

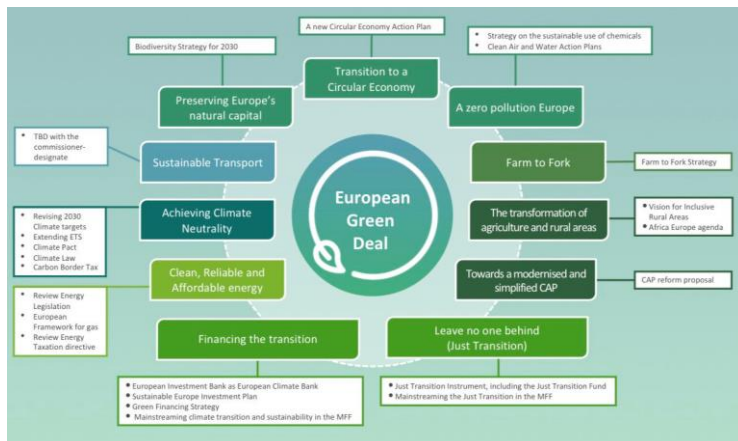
# PERIN

Portugal in Europe  
Research and Innovation Network

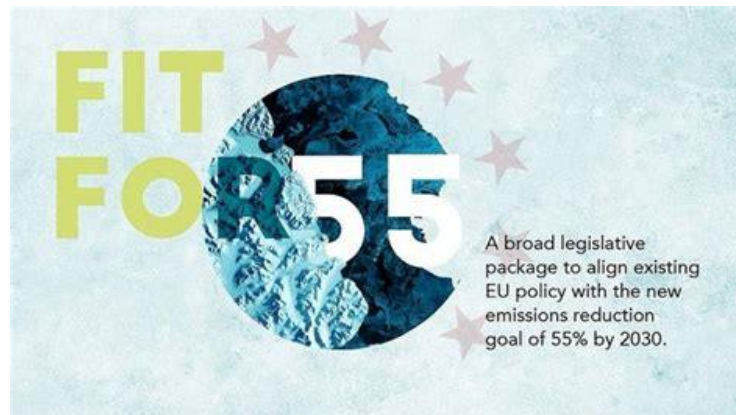


## Energia @ Horizonte Europa

2 dez 2021



European Green Deal



Fit for 55 package



Action plan on the digitalisation of the energy sector



2380

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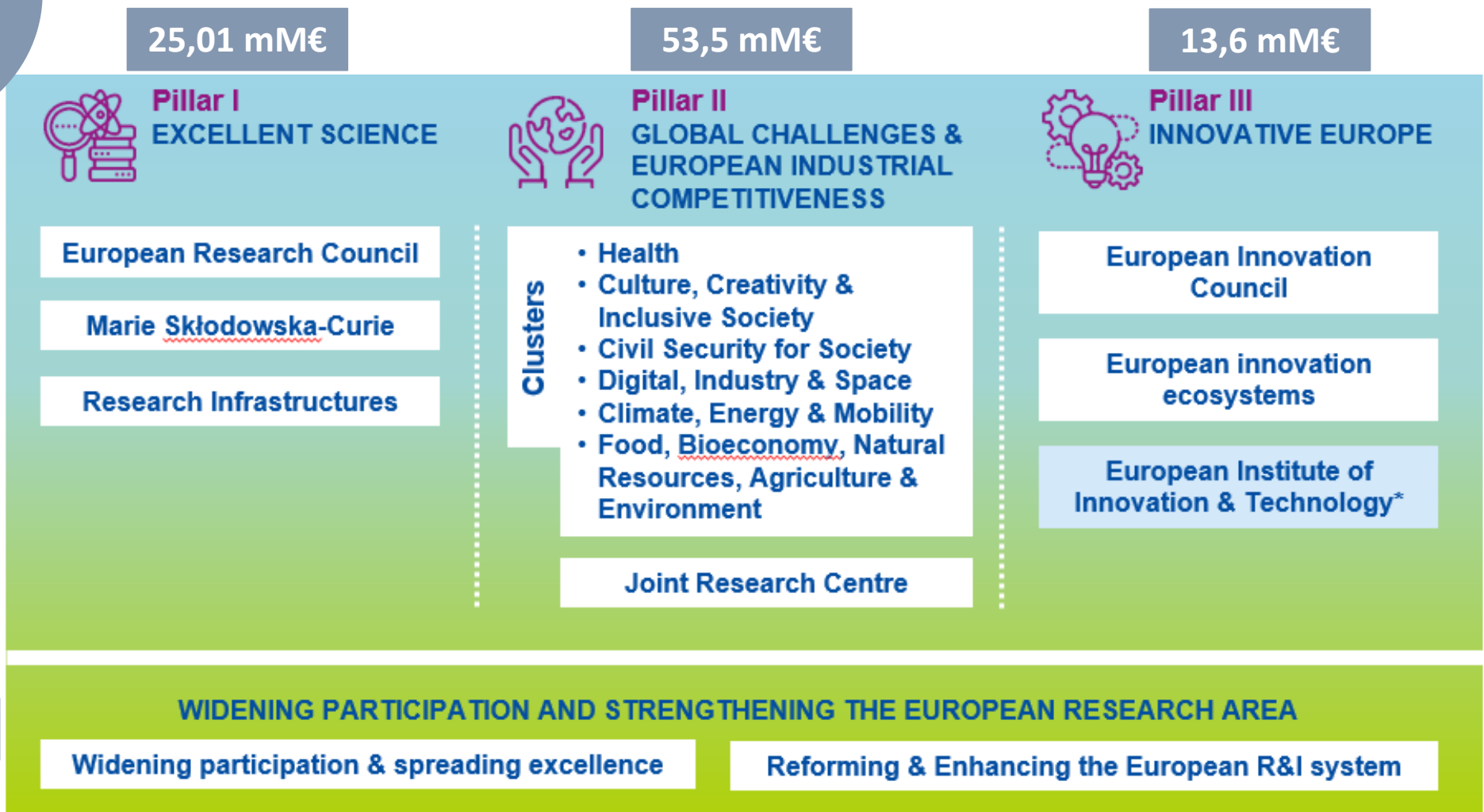
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2384

