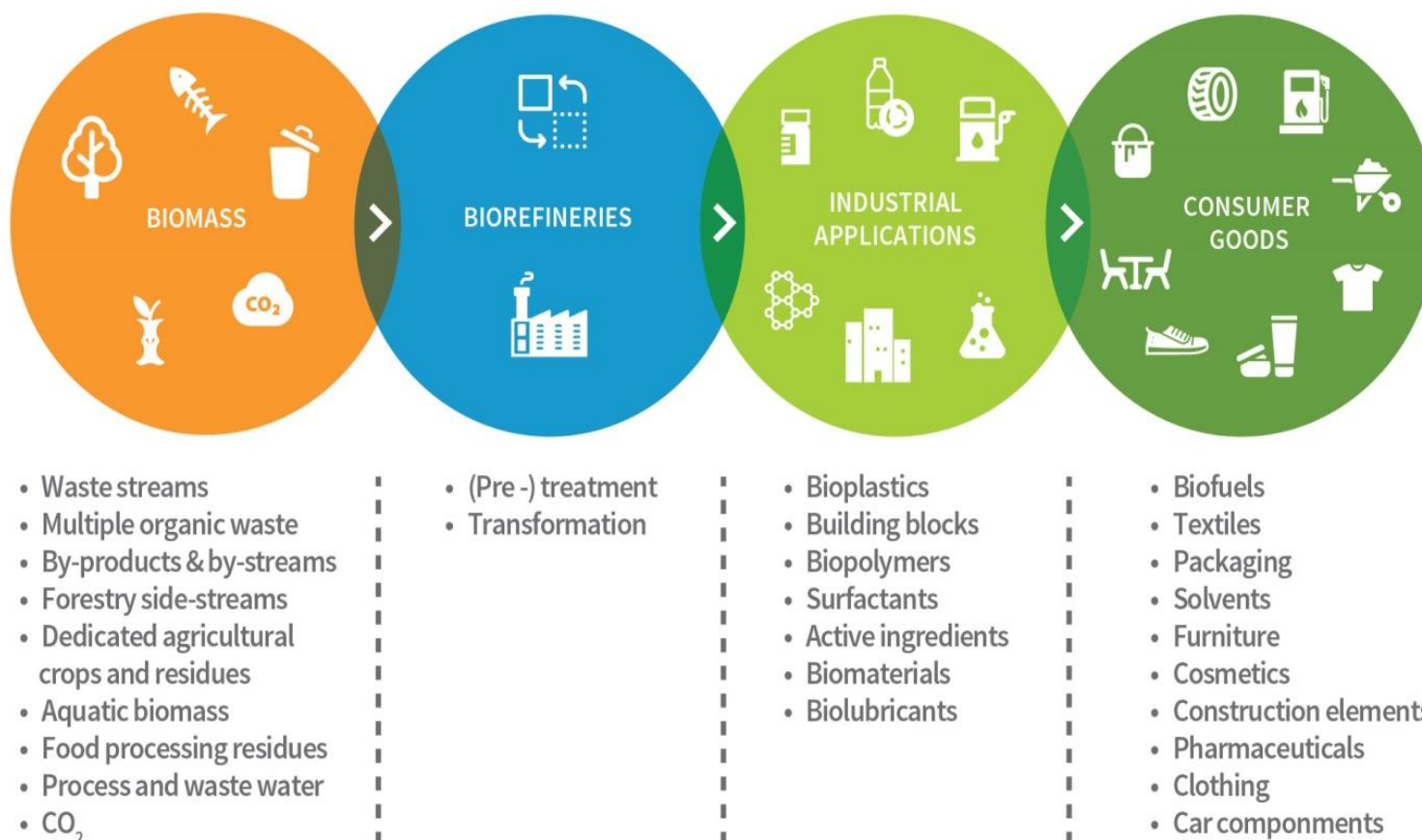
[www.bbi-europe.eu](http://www.bbi-europe.eu)





# Bio-based industries value chains

BBI value chains represent 3.3 million jobs and € 674 bn turnover but **extremely fragmented** between **actors** and across **geographies**



**“ Developing sustainable and competitive bio-based industries in Europe by:**

- “ Demonstrating new technologies to fill the gap in value chains
- “ Developing bussines models
- “ Set-up flagship biorefinery plants

