

**Alignment at Trans-Regional  
Level: Case Study No.5**

**The Vanguard Initiative**

---



## Alignment at Trans-Regional Level

### Case Study No.5 - Vanguard Initiative

---

**Dissemination level:** Wider public

**Prepared by:** Italian Ministry of Education, University and Research (MIUR)

**Contributors:** INRA, UNIMAN, AIT



### ABSTRACT

The political leaders of 15 European industrial regions gathered on 30 January 2014 in Brussels to engage in a joint effort for the industrial future of Europe. The 'Vanguard Initiative for New Growth through Smart Specialisation'(VI) is now a network of 30 European regions and they are politically committed to support the wider application and visibility of smart specialisation principles with the aim of boosting EU competitiveness and to revitalise European industrial growth.

This is delivered by aligning regional areas of strengths and enabling co-investment on the basis of regional smart specialisation strategies.

The study highlights the benefits emerged in the analysis. Vanguard Initiative has enabled participating countries to achieve strong alignment at operational and financial levels, thanks to:

- (i) The development of a common methodology in 4 steps (learn, connect, demonstrate and commercialise). This approach has used and tested in the industry-led pilot projects and joint demonstration cases to further.
- (ii) the use of different sources of funding at regional, national and European level. The bulk of the costs of the Pilot projects are funded by the co-leads of the Pilots.
- (iii) the opening to the private sector for improving the access to financial instruments.

The case study builds on the ERALEARN2020 Task 4.4 ("Alignment at Trans-Regional Level"), and relies on an analysis of existing and potential modalities for aligning national/regional activities.

### ACKNOWLEDGEMENTS

The case study has been written by Luisa Garofalo from MIUR. The author is grateful to Valentina Pinna (Lombardia Region-Vanguard Initiative's Member of the co-ordination group) and Francesco Paolo Ausiello (Emilia Romagna Region Regional Representative) for their useful inputs.

She would also like to thank the ERA-LEARN Consortium partners and Advisory Board for their useful suggestions on earlier drafts of this case study.

## Table of contents

1. Introduction .....	4
2. Key features of VANGUARD .....	4
2.1 Overview .....	4
2.2 Principal outputs to date .....	6
2.3 Mission and activities .....	7
2.4 Governance structure .....	8
3. Overall strengths and key achievements of programme .....	9
3.1 Alignment at operational level: establishment of Interregional Networks - an original methodology .....	9
3.2 Alignment at financial level: synergies with different sources of funding, such as Horizon 2020 and INTERREG .....	11
3.3 Alignment at financial level: synergies for the access to financial instruments with Bio-based Industries Consortium .....	13
4. Conclusions: Suitability and key factors of success .....	14
REFERENCES.....	15
ANNEX 1. Pilots Projects .....	16

## 1. Introduction

This case study examines the key features and overall strengths and weaknesses of a specific alignment<sup>1</sup> modality, namely The Vanguard Initiative New Growth through Smart Specialisation.

The Vanguard Initiative is linked to European strategic approach focuses on the alignment of resources through smart specialisation. This means identifying the unique characteristics and assets of each region, highlighting its competitive advantages, and rallying regional stakeholders and resources around an excellence-driven vision of their future. It also means strengthening regional innovation systems, maximising knowledge flows and spreading the benefits of innovation throughout the entire regional economy.

The Vanguard Initiative “New Growth through Smart Specialisation<sup>2</sup>” is a political initiative of EU Regions that are committed to playing an active role in multi-level governance for the renaissance of industry.

In order to support a new industrial growth initiative for Europe, they intend to lead by example in interregional collaboration on the basis of smart specialization.

The Vanguard Initiative tries to generate critical mass which stems from a focused approach to interregional cooperation is essential for competing successfully on an international scale.

The initiative aims at working on implementation of smart specialisation strategies to foster better alignment between the regions, bottom-up cluster platforms and top-down European partnering initiatives.

Following the logic of the value chain approach firstly implemented by the Vanguard Initiative on new growth through smart specialisation and its pilot projects, and based on the explicit interest of many EU regions/Member States, the Smart Specialisation Platform (S3 Platform), with the support of the respective Commission services (DG REGIO, DG ENER, DG GROW and DG AGRI), has launched three thematic S3 platforms.

## 2. Key features of VANGUARD

### 2.1 Overview

Igniting economic growth through place-led strategy and energising stakeholders at regional level has been at the heart of the new European growth model based on regional smart specialisation. The model was launched by the European Commission in 2013 as a pre-condition for support from the European Structural and Investment Funds, and it was an “important concept for better and more targeted innovation policy” in Europe. In response, EU member states were compelled to harness the *entrepreneurial discovery process* (EDP) by mobilising their key stakeholders at regional and national level, in order to identify strategic priority areas for future investment for growth.

The first outcome of this policy initiative is the large-scale strategizing activities in Europe, that took place at regional and national level since 2013<sup>3</sup>.