2422

HE  
95,5 mM€

# Horizon Europe (2021-2027)



## 2022 Work Programmes – Energy R&I in Pillar II



Cluster 5 –  
Climate, **Energy**  
and Mobility

Cluster 4 –  
Digital, Industry  
and Space



## Energy in Cluster 5

### Batteries



#### Issues covered in topics 2021-2022

- Raw material processing, advanced materials, recycling technologies, Li-ion batteries, solid state batteries, new generation technologies, manufacturing technologies, smart functionalities, testing, battery management, coordination activities

#### Implementation

- 2021: 7 topics (total budget: 160 M€)
- **2022: 10 topics** (total budget: 133 M€)



### Renewables

#### Issues covered in topics 2021-2022

- Solar energy, wind energy, biofuels, geothermal energy, hydro energy, CHP, energy carriers
- Disruptive technologies, cost reduction, improved efficiency, de-risking, integration, export potential, sustainability, market uptake

#### Implementation

- 2021: 20 topics (total budget: 335 M€)
- **2022: 24 topics** (total budget: 368 M€)

## Energy in Cluster 5

### Energy systems, grids and storage

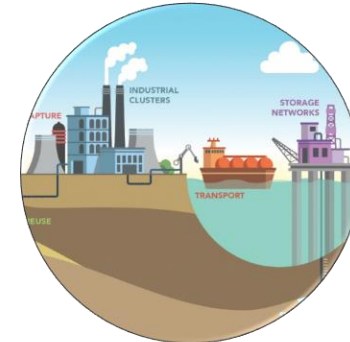


#### Issues covered in topics 2021-2022

- Energy sector integration; energy system planning and operation; grid resilience and reliability; power electronics; active consumer; markets and energy communities; digitization; thermal energy storage

#### Implementation

- 2021: 10 topics (total budget: 152 M€)
- **2022: 7 topics** (total budget: 181 M€)



### CCUS

#### Issues covered in topics 2021-2022

- CCUS hubs, application in industry, CO2 capture

#### Implementation

- 2021: 2 topics (total budget: 32 M€)
- **2022: 1 topics** (total budget: 58 M€)

## Energy in Cluster 5

### Buildings



#### Issues covered in topics 2021-2022

- Energy performance assessment and monitoring, industrialization of deep renovation, integrated technology solutions, prefabricated renovation packages, demand response, renewable intensive homes, smart buildings, design, materials, sustainability of life-cycle

#### Implementation

- 2021: 6 topics (total budget: 74 M€)
- 8 • **2022: 10 topics** (total budget: 140 M€)



### Industry

#### Issues covered in topics 2021-2022

- Heat upgrade technologies; heat-to-power conversion; high temperature thermal storage

#### Implementation

- 2021: 2 topics (total budget: 30 M€)
- **2022: 2 topics** (total budget: 18 M€)

