Interregional Innovation Investment

Coordination of the Pilot Actions

*Joint Event Thematic S3 Platforms*

**Alison Hunter**, Policy Coordinator
**Dr. Pierre Padilla**, Operational Coordinator
18/12/2020
Structure

1/ Overview

2/ Operational results

3/ Capitalisation results
1/ Overview

Objectives, process and approach
Approach

Support from S3Platform and external experts

Learn ➤ Connect ➤ Demonstrate ➤ Commercialise ➤ Scale-up

The pilot action will accelerate the work done within the TSSP

Focus: higher TRLs (>5/6 TRL)
Results to feed EC’s discussions for 2021-2027

Following a call for expression of interest in 2017: 8 pilots were selected

- 3D Printing
- Cybersecurity
- High-tech farming
- Sustainable buildings
- (2018) Batteries
- Bio-economy
- De-&Re-manufacturing for circular economy
- Marine renewable energy
- Traceability and big data

EPPC
Economic and Public Policy Consultancy
Pilot Coordination

Oversight, guidance and reporting on Pilot Action (2018-2020)
- On-going, 2-way consultation and feedback (formal and informal)
- Quantitative analysis – e.g. business modelling; projected financing needs
- Qualitative analysis – e.g. Partnership operations and dynamics
- Articulation and coordination of Partnership support needs, incl. removal of bottlenecks
- → concrete business cases and innovation investment
- Capitalisation exercise – functioning and effectiveness of Partnerships
- Interim reporting over 2 years; final reporting (June 2020, based on final outputs – January 2020)

Roles: Project Coordinator and Project Manager (Alison HUNTER and Pierre PADILLA)
- Direct contact and engagement with Partnerships – PP
- Oversight and capitalisation – AH
Support Mechanisms

- Thematic expertise from a dedicated team of Commission services
- Two overall coordinators (Alison HUNTER and Pierre PADILLA)
- ‘Single partnership coordinator’ (SPC) for each Partnership
- Customised support services on specific needs (dedicated team across EC services; AMI LIST external expert(s) – DG REGIO)
  - business plan design
  - financial modelling
  - intellectual property rights
  - standardisation
  - market research
  - etc.
- Capitalisation exercise for the overall pilot
2/ Operational results

Eye on the business cases
Why?

Connect GVC & Best Tech Cap.

Connect Ecosystems

Demand and Supply

Scale and Critical Mass (funding, Testing, …)