---

<sup>1</sup> Alignment is the strategic approach taken by Member States to modify their national programmes, priorities or activities as a consequence of the adoption of joint research priorities [...] and improve the efficiency of investment in research at the level of Member States and the European Research Area.” National research priorities and programmes are usually implemented via national research performing organisation and/or national research funding organisations. The approach to coordinate research in national research performing institutes in a European research alliance on all stages of the research programming cycle is called “institutional alignment.”

<sup>2</sup> The Regulation (EU) 1301/2013 of the European Parliament and of the Council of 17 December 2013 is a legal base which defines ‘smart specialisation strategy’. Smart specialisation strategy’ means the national or regional innovation strategies which set priorities in order to build competitive advantage by developing and matching research and innovation own strengths to business needs in order to address emerging opportunities and market developments in a coherent manner, while avoiding duplication and fragmentation of efforts. A smart specialisation strategy may take the form of, or be included in a national or regional research and innovation (R&I) strategic policy framework.

Moreover, in the EC Communication '**For a European Industrial Renaissance**' it was defined:

*"... the Commission proposes to Member States to **combine regional and industrial policy** tools to **create Smart Specialisation Platforms** to help regions roll out smart specialisation programmes by facilitating contacts between **firms and clusters**, enabling access to the innovative technologies and market opportunities"*

In this broader context of the discussion on Industrial Policy Roadmap<sup>4</sup>, was created the Vanguard Initiative: New Growth through Smart Specialisation. The Declaration of the Vanguard Initiative was adopted on 8 November 2013 by high political representatives from 10 European regions<sup>5</sup> with a consolidated history of cooperation and already involved in ERRIN network<sup>6</sup>. The Vanguard Initiative has strongly focused on the EU Advanced Manufacturing (ADMA) arena.

The Vanguard initiative for inter-regional collaboration among the most advanced regions in Europe has been leading the process with political commitment, public sector initiative, and active mobilisation of research and innovation leaders, universities, businesses, professional and commercial associations and other boundary spanner organisations and individuals.

The political leaders are politically committed to revitalising European industrial growth by leading by example in boosting growth, competitiveness and innovation in their regions. This is delivered by aligning regional areas of strength and enabling co-investment, based on regional smart specialisation strategies. The political leaders in every partner region signed a joint declaration, **the Milan Declaration**, which sets out how this will be accomplished.

Therefore, The Vanguard was created as:

- a **political initiative** aiming at impacting the debate on European industrial policy;
- a **'fresh approach'** with a bottom-up perspective on new growth in Europe through smart specialisation;
- **'Leading by example'** in interregional cooperation.

European regions play an active role in the creation of new global competitive advantages for Europe with the interconnection of innovative value chains.

The participating industrial regions have committed themselves to smart specialisation in ADMA not only as the ex-ante conditionality for European cohesion policy, but as a guiding principle for their innovation and industrial policies to spur competitiveness and new growth<sup>7</sup>. The Vanguard Initiative supported the EC by defining a Smart Specialisation Platform for Advanced Manufacturing with the drafting of a scoping study that has provided significant details on the relative strengths of the Vanguard Initiative regions in ADMA and proposes a range of policy recommendations to the Commission.

Moreover, Vanguard Initiative has played a role in the consultation of the new European Cluster Strategy for Growth that is the key core/relevant part of Industrial Policy Roadmap. SMEs growth, industrial renewal and

---

<sup>3</sup> Todeva, E. and Ketikidis, P., Regional Entrepreneurship and Innovation Management: Actors, Helices and Consensus Space, Management Dynamics in the Knowledge Economy, Vol 5,2017.

<sup>4</sup> The 2014 Communication, 'For a European Industrial Renaissance', stresses need for Europe to focus on post-crisis growth and modernisation. It also calls on EU countries to recognise the central importance of industry for creating jobs and growth.

<sup>5</sup> Basque Country, Flanders, Lombardia, Malopolska, North Rhine Westphalia, Scotland, Skåne Region, Southeast Netherlands, Tampere Region and Wallonia. The initiative is now made up of over 30 European regions.

<sup>6</sup> ERRIN is a unique Brussels-based platform of more than 120 regional stakeholder's organisations most of whom are represented by their Brussels offices. ERRIN promotes knowledge exchange between its members, focusing on joint actions and project partnerships to strengthen regional research and innovation capacities. Through these actions ERRIN seeks to contribute to the implementation of the Europe 2020 Strategy, the Innovation Union flagship initiative and Smart Specialisation strategies.

<sup>7</sup> EC, how to support SME Policy from Structural Funds, Smart Guide to Cluster Policy,2016.

regional structural change were the key messages of the European Cluster Conference 2014 Declaration. And the evolution of regional clusters towards world-class clusters, the tool in support of them. The Vanguard Initiative gives its full support to those new impulses for industry clusters by bringing together regions where there is a political will to exploit the interregional networking effect, regions that are convinced that an effective implementation of the EU innovation and industrial policy for new growth needs to build on regional resources and capabilities and therefore are committed to the internationalisation of regional clusters with global potential, already identified by their RIS3, in cross-border and interregional networked European clusters and partnerships.