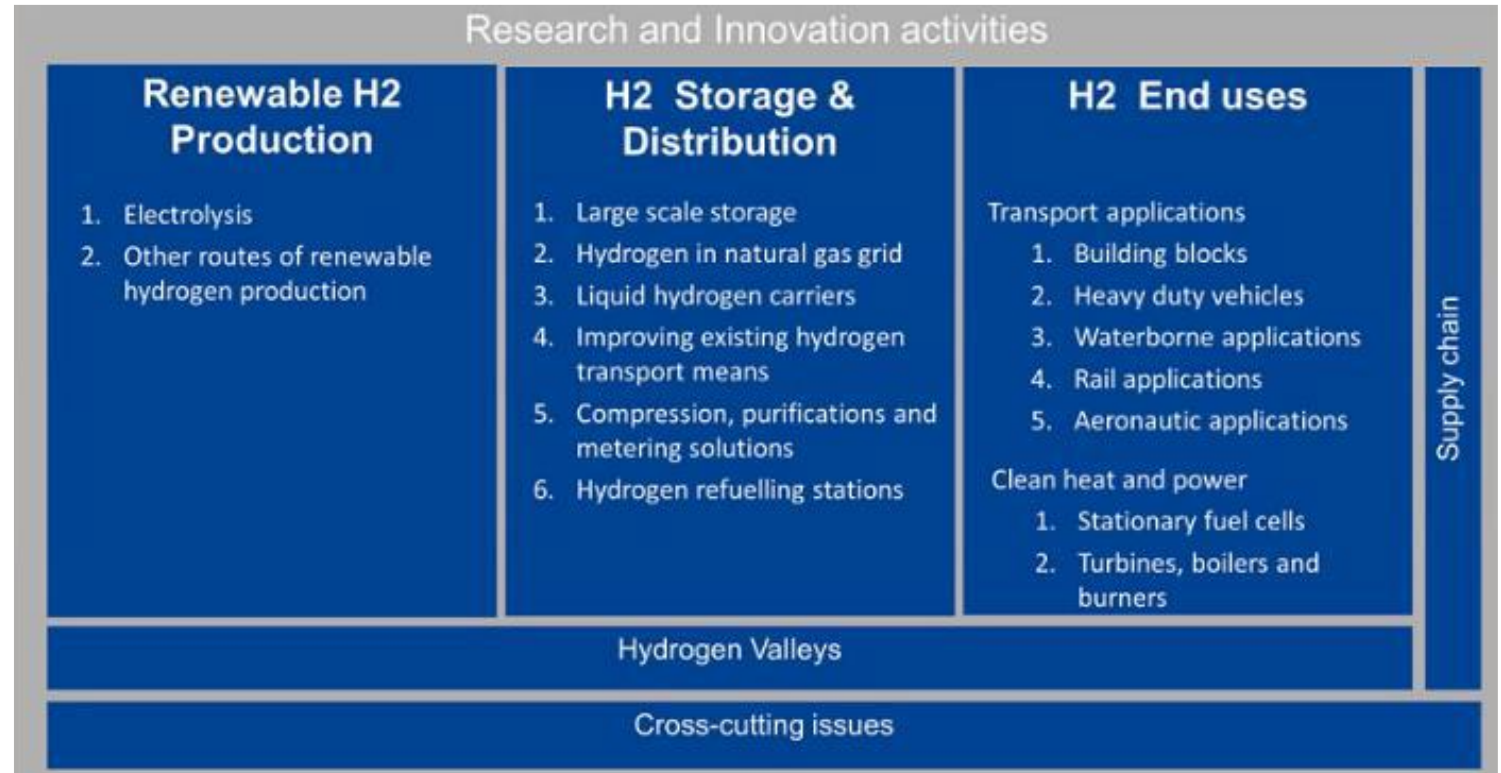


# Clean Hydrogen for Europe (*successor of FCH-JU*)



COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS

A hydrogen strategy for a climate-neutral Europe



- [Draft partnership proposal](#) (June 2020)

# Energy in Cluster 4 – Digital, Industry & Space

## Integration of hydrogen for replacing fossil fuels in industrial applications (Process4Planet)

### Projects are expected to contribute to the following outcomes:

- Significant reduction of CO2 emissions of the industrial process, whilst keeping NOx levels at least not higher than the equivalent gas-based solutions
- Improved energy efficiency of the industrial process
- Significant reduction of hydrogen fuel needs of the developed process with regards to the current fossil fuel needs
- Competitive costs of the developed technologies

Indicative budget: EUR 42.50 million

EU contribution per project: EUR 12.00 – 18.00 million / The funding rate is up to 60% of the eligible costs

