

Joint  
Research  
Centre



## ***EL PACTO EUROPEO DE LAS MATERIAS PRIMAS CRÍTICAS, EJES DE INNOVACIÓN Y OPORTUNIDADES DE FINANCIACIÓN***

- Dr. Dr. H.C. Santiago Cuesta López
- ISMC Cluster & ICAMCYL Foundation
- Director General

Brussels, 3.9.2020  
COM(2020) 474 final

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

**Critical Raw Materials Resilience: Charting a Path towards greater Security and  
Sustainability**



Internal Market, Industry, Entrepreneurship and SMEs



Home | Single market and standards | Industry | Entrepreneurship and SMEs | Access to finance | Sectors | Tools and databases

Home > Sectors > Raw materials, metals, minerals and forest-based industries > The European innovation partnership (EIP) on raw materials

**The European innovation partnership (EIP) on raw materials**

The European innovation partnership on raw materials is a stakeholder platform that brings together representatives from industry, public services, academia and NGOs. Its mission is to provide high-level guidance to the European Commission, EU countries and private actors on innovative approaches to the challenges related to raw materials.

The EIP plays a central role in the EU's raw materials policy framework

- It reinforces the [raw materials initiative](#)  by translating the strategic policy framework into concrete actions and by mobilising the stakeholder community to implement them
- It has been instrumental in **securing R&I funding**: while framework programme 7 (the R&I funding tool for the period 2007-2013) only included approximately €180 million for raw materials R&I, [Horizon 2020](#)  (the R&I funding tool for 2014-2020) reserved €600 million for research on the challenges related to raw materials.

The [European innovation partnerships](#)  (EIPs) are a new approach to EU research and innovation. By bringing together actors from the entire research and innovation value chain they aim at streamlining efforts and accelerating market take-up of innovations that address key challenges for Europe.



**Study on the EU's list of  
Critical Raw Materials  
(2020)**

Final Report

**Critical Raw Materials for  
Strategic Technologies and Sectors  
in the EU**

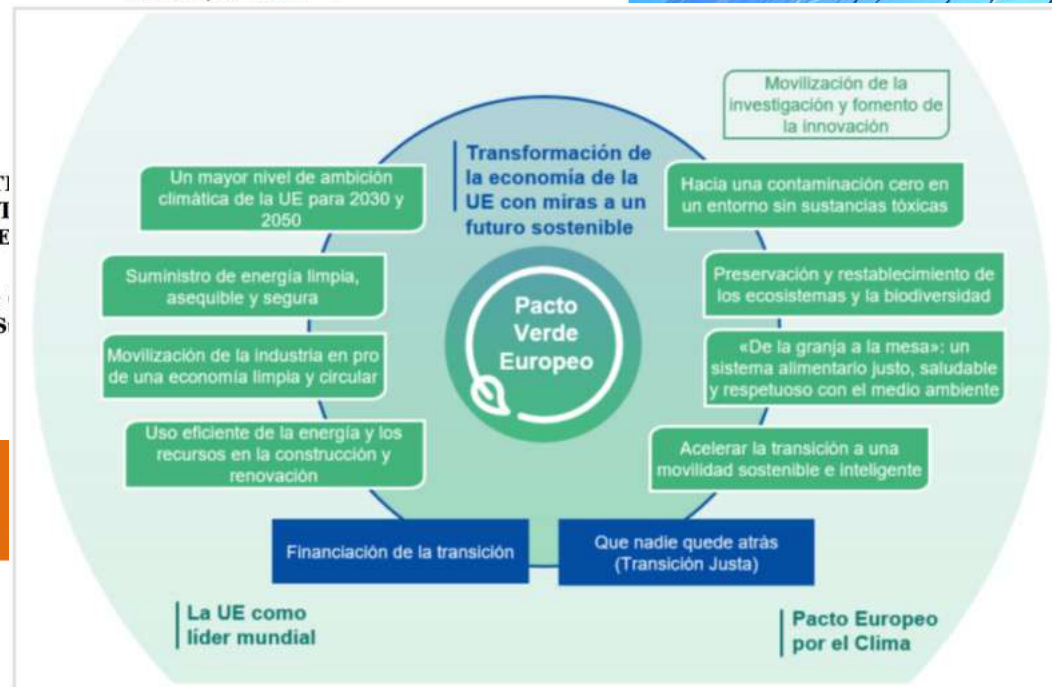
*A Foresight Study*



Brussels, 3.9.2020

COMMUNICATION FROM THE  
PARLIAMENT, THE COUNCIL, THE  
COMMITTEE AND THE

Critical Raw Materials Resilience:  
S



Partnership and SMEs

Partnership and SMEs | Access to finance | Sectors | Tools and databases

Based industries > The European innovation partnership (EIP) on raw materials

Innovation Partnership (EIP) on raw materials

A stakeholder platform that brings academia and NGOs. Its mission is to support, EU countries and private actors in the raw materials.

Policy framework

Supporting the mobilising the

Policy framework

(13) only

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March 2023

## SECURING CRITICAL RAW MATERIALS IN THE EU

The role of trade and external actions

To become a net-zero economy, the EU needs Critical Raw Materials (CRMs). The EU will never be self-sufficient in CRMs and will continue to rely largely on imports. Therefore, in addition to making the most of its own CRM reserves and enhancing circularity, the EU needs to strengthen its global engagement to develop win-win partnerships with reliable partners. Here's how<sup>1</sup>:



### CRM Club

Establish a raw materials alliance with partners to strengthen supply chains and diversify sourcing.



### Strategic Partnerships on Raw Materials

Expand our network of strategic raw materials partnerships.



### Trade and Investment Agreements

Leverage and expand our trade agreements as regards raw materials extraction, processing and trade.



### Global Gateway

Support critical raw material supply projects, including on infrastructure, connectivity and sustainability.



### Enforcing Trade Rules

Continue to combat unfair trade practices, especially when they concern trade investment in or access to critical raw materials.

Press release | 16 March 2023 | Brussels

## Critical Raw Materials: ensuring secure and sustainable supply chains for EU's green and digital future



### EU EXTRACTION

At least **10%** of the EU's annual consumption for extraction



### EU PROCESSING

At least **40%** of the EU's annual consumption for processing



### EU RECYCLING

At least **15%** of the EU's annual consumption for recycling



### EXTERNAL SOURCES

Not more than **65%** of the EU's annual consumption of **each strategic raw material at any relevant stage of processing** from a single third country





## Rare Earths



- Net-zero use includes:**  
wind turbines
- Projected increase in global demand:**  
**x5.5 by 2050**
- Foreseen EU trade action:**
  - Strategic raw materials partnerships with countries with important reserves
  - Pursue predictable legal frameworks for trade and investment in rare earths with Australia
  - Support investment in rare earth mining/processing in Ukraine

## Nickel



- Net-zero use includes:**  
batteries
- Projected increase in global demand:**  
**x15 by 2040**
- Foreseen EU trade action:**
  - Boost trade and investment through trade agreements with Australia and Indonesia
  - Support creation of sustainable processing capacities in Indonesia
  - Support regional environmental infrastructure

# EU TRADE ACTIONS FOR CRITICAL RAW MATERIALS SUPPLY\*

## Lithium



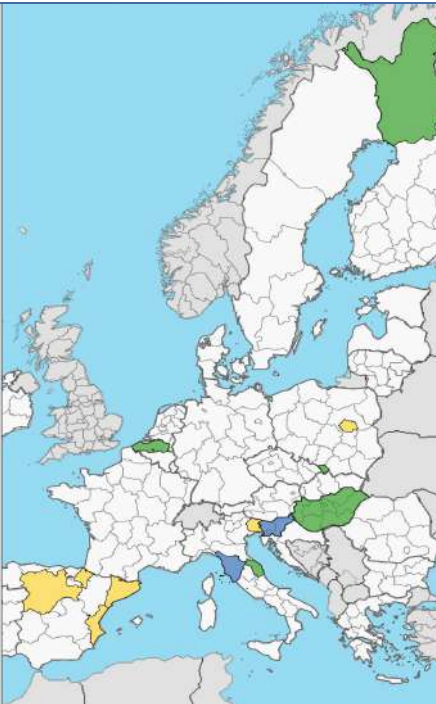
- Net-zero use includes:**  
electrical vehicles
- Projected increase in global demand:**  
**x57 in 2050**
- Foreseen EU trade action:**
  - Special focus on raw materials in trade agreements in Latin America
  - Strategic raw materials partnerships with countries with important reserves