The initiative uses a holistic approach involving various actors and it is organised on various levels (Political and operational).

The Vanguard Initiative has so far launched 5 pilot projects, which have involved extensive mapping of value chains to narrow down the areas of cooperation that could potentially be suitable for industry involvement. Within these pilots, partner regions are committed to build critical mass and complementary specialisation in these emerging areas and to align strategic investments, combining their resources with European investments<sup>8</sup>.

Figure 1: Vanguard cooperation framework



Source: Vanguard Initiative, Annual Report 2015

## 2.2 Principal outputs to date

Smart specialisation is an effective approach for scaling up regional initiatives into European wide value chains, closing the gap with the markets and implementing EU priorities on the ground.

Vanguard Initiative has an important role in the realisation of this aim. To this end, Vanguard Initiative partner regions have organised industry-led pilot projects and joint demonstration cases to further explore opportunities to develop EU value chains by co-investment.

The programme developed the following outputs:

<sup>8</sup> Vanguard Initiative - New Growth through Smart Specialisation, TCI Members, 17 December 2014.

1. **5 thematic Pilot Projects** in the industry domains to explore opportunities for developing interregional joint demonstration.

The pilot projects/actions set up by the Vanguard Initiative aim to exploit the network effects of regional investments in co-developing and demonstrating new business solutions. The support mechanisms at all policy levels and across policy domains must be directed to the needs of the cluster roadmaps for new interconnected value chains. Vanguard Initiative's Pilot Projects have and are being used as a testing ground for the smart specialisation platforms.

The first pilot is ADMA Energy Pilot and it relies on:

- an inventory of around 120 organisations across 23 regions;
- a database of around 300 pivotal companies;
- 3 background studies and an industry survey on industrial challenges and technology needs;
- a Workshop on Industrial Challenges & Technology Roadmap with over 130 participants (27 January 2016);
- a Vanguard Initiative Matchmaking event and a report on the main outcomes of the panel sessions (26 February 2016);
- a Technology Roadmap report.

2. To date a total of **32 Demonstration cases** (called Demo Cases).

More detailed market-led cooperation opportunities have emerged from the 5 Pilot projects, focusing on a specific technology or application domain. While each Pilot Project is responsible for defining the criteria for selecting the Demonstration cases, the **Pilot Monitoring Task Group** discusses and further develops these for the benefit of future cases.

### **2.3 Mission and activities**

The political message of the Vanguard Initiative is that regional smart specialisation and cluster-based interregional cooperation are key to new industrial growth.

The aim of Vanguard Initiative New Growth through Smart Specialisation is to promote a more effective coordination of industrial and innovation policies in Europe in which the regions, their smart specialisation strategies and the bottom-up industry driven partnerships can play an important role in driving new industrial growth. Importantly, the Vanguard Initiative is based on an overarching commitment to drive a fresh approach for European innovation-driven industrial growth, based on developing greater coherence and alignment between bottom-up entrepreneurial dynamics for place-based innovation (in the regions) and top-down leadership for offering common perspectives (through EU policy). Enterprises and regional clusters need effective coordination of European, national and regional instruments to foster new industrial growth.

The smart specialisation Vanguard Initiative has embraced a set of five guiding principles to support and focus the efforts of the partnership on the level of a more effective coordination of European industrial and innovation policies to foster new growth:

- a common vision based on the need for a renaissance of industry;
- the driving force of “entrepreneurial discovery” to identify new growth opportunities;
- the unique role of smart specialisation in providing a co-ordination mechanism for innovation and industrial policies at regional and EU levels;
- the guidance by common European priorities for co-creation of European lead-markets;
- the mutual alignment of smart specialisation strategies and European strategies for renewed EU competitiveness, jobs and growth.<sup>9</sup>

---

<sup>9</sup> EWI, Vanguard Initiative new growth through smart specialisation - Engagement for a European Industrial Renaissance, 30 January 2014.



The Vanguard Initiative for New Growth through Smart Specialisation seeks to better position and embed the smart specialisation agenda within relevant EU policy frameworks through the following activities:

- **Matching strategic roadmaps** between regional, national and European policy levels: setting up of interregional networks that will foster alignment between innovation roadmaps for co-investment in European priority areas; support the European priority areas for the future of industry, in particular those that are identified in the Industrial Policy Communication of October 2012<sup>10</sup>.  
Indeed, the Vanguard Initiative has supported DG Enterprise in its development of a smart specialisation platform for Advanced Manufacturing (ADMA).  
Vanguard Initiative regions are committed to developing joint roadmaps for building critical mass and complementary specialisations in emerging industries.
- **Aligning strategic investments**, arising from these roadmaps, in order to open new industrial pathways via flagship projects such as demonstrators and pilots identified in the European priority areas. Vanguard Initiative regions are committed to combining their resources with European investments in these focus areas.
- **Upgrading regional partnerships and clusters** with global potential, which are identified in smart specialisation strategies, to European world-class clusters that can compete globally. Vanguard Initiative regions are committed to internationalising their cluster initiatives in cross-border and interregional networked European clusters and partnerships<sup>11</sup>. It engages in pilots for interregional and transnational cluster policy development. Moreover, it explores solutions to leverage public-private investments through European Investment Bank/European Investment Fund, in order to support demonstration and piloting of new value chains in European industry clusters.
- **Facilitating access to combined funding** for co-investment projects, taking advantage of better synergies between regional, national and European instruments to support this interregional collaboration.