Type of Action: Innovation Actions

TRL: Start at 5 and achieve 7

## 2D materials-based devices and systems for energy storage and/or harvesting

- ✓ Energy storage devices and systems with demonstrated added-value
  - ✓ New solutions for portable energy sources
1. Solutions demonstrating the added value of 2DM based energy storage devices and systems
  2. Structural batteries and structural supercapacitors
  3. Devices for energy conversion

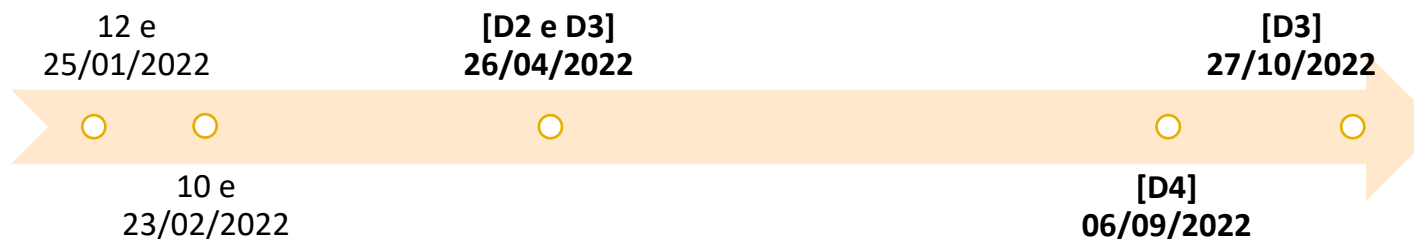
João Ribau ([joão.ribau@ani.pt](mailto:joão.ribau@ani.pt))

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Cluster 4 **Digital, Indústria e Espaço**



Cluster 5 **Clima, Energia e Mobilidade**



[Tópicos de I&I a concurso em 2022 nos Pilares II e III do Horizonte Europa](#)