## Platinum Group Metals



- Net-zero use includes:**  
hydrogen fuel cells
- Projected increase in global demand:**  
**x970 in 2050**
- Foreseen EU trade action:**
  - Work with South Africa for more predictable legal environment for trade and investment
  - Strategic raw materials partnership with countries with important reserves
  - Support investments in South African energy infrastructure

\*Source: JRC Science for Policy Report Supply chain analysis and material demand forecast in strategic technologies and sectors in the EU – A foresight study



### SME integration to Industry 4.0

#### Leading regions

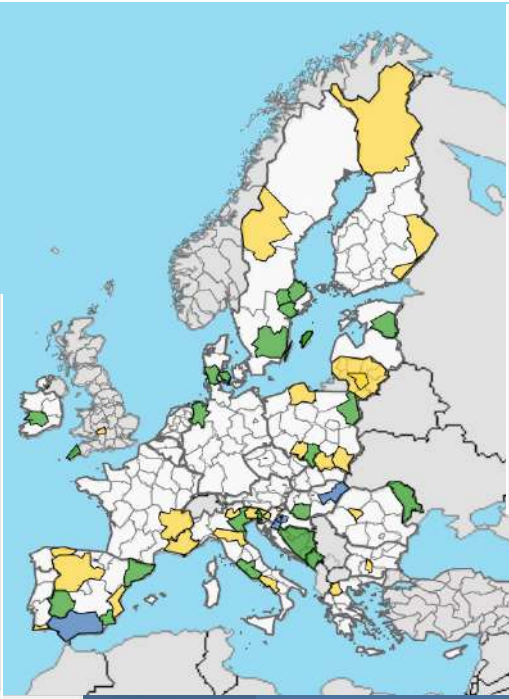
- Slovenia (SI)
- Tuscany, Italy (IT)

#### Participating regions

- Castile and Leon, Spain (ES)
- Catalonia, Spain (ES)
- Friuli-Venezia Giulia, Italy (IT)
- Mazowieckie, Poland (PL)
- Navarra, Spain (ES)
- Valencia, Spain (ES)

#### Interested regions

- Bielsko-Biala, Poland (PL)
- Flanders, Belgium (BE)
- Hungary (HU)
- Lapland, Finland (FI)
- Marche, Italy (IT)



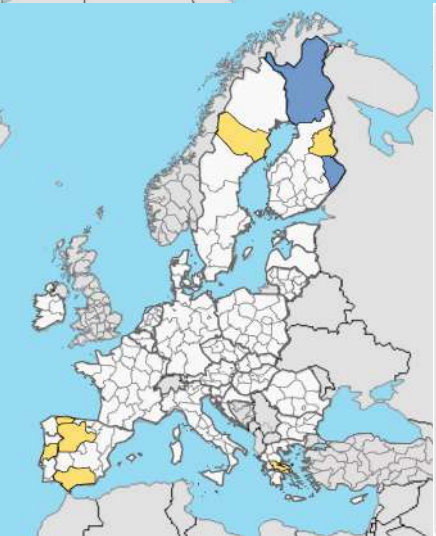
### Sustainable Buildings

#### Leading regions

- Andalusia, Spain (ES)
- North Great Plain (Észak-Alföld), Hungary (HU)
- North West Croatia, Croatia (four NUTS 3: HR041, HR042, HR04D, HR043) (HR)
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#### Participating regions

- Alba County (Centru), Romania (RO)
- Algarve, Portugal (PT)
- Asturias, Spain (ES)
- Autonomous Province of Trento, Italy (IT)
- Campania, Italy (IT)
- Castile and Leon, Spain (ES)
- Central Slovenia, Slovenia (SI)
- Drava (Podravska), Slovenia (SI)
- Emilia Romagna, Italy (IT)
- Friuli-Venezia Giulia, Italy (IT)
- Gloucestershire, UK (UK)
- Jämtland, Sweden (SE)
- Kaunas County, Lithuania (LT)
- Lapland, Finland (FI)
- Lithuania (LT)
- Malopolska, Poland (PL)
- North Karelia, Finland (FI)
- Opolskie, Poland (PL)
- Plovdiv, Bulgaria (BG)
- Podkarpackie, Poland (PL)
- Pomorskie, Poland (PL)
- Rhône-Alpes, France (FR)
- South Karelia, Finland (FI)
- South Region (Provence-Alpes-Côte d'Azur) France (FR)
- Upper Carniola (Gorenjska), Slovenia



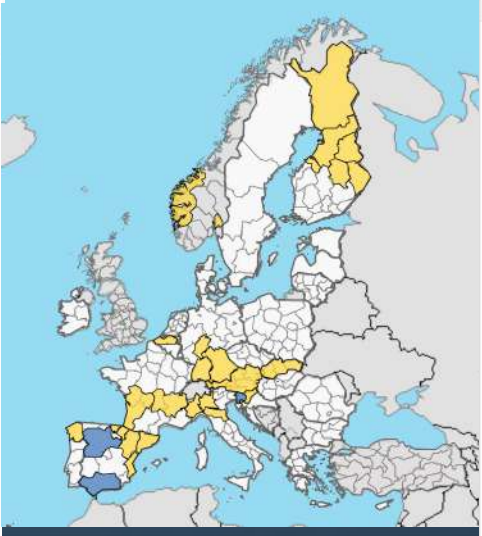
### Mining industry

#### Leading regions

- Lapland, Finland (FI)
- North Karelia, Finland (FI)

#### Participating regions

- Andalusia, Spain (ES)
- Asturias, Spain (ES)
- Castile and Leon, Spain (ES)
- Centro, Portugal (PT)
- Kainuu, Finland (FI)
- Stereia Ellada (Central Greece) (EL)
- Västerbotten, Sweden (SE)



### Advanced materials on batteries

#### Leading regions

- Andalusia, Spain (ES)
- Castile and Leon, Spain (ES)
- Slovenia West, Slovenia (SI)

#### Participating regions

- Aragon, Spain (ES)
- Austria (AT)
- Auvergne Rhone-Alpes, France (FR)
- Baden-Württemberg, Germany (DE)
- Basque Country, Spain (ES)
- Bavaria, Germany (DE)
- Brussels-Capital Region, Belgium (BE)
- Catalonia, Spain (ES)
- Central Ostrobothnia, Finland (FI)
- Emilia Romagna, Italy (IT)
- Flanders, Belgium (BE)
- Galicia, Spain (ES)
- Hessen, Germany (DE)
- Kainuu, Finland (FI)
- Lapland, Finland (FI)
- Lombardy, Italy (IT)
- Metropol Region Eindhoven (NL)
- Navarra, Spain (ES)
- North Karelia, Finland (FI)
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- Northern Ostrobothnia (Pohjois-Pohjanmaa, Oulu subregion (city of Oulu), Finland (FI)
- Northern Savonia (Pohjois-Savo), Finland (FI)
- Nouvelle Aquitaine, France (FR)
- Piedmont, Italy (IT)
- Slovakia (SK)
- Slovenia East, Slovenia (SI)
- Valencia, Spain (ES)
- Viken, Norway (NO)
- Western Norway (Vestlandet), Norway (NO)

- North Karelia, Finland (FI)
- Northern Ostrobothnia (Pohjois-Pohjanmaa, Oulu subregion (city of Oulu), Finland (FI)
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## S3P Mining Industry partnership at a glance:

### Mining industries and global value chain thematic partnership

- Securing a sustainable supply and industrial value chains are crucial for the future EU
- Primary production will remain important coming decades - minimisation of the environmental impacts and risks linked to RM production is vital
- Regions are the operational starting point for the industrial value and supply chains
- Regional ecosystems are the focal points and the playgrounds in the development of sustainable raw material production –

**Mines are always place-based, depending on geology and cannot be moved**

***Contradictory fact is that when we are trying to reduce the use of the natural resources, we must increase the use of the other natural resources like the mineral ones***