## 2.4 Governance structure

The legal structure of Vanguard Initiative has changed to an Association<sup>12</sup> and the financial support is provided by the associated regions to enable financial sustainability of pilot actions. The Initiative is organised at different levels: political and operational level.

In the **political level** are represented the political leaders of member regions.

At the **operational level**, Vanguard Initiative Association is a governed by some Participating Regions<sup>13</sup> through its Board.

The **operational level** is also made up of:

- 1) **operational experts** engaged in the development of interregional joint demonstration cases;
- 2) **Task Groups:**
  - i) **Policy influencing Task Group**

For further developing policy development reflections and pursuing dialogue with the European Institutions, a **Policy Influencing Task Group** was created in 2015 (Chair: Scotland). The objective is to prioritise and focus the Vanguard Initiative's policy influencing activity in those areas of policy that are

---

<sup>10</sup> These priority areas are: Markets for advanced manufacturing and technologies for clean production; Markets for key enabling technologies; Bio-based product market; Sustainable industrial policy, construction and raw materials; Clean vehicles and vessels; Smart grids.

<sup>11</sup> Vanguard Initiative, New Growth by smart specialisation, Engagement for the future of industry in Europe Brussels, 8 November 2013.

<sup>12</sup> Non-profit association with legal personality under Belgian law(Asbl).

<sup>13</sup> Fiandre, Sassonia, Lombardia, Paesi Baschi, Catalogna, Auvergne-Rhone Alpes, Skane, South Netherlands, Emilia-Romagna.

most important to creating the conditions that enable our pilot projects to flourish (Clusters and Smart Specialisation, Investment and Cohesion Policy).

**ii) Pilot Monitoring Task Group(VPM) chaired by South Netherlands.**

Alongside the development of its activities, the Vanguard Initiative, notably through the Vanguard Pilot Monitoring Task Group, has developed a **strong dialogue and collaboration with the EC services** as to ensure the transition of information and sharing of experience.

This enables the European Commission to use this evidence to shape EU policy and structural support schemes for current and future 'Vanguard inspired' initiatives, aiming at fostering EU-collaboration and investment.

The form of collaboration being developed through the joint demonstration cases is something where there is little EU policy or context that can be drawn on, since the EU policy landscape relating to industry-led interregional collaboration is in development stage and is largely un-tested. The Vanguard Initiative has championed this agenda and continues to lead the way in carving out and shaping EU policy development in this area<sup>14</sup>.

**iii) Financial Instruments Task Group chaired by Scotland**

The Group has been created in 2015 for exploring options for the financing of interregional activities and pilot activities. The group involves financial instruments experts from the Vanguard Initiative regions.

### **3. Overall strengths and key achievements of programme**

Leading by example constitutes the key core of the Vanguard Initiative. The partners in the Vanguard Initiative for new growth through smart specialization share the ambition to be a frontrunner in new European industrial growth initiatives and to **lead by example**. The regions are the policy level that is the closest to understand and nurture the bottom-up dynamics of smart specialisation, but achieving systemic changes – which penetrate all policy levels– depends on appropriate success criteria<sup>15</sup>.

The Vanguard Initiative is pioneering a new approach to support EU industry internationalisation and competitiveness by bringing regions (and clusters) together to:

- discuss common objectives and find complementarities;
- map and better understand regions' industrial competencies and capabilities;
- develop joint strategic action plans (building critical mass and complementary specialisations) and
- align strategic investments arising from these roadmaps.

#### **3.1 Alignment at operational level: establishment of Interregional Networks - an original methodology**

The approach of Vanguard Initiative is to investigate and match specialism, to make industry connections in the identification of new ideas and opportunities and develop these into projects with commercial potential.

This approach has been reflected by the European Commission in their proposals for **Thematic Smart Specialisation Platforms**<sup>16</sup> and **European Strategic Cluster Partnerships for Smart Specialisation Investments**<sup>17</sup>.

---

<sup>14</sup> The Vanguard Initiative, Annual report 2015.

<sup>15</sup> EWU, Vanguard Initiative new growth through smart specialisation - Engagement for a European Industrial Renaissance,30 January 2014.