# EU Missions

## MISSION AREAS:

Soil health and food



Cancer



Adaptation to climate change, including societal transformation



Climate-neutral and smart cities



Healthy oceans, seas, coastal and inland waters

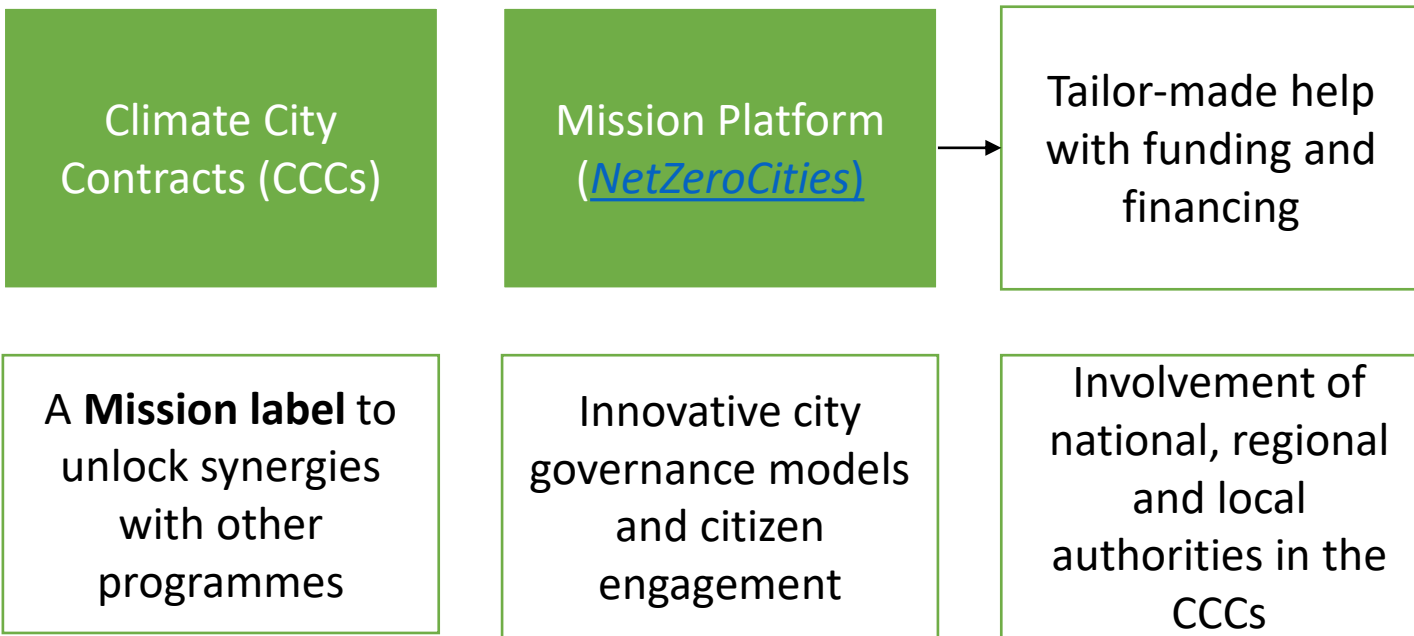
#HorizonEU



European  
Commission

# Climate-neutral & Smart Cities Mission

Deliver at least 100 climate-neutral and smart EU cities by 2030



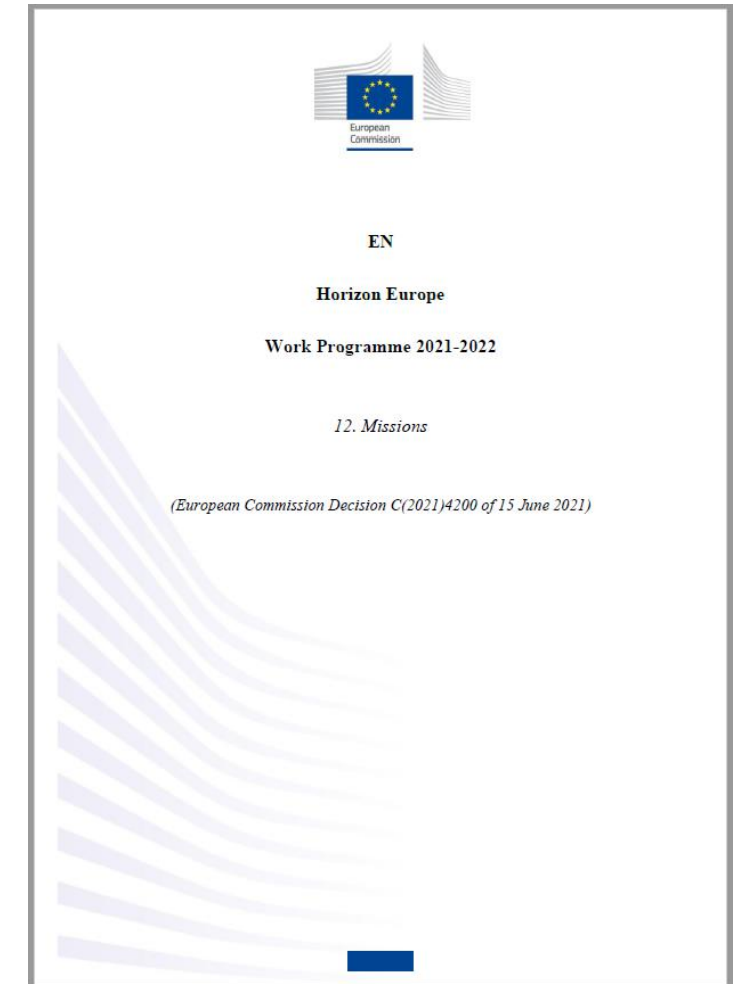
## Climate-neutral & Smart Cities Mission

- Oct 2021: [InfoKit for Cities](#) to help cities prepare for the call
- **Nov 2021:** Launch of [Call for Expression of Interest](#)  
(deadline: **31/01/2022**)
- Mar 2022: Selection of participating cities
- Mid 2022: Mission Platform works with first cities to develop Climate City Contracts



