



# Working Group on Interregional Cooperation

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Dr Vincent Duchêne (IDEA)

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## 1. Introduction and objectives of the WG

The Working Groups developed within the S3 Community of Practice (S3 CoP) aim to create a learning loop for S3 stakeholders on the fulfilment of the S3 enabling condition<sup>1</sup> focusing on industrial transition, innovation diffusion and interregional cooperation. Interregional cooperation is one of the seven fulfilment criteria underlying the good governance of national or regional smart specialisation strategies (so called enabling condition). Interregional cooperation means that, building on the priorities set out in each S3, regions should seek for opportunities for international collaboration between research actors, innovation actors, private companies and citizen/civil society, in similar areas and based on mapping of complementarities. Measures should be put in place and promoted to engage regional stakeholders (universities and RTOs, companies, clusters and civil society) in participating in and developing international value chains, innovation-driven collaboration networks etc. As a result, S3 2021-2027 should have a more explicit “outward-looking dimension” than was the case under the 2014-2020 versions.

In this context, the main purpose of the Working Group is: 1) To collect and document existing knowledge and good practices; 2) To identify common needs, problems and challenges; 3) To co-develop with the regions potential solutions (new approaches, policies, instruments, and coordination mechanisms), and 4) To support and monitor the deployment of solutions and adapt them to regional specificities. The main target audience for the activities and output of the WGs are regional (and where appropriate national) authorities in the implementation of the enabling condition. Throughout the activities of the WGs, we envision to follow a bottom-up, iterative and peer learning approach to facilitate exchanges of experience among regional stakeholders.

The WG “Interregional Cooperation” will operate in close relationship with “Thematic S3 Platforms and Partnerships”. The WG will design its activities based on the analysis of interregional partnerships, corresponding to different needs and challenges amongst them. This WG will function as ‘test-bed’ for Thematic Smart Specialisation Partnerships (and any other relevant form of interregional partnership) by exploring or co-developing new solutions or approaches to support the development of interregional cooperation. The WG will liaise with activities, needs and challenges of ongoing interregional partnerships (e.g. links to WP7 for the management of TSSPs, links to WP6 for support to S3 in the regions etc.); members of the WG will be selected partly because of their experience with interregional cooperation etc. The outputs and proposed solutions will be discussed and tested with a broader group of regional practitioners in dedicated webinars. These webinars can be organised per WG in a

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<sup>1</sup> The enabling condition “Good governance of national or regional Smart Specialisation Strategy” as set out in Annex IV of the Regulation (EU) 2021/1060 of the European Parliament and of the Council the proposal for the Regulation on Common Provisions of the European Funds for 2021-2027 (COM/2018/375 final) was approved by the European Parliament and the Council on 24 June 2021 and is known as (EU) Regulation 2021/1060[2] (CPR).

tailored way, to promote, discuss and refine the outputs of the WG towards a larger community of regions.

## 2. Literature review and analytical framework

Literature and practices usually attribute two types of advantages when one enters (some form of) interregional cooperation. These advantages can be seen either:

1. at the level of an *individual regional actor* of the corresponding innovation ecosystem (being a company, knowledge institute, RTO, or cluster organisation), or
2. at the level of the *regional policy* and regional innovation eco-system as a whole, i.e. as a system and not in its separate components<sup>2</sup>.

### 1. *Benefits of interregional cooperation for regional innovation actors*

Regional innovation actors obtain greater benefit from taking part in interregional cooperation than those that do not take part as this allows them **to access resources, skills, knowledge, and capabilities that do not necessarily exist within their own regional ecosystem** and such as:

- Specific facilities (e.g. testing or demonstration equipment)
- Expert knowledge and/or dedicated skills allowing innovation actors to learn in the most efficient and timely manner
- Critical mass and economies of scale (i.e. new and more cost-effective division of labour)
- Access to larger communities of potential lead-users.

Collaboration can therefore present a cost-effective way of gaining access to important know-how and/or market potential that otherwise cannot be accessed.

In the context of **industrial modernisation** and speeding up market uptake of new technologies in industry, interregional collaboration has **additional, specific benefits**. By scaling up testing and demonstration across a larger set of facilities and regions, it can also **speed up certification** in and across industrial sectors, as well as **fostering the emergence of industrial standards**.

Finally, the advantages of interregional cooperation **tend to be higher for (industrial) SMEs** than larger companies that usually rely on a larger international networks of business units. Even though many SMEs are well-integrated in supply chains and well-connected to customers and clients across borders, most of them do miss collaborative links when it comes

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<sup>2</sup> AMATI, L. e.a. (2021), “A Practical Guide to Building and Managing Interregional Smart Specialisation Partnerships”, Brussels, October 2021; RAKHMATULLIN, R., HEGYI, F. B., LAROSSE, J., VAN DE VELDE, E., ROMAINVILLE, J.-F. (2021), “The Vanguard Initiative - a good practice of transnational and interregional cooperation”, JRC Science for Policy Report, November 2021.

to integrating or developing new technologies in their manufacturing processes because it requires additional assets and expertise outside the usual value chain<sup>3</sup>.