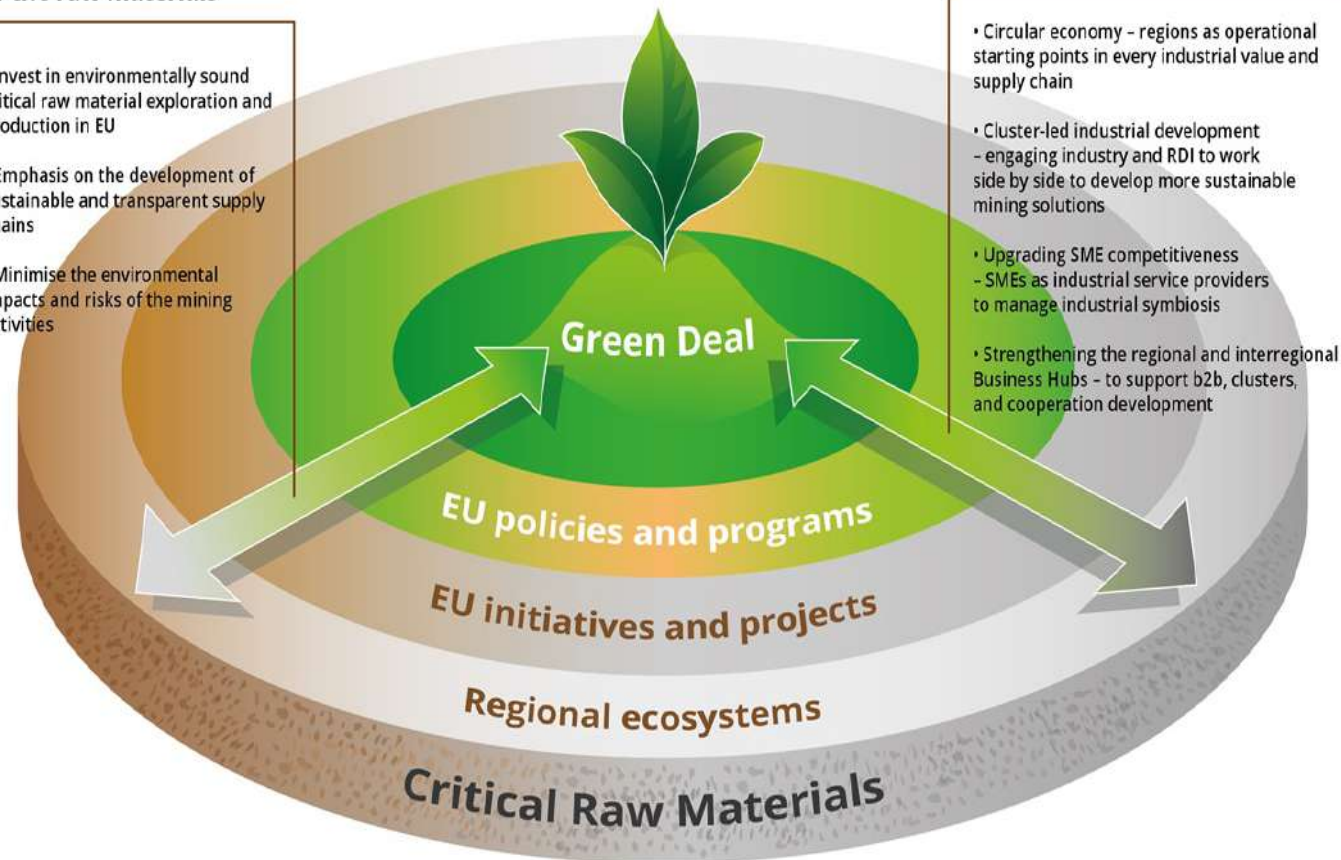
### Sustainable availability of the raw materials

- Invest in environmentally sound critical raw material exploration and production in EU
- Emphasis on the development of sustainable and transparent supply chains
- Minimise the environmental impacts and risks of the mining activities

### European mining & metallurgical ecosystem

### Strategic interregional collaboration

- Circular economy – regions as operational starting points in every industrial value and supply chain
- Cluster-led industrial development – engaging industry and RDI to work side by side to develop more sustainable mining solutions
- Upgrading SME competitiveness – SMEs as industrial service providers to manage industrial symbiosis
- Strengthening the regional and interregional Business Hubs – to support b2b, clusters, and cooperation development



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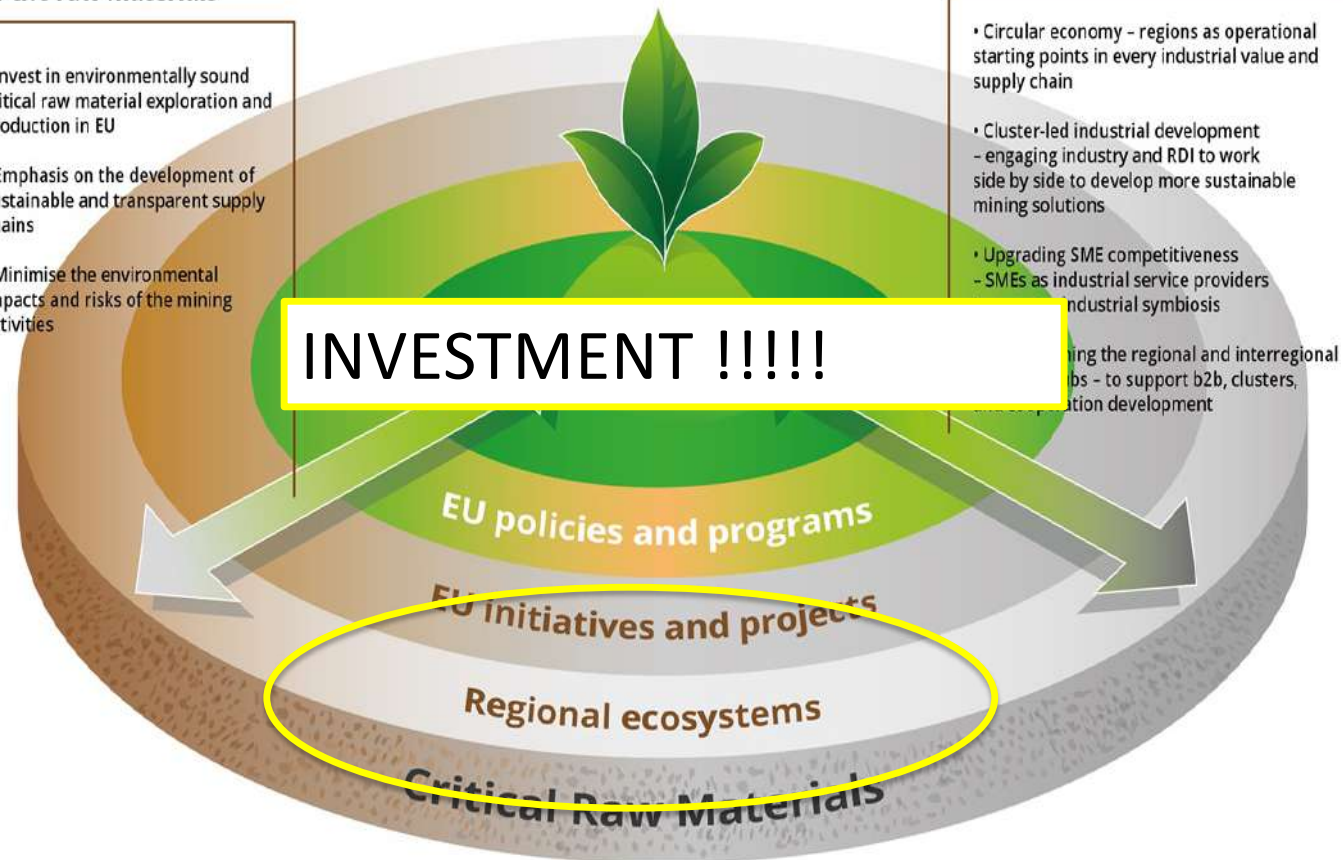
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**INVESTMENT !!!!!**



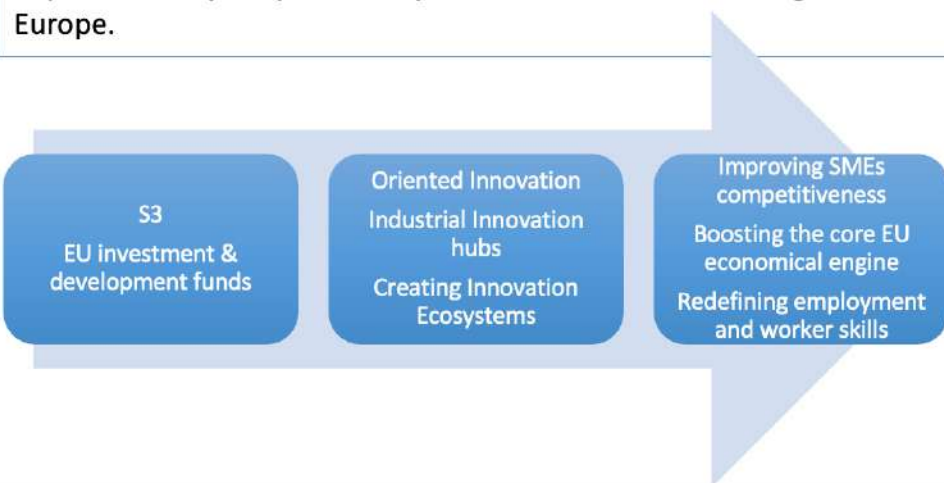


As part of its 'Europe 2020' strategy, the EU has been encouraging regions **to develop Smart**

**Specialisation Strategies(S3)** since the beginning of this programming period. The aim is to **direct their investment efforts towards growth-oriented innovation**. As such, it appears as *"a valuable tool to tackle the innovation gap, and boost jobs and growth in Europe."*

Introduced as an ex-ante conditionality in the 2014-2020 programming period of Cohesion Policy, the **development of smart specialisation strategies is currently a prerequisite to receive funding from the European Regional Development Fund (ERDF)**.