<sup>16</sup> The Smart Specialisation Platform (S3 Platform) assists EU countries and regions to develop, implement and review their Research and Innovation Strategies for Smart Specialisation (RIS3). Established in 2011 following the Communication "Regional Policy contributing to smart growth in Europe 2020", the role of the S3 Platform is to provide information, methodologies, expertise and advice to national and regional policy makers, as well as promote mutual learning, trans-national co-operation and contribute to academic debates around the concept of smart specialisation. The first thematic Smart Specialisation Platform was set up in 2015 to foster interregional cooperation in the field of energy.

<sup>17</sup> The Vanguard Initiative, Annual report 2015.

Initially developed in the context of the advanced manufacturing pilot projects, the Vanguard Initiative common methodology has been further tested and improved for application to the new thematic fields explored in 2015.

The “Vanguard Initiative methodology” consists of four subsequent phases: **learn, connect, demonstrate and commercialise**.

The methodology is being tested through five pilot projects.

The first three are in advanced manufacturing and were launched in 2014:

- (i) **Advanced Manufacturing for Energy Related Applications in Harsh Environments** led by Scotland and Basque Country,
- (ii) **High performance production with 3D printing** led by South-Netherlands, Flanders and Norte and
- (iii) **Efficient and Sustainable Manufacturing** led by Catalonia and Lombardy.

The second generation launched in 2015 are (iv) **Bio-economy**, led by Randstad region and Lombardy, and (v) **New Nano-Enabled Products** led by Skåne and Tampere Region.

These pilot projects are close to the market and therefore have a high commercial potential. This means the pilots focus on applications at post-prototyping level (> TRL5)<sup>18</sup>, with the potential for full market deployment in a time span of 3 to 5 years.

Figure 2: Vanguard Initiative methodology



Source: Vanguard website

The pilot projects are following a four-step methodology:

The first step is the **mapping of potential actors and infrastructures** for emerging value chains, innovation clusters and industries that will establish Europe as the leader of this new industrial revolution (**learn phase**).

The second step is the **matching of partners** in the identified value chains across the regions seeking to cooperate on a common roadmap (**connect phase**).

The “connect” phase of the Vanguard Initiative’s methodology is crucial in building coalitions between businesses and other innovation actors. These pilot actions have now entered the crucial stage of connecting actors across new European value chains. To facilitate this process, DG Regional and Urban Policy supported

<sup>18</sup> Technology Readiness Levels (TRL) are a type of measurement system used to assess the maturity level of a specific technology. Each technology project is evaluated against the parameters for each technology level and is then assigned a TRL rating based on the projects progress. There are nine technology readiness levels (TRL 1 is the lowest and TRL 9 is the highest).

a professional matchmaking event in early 2016 designed to accelerate the work of the Vanguard Initiative pilots<sup>19</sup>.

With the award by DG REGIO of a supporting grant in December 2015, a new impetus has been given to the development of the Pilots. This €400.000 grant supported the preparatory processes, the implementation and the follow-up to the Vanguard Initiative Matchmaking Event.

The Dutch province of Noord Brabant (South Netherlands) oversaw the management of this grant on behalf of the Vanguard Initiative.

The purpose of the matchmaking event was:

- to connect regional business and research actors in each of the five Pilot Projects;
- to identify opportunities and develop commercial opportunities within the joint demonstration cases;
- to develop capacity and potential models for supporting implementation of interregional demonstration cases (including e.g. funding/investment models, intellectual property regimes certification procedures, training, etc.).

The event hosted 27 parallel sessions focusing on the joint demonstration cases and brought them a substantial step further in their development. Some of them are now at the stage of having detailed conversations with company representatives, taking a first important step to shift the balance from industry inspired ideas to company-led initiatives. In addition, a number of parallel sessions was organised on topics such as certification, IPR, legal and business coaching, as well as one session on financing devoted to the Vanguard Initiative's envisaged Innovation Infrastructure.<sup>20</sup>

The third step is the **development of a network of pilots and demonstrators (demonstrate)** based on a commitment to 'co-invest' by businesses and public authorities by combined funding.

The final step, **commercialise**, is the implementation by business actors of new innovation and industrial investment projects in emerging industries.

The key objective of the Vanguard's Pilot Projects is to accelerate the development of specific commercial applications within the targeted value chains through the development of industry-led, multi-regional demonstration platforms. With that in mind, the pilots are focused at the applied end of the spectrum, and thus not on joint R&D projects. The focus lies also on cross-regional demonstration for projects which are close to market, i.e. showing a clear added value compared to what already exists at regional level and scaling up efforts with the aim of impacting on international markets. Finally, it targets activities with high commercial potential, i.e. industry-led. Bringing prototypes to production by testing the transfer and replication potential of applications remains a critical success factor for EU industry. This is the unique contribution which the Vanguard Initiative Pilots aim to deliver in supporting and securing EU growth and competitiveness.