## 2. *Benefits of interregional cooperation for regional policies*

There is an ever-growing interest in various aspects of transnational and interregional cooperation. Traditionally, many national or regional policies and strategies have been developed through intensive in-house analysis and decision-making. However, because of the increasing complexity of policymaking, European regions do not possess an appropriate capacity to develop complex policies and as a result are not always able to internalise all necessary resources<sup>4</sup>. European regions clearly recognise the advantages that come with the participation in joint policy initiatives. **Being able to position one's own territory among other regions and countries is increasingly viewed as a pre-condition to identify priority areas for competitive and sustainable growth.** In fact, the concept of smart specialisation highlights the importance of the 'outward-looking dimension' that requires a continuous analysis of where the territory in question stands in relation to other territories.

A **better alignment of regional and national Smart Specialisation strategies** across the EU has the potential to help regions combine complementary strengths in research and innovation, exploit each other's research and innovation capabilities, acquire the necessary research capacities, and overcome lack of critical mass and fragmentation. It can also help participants exploit synergies between multiple existing funding sources including the European Regional Development Funds (ERDF), Horizon Europe, nationally and regionally available funds, and private financing. These funding synergies could allow regional stakeholders to minimise or share their investment risks and increase their profits.

## 3. *But interregional cooperation has coordination costs*

Despite all those potential advantages, one should also bear in mind that **interregional collaboration has inherent costs** as well, in particular coordination costs. In the context of EU funded projects, those costs are usually taken care of, but not necessarily when individual regions (or regional actors) decide to initiate interregional cooperation without interregional funding, EC funding (or any other interregional mechanism). Coordination costs are especially relevant when **regional actors are not used to co-develop interregional cooperation**: many regional clusters for instance, are by definition infraregional organisations created to foster collaboration amongst partners *within* the region. Their capacity and capability to initiate collaboration across regions is limited. This is also the reason why many starting interregional cooperation receives support in one way or another, such as in the context of the S3 Thematic

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<sup>3</sup> For instance, an industrial SME supplying metal structural components to automotive OEMs based on subtractive technologies but interested to integrate additive technologies in its manufacturing processes, may not have all partners at stake to help it integrate the new technologies because subtractive technologies have been the standard technology for decades in the corresponding value chains.

<sup>4</sup> MARIUSSEN Å.; RAKHMATULLIN, R., STANIONYTE L. (2016), Smart Specialisation: Creating Growth through Trans-national cooperation and Value Chains. Thematic Work on the Understanding of Transnational cooperation and Value Chains in the context of Smart Specialisation. EUR 28049 EN. Luxembourg (Luxembourg): Publications Office of the European Union; 2016, doi:10.2791/658931.

Partnerships. Section 4 below further discusses some of the ‘implementation challenges’ linked to initiating and developing interregional cooperation.

#### 4. *Analytical Framework to assess and monitor interregional cooperation*

A first possible analytical framework to support, monitor and assess interregional cooperation is presented below. It is largely process-driven and consists of five consecutive phases: Learn → Connect → Demonstrate → Commercialise → Scale-up. It was inspired from the Vanguard Initiative in 2014 and it has been continuously refined through ‘learning by doing’ and based on the experience of the Thematic Smart Specialisation Partnerships. This 5-phase approach aims to exploit network synergies for the co-creation of growth markets for related technologies. Of course, it will be further improved in the context of the S3 Communities of Practice and adjusted where needed.

*Figure 1 Interregional Cooperation: process framework*



Source: Rakhmatullin e.a. (2020), p. 9.

During the ‘learn’ phase, interregional networks identify opportunities for joint-demonstration between regions, based on a mapping exercise and detected complementarities between existing demonstration facilities and company needs. Subsequently, an analysis of the mapping results is carried out to identify the so-called first ‘matches’ and areas for potential cross-regional cooperation. A further analysis of these areas (through bilateral and multilateral contacts with regional experts and discussions during plenary meetings) helps identify a first batch of cases for cross-regional projects or activities (the ‘connect’ phase). The deployment of these projects is usually the weak spot in the whole process because it requires adequate funding, and interregional partnerships tend to rely too much on EU-funding with high selectivity, hence little predictability on available funding. There is still a major room for improvement in this regard for a better alignment, pooling or combination of regional funding for interregional projects. Deploying projects in ‘networked demonstration’ (“Demonstrate”) is expected to (and aimed at) paving the way for further upscale and commercialisation by de-risking business investments, since technology uncertainty and market failures still occur beyond TRL6.