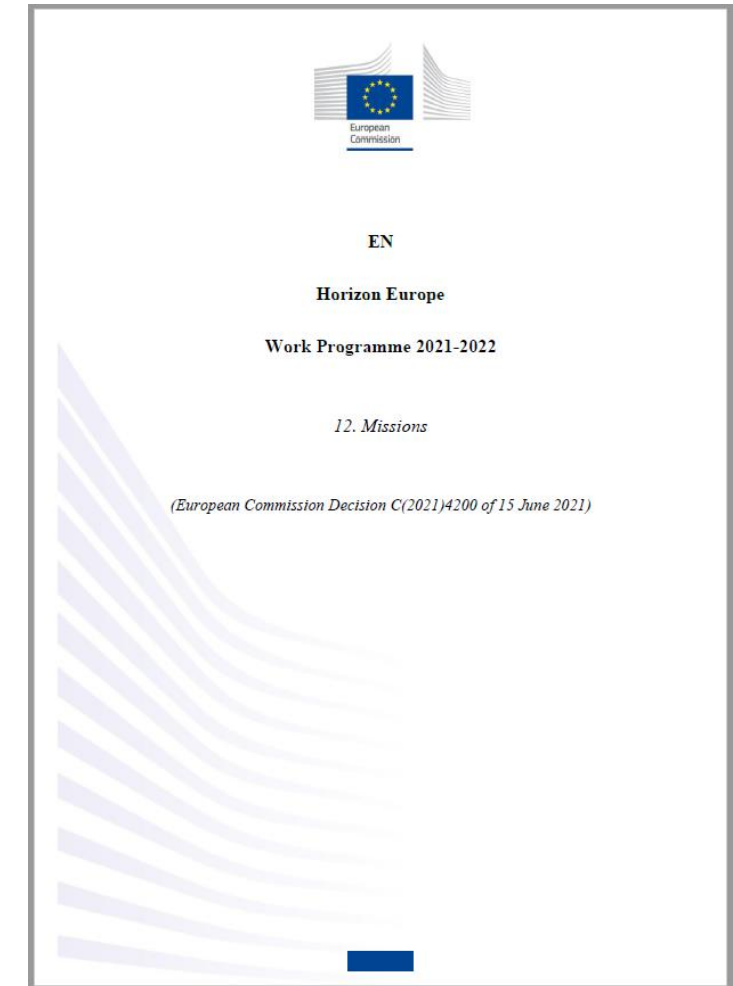
## Missions' Work Programme

- *This Work Programme contains actions for each of the five missions during their **preparatory phase (2021)**, and will be **updated with the full R&I agenda when the implementation phase is launched (2022)**.*
- *The actions included in this work programme are to establish **foundations for the missions' implementation phase (2021)** and thus **support rapid development of the R&I actions when these are launched (2022)**.*



# Missions' Work Programme

- **Jan 2022:** First calls (deadline April 2022)
- R&I projects that will support the Mission implementation
- **R&I highlights** → urban planning and design; innovation potential of public transport; Positive Clean Energy Districts; urban climate neutrality; urban mobility







## Lessons learned/Tips

- **SUBMIT** a (next to) final version of your proposal **SEVERAL DAYS BEFORE THE DEADLINE!**
- **AVOID** editing (your part of) the proposal with **MORE THAN ONE USER** from your organisation at the same time!
- **DO NOT** edit the proposal in **MORE THAN ONE BROWSER TAB/WINDOW** at the same time!
- **SAVE** your changes **FREQUENTLY!** No data is saved until you click on **SAVE**.
- **DO NOT USE** file names containing **SPECIAL CHARACTERS** for files you upload. Only alphanumerical characters: A-Z, a-z, 0-9, \_ (underscore), - (dash), . (dot) or space are allowed.
- **DO NOT ENCRYPT** or **DIGITALLY SIGN** your PDF files.
- **DOUBLE-CHECK AFTER UPLOAD** of files whether they can be opened without problems.
- **USE “VALIDATE”** button before submitting.



# Where are the opportunities

**Pillar 1  
EXCELLENT SCIENCE**

- European Research Council
- Marie Skłodowska-Curie Actions
- Research Infrastructures

**Pillar 2  
GLOBAL CHALLENGES & EUROPEAN INDUSTRIAL COMPETITIVENESS**

**Clusters**

- Health
- Culture, Creativity and Inclusive Society
- Civil Security for Society
- Digital, Industry and Space
- Climate, Energy and Mobility
- Food, Bioeconomy, Natural Resources, Agriculture and Environment