**Call for proposals 2018 is closed, the next opportunity in 2019**

Projects focusing on: feedstock, process, products, market uptake

**<https://www.bbi-europe.eu/participate/calls-proposals-2018>**

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**BIOWAYS** - Increase public awareness of bio-based products and applications supporting the growth of the European bioeconomy

**AgriMax** - Agri and food waste valorisation co-ops based on flexible multi-feedstocks biorefinery processing technologies for new high added value applications

**HYPERBIOCOAT** - High performance biomass extracted functional hybrid polymer coatings for food, cosmetic and medical device packaging

**GreenProtein** - Revalorisation of vegetable processing industry remnants into high-value functional proteins and other food ingredients

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<http://ec.europa.eu/research/participants/portal/desktop/en/home.html>



RESEARCH & INNOVATION  
Participant Portal

European Commission > Research & Innovation > Participant Portal > Funding

HOME FUNDING OPPORTUNITIES **HOW TO PARTICIPATE** EXPERTS SUPPORT

LOGIN REGISTER

H2020 Online Manual

Reference Documents

Beneficiary Register

Financial Capacity Self-Check

SME Participation



## How to participate

The first steps to prepare your proposal and apply for EU research funding. Learn how to find a suitable Call for proposals or project partners and how to submit your proposal.

The following guidance services facilitate your participation:

- **H2020 Online Manual:** step-by-step online guide through the Portal processes from proposal preparation and submission to reporting on your on-going project
- **Reference documents:** library of legal documents, guidance notes, and additional reference material for H2020 and FP7
- search for already registered organisations and their **PICs**
- **Financial viability self-check tool** allows you simulating the financial viability check of your organisation
- **SME participation:** dedicated H2020 guidance page for SME