#### 5. *Transversal conditions underlying interregional cooperation*

On top of this ‘process-driven’ framework, some transversal conditions also need to be in place for the process to be successfully deployed over the four key steps. Some of these transversal conditions are:

- **Governance and monitoring:** a clear and flexible governance model should be put in place right from the very beginning of any initiated interregional cooperation initiative. However, the governance model is subject to revision and adjustments according to the level of development and maturity of the initiative. While it should be kept simple and light at the beginning of a partnership's life, it should be further developed once it is being deployed and launches different projects or activities. Similarly, a monitoring system should be deployed in respect of a partnership's level of development. While at the beginning a rather simple mapping of key priorities in the regions might be enough to identify first potential areas for synergies and alignment, the monitoring should be deepened once it is about to map actors and capabilities, or once it is about to assess the projects or specific activities initiated between regions.
- **Skills and Human Resources:** Obviously, interregional cooperation between regions requires devoting enough capacity and expertise to this process. This is all the more important that many intermediaries or institutional agents of the regional eco-system (such as clusters, innovation agencies etc.) are generally 'inward-looking' and not used to set up interregional cooperation initiatives. Moreover, similarly to the governance model, the nature of expertise and combination of skills required also need to adjust according to the level of development of the initiative. While at the beginning a sound knowledge of the respective S3s and the related regional ecosystems is paramount, some other skills and types of expertise will be required when synergies are begin identified and activities are being initiated in specific areas. Then more technical and / or sectorial expertise would be required. Also, at some point some legal expertise might be required to set up specific cooperation mechanisms, as well as business plans expertise if the partnership has progressed up to the stage of attracting non-public investors.
- **Investment and financing:** A dedicated knowledge on funding possibilities (either at regional, national, interregional/international or EU level) is paramount, and this from the very beginning of any interregional initiative. Ideally, the expertise combined here should have a detailed overview on all existing possibilities and, if necessary, also on what is missing in the existing public funding landscape. Some interregional initiatives or partnerships tend to depart from one specific expertise or instrument (such as ERDF), which biases from the very beginning the synergies' identification process. Ideally, that process should occur regardless of the possible funding options since any interregional partnership should support what is needed, and not what is fundable. If what is needed makes sense but is not fundable, then the partnership should be able to identify possible new funding solutions. As we already said, there is still a large room for improvement in combining regional funding schemes in a smart way and independently from EU funding. Some good practices, for instance, already exist in

this regard and could be inspirational for others, and/or could be expanded to other regions<sup>5</sup>.

- Industrial / private backing:** Interregional partnerships should lead to reinforced innovation and regional policies by e.g. reducing fragmentation, aligning S3s, creating critical mass etc. But at the end, the ultimate goal is to improve industrial competitiveness by de-risking investment in new technologies. Therefore, it is paramount to involve the private and industrial sector in one way or another from the very beginning of any interregional initiative. At the beginning this could be done by relying on ‘intermediaries’ such as clusters or industrial/sectoral federations. But as soon as some detailed synergies have been identified and projects ideas are being defined, it should be submitted to some ‘sounding board’ of industrial companies, in order to provide a reality check on the proposed ideas. This good practice has been followed by some S3 partnerships in the past. It also helps refine the business case for subsequent financing rounds.

### 3. Interregional cooperation through Thematic Smart Specialisation Partnerships

We propose a first tentative “typology” of interregional partnerships, starting from the experience with S3 Thematic Smart Specialisation Partnerships, followed by some concrete cases.

Interregional cooperation amongst EU-regions can take different forms and follow different paths. Interregional partnerships (as well as their results achieved, challenges encountered and needs) also differ according to their level of maturity. One could use a “typology” of interregional cooperation partnerships, and using the scale of ‘emerging’, ‘exploring’, or ‘established’ partnerships (see also table below). Each type within the typology requires different support in view of demonstration, scale-up and commercialisation. Differences between partnerships are largely due to differences in the duration of the partnership (e.g. 3DP having started its activities much earlier than Smart health). But the experience of some more advanced partnership should be analysed and used as evidence to help other, more recent partnerships progress more efficiently.

*Table 1 Proposed typology of partnerships to form a basis for the type of support to be provided*

Categories	Example	Description	Possible services
Emerging	Food Packaging	Partnership has initial commitment of regions to participate, regional commitment is intermittent, general scope is outlined, specific demo cases are selected and not elaborated or limited in their	Support for training on interregional collaboration and

<sup>5</sup> For instance, some ERA-Nets were continued on voluntary basis by regions after the EU funding stopped (e.g. ERA-SME across Belgium, France and Germany). The Vanguard Initiative is investigating at this moment how a specific interregional funding instruments could be set up and that would be operational in 2024. That instrument would be solely based on own regional funding (with or without ERDF funding).



		elaboration, pathway towards demonstration is not outlined.	capacity building and community backing Support for (re)scoping Support for mapping competences
<b>Exploring</b>	High Tech Farming	Partnership has confirmed regional commitment, an active community of core regions, a clearly defined scope with at least two demo cases elaborated, though perhaps not yet implemented.	Support for demonstration Support for governance Support for funding assistance and investment
<b>Established</b>	High Performance Production through 3D-Printing / Smart Sensors for Agri-food	Partnership has confirmed regional commitment, an active community of regions, clearly defined demonstration cases, some of which having already been executed and is looking towards scale-up and commercialisation. Partnership has already executed several successful projects, such as I3	Support for scale-up and commercialisation Support for governance Support for funding assistance and investment