Joint Research Centre

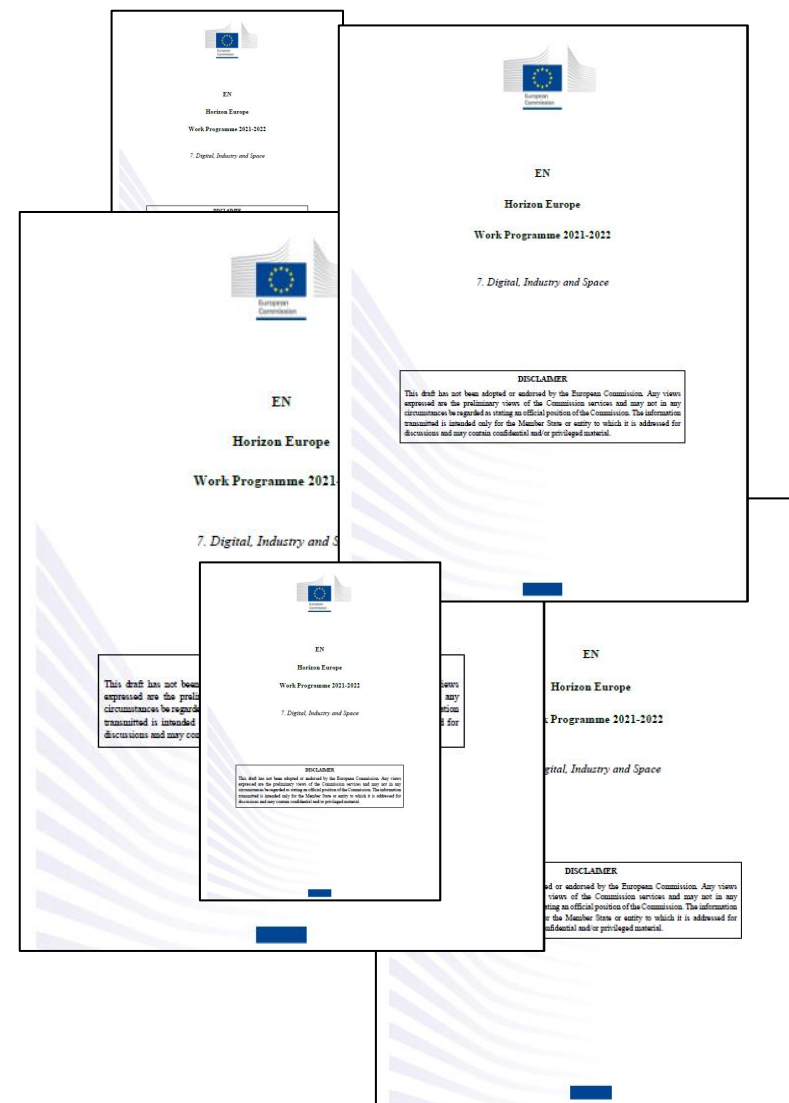
**Pillar 3  
INNOVATIVE EUROPE**

- European Innovation Council
- European innovation ecosystems
- European Institute of Innovation and Technology

**WIDENING PARTICIPATION AND STRENGTHENING THE EUROPEAN RESEARCH AREA**

Widening participation and spreading excellence

Reforming and Enhancing the European R&I system





**Easiest way to  
beat 50% of the  
other proposers...**



# **Read the Work Programme!**

**(and follow it)**



- ✓ Keep yourself up to date about calls and requirements
  - Register in [ANI's mailing list](#) and [GNAD](#) (i.e. newsletters, access to preliminar working documents)
  - [Horizon Europe NCP Portal](#)
  - Check the [Funding & Tenders Portal](#)
- ✓ [Register as a Commission's expert](#) (evaluator)
- ✓ Enlarge your network: conferences, participate in networking projects & initiatives (e.g. COST Actions), matchmaking/B2B/pitching/brokerage events & info days



### Grupo nacional de apoio à discussão do Horizonte Europa

Manifestação de Interesse - Identifique a(s) área(s) do Horizonte Europa em que tem interesse e na(s) qual(is) gostaria de contribuir para a discussão.

Mai 2021 Newsletter #3



#### NOTÍCIAS

**Publicação dos concursos dos Cluster 2 do Horizonte Europa**  
O lançamento dos concursos sofreu novo atraso e presentemente espera-se que a publicação seja realizada no final do mês de Maio. Mais informação brevemente.



