HORIZON EUROPE

THE EU RESEARCH & INNOVATION PROGRAMME
2021 – 2027

Horizon Europe Information Days – Cluster 4
29-30 June 2021
Synergies
Cluster 4 – Digital, Industry and Space

Synergies with other Programmes

● Synergies with Cohesion Policy Funds: European Regional Development Fund (ERDF) and European Social Fund Plus (ESF+)
● Digital Europe Programme
● European Space Programme
● Single Market Programme
● European Defence Fund
Our understanding of synergies

• **Funding** is necessary, but not an objective in itself. It goes beyond the combination of funding sources.
  
  => **FUEL**

• **Strategy** is the key to efficiency of investments, effectiveness of measures and quality of results.
  
  => **ENGINE**
Annex IV - synergies with other Union programmes

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<th>HORIZON EUROPE</th>
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<td>Creative Europe</td>
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Enhanced synergies

COMPATIBILITY
Harmonisation of funding rules; flexible co-funding schemes; pooling resources at EU level

COHERENCE & COMPLEMENTARITY
Alignment of strategic priorities in support of a common vision
Building on research to provide support along the value chain:

- Science and evidence based policy making
- Demonstration projects
- Infrastructure and facilities development
- Go to market and/or public procurement (pre-commercial; innovation)
- Incentivise for integrated strategies
- «Sequential financing» - within Horizon Europe and with other programmes
Research into future skills, development of curricula, methods of knowledge transfer to “embrace innovation”:

- **Citizens** (e.g. Citizen Science, social innovation)
- **Researchers** (e.g. MSCA, ERASMUS, ESF+)
- **Students** (e.g. ERASMUS, EIT, ESF+)
- **Workers and employees** in different areas (e.g. EIT, ESF+)
- **Public authorities** (in employment, education and training, social policy)
Example for ‘Synergies by Design’ (I)

**JIVE** (Joint Initiative for hydrogen Vehicles across Europe) and **MEHRLIN** (Models for Economic Hydrogen Refuelling Infrastructure):

Deployment of some 300 fuel cell **buses**, and their hydrogen **infrastructure** in 22 cities across Europe

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**Combination of the following programmes:**

- **JIVE and JIVE2:** FCH2 JU under EU Horizon 2020
- **MEHRLIN:** Connecting Europe Facility (CEF)

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**Further instruments and programmes which:**

- **National** programmes and support such as in UK, Germany (BMVI) or France (ADEME)
- **ERDF** funding for example to run a first bus fleet Pau (FR) or the H2 Centre in South Tyrol (AT)
- The city of Riga secured European Investment Bank (EIB) financing
Example for ‘Synergies by Design’ (II)

Thalea I & II: Cockpit for intensive care units (ICU cockpits)
Earlier detection and treatment of complications in intensive care patients.

PPI in healthcare:

**Shortens** the route to market,

**Sets free** the potential of early adopters to implement an innovation and

Enables public procurers to efficiently **answer** market demands of innovative products.

=> Innovative products and services for the European healthcare market

Programmes which contributed:

7th Framework Programme
Horizon 2020
ERDF
Different regional schemes
Synergies with Cohesion Policy Funds: ERDF and ESF+

**ERDF**
European Regional Development Fund

Total budget 2021-2027: EUR 217 bn (current prices)

Five policy objectives

and (new) Interregional Innovation Instrument EUR 0.5 bn

**ESF+**

The EU Fund for investing in people

Total budget 2021-2027: EUR 99.3bn (*current prices*)

- ESF+ shared management € 98 billion
- Transnational Cooperation €197 million
- Employment and Social Innovation strand (managed directly by the European Commission) € 762 million
Horizon Europe and Cohesion Policy: Working for Innovation

Policy objectives

**Policy Objective 1**
A more competitive and smarter Europe by promoting innovative and smart economic transformation and regional ICT connectivity

- Developing and enhancing research and innovation capacities and the uptake of advanced technologies
- Reaping the benefits of digitisation for citizens, companies, research organisations and public authorities
- Enhancing sustainable growth and competitiveness of SMEs and job creation in SMEs, incl. by productive investments
- Developing skills for smart specialisation, industrial transition and entrepreneurship
- Enhancing digital connectivity

**Policy Objective 4**
A more social and inclusive Europe implementing the European Pillar of Social Rights:
- Employment
- Social Inclusion
- Education and training

- Support to systems and reforms in the education and training sector
- Upskilling and reskilling
- Capacity building and career support for teachers, trainers and researchers;
- Enhancing higher education’s labour market relevance
- Partnerships between higher education, business and research
- Infrastructure and equipment for education and training
ERDF for research and innovation