Source: IDEA Consult

- Emerging.** An emerging partnership has a general scope that is outlined, where specific demo cases may be selected and not elaborated or limited in their elaboration. The pathway towards demonstration is not typically outlined, and funding has not been explored. The age of a partnership should not be the main factor in determining whether a partnership is emerging or not, e.g., it may be the case that some older partnerships are still at a general scope and have had limited activities. These regions may need to be reanimated to assess the commitment to continue the activities under the new support or whether they wish to revisit the scope (rescope), partners and activities proposed. It could be foreseen that some dormant partnerships are reanimated with a new scope, new demonstration cases or new regions. These partnerships may also want to register as a new partnership.
- Exploring.** A partnership has confirmed regional commitment, with an active community of core regions, and perhaps a few satellite regions participating. The scope of the partnership is clearly defined with at least two demo cases elaborated, though perhaps not yet implemented. The participation of new regions is welcome, but not fundamental to the partnership's success. Funding streams have been explored, however some additional fine tuning of funding to the partnerships specific demo cases may be needed towards demonstration. Issues of governance, investment, and how to commercialise or scale-up potential solutions may need to be addressed.
- Established.** Established partnerships typically consist of an active community of regions, possibly with the backing of clear political commitment, or an involved party that forms a clear supporting community apart from the regions alone, e.g., Vanguard Initiative. Demonstration cases are clearly defined, to some extent already executed

and new cases are evolving as a function of the stakeholders changing needs. The partnership is specifically looking to commercialisation and scale-up as the next phases of their development and seek mostly targeted support in function of these challenges, such as funding assistance, investment, access to finance.

In the following pages we describe and assess the level of development of some concrete interregional partnerships:

- **Food Packaging**, an example of an emerging interregional partnership.
- **High-Tech Farming**, an example of an exploring interregional partnership.
- **High Performance Production through 3D-Printing**, an example of an established interregional partnership

*Box 1 Food Packaging: an example of an emerging interregional partnership*

**Title of partnership:** Food packaging

**Year established:** 2022

**Number of regions:** 17

**Active regions:**

Leading regions: Flanders, Belgium (BE), Wallonia, Belgium (BE)

Participating regions: Aragon (ES), Auvergne Rhone-Alpes (FR), Bourgogne Franche-Comté (FR), Bretagne, (FR), Catalonia (ES), Emilia Romagna (IT) Galicia (ES), Helsinki-Uusimaa, (FI), Latvia (LV), Lithuania (LT), Navarra, (ES), Pays de la Loire (FR), Slovenia (SI), Southeast Sweden (Blekinge, Kalmar, Kronoberg) (SE), Zachodniopomorskie (PL)

**Scope of the partnership:**

Main aims and objectives:

- The objective of this Thematic Partnership is to create a collaboration structured in a quadruple helix (clusters, companies of the food packaging value chain, relevant RTOs, and consumer associations), through workshops and trainings in living laboratories. This way, new technologies and innovations in the packaging industry can be developed.

Focal points within the broad theme:

Three key topics: circular packaging, smart & personalised packaging, and packaging & logistics.

**Latest activities:**

- New Agri-Food Partnership officially approved in autumn 2022.
- Interest for future calls.

Private sector involvement: High: clusters are on the lead.

- Exchanges with the ECCP Clusters organisation to support partners in organising a meeting in the framework of the ECCP event “Clusters meet Regions” in Barcelona.
- Presentation in a partners’ meeting on the new opportunities for the S3Partnerships in the current period and discussion with partners (official letter of approval needed to involve closely regional authorities in the partnership’s activities).

**Projects developed and their status of execution:** None

**Connected initiatives or communities:** -

Source: IDEA Consult

*Box 2 High-Tech Farming: an example of an exploring interregional partnership*

**Title of partnership:** High Tech Farming

**Year established:** 2017

**Number of regions:** 34 + 2 interested regions

**Active regions:**

Leading regions: Tuscany (IT)

Participating regions: Aragon (ES), Autonomous Province of Trento (IT), Basilicata (IT), Bretagne (FR), Catalonia (ES), Central Macedonia (EL), Centro (PT), East Netherlands (NL), Emilia Romagna (IT), Estonia (EE), Extremadura (ES), Flanders (BE), Friuli-Venezia Giulia (IT), Galicia (ES), Gelderland (NL), Kanta-Häme (FI), Limburg (NL), Marche (IT), North Brabant (NL), North East Romania (RO), North Netherlands (NL), Northern Ireland (UK), Norway (NO), Pays de la Loire (FR), Požega-Slavonia (HR), Provincia Autonoma di Bolzano (IT), Randstad (NL), Slovenia East (SI), South Holland (NL), South Ostrobothnia (FI), Veneto (IT), Weser-Ems (DE), Western Macedonia (EL)

Interested regions: Luxembourg (LU), Montenegro (Ministry of Montenegro) (ME)

**Scope of the partnership:**

Main aims and objectives:

- To foster the use of new technologies in the agriculture, which could lead to the discovery of new ways to detect diseases and pests, the improvement of the health and wellbeing and the use of advanced solutions in small farms.

Focal topics within the broad theme: The focus areas of this partnership relate to 4 Value Chains: arables, horticulture, protected cultivations and livestock.