Linking the development of S3 to the allocation of ERDF funding has improved the quality of the implementation of these strategies across Europe.

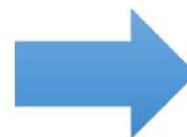


*Connecting research and industry "The main goal of a smart specialisation policy is to concentrate resources on the development of those activities that are likely to transform effectively the existing economic structures through R&D and innovation."*

*Dominique Foray, École Polytechnique Fédérale de Lausanne*

*Mikel Landabaso of DG Regio, writing in 1993: "..technology cannot be expected to assist in resolving the problems of competitiveness unless it functions as part of a system which is institutionally and organizationally capable of adapting to changing demands on a continuous basis" - (Landabaso, 1993)*

***Our  
success***



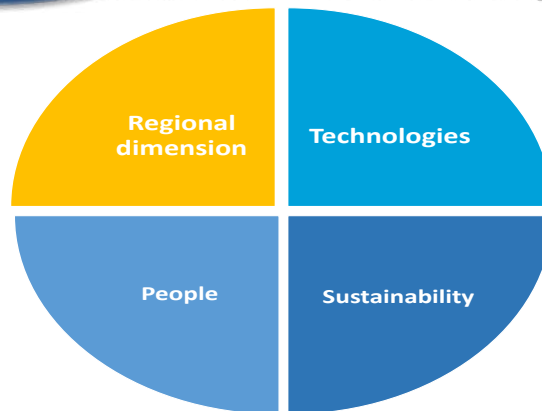
*Connecting with the regional system and its associated industrial network. Looking abroad for good lessons learnt. Identifying and connecting opportunities at similar ecosystems of innovation*

Ecosystems are dynamic and co-evolving communities of diverse actors who create new value through increasingly productive and sophisticated models of both collaboration and competition



Properly designed business platforms can help create and capture new economic value and scale the potential for learning across entire ecosystems.

**Regional Innovation ecosystems as pillars of Industrial development**



**Focus on Industrial uptake of Enabling Technologies , invest in pilot plants & demonstrators**

**Reinforce Human Capital, Skills and Cluster policy for Industrial development**

**Use the “challenge approach” to combine industrial development and sustainability**

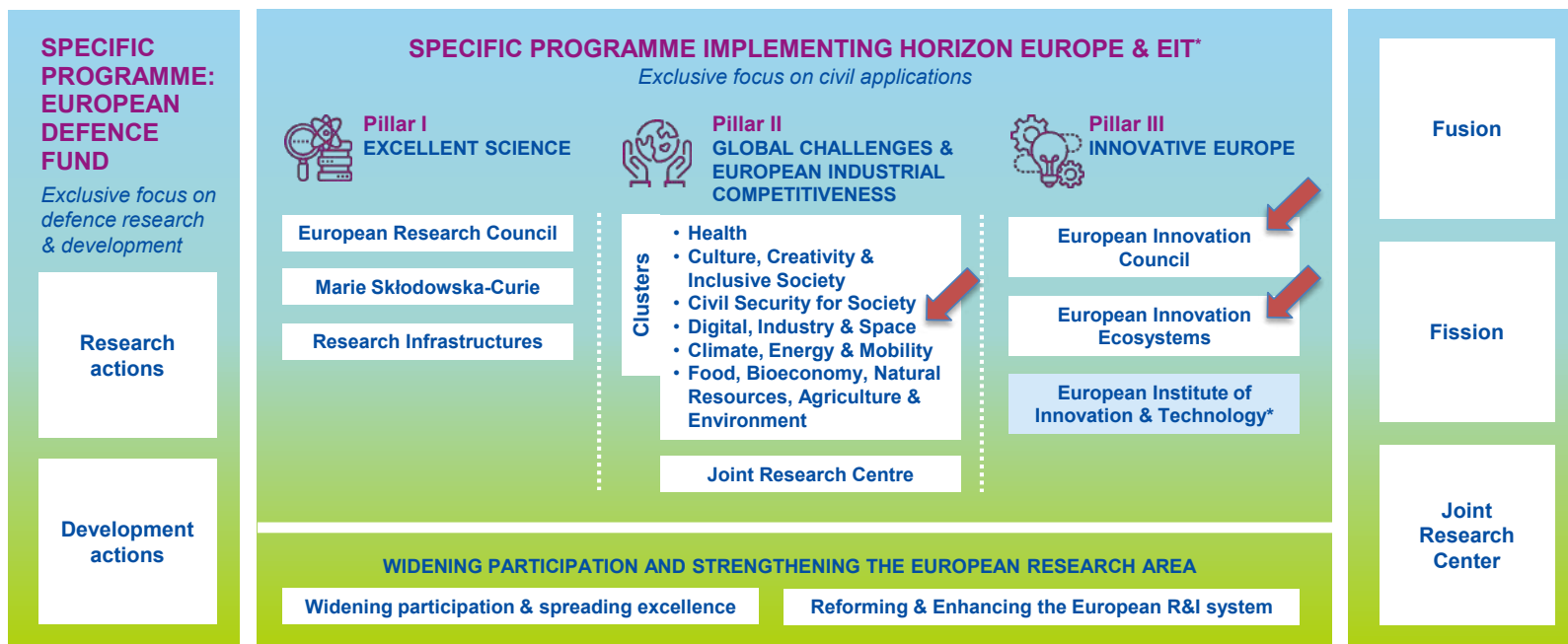
**Interregional investment & innovation ecosystem to ensure sustainable supply or RM**