**Smart specialisation as an enabling condition**

- Innovation Diffusion
- Effective EDP
- Responsible body
- Links with R&I systems
- Industrial Transition
- Monitoring and evaluation
- International cooperation

**ERDF Scope**

Activities for applied research and innovation, including industrial research, experimental development and feasibility studies

**Specific objectives**

- Developing and enhancing research and innovation capacities and the uptake of advanced technologies
- Developing skills for smart specialisation, industrial transition and entrepreneurship

In selecting operations, the managing authority shall ensure that selected operations comply with the programme, including their consistency with the relevant strategies underlying the programme, as well as provide an effective contribution to the achievement of the specific objectives of the programme.
ESF+ for skills

Skills in HE Cluster 4
• Key for achieving industrial leadership and increased autonomy in key strategic value chains.
• Challenges in relation to skills shortages - up- and re-skilling needs often identified in research projects.

ESF+ Scope
• Development and deployment of innovative curricula, teaching methods, technologies for education and training courses, e.g. trainings for production and deployment of new products, services, and processes;
• Partnerships between higher education, business and research organisations;
• Supporting teachers, trainers, researchers and students (training, loans, scholarships);

Specific objectives
• Quality of education and training systems
• Equal access to education and training
• Lifelong learning, re- and up-skilling, anticipating change and new skills requirements

Support to social innovation in all Member States
ERDF and ESF+ shared management: how does it work?
Synergies between Horizon Europe and Cohesion Policy Funds programmes – Preconditions

• Alignment of strategies
  ✓ Horizon Europe strategic planning and Work Programmes
  ✓ ERDF/ESF+ programmes

• Alignment of legal provisions
  ✓ Horizon Europe/Annex IV
  ✓ Common Provision Regulation (‘CPR’)
  ✓ EU State aid rules – the General Block Exemption Regulation (‘GBER’)
‘Synergies’ – why the connection with State aid rules?

- EU State aid rules apply to ‘State resources’ – this means resources ‘under the control of Member States’
- Resources centrally managed by EU institutions, do not constitute State resources (e.g. Horizon 2020)
- Resources under shared management with Member States do constitute State resources – because Member States have discretion as to the use of these resources, in particular the selection of beneficiaries

- ERDF, ESF+ or EAFRD are subject to EU State aid rules
- Synergies require conducive EU State Aid rules
- amendment to the General Block Exemption Regulation (forthcoming)
‘Synergies’ – support for ‘Seal-of-Excellence’ projects

- ‘Seal of Excellence’ can be granted to proposals rated ‘excellent’ under Horizon Europe – but were not funded due to insufficient budget
- In particular for ‘mono-beneficiaries’; e.g. EIC Accelerator, MSCA, ERC Proof of Concept
- may be funded under ERDF, ESF+ or EAFRD if in line with smart-specialisation strategy and objectives of the relevant programme – the national managing authority’s choice
- Projects may receive directly, without a new qualitative evaluation, ERDF or ESF+ funding under CPR rules (i.e. only check of eligibility, contribution to programme objectives, smart specialisation priorities, scope of the fund and other issues not guaranteed by the Seal)
- The cost eligibility rules for the ERDF and ESF+ programme can be aligned to the HE eligibility cost rules including use of "simplified cost options" (unit costs, lump sums, flat-rates)
- No need for another technical evaluation; Horizon Europe eligible costs and funding rates apply.
- State aid: forthcoming specific conditions will facilitate aid for ‘Seal-of-Excellence’ projects of SMEs (→ Art. 25a and 25b amended General Block Exemption Regulation)
Synergies – the transfer of Member State funds to EU-funds

- Member States may transfer up to 5% of their initial Cohesion Policy allocations to any other EU fund or instrument under shared, direct or indirect management (Art. 26 CPR)
- Horizon Europe allows transfer to all of its parts – for future or already established reserve lists
- Transfer allowed from regional and/or national programmes for the benefit of the eligible region/MS
- Transferred national funds not subject to State aid rules if
  - Member States no longer have any discretion over the use of the funds and
  - do not attach any conditions (other than the geographic allocation inherent to the European Structural and Investment Funds)
Synergies – support for Horizon ‘Teaming’ actions

• ‘Teaming’ supports Centres of Excellence in certain eligible countries (‘Widening’) in partnership with an “advanced” partner from another Member State.