They are segmented in the following technology areas:

- EYES & TOUCH to monitor what is happening (Meteo sensors, Soil sensors, Canopy sensors, Product sensors; On-board/proximal sensors),
- MIND to elaborate data and provide instructions (Data acquisition, Data analysis, Layers/images, DSS),
- INTELLIGENT ARMS to do precise and timely activities (Machineries, Programming/Automation, Robotic),
- technology oriented SERVICES (Installing, Maintenance, Repairing),
- and educational oriented SERVICES (Training, Demo farms and sites).

**Latest activities:**

- Although affected by the pandemics, pilot projects are being developed.
- The Partnership is planning to consolidate the new governance with a form of European Association.
- The lead-region of this partnership is very committed in finding new ways for involving EU funds managing authorities at the regional level in supporting interregional S3 operations
- Private sector involvement: The engagement of the businesses has to be considered satisfactory as it has allowed the generation of the current pilot projects. However, due to the pandemics “all the pilots are on hold”.
- Main challenges and needs:

Keeping partners committed without direct resources from EU.

Alignment of funding from regional programmes.

Expert support in the areas of interoperability; data management; set up of a software platform to build out services at interregional level; and coordination support to align stakeholders and offer cross regional services.

Legal expertise to operationalise the Governance model of the S3 HTF partnership.

Find ways to support the Programming and Tendering at interregional level for Managing Authorities.

Administrative capacities in interregional operations.

#### Projects developed and their status of execution:

- Smart Agri Hubs: Implemented
- agROBOfood: Implemented
- ERA-NET ICT AGRICULTURE (Horizon 2020): Deadline 2024

#### Connected initiatives or communities:

ERIAFF

Source: IDEA Consult

#### *Box 3 3D-Printing Partnership: an example of an established interregional partnership*

**Title of partnership:** High Performance Production through 3D Printing

**Year established:** 2014

**Number of regions:** 27 + 5 interested regions

#### **Active regions:**

Leading regions: Flanders (BE), Norte (PT), South-Netherlands (NL)

Participating regions: Aragon (ES), Asturias (ES), Autonomous Province of Trento (IT), Auvergne Rhône-Alpes (FR), Baden-Württemberg (DE), Catalonia (ES), East Netherlands (NL), Emilia Romagna (IT), Gavleborg (SE), Lombardy (IT), Lower Austria (AT), Malopolska (PL), North Rhine-Westphalia (DE), Orebro Lan (SE), Piedmont (IT), Saxony (DE), Saxony-Anhalt (DE), Skåne (SE), Slovenia (SI), South Region (Provence-Alpes-Côte d'Azur) (FR), South Tyrol (IT), Tampere (FI), Upper Austria (AT), Wallonia (BE)

Interested regions: Bavaria (DE), Cantabria (ES), Liberec region (CZ), Lower Saxony (DE), Veneto (IT)

#### **Scope of the partnership:**

Main aims and objectives:

- Among the most innovative manufacturing solutions of the last decade, additive manufacturing (AM) technologies have been identified as one of the most promising production technologies worldwide. The potential of smart production and efficient processes open up new perspectives, which have very often been associated with a possible new "industrial revolution". This partnership focuses on detecting opportunities for joint demonstration between regions, based on a solid exercise of identifying complementarities between existing demonstration facilities and business needs. The proposed area is one of the Vanguard Initiative Pilot Projects. This pilot is aimed at accelerated deployment of new 3DP applications. The focus is on applications at the post-prototyping level.

#### Focal topics within the broad theme:

- Automotive 1 - Multi-materials components by hybrid 3D Printing manufacturing, led by Emilia-Romagna (IT).
- Additive-Subtractive Platform - Additive-subtractive high precision & high finish production (high-end metals), led by South NL and Lombardy (IT).
- Machinery and Tooling - Structural Parts with Complex Shapes led by Wallonia (BE).
- Automotive 2 - 3D-Printed automotive components (mono-material) for large (>2500 mm), medium and small complex parts, led by Aragon (ES).
- Healthcare - 3D-Printed customised components for orthosis, exoskeleton and exoprosthesis, led by Emilia-Romagna (IT).

- Multi-material 3D printing: Structural integrated electronics in 3D printed parts, led by Upper Austria.
- AM in the Built Environment, led by South NL
- Efficient collaborative robot through 3D printing optimisation, led by Catalonia (ES)
- Innovative hybrid (subtractive/additive) manufacturing approach for repairing added value damaged objects, led by Trentino (IT)
- Toolset for maintenance for 3DP and a training course for employees to do the maintenance, led by South NL