### **3.2 Alignment at financial level: synergies with different sources of funding, such as Horizon 2020 and INTERREG**

For an effective growth strategy in Europe, the alignment of policies and instruments at European, national and regional levels becomes critical. The Vanguard Initiative proposes new ways to mobilise and align resources on the basis of regional smart specialisation principles and cluster-based interregional cooperation.

The final success of initiatives such as the Vanguard Initiative pilot projects will depend on complementing different sources of funding at regional, national and European level.

The regions of the smart specialisation Vanguard Initiative are committed to developing collaborative approaches based on joint efforts and the matching of resources. This involves joint investments to develop interregional projects and demonstrators of scale within and across EU sectors / niches of competitive advantage, and in line

---

<sup>19</sup> Panorama Info Regio N.54, Autumn 2015.

<sup>20</sup> The Vanguard Initiative, Annual report 2015.

with EU priorities. The proposed Smart Specialisation Platforms assist this process as an emerging “architecture” to bring together common interests and specialisations in a way which is currently difficult to activate and thereby foster the emergence of world-class clusters.

Smart specialisation seeks to avoid fragmentation of efforts by unnecessary duplication and generating sub critical investments in research, innovation and industrialisation.

Smart Specialisation also seeks to overcome the “lock-in” in traditional industrial structures with limited growth potential and to focus on scaling up the emerging EU growth industries.

The Vanguard Initiative underlines the role of pilots, test facilities, living labs, large-scale demonstrators.

The Pilot Projects are at the centre of the Vanguard Initiative and their establishment and development requires significant investment. The engagement and active participation by all regions involved is a key condition for a successful Pilot Project. Each participating region (and its organisations) is investing a lot of time and effort in the Pilot activities and is bearing the associated costs of doing so, however, the bulk of the costs of the Pilots are borne by the co-leads of the Pilots. It is undoubtedly the case that this support has enabled the Pilot Projects to progress to their current stage, but there are limitations to the sustainability of continuing with this approach.

Several co-lead regions have calculated costs so far and whilst they remain fully committed to the Pilot Projects and can see the value of their efforts, a more sustainable model is required. Recently part of Financial Instrument Task Group’s work has focussed on considering a solution for the future sustainability of Vanguard Initiative Pilot Projects. The work is split up in two strands of activities.

A first subgroup<sup>21</sup>, led by Scotland, is currently exploring the possibility of establishing a multiregional financial instrument focused on early-stage risk capital to support the ambitions of the Vanguard Initiative. The main benefits of such an instrument would be substantial leveraging of external finance through the pooling of existing resources, as well as the connection, by the fund manager, of investors and companies across regions thereby encouraging cross-border cooperation and investment. The experts meet quarterly and, as a starting point, have exchanged best practice in facilitating access to finance within their regions.

Secondly, within a subgroup for the pilot investments led by Flanders, 9 regions are currently active<sup>22</sup>.

action of this subgroup was a preparatory meeting. As a result, a survey was conducted to take forward the pilot investments on an interregional basis either through regional ERDF, voucher schemes and/or other demonstration funding possibilities. Based on the responses of 7 regions (Dalarna, Flanders, Wallonia, South Netherlands, Emilia-Romagna, Rhône-Alpes and Basque Country), representatives and financial experts discussed funding and co-investment options to scale up pilot activities and to strengthen investors’ know-how. IDEA Consult actively supports the exploratory and analytical work of the Task Group.

It is intended that the two subgroups of experts will merge into one task group, as their work becomes increasingly linked.

Following the development phase of the projects, the Vanguard Initiative has been evaluating the possibility to include various funding from the European Structural and Investment Funds<sup>23</sup> and the European Fund for Strategic Investments. The VI projects do not benefit from the Programme for the Competitiveness of Enterprises and Small and Medium-sized Enterprises (COSME) funding. Future COSME actions could create links to the Vanguard Initiative.

The Vanguard Initiative has proposed that a shared cost model should be developed and considered by the regions participating in the Pilot Projects.

The Vanguard Initiative submitted an **Interreg Europe** project in the summer 2015 and selected in February 2016–S34GROWTH. The lead applicant is the Baltic Institute of Finland (Tampere), and the consortium gathers the 9 pilot lead Regions. The objective of the project is to develop policy learning activities in the field of interregional development for industrial innovation and smart specialisation. It’s aiming at building further policy development

---

<sup>21</sup> Joining Scotland, Emilia-Romagna, Rhône-Alpes, Baden-Württemberg and Skåne.

<sup>22</sup> Basque Country, South Netherlands, Wallonia, Rhône-Alpes, Baden Wurttemberg, Emilia-Romagna, Lombardy, Skåne, and Central Sweden.

<sup>23</sup> Pooling ERDF finances through the ESIF Article 70 Regulation could be used.

on the basis of the Vanguard methodology “Learn, Connect, Demonstrate and Commercialise”. The project started in April 2016.

The Horizon 2020 work programme 2016-2017 for Industrial Technologies is creating links to the Vanguard Initiative Pilot. Indeed, the Vanguard Initiative participated in the **INNOSUP project** (Cluster facilitated projects for new industrial value chains). While the **INNOSUP** application was unsuccessful it was helpful in establishing a process by which these joint applications can be pursued and this has been helpful in further applications.