**SUCCESS ELEMENTS IN OUR INNOVATION ECOSYSTEM**



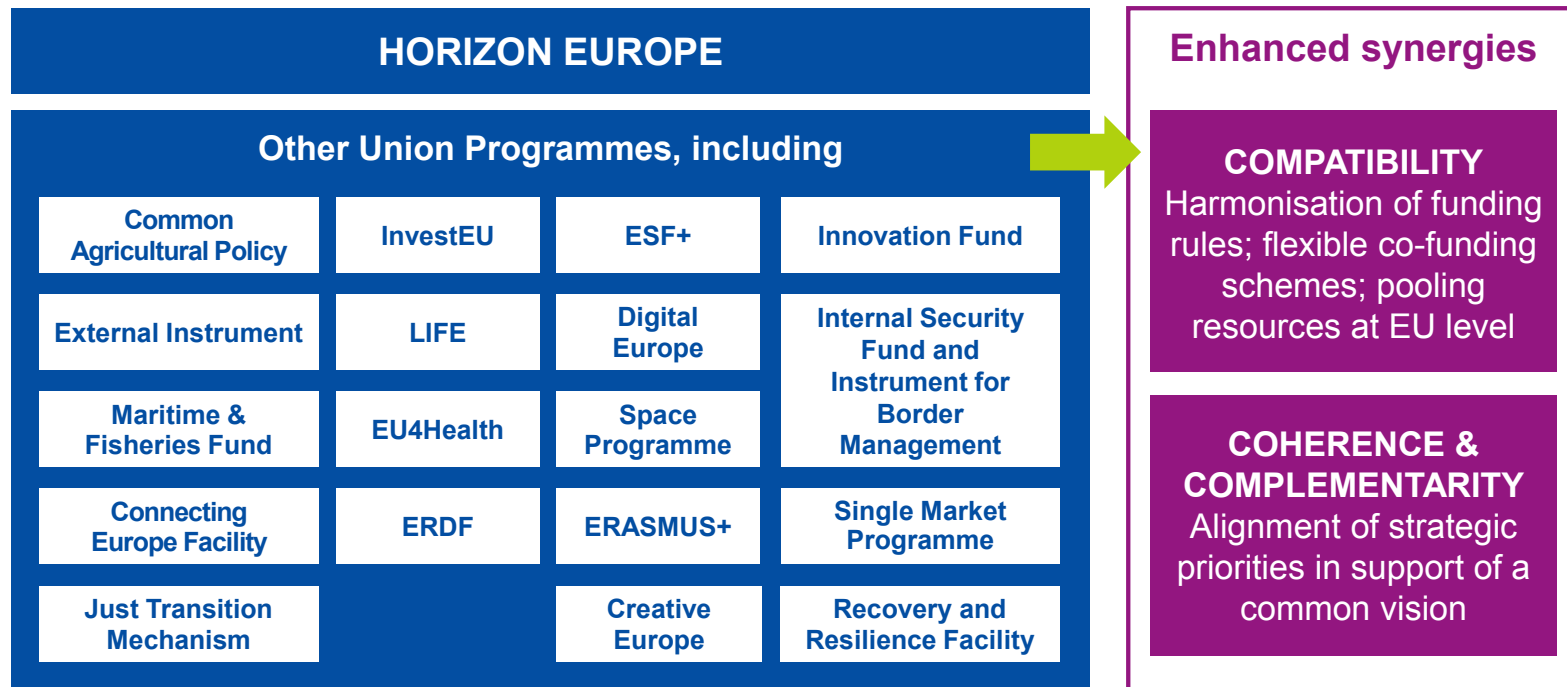
## HORIZON EUROPE

## EURATOM



\* The European Institute of Innovation & Technology (EIT) is not part of the Specific Programme

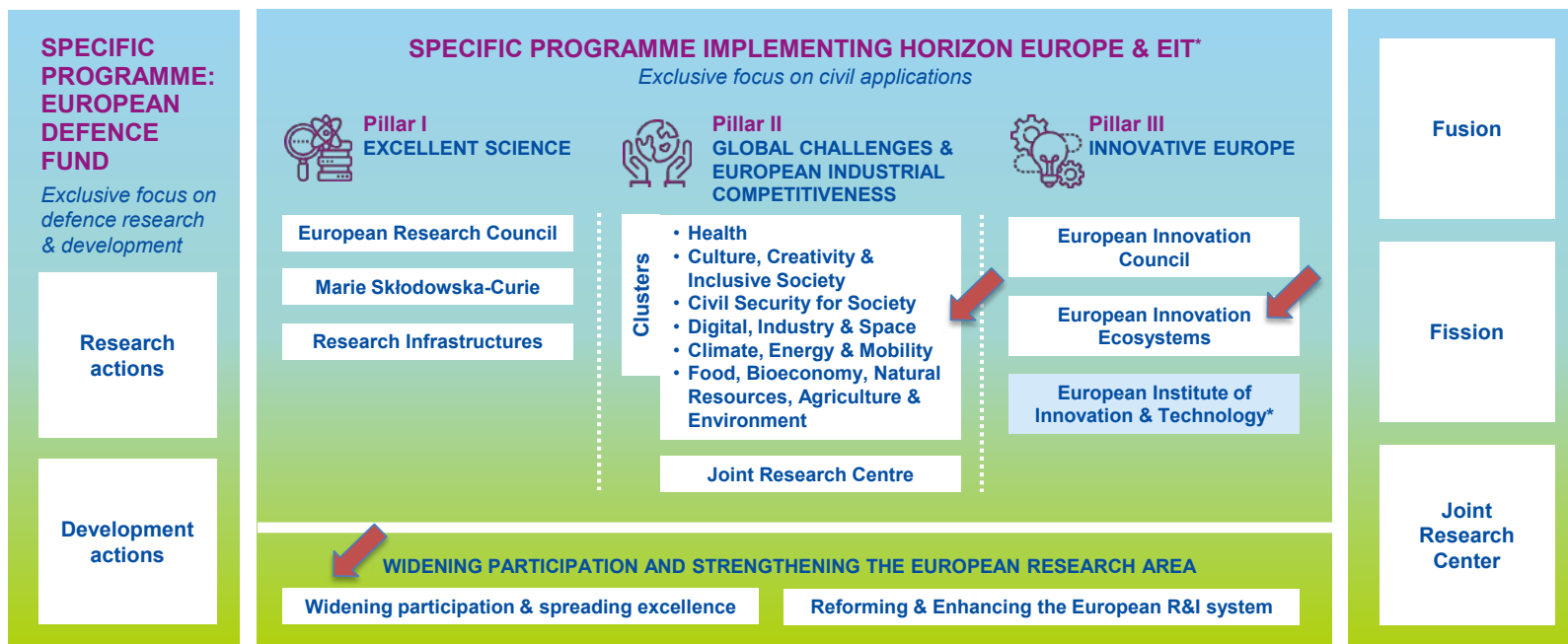
# Synergies with other Union programmes





## HORIZON EUROPE

## EURATOM



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## Pillar III

# INNOVATIVE EUROPE:

stimulating **market-creating breakthroughs** and **ecosystems** conducive to innovation

### European Innovation Council

Support to innovations with breakthrough and market creating potential

### European innovation ecosystems

Connecting with regional and national innovation actors

### European Institute of Innovation and Technology (EIT)

Bringing key actors (research, education and business) together around a common goal for nurturing innovation

The budget: **€10.6 billion**, incl. up to **€527 million** for ecosystems (including NGEU – Recovery Fund parts dedicated to EIC).

circa **€3 billion**





# Interregional Innovation Investments (I3) Instrument

*4 October 2023*

## Challenge & Expected Impact



### **Challenge:**

Less developed regions are facing different challenges and obstacles linked to innovation building & diffusion.

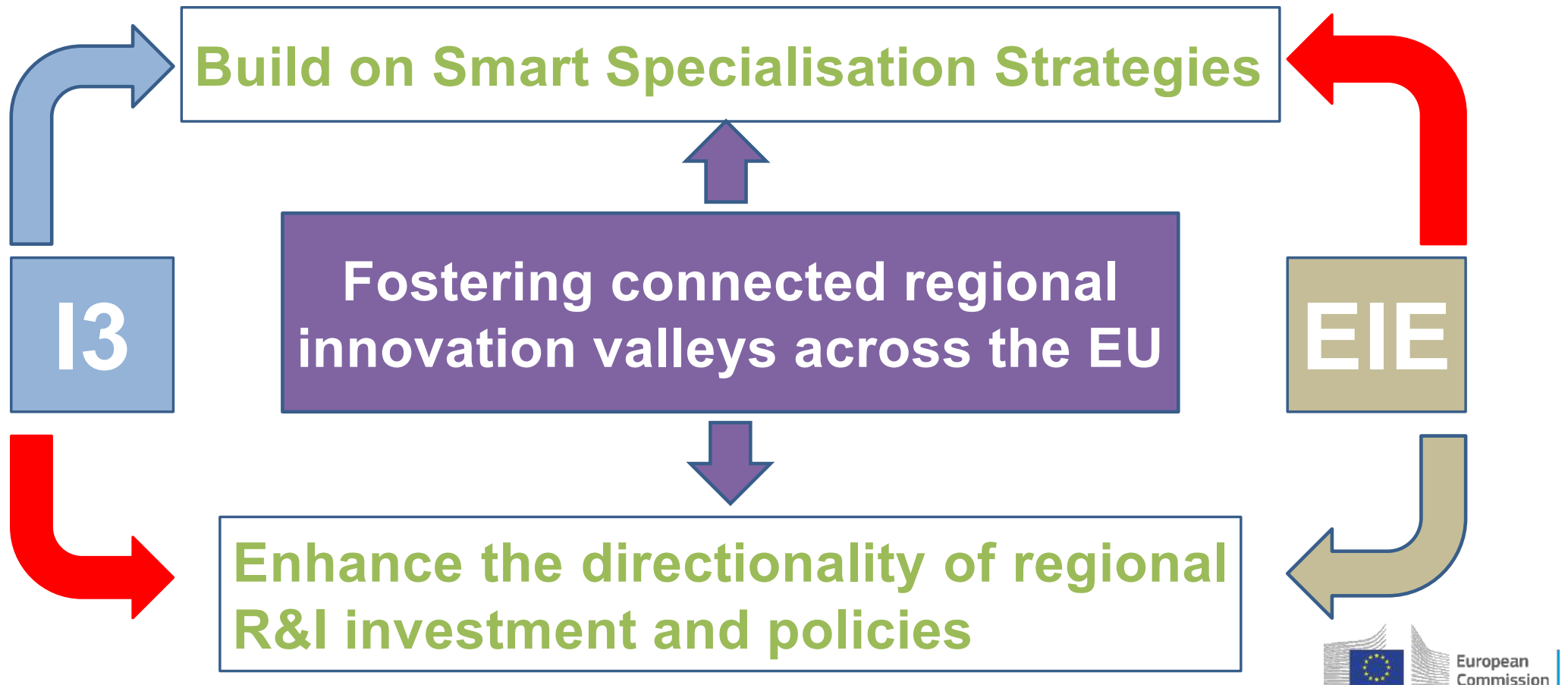
### **Expected Impact:**

Increase of the capacities of less developed regions to deliver concrete interregional innovation investments within EU value chains.