#### Latest activities:

- Private sector involvement:
  - The connection with the private sector is established through the Vanguard network.
- I3 related issues:
  - The VI 3DP Pilot submitted the I3 '3DOP' proposal on 22nd February (first cut-off date) and was selected for funding (currently in the phase of signing the GA). The submission of the proposal followed a 'bottom-up and open process', framed by general principles ('Packages of Investment Projects', 'supply-chain driven', 'addressing major bottlenecks and leading companies' needs').
- Main challenges and needs:
  - In some demo cases, the engagement of regions, and obtaining regional commitment of relevant actors remains a challenge in activating the demo cases.
  - In terms of the needs, the additional coordination support (at Pilots-Demo Cases levels) is very much needed since coordination resources need to follow the increasing number of partners and activities. The latter also includes methodological support related to 'awareness', 'standards/risks/certification', 'benchmark properties', 'IPR /confidentiality' related bottlenecks.
  - Moreover, support is needed for the matchmaking tool created for Advanced Manufacturing in general (and not only 3D printing), establishing country/regional-level updated investment guides (demand and supply of demonstration services), for organisation of Challenges-Solutions camp's organisation, support for development of the communication materials.
  - Solutions for funding identified industrial projects remain to be the main barrier. This has been temporarily and partially addressed (for 10 cases, EU wide) through the DG GROW 3DP Pan European Platform and I3 funding, however this remains a structural issue as new projects are continuously being designed and all cannot be funded by the I3 awarded project.
  - Support in terms of improving the virtual 'networking' environment of the partnership to facilitate connections among members is very much needed as well.

#### Projects developed and their status of execution:

VI 3DP Pilot submitted the I3 '3DOP' proposal on 22nd February (first cut-off date) and was selected for funding. Project was kicked-off officially on 15/02/2023.

#### Connected initiatives or communities:

- Vanguard Network

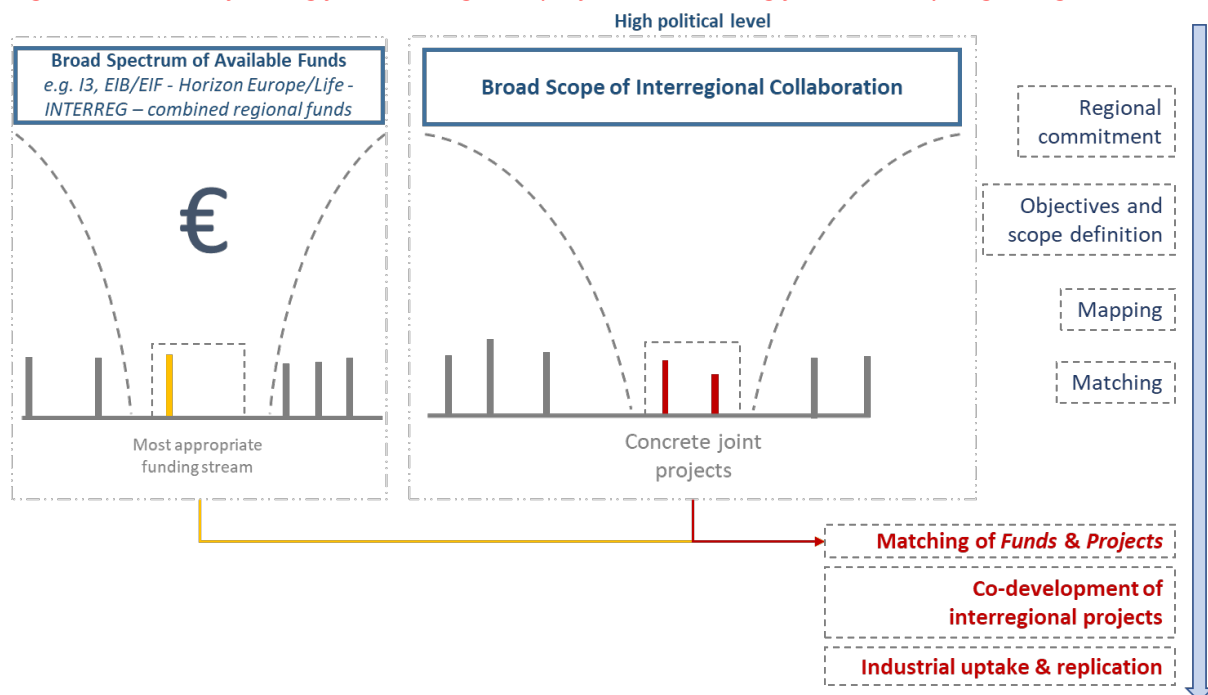
Source: IDEA Consult

## 4. Main implementation challenges

Interregional partnerships, in any format whatsoever, face in their operational implementation a series of common, cross-cutting challenges. Without being exhaustive, a first set of **three major challenges can be defined as follows**:

- 1. Ensuring a smooth, flexible but sustained regional commitment** is the starting point of any interregional cooperation. Commitment can take on many forms (i.e., set up a specific legal entity, signing a memorandum of understanding, having an open or closed partnership, among others), however it is important to check and reinforce regional commitment based on the specific needs of the region and the partnership and its stage of development. Good practices include: (i) not expecting regional commitment too early in the process, (ii) leaving room for smooth engagement and (if necessary) withdrawal; (iii) engaging the right stakeholders depending on the stage of the process (For example, policy officers will tend to be heavily involved at the beginning, followed by technology experts and then industry managers, cluster managers and companies, with the latter two being especially important for scale-up and commercialisation) and (iv) renewing commitment.
- 2. Finding the right scope for cooperation:** Once a minimum of well-committed regions has agreed upon a rationale and mission statement, the necessary next step consists of defining the scope of the cooperation. This is clearly one of the most important implementation challenges. It is very often forgotten (or badly managed), which leads to loss of time or, worse, loss of interest from the regions. The 'scope' of the partnership needs to be defined at the right level of granularity, i.e., it should be specific enough to trigger the interest of regional actors and industry, but it should be transversal enough to remain relevant for many companies and regions. Therefore, one has to define lower levels of activities that are detailed and operational enough to detect synergies. Defining such levels is a complex but necessary step. The scope of the partnership should be application-driven and demand-driven.
- 3. Access to funding for interregional projects or initiatives:** For the success of the partnership, it is paramount that the search for funding starts at the earliest stage possible, exploring what is needed, not necessarily what is fundable (see figure below). The search for funding goes way beyond EU funding and involves also combined/pooled/aligned regional funding, private funding, or other types of public funding (i.e., EIB-like types of debt/equity funding) that are closer to market. There is still a substantial room for improvement in aligning / combining existing regional instruments to fund interregional projects, as full alternative to EU-funding and its high selectivity. In that regard, it is remarkable to notice that the Vanguard Initiative has started in May 2022 (until June 2023) an in-depth study on how to actually align and combine regional instruments that would generate a truly interregional funding instrument for interregional, Vanguard-driven projects. The very aim of that study is to identify and set-up such a new interregional funding instruments from 2024 on (that would combine smartly what already exists in the regions). The study will be executed by IDEA Consult, partner of this consortium.

Figure 2 Access to funding for cross-regional projects – searching from the very beginning



Source: IDEA Consult

Many interregional cooperation initiatives also encounter to some extent **additional implementation challenges** such as:

4. **Designing mapping as regular monitoring mechanism** is one of the most critical tools supporting the progress of any cross-regional partnership, and it is used at several stages to identify complementarities between the regions (hence overlapping 'commitment', 'scoping', 'matching') and it should be conceived as a regular monitoring mechanism so that new, emerging complementarities can be identified (for instance when new regions join). One can distinguish two types of mapping at least:
  - a. Mapping of regional ambitions, assets, and challenges (usually at the beginning of an interregional cooperation life cycle): an adequate mapping of regional ambitions, assets and challenges should be conducted at the level of the relevant domains of applications, and it is a major tool to support the scoping phase.
  - b. Mapping of actors per domain of application. Once the scoping phase has been finalized, a mapping can be conducted at the level of the specific domains of application to map the relevant actors in the field.

Very often, however, interregional cooperation initiatives miss the necessary competences and continuity to implement such regular monitoring and mapping mechanisms. They are critical however to keep track of emerging synergies between regions. This should be built in into the governance model of any interregional cooperation initiative (sub-contracted or not).

- 5. Mapping is not Matching (yet):** The analysis of mapping data usually allows for a first identification of potential synergies between regions. However, the analysis runs rapidly against the limits of such an exercise and many interregional initiatives do not follow up on this first step sufficiently. The first results from the mapping analysis need to be further complemented, checked, and validated by experts in the regions. This requires the interregional cooperation mechanisms to foresee different levels of competences in their midst (cfr. Engaging right stakeholders, see point iii) in implementation challenge 1). Only then one can continue with a first set of validated 'cross-regional collaboration areas' (or projects). A next step in the process is the prioritisation and selection.
- 6. Co-developing cross-regional projects:** Based on the identification of first potential areas for cross-regional collaboration, a further definition and validation is needed with regional experts to answer the 5 following key:

  - a. How to exactly define the application at stake that could (should) be developed in a cross-regional setting? (i.e. which combination technology-infrastructure-services-regulatory environment)
  - b. What is the distance-to-market and the business relevance of the application envisaged?
  - c. What is the added value of cross-regional collaboration in this case? (Compared to what already exists within individual regions: critical mass and scale effects? Effects of scope? Reduction of redundancies? Access to wider community of potential lead-users? Faster emergence of standards? Etc.)
  - d. What are the particular assets of the regions interested to collaborate? Which actors are expected to collaborate?
  - e. What would be a first list of activities to be deployed and what would be the division of labour between regions and regional actors?
  - f. Many interregional cooperation initiatives, usually because of lack of resources, tend to neglect (or avoid) this step, while it is paramount to answer these questions for the future development of the interregional projects (business cases). At that point, a good practice consists of drafting short and sharp concept notes highlighting, documenting and justifying the answers to those five questions. A good practice also consists of submitting these concept notes to a panel of well-chosen industrial companies. These companies should be chosen based on the mapping exercise and should be able to play a substantial role in cross-regional project execution. This allows for a specific market check of the selected area, but also to detail the parameters of the project (for instance in terms of funding requirements).
  - g. Good partnerships, once a first set of cross-regional projects have been defined, often set up an own monitoring system with specific indicators to assess the pace of progress of the projects and, if needed, to stop some of them, while concentrating the support of the most promising ones.
- 7. Joining an existing partnership.** Thematic Smart Specialisation Partnerships are not fixed in their 'membership': they all are open to regions interested to join at a later



stage, and many (if not all) partnerships have also grown organically over the past years. But, while it is important to remain open to new members, joining an existing partnership can be a challenge, both for the new member (region) and for the partnership itself.