At least **6 projects are under development** within the pilots for submission in 2016 and a first success has been secured for the ESM pilot, within the **TREC 2015 Call** (Towards EU Regional Economic Convergence)<sup>24</sup> as the ERICA<sup>25</sup> consortium, which includes several Vanguard Regions has been launched soon.

This ‘bottom-up’ approach to Demonstration Cases financing is being combined with a more ‘top-down’ approach to Vanguard Initiative investment and funding vehicles. This exercise is being explored through the Financial Instruments Task Group and there is close coordination to align the ‘supply’ and ‘demand’ sides of the Vanguard Initiative investment and financing agenda.

### **3.3 Alignment at financial level: synergies for the access to financial instruments with Bio-based Industries Consortium**

The Vanguard initiative and its pilot projects seek to develop collaborations with strategic partners, networks and institutions for promoting investment pipelines for new value chains.

Indeed, the Bio-economy Pilot has already established a strategic collaboration with the Bio-based Industries Consortium (BIC) which has been formalized through a Memorandum of Understanding (MoU) signed at 21 June of 2016.

Dirk Carrez, Executive Director of BIC said, “BIC will work together with the regions in the Vanguard Initiative to exchange information and explore synergies between BBI work programs and Vanguard pilot projects on the bio economy. Our collaboration will identify opportunities for joint demonstration, accelerating the development and uptake of bio-based products, strengthening regional development and creating jobs. At the same time, I encourage European regions to explore different financing options, such as regional development funds, to help them bring to market innovative renewable products”.

The Bio-based Industries Consortium (BIC) is an industry driven association that was set up to become the private partner in the European Public-Private Partnership on Bio-based Industries, known as the Bio-based Industries Joint Undertaking (BBI JU). BBI JU supports industrial research and innovation to overcome the innovation ‘valley of death’, by bridging the gap from research to the marketplace. It creates partnership across sectors and bring together the resources needed to address the challenges involved in commercializing major technologies in agriculture, agro-food, biotechnology, chemicals, energy and other manufacturing sectors. Based on the MoU, the Pilot and BIC have agreed to work together on communication and awareness raising activities for mobilizing key stakeholders and promoting the importance of bio economy and bio-based industries. They have agreed to work together as equal partners on improving access to financial instruments and strengthening synergies between different funding schemes towards the creation of a more favourable investment environment. Lastly the Pilot and BIC have agreed to connect actors across regions and sectors along new value chains and to explore how the combination of different strengths can lead to a faster deployment of new technologies. Moreover, exchange of information related to BBI topics and Pilot cases will be promoted in order potential synergies to be exploited<sup>26</sup>.

---

<sup>24</sup> The main objective of this TREC call is to launch pilot projects reinforcing cooperation among clusters and related technology centres. These pilot projects should be in line with regional smart specialisation priorities, exploit growth opportunities and accelerate regional economic convergence across the EU.

<sup>25</sup> ERICA aims at establishing an interregional cluster partnership strategy lead by the main innovation and transference institutions (both clusters and technology centres) of each participating region (Catalonia, Lombardy, Nord-Pas de Calais and South Netherlands) in order to overcome current industry needs and constraints towards Advanced Manufacturing Smart Specialization Strategy, with a special focus on Efficient and Sustainable Manufacturing (ESM).

<sup>26</sup> Vanguard Initiative Bio-economy Pilot Action Plan 2017.

#### 4. Conclusions: Suitability and key factors of success

The Vanguard Initiative is about mutually aligning- and reinforcing- regional innovation strategies (smart specialisation strategies), to contribute to Europe's re-industrialisation, by accelerating the market take up of the new technologies and connecting and up scaling demonstration activities(post-prototyping) between participating regions.

Its results and experiences so far, in particular the Vanguard Methodology and the close cooperation with EC services, most notably DG REGIO and DG GROW have led the latter two to take inspiration from the Vanguard Initiative in the design of the European Commission's new Cluster Policy, in which Joint Research Centre - Institute for Prospective Technological Studies (JRC-IPTS) will also play a role. It is considered as key partner by the Commission for the development of Thematic Smart Specialisation Platforms and European Cluster Partnerships for Smart Specialisation Investment.

*Key factors of success:*

1) *At operational level*

- **The establishment of a common methodology** - The methodology uses a matrix approach that combines the 'vertical' dimension to set-up demonstration cases in value chains with the 'horizontal' dimension of providing cross-case services for the functioning of the eco-system (such as mapping, brokerage, roadmaps, cross-overs).

2) *At financial level:*

- **The development of collaborative approaches** based on joint efforts and the matching of resources of various sources of funding (Horizon 2020, COSME and ESIF). Each pilot is exploring specific funding options based on the identified project needs.
- **Collaboration and synergies** with private actors. The synergy aims at improving the access to financial instruments and strengthening synergies between different funding schemes.