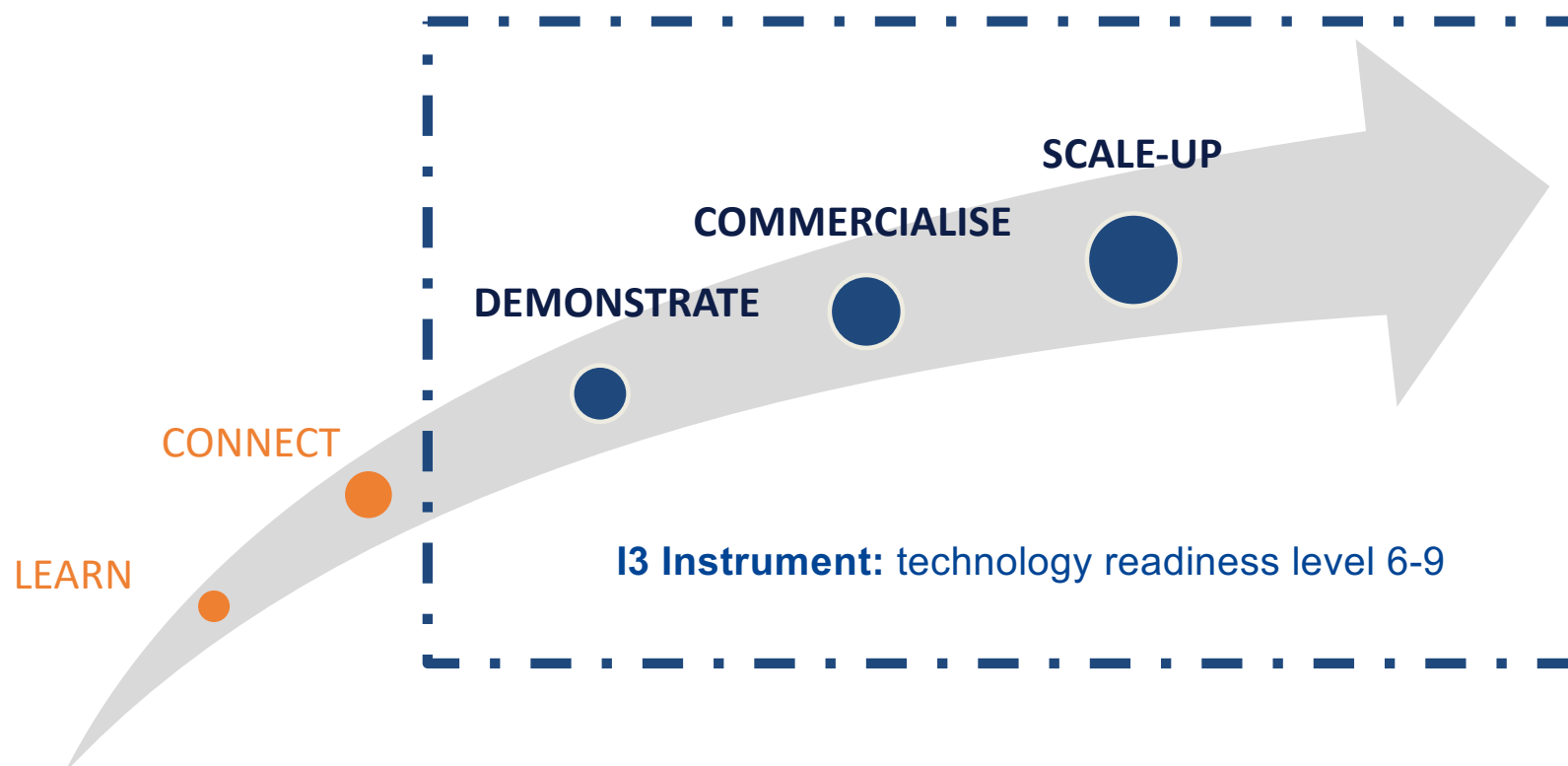
## New European Innovation Agenda – Flagship 3

Cohesion and R&I policy tackle the innovation divide





# Financing mature innovation to bridge the innovation divide through interregional collaboration

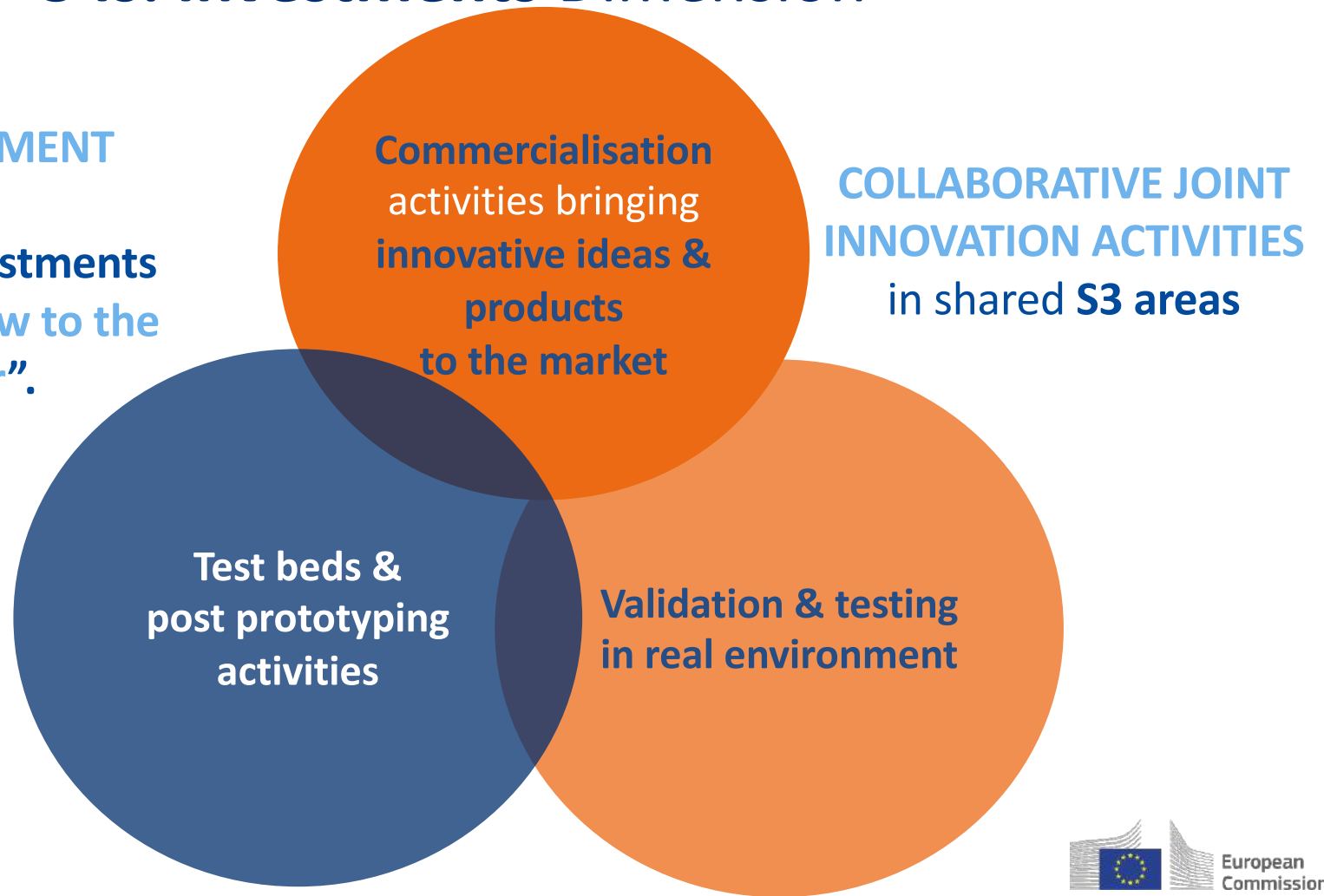


S3 Partnerships, S3 Platforms, Interreg

**S3 Community of Practice**

## 3 Is: Investments Dimension

**VALUE CHAIN INVESTMENT  
PORTFOLIOS**  
**Implementation of Investments**  
“new to Europe” or “new to the  
application sector”.