The new region joining the partnership usually misses the whole history and a lot of tacit knowledge that has been capitalised before it joined. While some of the elements can be codified in reports, concept notes, mapping exercises etc., a lot of ‘intelligence’ on e.g. the need for a specific thematic prioritisation or for a focus on types of interregional projects etc. is embodied knowledge held by specific partners of the participating and/or coordinating regions. Such elements of ‘embodied knowledge’ are not always updated and therefore, can be obsolete when the region is joining. For the new regions joining, it will be paramount to not only rely on existing documentation, but also to have an intense interaction with a diverse set of partners in the partnership. This is a time-consuming but critical process for the region to understand what the exact added value will be for its own priorities and actors. A good practice here consists of having an interested region first participating as ‘observer’, to ‘test the ground’ at lower costs before joining ‘for good’.

For the partnership, having new regions joining is also a challenge. While attracting many new regions might be an indicator of success for a partnership, it also runs the risk of diluting its priorities, its focus, its processes and its efficiency. A new region should be accepted under two conditions ‘sine qua non’: 1) if it represents a reinforcement of the existing partnership, either in scale (adding new competences, adding new equipment or infrastructure, creating even more critical mass, increasing the community of lead-users etc.) or in scope (adding new priorities, expanding the breadth of topics covered), and 2) if it offers sustained commitment, like the other regions (cfr. first challenge “Ensuring a smooth, flexible but sustained regional commitment”).

#### **8. Capitalizing on collaborisation experiences and the learning curve for new regions.**

A lot is already known on the implementation challenges for existing partnerships and their regions involved. A major effort remains, however, for the regions that have only little or no experience in interregional collaboration. Improving the awareness for the benefits of interregional collaboration and the capacity to enter into interregional cooperation, should therefore, be an important target of this working group. In that context, it is important to mention the ‘capitalising role’ that some instruments can play as ‘stepping stone’ towards more international or interregional collaboration for regions. It has been demonstrated, for instance, that specific instruments such as ERA-Nets or cascade funding systems (in the context of EU instruments such as Innosup for instance), have been important relays to move regional actors towards effective and more ambitious interregional collaboration<sup>6</sup>. In Belgium and in The Netherlands, for instance, companies having participated to instruments such as ERA-Nets, Eurêka or

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<sup>6</sup> IDEA Consult (2021), *Mise en place d’un cadre propice à la participation optimale des acteurs wallons aux programmes RDI Européens – Rapport final [Optimising participation by regional actors to European RDI programmes in Wallonia]*, November 2021, Brussels, p. 18 ; IDEA Consult (2022) *Nederland en het WTI-beleid van de EU – Ondersteuning Advies [The Netherlands and the EU STI Policy]*, October 2022, p. 63-88.

Eurostars, have two to three times a higher propensity to participate *subsequently* to more ambitious international programmes such as H2020 or HEurope (between 47% and 62%) than companies having participated to purely regional programmes (between 25% and 32%). Likewise, instruments such as Interreg can play a similar role for regional authorities as ‘stepping stone’ towards interregional collaboration. Obviously, building up trust and ‘social capital’ with other regions, as well as getting experience and developing capabilities in international procedures and instruments, are important conditions to develop international collaboration. Likewise, a well-developed landscape of intermediaries (e.g. clusters) with good connections to the local ecosystem and a minimum knowledge of interregional collaboration practices, is paramount and a critical asset to any region with international ambitions. This intermediary landscape, for instance, is needed to map regional capabilities as input to the identification of interregional collaboration opportunities.

## 5. Conclusion and way forward

The working group (WG) on interregional cooperation will function as a ‘test-bed’ for the development of new solutions and approaches to support the development of interregional collaboration. It will work closely with Thematic Smart Specialisation Partnerships.

Relevant solutions and approaches shared and co-developed within the WG will take into account differences in the level of development of interregional collaboration, as this will induce different needs and challenges too. It will follow a rather process-driven framework distinguishing different key steps in the deployment of any interregional initiative, as well as underlying conditions enabling collaboration across borders such as an adequate governance model, available expertise and human resources, expertise on funding instruments, and involvement of industry and the private sector.

Some of the implementation challenges identified by interregional partnerships may be used as a starting point for the key areas that the WG will tackle. Most of them are interlinked, or are even consequences of each other. Without being exhaustive, some of the most important ones are: 1) the lack of, or unstable, commitment amongst regions, 2) inadequate (or too rigid) governance model, 3) insufficient (or outdated) scoping (i.e. too general definition of collaboration topics, or obsolete definition of priority areas under the interregional collaboration initiative because e.g. underlying S3s have been revised, participating regions have joined/left etc.) and 4) insufficient attention or expertise devoted to the whole framework of funding possibilities. In addition, few partnerships involve industrial partners in one way or another as potential lead-users.

But besides existing partnerships, regions with little or no experience in interregional collaboration will be a major focus of this WG, dealing with topics such as improving the awareness for the benefits of interregional collaboration, helping these regions strengthen their capacity to enter into interregional cooperation, and capitalizing further on earlier experiences with other instruments such as ERA-Nets or Interreg.

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