## REFERENCES

### Literature

Todeva, E. and Ketikidis, P. (2017). Regional Entrepreneurship and Innovation Management: Actors, Helices and Consensus Space, Management Dynamics in the Knowledge Economy, Vol 5,2017

Available at :

<http://www.managementdynamics.ro/index.php/journal/article/view/205/168>

Vanguard Initiative Bio-economy Pilot Action Plan 2017

Available at :

<http://s3platform.jrc.ec.europa.eu/documents/20182/212042/Action+Plan+Bio+DEF.pdf/011b5dbe-4bfd-480c-9fa8-3205ac33801a>

The Vanguard Initiative, Report 2015

Available at:

<http://economie.wallonie.be/sites/default/files/Vanguard%20Initiative%20Annual%20Report%202015.pdf>

Vanguard Initiative - New Growth through Smart Specialisation, TCI Members, 17December 2014

Available at :

<http://www.tci-network.org/news/874>

EWI, Vanguard Initiative new growth through smart specialisation-Engagement for a European Industrial Renaissance,30 January 2014

Available at :

[https://www.asturias.es/Asturias/descargas/PDF\\_TEMAS/Europa/estrategia\\_asturias/AgO\\_Brochure\\_HighLevelEvent\\_2014.pdf](https://www.asturias.es/Asturias/descargas/PDF_TEMAS/Europa/estrategia_asturias/AgO_Brochure_HighLevelEvent_2014.pdf)

Regulation (EU) 1301/2013 of the European Parliament and of the Council of 17 December 2013

Available at :

[http://ec.europa.eu/regional\\_policy/en/information/legislation/regulations/](http://ec.europa.eu/regional_policy/en/information/legislation/regulations/)

Enabling synergies between European Structural application: and Investment Funds, Horizon 2020 and other research, innovation and competitiveness-related Union programmes, 2014

Available at :

[http://ec.europa.eu/regional\\_policy/sources/docgener/guides/synergy/synergies\\_en.pdf](http://ec.europa.eu/regional_policy/sources/docgener/guides/synergy/synergies_en.pdf)

### Consulted websites

<http://www.s3vanguardinitiative.eu/>

<http://www.s3platform.jrc.ec.europa.eu/s3-thematic-platforms>

<http://www.biconsortium.eu/about>

### Interviews:

**Valentina Pinna**, Lombardia Region – VI's Member of the co-ordination group

**Francesco Paolo Ausiello**, Emilia Romagna Region – Regional Representative



## ANNEX 1. Pilots Projects

- **Advanced Manufacturing for Energy Applications - Energy** - one of the VI pilot actions – launched in June 2014 with the objective to make the EU a global leader in manufacturing robust high integrity components for marine renewables and offshore energy applications. Currently, 13 regions are involved in this pilot Smart Specialization Platform for Industrial Modernization (S3P-IM) S3-IM partnership.
- **High Performance Production through 3D-Printing** - a VI pilot action, initiated in September 2014 with 16 (VI and non-VI) regions committed to develop a European demonstration network for 3Dprinting solutions. Currently, 22 regions are involved in this pilot S3-IM partnership.
- **Bio-Economy - Interregional cooperation on innovative use of non-food Biomass** – one of the VI Pilots aiming at development of new integral bio-based value chains by identifying synergies across sectors such as chemistry, agro, wood & paper, cosmetics and energy, and across the EU regions, thus leading to new business opportunities and co-investments through interregional cooperation and partnerships, exchange of information and ideas. Currently, 24 regions are involved in the pilot projects of which 5 focus the production sectors within the S3-IM partnership based on the smart specialisation priorities and 2 focusing Agri-Food issues are covered by the S3 Platform for Agri-Food<sup>27</sup>.
- **New Nano-Enabled Products** - another Vanguard Initiative pilot action focusing on identification of existing and missing value chains within nanotechnology across Europe. Five different demo cases for interregional S3 based cooperation are being implemented on this field with 13 EU regions collaborating on the activities such as Printed Nano-Electronics; Nano-Wires for ICT & Energy applications; Integrated Nano-Bio Systems; Pilot production Nano-Materials; and NanoMedicine/MedTech.
- **Efficient and Sustainable Manufacturing** - the fifth Vanguard Initiative pilot action aims at transferring the innovative solutions coming from research to industry and exploiting the potential of smart specialization in order to promote new efficient and high value-added supply chains. Currently, 22 regions/countries are involved in this pilot S3-IM partnership with 5 focus areas where demo cases have been identified such as: De- and Re-Manufacturing; Adaptive and Intelligent Manufacturing; Manufacturing of Advanced Components and Materials; Digital and Virtual Factory; and Efficient Manufacturing Processes.

---

<sup>27</sup> Short information on Smart Specialisation and the Thematic S3 Platforms boosting trans-regional cooperation within and beyond the EU Macro-Regional Strategies, March 2017.