## I3 Instrument - Thematic priorities and strands for support

Green transition

Digital transition

### Strand 1

Investment support on the basis of shared S3, typically to strengthen the competitiveness of existing EU value chains

S3

### Strand 2a

Investment support on the basis of shared S3, for the development of value chains in less developed regions

Smart manufacturing

### Strand 2b

Capacity building for less developed regions

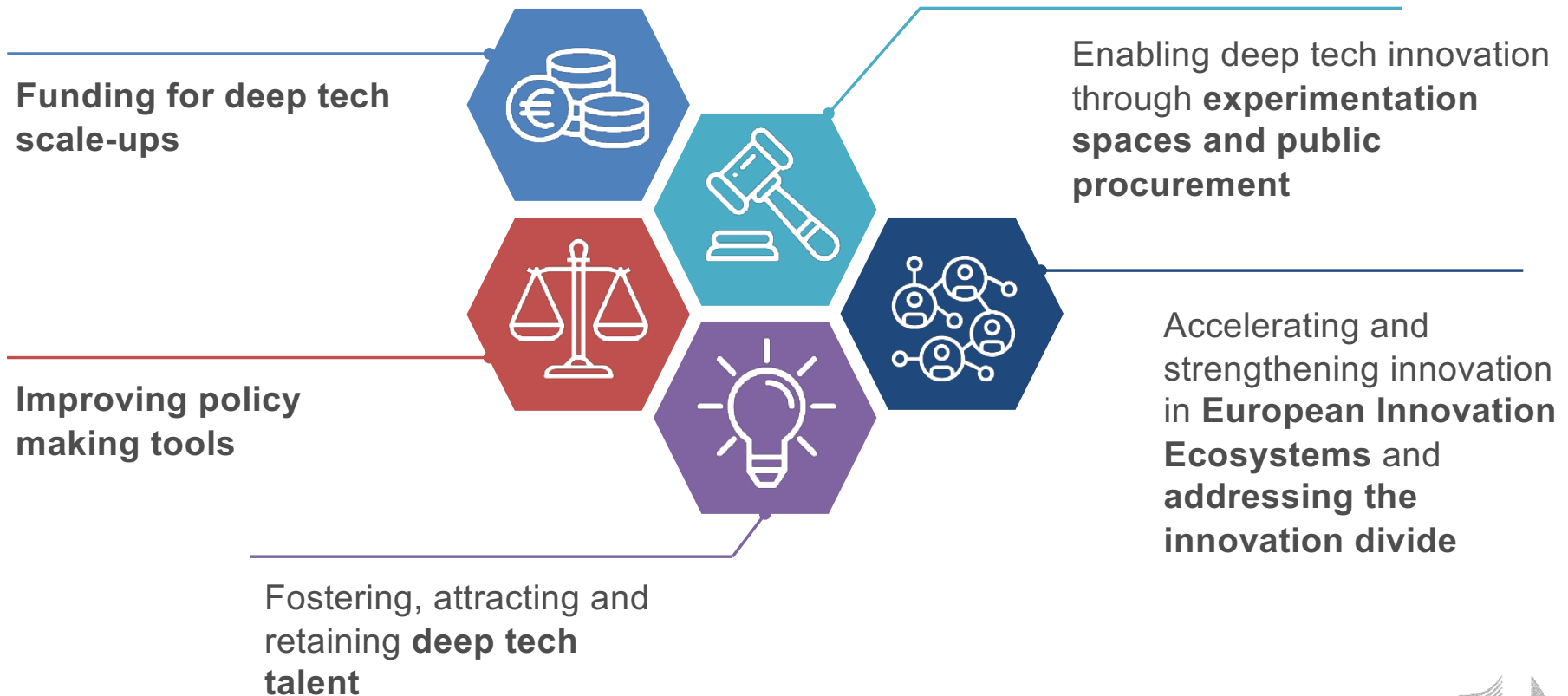




# REGIONAL INNOVATION VALLEYS



# New European Innovation Agenda: five flagships

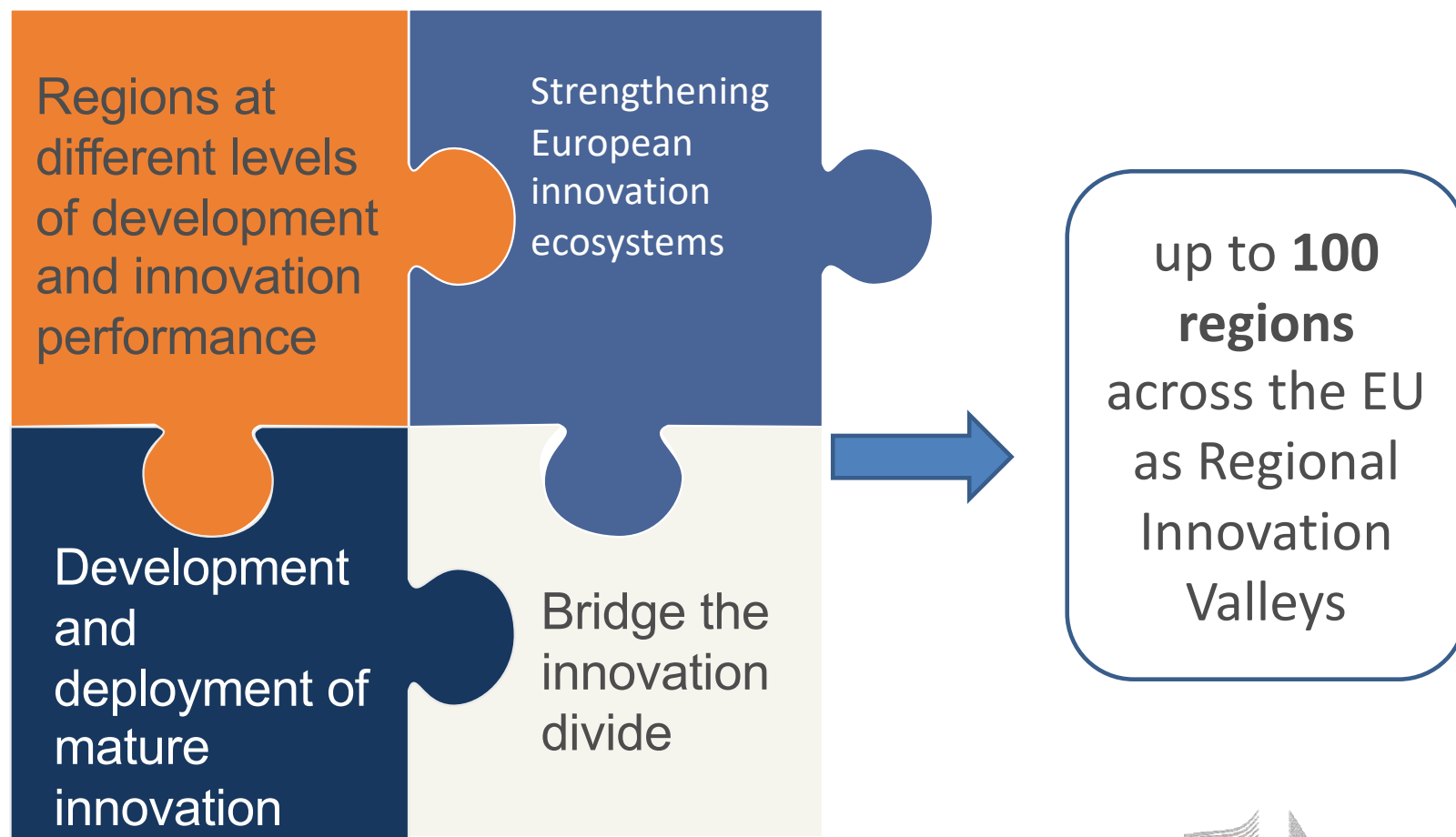


## New European Innovation Agenda: Fostering connected regional innovation valleys across the EU





## Regional Innovation Valleys framework





## The New European Innovation Agenda

© EU 2022

### What is the New European Innovation Agenda?

Innovation, and in particular its new wave of deep-tech innovation, is the European reply to bring down greenhouse gas emissions, to make our economies more digital and to guarantee Europe's food, energy and raw materials security.