Cost Sharing & Risk Diversification
<table>
<thead>
<tr>
<th>Area</th>
<th>PARTNERSHIP</th>
<th>RECOMMENDED FOCUS – LEVEL OF GRANULARITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cybersecurity (CYBER)</td>
<td>Setting up an Acceleration Programme for cybersecurity scale-ups building upon the relative acceleration strengths of each region involved.</td>
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<tr>
<td>De- and Re-Manufacturing (DRM)</td>
<td>Development of business cases on composite recovery from wind energy systems (and possibly other segments) which are aimed at connecting regional nodes and their technological capabilities to demonstrate the recovery of composites.</td>
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<tr>
<td>3D-Printing (3DP)</td>
<td>Setting up an Additive-Subtractive Manufacturing platform and a more specific case on the demonstration of additive manufacturing for hybrid car components.</td>
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<tr>
<td>Bio-Economy (BIO)</td>
<td>Demonstrating and scaling up Bio-based aromatics (Bio-aromatics) meant for the construction sector, at this stage encompassing both piloting and demonstration activities.</td>
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<tr>
<td>High-tech Farming (FARM)</td>
<td>Setting up a digital platform for agritech solutions, of which two business cases were put forward and one developed that addresses the transfer of photonic solutions to farmers.</td>
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<tr>
<td>Traceability and Big Data (TRACE)</td>
<td>Setting up a communication and traceability system for agrifood products in the form of a business-led traceability platform.</td>
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<tr>
<td>Sustainable Building (BUILD)</td>
<td>Supporting the “Smart Campus” through the commercialisation and procurement of smart solutions such as smart plugs - which appears to be the most mature case.</td>
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<tr>
<td>Advanced Materials for Batteries (AMBP)</td>
<td>Setting up a portfolio of cross-regional demonstration projects to accelerate the commercialisation and market uptake of advanced materials enabling the EU battery industry.</td>
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<tr>
<td><strong>Innovation</strong></td>
<td><strong>Investment Claim and Possible Sources</strong></td>
<td><strong>Interregional Coverage</strong></td>
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</table>
| **DRM** | Challenge: fragmentation of circular technologies and solutions to green the composite industry  
Innovation: a demonstration network for de- and re-manufacturing | €108,377,036.21 (business cases) out of total investment need of €309,648,674.89 + €250,000.00 (network founding grant) | 3+ Member States |
| **BIO** | Challenge: lack of critical mass to address the fragmentation and sub-optimal investment in bio-aromatics  
Innovation: a joint demonstration investment integrating the construction bio-aromatics value chain | €6,900,000.00 (overall investment) of which €4,000,000.00 in equity and €4,900,000.00 in grant support | 3+ Member States |
| **CYBER** | Challenge: lack of critical mass to scale up cybersecurity SMEs across various segments  
Innovation: combination of acceleration capabilities put at the service of cyber companies | €1,200,000.00 (accelerator) of investment need of which €480,000.00 in private contribution (private investors) and €720,000.00 in grant support | 3+ Member States |
| **FARM** | Challenge: hampered deployment of technologies enabling high-tech farming companies in wine and fresh fruits sectors  
Innovation: setup of a network of demo farms to demonstrate relevant solutions and facilitate their deployment across regions | Out of €2,075,000.00, the project expects €135,000.00 in regional funding, secured €490,000.00 from private sector and estimates a remaining investment gap (grant) of €1,450,000.00 | 3+ Member States |
| **3DP** | Challenge: fragmentation of the additive manufacturing landscape for hybrid components  
Innovation: a demonstration network with a developed investment case in hybrid manufacturing for automotive components | €263,400.00 out of a total of €4,589,000.00 (business case 1) on top of €1,000,000.00 of grant to set up the platform | 3+ Member States |
| **TRACE** | Challenge: lack of transparency to the expense of consumers along the food value chain  
Innovation: decentralised solution for supply chain traceability and transparency gradually building upon product groups | €1,600,000.00 in grant combined with €500,000.00 in equity out of a €2,100,000.00 investment portion (Naturcode who owns the platform) under the total €3,500,000.00 project budget (but Openfields part of subcontracting costs and margin expected to fund it) | 3+ Member States |
| **BUILD** | Challenge: environmental footprint of smart campus buildings due to the slow uptake of innovative solutions  
Innovation: testing and deploying innovations such as smart plugs regionally | €49,500.00 financially modelled for the platform, €90,000.00 claimed for the RTEMCS and €300,000.00 claimed for the E3 Smart Plug | 3+ Member States |
| **MRE** | Challenge: opportunity costs for suppliers of components and services in the offshore windmill sector  
Innovation: implementing an open platform for data-based innovation in the area of marine and renewable energy | €207,737.50 out of a total of €830,950.00 and combined with €623,212.50 in equity | 3+ Member States |
| **AMBF** | Challenge: lack of technological and investment scale for the joint deployment of new materials for batteries  
Innovation: series of joint demonstration cases driven by businesses focusing on commercialisation and market deployment | 1) €3,240,000.00 2) €25,267,000.00 3) €5,500,000.00 (€3,300,000.00 expected in support) 4) A range between €15,000,000.00 and €20,000,000.00 | 3+ Member States |
Maturity Framework

1/ Case for business opportunity
2/ Project Overview
3/ Market Analysis
4/ Investment project management
5/ Financials
6/ Projected Effects and impacts
Good Practices

Good business case practices are highlighted in this figure based on their contribution to the maturation of the case toward optimisation. A fully-fledged Innovation Radar assessment would however require both tech and market assessments in full.

**Commitment**
- GP: Industrialisation plan and associated financial modelling with case scenarios.
- GP: Co-investment formalised, market traction on the demand side (large retailer).
- GP: Financial and commercial approach planning ready. Traction (e.g.: investor attracted) and VC valuation.

**Optimisation**
- GP: Private sector traction (small and large corporate players).

**Creation**
- GP: disruptive business model Enabled by Key Enabling Technologies with strong regional and scientific commitment
- GP: All tech capabilities lined up, detailed and coordinated with strong regional commitment

**Exploration**
- GP: Strong commitment from tech initiators with an approach steered toward valorisation of pragmatic research outputs.
- GP: Strong scoping approach, intending to break the status quo at value chain level

**Innovation Readiness**

EPPC
Economic and Public Policy Consultancy
## Investing at different levels

<table>
<thead>
<tr>
<th></th>
<th>DRM</th>
<th>BIO</th>
<th>CYBER</th>
<th>FARM</th>
<th>3DP</th>
<th>TRACE</th>
<th>BUILD</th>
<th>MRE</th>
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</thead>
<tbody>
<tr>
<td>Direct investment in businesses</td>
<td>/</td>
<td>Y</td>
<td>/</td>
<td>/</td>
<td>Y</td>
<td>Y</td>
<td>/</td>
<td>Y</td>
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<tr>
<td>Portfolio format</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
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<tr>
<td>Leverage of private investment</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
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<tr>
<td>Cross-regional rationale</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
</tbody>
</table>
## Target Instruments