• Beneficiaries are mostly universities and research organisations, sometimes also regional authorities and SMEs

• State aid: forthcoming specific conditions will facilitate aid to co-finance a Teaming action together with the EU, and investment aid for related infrastructure, e.g. research infrastructure (→ Art. 25d amended General Block Exemption Regulation)
‘Synergies’ – in European Partnerships

- ‘European Partnership’ – Union together with private and/or public partners jointly support the development and implementation of an R&I-programme:
  - ‘Co-funded European Partnership’: Union provides co-funding to an R&I-programme implemented by national entities
  - ‘Institutionalised European Partnership’ (Art. 185/187 TFEU): Union provides co-funding to a joint programme implemented by structures created for that purpose
- Financial contributions from programmes co-financed by the ERDF, the ESF+, the EMFF and the EAFRD may be considered as a contribution of the participating Member State to European Partnerships, provided that relevant CPR-provisions and fund-specific regulations are complied with.
- State aid: forthcoming specific conditions will facilitate aid for co-funded R&I-projects (→ Art. 25c amended General Block Exemption Regulation)
‘Synergies’ – national resources and the InvestEU Fund

- InvestEU Fund – guarantees to support financing and investment operations to address specific market failures and mobilise additional private and public investment in support of the Union’s internal policies
- Member States may
  - contribute a part of Union shared management funds or Recovery and Resilience Facility resources to the Member State compartment of the EU guarantee
  - finance the financial products backed by the InvestEU Fund through their own funds or national promotional banks.
- State aid: forthcoming specific conditions to facilitate the granting of aid involved in InvestEU financial products (→ Art. 56e, 56f amended GBER)
  - Aid to the final beneficiary under a financial product (Art. 56e) – E.g. for R&D-projects up to EUR 75 million, for innovation or SME-digitization up to EUR 30 million nominal amount of total financing per beneficiary per project.
  - Aid in intermediated financial products provided by commercial financial intermediaries (Art. 56f) – e.g. for R&D&I – up to EUR 7.5 million nominal amount of total financing provided per final beneficiary
Synergies and forthcoming State aid rules – what is the advantage?

- No State aid notification procedure
- Member State is automatically authorized to grant the aid if all conditions under the General Block exemption are met
- No need to reassess the eligibility of Seal-of-Excellence projects, co-funded R&D-projects or Teaming-actions – eligibility for aid already has been assessed at Union level in line with Horizon Europe
- Easy eligibility conditions for Teaming-related infrastructure and aid through InvestEU-instruments
Synergies: Wide range of opportunities

**UPSTREAM SYNERGIES**
- Capacity building
- Trainings/ R&I skills
- Incubators

**PARALLEL SYNERGIES**
- Complementary but independent actions

**DOWNSTREAM SYNERGIES**
- Demonstrators
- Horizon results platform
- Matchmaking tool (Interreg ‘pilot’)

HORIZON EUROPE
Synergies with Cohesion Policy Funds - Conclusions

• **New ERDF and ESF+ 2021-2027** – *programming ongoing*, new programmes in force by the end of 2021 – beginning of 2022.

• Implemented mostly through shared management – by **national or regional authorities** in partnership with COM and social partners and relevant stakeholders

• **Get in touch with your Managing Authority** for projects.
Single Market Programme

Crispin Weymouth, DG GROW
STRUCTURE AND OBJECTIVES

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<td>Food Chain</td>
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<td>High quality Statistics</td>
<td>European Statistics (covering all EU policies)</td>
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Budgetary envelope of EUR 4 208 041 000

- Competitiveness of enterprises
- Consumer protection and product safety
- Food chain
- European Statistics
- Internal Market, Standardisation and participation in financial sector policy making
SPECIFIC OBJECTIVES OF COSME-SMP

Strengthening the competitiveness and sustainability of SMEs:

• (i) **support to SMEs, clusters, other business network organisations**, including in the tourism sector. Fostering growth, scale-up and creation of SMEs;

• (ii) **access to markets** (including internationalisation of SMEs);

• (iii) **entrepreneurship** and entrepreneurial skills;

• (iv) **favourable business environment** for SMEs, support **digital transformation** and promote new business opportunities for SMEs, including **social economy** enterprises and innovative business models;

• (v) competitiveness of **industrial ecosystems and sectors**, development of industrial value chains;

• (vi) modernisation of industry, contributing to a **green, digital and resilient economy**.
The EEN

The world's largest support network for SMEs. Made up of:

• Chambers of commerce
• Innovation agencies
• Regional development agencies
• Universities and research institutes, and others

Helps ambitious European businesses at their doorstep

• to innovate
• to increase their competitiveness
• to expand their business in Europe and beyond

EEN services are free of charge
All EEN services must have a European dimension and provide EU added value to clients.
The upgraded EEN

- Figures show number of EEN members in country rather than number of dedicated Sustainability Advisors, which in many cases will be more.
- Cooperation and synergies with EDIH and ECCP on digital
- Upgrade to existing Network: “EEN Vision”
- Helping SMEs get benefits of Free Trade Agreements
- NEW! Cooperation with ECCP to address SME resilience

Sustainability Advisors and other sustainability services*
EU Cluster initiatives 2014-20