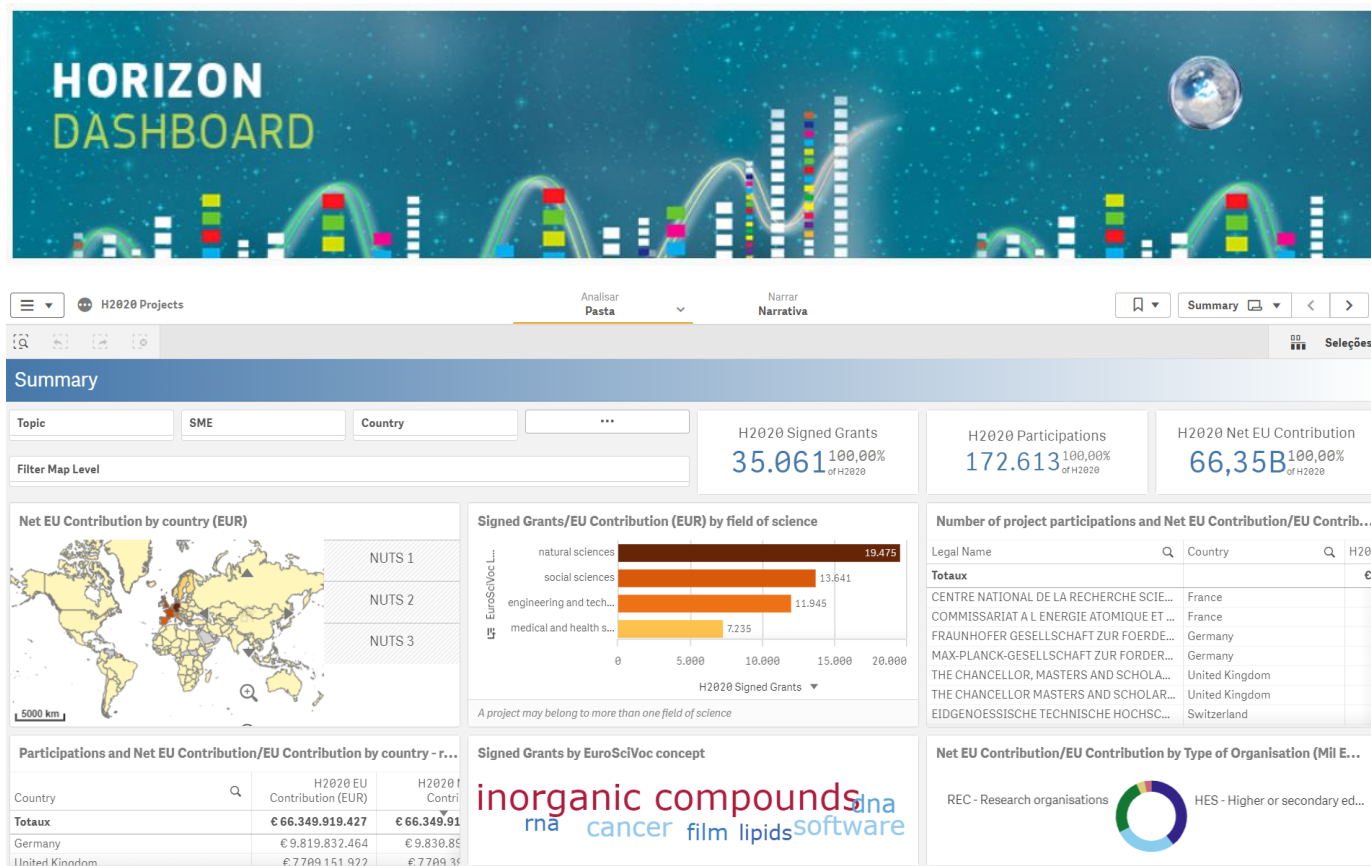
✓ Look for partners and join consortia

- [Commission's Partner search](#)
- **Reach out to your network**
- Search for leaders & experts in fields of expertise different from yours and introduce yourself and your idea





✓ Benchmarking: search for funded projects, e.g. through [CORDIS](#)



**CORDIS** provides information on all EU-supported R&D activities, including programs (H2020, FP7 and older), projects, results, publications

[CORDIS | European Commission \(europa.eu\)](#)

[What is Horizon Dashboard and How To Use It? - Webinar](#)

- Webinar on [How to prepare a successful proposal in Horizon Europe](#)
- Webinar on [A successful proposal for Horizon Europe: Scientific-technical excellence is key, but don't forget the other aspects](#)
- [Webinar on Webinar Funding & Tenders Portal for dummies](#)
- Webinar on [Dissemination & Exploitation in Horizon Europe](#)
- Webinar on [Social Sciences and Humanities in Horizon Europe: diving into opportunities](#)
- [Horizon Europe InfoDays 2021](#)



# Horizonte Europa @ ANI

## Pilares II & III

### Contactos



MAFALDA  
DOURADO



ANABELA  
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ALEXANDRE  
MARQUES



ANA  
SUTCLIFFE



BIBIANA  
DANTAS



CRISTIANA  
LEANDRO



CRISTINA  
GOUVEIA



FRANCISCA  
EIRIZ



JOÃO  
RIBAU



LUÍS  
MAIA



MARGARIDA  
OLIVEIRA



MARGARIDA  
SANTOS



MARIA JOÃO  
FERNANDES



NATÁLIA  
DIAS



POLINA  
PEREIRA



RITA  
SILVA



SOFIA  
AZEVEDO



SOFIA  
BRAVO

# PERIN

Portugal in Europe  
Research and Innovation Network

**FCT** Fundação  
para a Ciência  
e a Tecnologia



**AICIB** AGÊNCIA DE  
INVESTIGAÇÃO  
CLÍNICA  
E INOVAÇÃO  
BIOMÉDICA

Erasmus+

**DGES**  
Direção-Geral do Ensino Superior

**CIÊNCIA VIVA**