<table>
<thead>
<tr>
<th>Equity</th>
<th>BIO</th>
<th>CYBER</th>
<th>FARM</th>
<th>3DP</th>
<th>TRACE</th>
<th>BUILD</th>
<th>MRE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y 30%</td>
<td>Y 45%</td>
<td>/</td>
<td>/</td>
<td>Y 58%</td>
<td>Y 15%</td>
<td>Y</td>
<td>Y 75%</td>
</tr>
<tr>
<td>Lending</td>
<td>/</td>
<td>/</td>
<td>/</td>
<td>Y 36%</td>
<td>Y &amp; /</td>
<td>Y</td>
<td>Y &amp; /</td>
</tr>
<tr>
<td>Alternative finance</td>
<td>/</td>
<td>/</td>
<td>/</td>
<td>/</td>
<td>/</td>
<td>Y</td>
<td>/</td>
</tr>
<tr>
<td>Private contribution</td>
<td>Y 35%</td>
<td>Y</td>
<td>Y 40%</td>
<td>Y 24%</td>
<td>Y</td>
<td>Y 40%</td>
<td>Y</td>
</tr>
<tr>
<td>Hybrid</td>
<td>/</td>
<td>/</td>
<td>/</td>
<td>/</td>
<td>/</td>
<td>/</td>
<td>/</td>
</tr>
<tr>
<td>Grant</td>
<td>Y 30%</td>
<td>Y 55%</td>
<td>Y 60%</td>
<td>Y 70% + 6% (regio)</td>
<td>Y 6% (case)</td>
<td>Y 45%</td>
<td>Y</td>
</tr>
</tbody>
</table>

**Investment Gap**  
(Non-dilutive, non-debt financing)

**Gearing**  
(Debt/Equity)
Opening the box

1) Platform VS Operational service provision

2) Development VS Deployment

3) Tech & Sector Variations (e.g. Digital VS Circular)
Business Cases - Selected Highlights

1) De-Risking
   - Tech risk + Fin./Company risk (young, covenants, etc.)
   - Coordination = Cost (~"SG&A")
   - Failure → cross-regional (asymmetry + lack of critical mass inc. risk capital)

2) From Due Diligence to Funds Distribution
   - Expertise (assessment + monitoring)
   - Cascading VS Central mode

3) Points of attention
   - Demonstrate strong market orientation
   - Investment = revenues = Financial Plan
   - Industry
Pilot Action: Selected Impacts

1) **Accelerated Maturity**
   - Pre-commitments of investment/purchases/lead-user involvement
   - Bonding Regional Ecosystems
   - Champion Cases

2) **Spill-overs**
   - New collaborations
   - Unlocked Funding From Mainstream programmes (e.g. H2020)
   - Less advanced regions
3/ Capitalisation results

Eye on the partnerships
Capitalisation Exercise and Smart Regions 2019

1) Capitalisation Exercise:
   - 14 regions from across 9 Partnerships, each involved in between 1 and 7 Partnerships
   - Depth, semi-structured interviews (11) – triple helix partnerships
   - 54 stakeholders (14 private sector; 20 research / science; 25 public sector) → stronger ‘policy’ perspective

2) Smart Regions 2019:
   - ‘Learning from Triple-Helix Perspectives’ (5 regions from group above)
   - Shared ‘stories’ and insights based on challenges, successes, learning and practices
Key Findings - Capitalisation Exercise

- Different expectations and perceptions of ‘success’ from Partnerships and domestic contexts

- Across regions, a clear spectrum of innovation capacity

- Key barrier to sustainability of effort: deficit in domestic, senior/political commitment and financial investment ‘know-how’

- Towards building robust foundations for S3 Partnerships landscape
Effective S3 Partnerships: benefits and insights

- Relationship between S3 interregional collaboration and adopting a market-led, value chain orientation

- Spillovers and network effects

- Core characteristics of effective Partnerships:
  - Partnership: Permanent coordination function / support (SPC)
  - Domestic: Strong domestic support and governance structures (vs ‘gatekeeping’)
  - Domestic / Partnership: Innovation investment capacity
  - EU: Streamlined access to technical knowledge / expertise
S3 Partnerships - overview of challenges

- Incomplete Single Market
- No financial support for ‘transactional’ costs
- No tried and tested joint innovation investment ‘roadmap’
- Domestic innovation investment environments - patchy
- Governance blockages:
  - TSSP landscape
  - in Partnership
  - connecting to domestic governance
High level findings – Business Cases

- The additionality of the Pilot (speed, finances, focus, resources)
- Clear evidence of interregional funding gap
- Evidence of market failures:
  - Information deficiencies
  - Co-ordination failures
  - Non-rival information
Establishing a post-2020 legacy for S3 Partnerships and joint innovation investment

- Valuing learning within & across S3 Partnerships
- Strategic planning & coordination of support needs
- Addressing gaps / weaknesses across EU innovation investment landscape

Performance management:
- Define ‘success’
- Allow failure
- Post-2020 EU innovation investment policy - reduce fragmentation and improve connectivity
Thanks!

Next in line: i3

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