The [New European Innovation Agenda](#) <sup>EN</sup>, adopted on 5 July 2022, aims to position Europe at the forefront of the new wave of deep tech innovation and start-ups. It will help Europe to develop new technologies to address the most pressing societal challenges, and to bring them on the market. Europe wants to be the place where the best talent work hand in hand with the best companies and where deep tech innovation thrives and creates breakthrough innovative solutions across the continent.

The New European Innovation Agenda will:

- **improve access to finance** for European start-ups and scale-ups, for example, by mobilising untapped sources of private capital and simplifying listing rules
- improve the conditions to allow innovators to experiment with new ideas through **regulatory sandboxes**
- help create "**regional innovation valleys**" that will strengthen and better connect innovation players through Europe, including in regions lagging behind
- attract and retain talent in Europe, for example by training **1 million deep tech talents**, increasing support for women innovators and innovating with start-up employees' stock option
- improve the policy framework through clearer terminology, indicators and data sets, as well as **policy support to Member States**

### Flagships

The New European Innovation Agenda focuses on five flagships:

- **Funding Scale-Ups** will mobilise institutional and other private investors in Europe to invest in, and benefit from the scaling of European deep-tech start-ups.
- **Enabling innovation through experimentation spaces and public procurement** will facilitate innovation through improved framework conditions including experimental approaches to regulation (e.g. regulatory sandboxes, test beds, living labs and innovation procurement).
- **Accelerating and strengthening innovation in European Innovation Ecosystems across the EU and addressing the innovation divide** will support the creation of regional innovation valleys and help Member States and regions direct at least €10 billion to concrete interregional innovation projects, including in deep-tech innovation for key EU priorities. It will also support Member States to foster innovation in all regions through the integrated use of cohesion policy and Horizon Europe instruments.
- **Fostering, attracting and retaining talents** will ensure the development and flow of essential deep tech talents in and to the EU through a series of initiatives including an innovation intern scheme for startups and scale-ups, an EU talent pool to help startups and innovative businesses find non-EU talent, a women entrepreneurship and leadership scheme and a pioneering work on startup employees' stock options.
- **Improving policy making tools** will be the key for development and use of robust, comparable data sets and a shared definitions (startups, scale-up) that can inform policies at all levels across the EU and for ensuring better policy coordination at the European level through the European Innovation Council Forum.



#### LEADING THE NEW WAVE OF DEEP TECH INNOVATION

The New European Innovation Agenda will help Europe to develop new technologies, to address the most pressing societal challenges and bring them on the market. Europe wants to be the place where the best talent work hand in hand with the best companies and where deep tech innovation thrives and creates breakthrough inspiring solutions across the continent.

Europe's leadership on innovation, in particular its new wave of deep tech innovation, will benefit all sectors from renewable energy to agri-tech, from construction to mobility and health.

The New European Innovation Agenda **flagship 2 "Enabling deep tech innovation through experimentation spaces and innovation procurement"** will facilitate innovation through improved framework conditions including experimental approaches to regulation but also by utilising purchasing power of innovation procurement.

Projects funded under the **European Innovation Ecosystems** Work Programme of **Horizon Europe** contribute to the Agenda by building capabilities in the area of innovation procurement. In particular, they provide dedicated training, guidance and exchange of best practices necessary to reveal innovation procurement potential.



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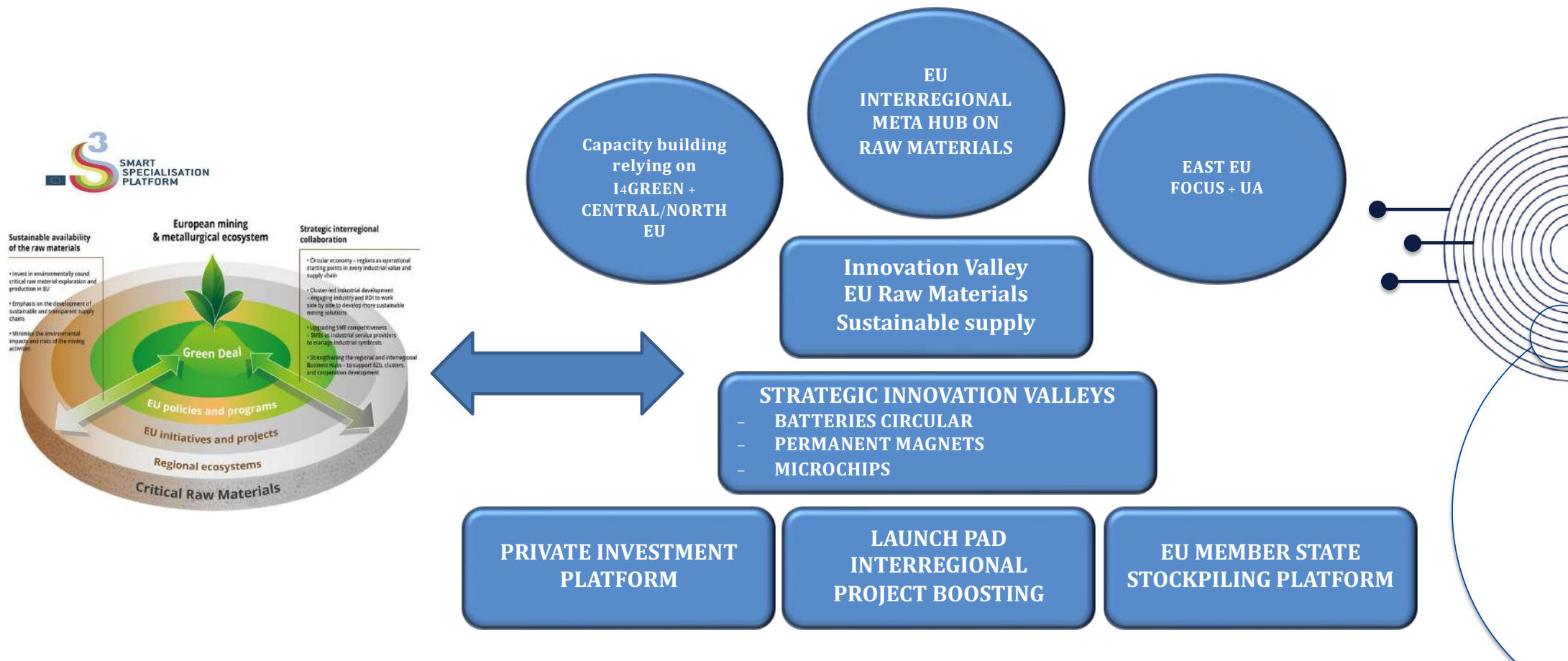
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The New European Innovation Agenda **flagship 3 "on accelerating and strengthening innovation in European Innovation Ecosystems across the EU and addressing the innovation divide"** will unlock excellence across the EU and connect regional innovation valleys involving regions with a lower innovation performance, in support of key EU priorities.

Projects funded under the **European Innovation Ecosystems** Work Programme of **Horizon Europe** contribute to the Agenda by strengthening the connectivity within and between innovation ecosystems, supporting sustainable growth of businesses and promoting leadership of women in deep technology fields.



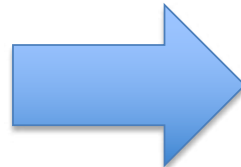
# Innovation and interregional view beyond



## Euroclusters

Launching a new network of cross-sectoral, interdisciplinary and trans-European strategic initiatives aiming to strengthen Europe's resilience by connecting actors across countries, sectors and industrial ecosystems

EUROCLUSTERS BOOSTING EU REGIONAL  
RAW MATERIALS ECOSYSTEMS THROUGH  
SMEs



MINE THE GAP CONTINUATION

UPGRADING TO GIVE EMPHASIS TO CoP in  
Raw Materials (S3P) + RIVs

TARGETING TRANSVERSAL VALUE CHAINS  
(Digit. Manufacturing. Exploration)

BUT ALSO FITTING INTO THE PRIORITIES  
OF RAW MATERIALS ACT



**Thank you for your attention**



**(+34) 987 440 481**

**León Technology Park, Main Building, 1<sup>st</sup>  
Floor, Office 107 C/ Julia Morros  
24009, León (Spain)**



**[director.general@icamcyl.com](mailto:director.general@icamcyl.com)**

**[director.general@ismc-iberiamine.com](mailto:director.general@ismc-iberiamine.com)**

**[icamcyl.com](http://icamcyl.com)**



**[ismc-iberiamine.com](http://ismc-iberiamine.com)**

**International Center for Advanced Materials and raw materials of Castilla y León (ICAMCyL)**