FIND a call 1

FIND partners 2

CREATE your account 3

REGISTER your organisation 4

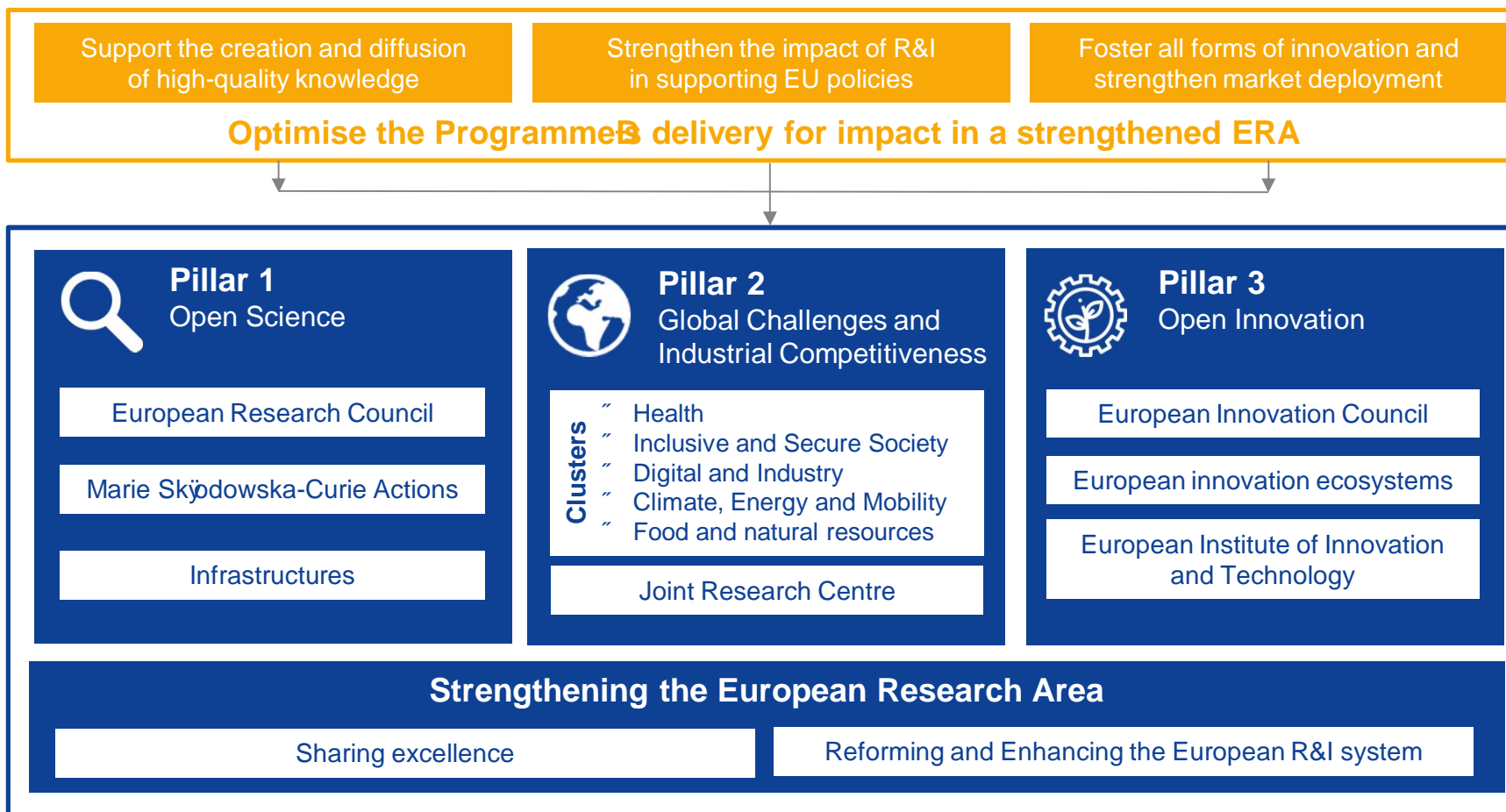
SUBMIT a proposal 5

Step 1 - Find a suitable Call for Proposals

The Commission publishes on the Participant Portal all the Calls of its research and innovation programmes [H2020](#), and you can search calls from previous programmes ([FP7](#) and [CIP](#)). In addition you can find information about some additional calls in the [Other Funding Opportunities](#) section. If you apply for the first time and do not know yet the programmes, it is useful to read the H2020 Online Manual. It helps you choose the most suitable programme for your area and profile. Besides, you can search

# Horizon Europe: evolution not revolution

## Specific objectives of the Programme



## CLUSTER 5: Food and natural resources: what is in it?

### 7 intervention areas:

- “ Environmental observation
- “ Biodiversity and natural capital
- “ Agriculture, forestry and rural areas
- “ Sea and oceans
- “ Food systems
- “ Bio-based innovation systems
- “ Circular systems

## **CLUSTER 5: Food and natural resources: intervention areas in key words**

### **Bio-based innovation systems (SP Annex I, 5.2.6)**

- “ Laying the foundations for the transition away from fossil-based into bio-based materials and products;
- “ Capitalising on the potential of living resources, life sciences and industrial biotechnology for new discoveries, products and processes;
- “ New economic activities and employment to regions, cities and revitalising rural and coastal areas;
- “ Strengthen the circularity of the bioeconomy.

## **CLUSTER 5: Food and natural resources: intervention areas in key words**

### **Circular systems (SP Annex I, 5.2.7)**

- “ Systemic transition to a resource-efficient and circular economy;
  - “ Metrics, indicators and governance, involving new business models, new products and services, new financing and new multi-stakeholder and cross-value chain collaborations;
  - “ Sustainable and regenerative development of cities and peri-urban areas and regions;
  - “ Eco-innovation for prevention and remediation of environmental pollution;
- 
- “ Circular use of water resources.

# Other possibilities for biotechnology in Horizon Europe

**Cluster 1 – Health**

**Cluster 3 – Digital and Industry**  
**bio-manufacturing is part of Manufacturing  
technologies**

### Participant Portal

<http://ec.europa.eu/research/participants/portal/>

- Calls information, documents, administration and management of projects

### CORDIS

<http://cordis.europa.eu/projects/>

- Information on funded projects

### Horizon Europe – proposal

- [https://ec.europa.eu/commission/publications/research-and-innovation-including-horizon-europe-iter-and-euratom-legal-texts-and-factsheets\\_en](https://ec.europa.eu/commission/publications/research-and-innovation-including-horizon-europe-iter-and-euratom-legal-texts-and-factsheets_en)
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**Thank you!**

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