European Cluster Collaboration Platform
www.clustercollaboration.eu
- 1132 clusters registered
- 55 cluster associations & networks

European Resource Efficiency Knowledge Centre
www.resourceefficient.eu
- Energy efficiency
- Resource efficiency
- Low carbon
- Circular economy

European Observatory of Clusters
https://ati.ec.Europa.eu
- monitors advanced technologies

Horizon Europe Innosup-1
- 30 consortia
- 2500 SMEs

The ClusterXchange pilot
- 14 partnerships
- > 1000 exchanges

EU clusters - excellence
- 13 partnerships
- 69 clusters
- 21 EU countries

EU GO-International
- Neighbourhood (East & Magreb)
- Development (Africa & SAmer.)
- US, Canada, Singapore, S. Korea etc.

Cluster S3 Partnerships
Digital Decade

**Government**
- Key Public Services: 100% online
- e-Health: 100% availability medical records
- Digital Identity: 80% citizens using digital ID

**Skills**
- ICT Specialists: 20 million + Gender convergence
- Basic Digital Skills: min 80% of population

**Business**
- Tech up-take: 75% of EU companies using Cloud/AI/Big Data
- Innovators: grow scale ups & finance to double EU Unicorns
- Late adopters: more than 90% of European SMEs reach at least a basic level of digital intensity

**Infrastructures**
- Connectivity: Gigabit for everyone, 5G in all populated areas
- Cutting edge Semiconductors: double EU share in global production
- Data – Edge & Cloud: 10,000 climate neutral highly secure edge nodes
- Computing: first computer with quantum acceleration
Digital Europe is complementary to other programmes with investments in digital

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<td>Research Innovation</td>
<td>Strategic capacities: computing, data, testbeds, etc. Advanced digital skills EU-Wide deployment</td>
<td>CEF</td>
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Digital Europe programme structure

BUILDING ESSENTIAL DIGITAL CAPACITIES

European Digital Innovation Hubs
- High Performance Computing
- Artificial Intelligence
- Cybersecurity
- Advanced Digital Skills

ACCELERATING THE BEST USE OF DIGITAL TECHNOLOGIES
- High impact deployments

Pending programme adoption
Budget as in draft Regulation

- High Performance Computing: EUR 2227 million
- Artificial Intelligence, Cloud and Data: EUR 2062 million
- Cybersecurity: EUR 1650 million
- Advanced Digital Skills: EUR 577 million
- Deployments and Best Practice: EUR 1072 million

Total: EUR 7588 million over 7 years
Main strategic objectives

**High-performance computing**
- Procure exascale machines
- Upgrade existing supercomputers
- Quantum computing
- Widen the access to and use of supercomputing

**Cybersecurity**
- Deploy competence centers network
- Cybersecurity shield, quantum communication infrastructure - QCI
- Certification schemes
- Cybersecurity tools

**European digital innovation hubs**
- At least one per MS

**Artificial intelligence**
- Data4EU: common Data Spaces, clouds, platforms and infrastructure
- Large Testing and Experimentation Facilities for Agriculture, health, mobility, manufacturing and AI edge HW
- Scale up the European AI platform to access tested AI technologies

**Advanced digital skills**
- Master courses
- Short term trainings
- Job placements
- Platform for Skills and Jobs

**Deployments**: emphasis on
- Destination Earth
- Digital twins for smart communities
- Continuation of investments (CEF – ISA2)
- Blockchain
- Enhancing confidence in the digital transformation
For each topic to be funded:

- The work programme defines the objectives, the scope, the expected outcome, the type of action (e.g., grants, procurement) and if the topic is subject to participation restrictions.
- The Call Text, published at call opening, defines all the technical details.

Funding schemes:

- Similar but not exactly the same to Horizon, e.g.
  - Grants with cost reimbursement 50% for everybody or with 75% for SMEs
  - CSA at 100%
- Possibility of co-funding by MS (public authorities) – mandatory in case of the TEF.
EU Space Programme

Mats Ljungqvist, DG DEFIS
Synergies: EU Space Programme 2021-2027

4 Components – 3 horizontal activities

Total budget of 13.2 bEur (2018 constant prices)
Synergies: Space and other parts of Horizon Europe

1. Synergies with the digital part of Cluster 4, including quantum and funding IOD/IOV for the Eagle-1 space mission

2. Possible synergies with Partnerships
   - Made in Europe for manufacturing,
   - Key Digital Technologies on EEE components
   - Artificial Intelligence, Data and Robotics for future space ecosystems
   - Smart Networks and Services for Telecom

3. References to Galileo/EGNOS and Copernicus across Horizon Europe
European Defence Fund

Through the European Defence Fund, the EU will be able to co-finance R&D in the defence sector.
Thank you!

# HorizonEU

http://ec.europa.eu/horizon-europe