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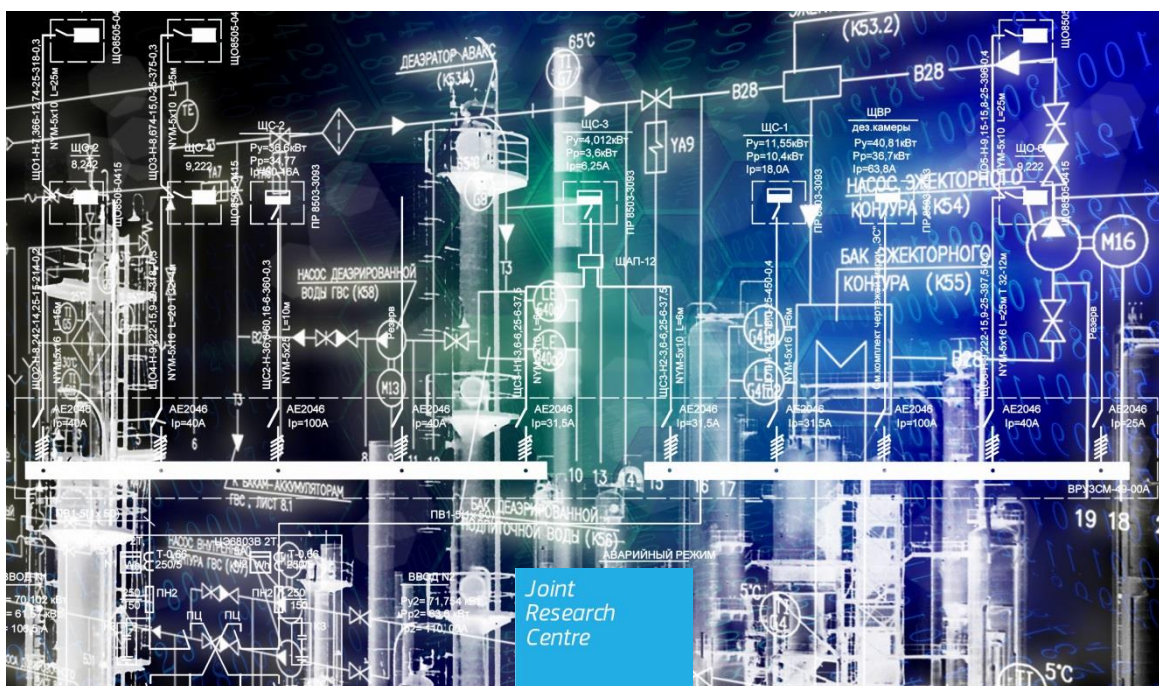
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Implementing smart specialisation - thematic platform on industrial modernisation

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Implementing smart specialisation - thematic platform on industrial modernisation

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Abstract

This paper offers an overview of policy and economic reasons behind the launch of the new Smart Specialisation Platform for Industrial Modernisation. It is argued that modernisation of the European Industry depends upon multiple innovations across many industrial areas linked to emerging value chains. Some European regions have access to leading R&D and upstream innovation facilities; others have industrial skills needed in downstream testing and industrial upscaling. This paper looks at how the new Industrial Modernisation Platform can help European regions to create and/or join transnational networks of knowledge and expertise, and drive the development of transnational and macro-regional value chains. Cooperation and outward-looking disposition promote an understanding of the competitive position of the country/region with regard to others, and with respect to global value chains. The paper summarises the progress made since the formal launch of the new platform in June 2016 and offers an overview of the existing partnerships that are currently supported by the platform.

Keywords

Regional innovation policy, smart specialisation, industrial policy, trans-regional cooperation, Thematic Smart Specialisation Platform on Industrial Modernisation

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The authors are grateful to regional authorities who have provided valuable information on their work within the S3P Industrial Modernisation thematic partnerships.

Policy Background

In 2010, the Council of the European Union (EU) underlined the concept of smart specialisation, with each region building on its own strengths, to guide priority-setting in national and regional innovation strategies, as well as cross-border cooperation where appropriate¹. It further invited the European Commission to advise EU MS on possible performance improvements of their national innovation systems and the implementation of smart specialisation strategies.

The concept of smart specialisation requires EU Member States (MS) and regions to focus their efforts and resources on a limited number of ambitious yet realistic RIS3 priorities (also referred to niches or activities), through which they would be able to develop excellence as well as compete in the global economy in a sustainable (financially, socially and environmentally) manner. When implemented, these strategies are expected to allow EU MS and regions to strengthen their research and innovation systems, maximise knowledge flows, improve absorption and utilisation capacities as well as spread the benefits of innovation throughout their economies.

While the concept of smart specialisation is increasingly recognised by policymakers as an important step towards reaching the Europe 2020 goals, the European Commission has formally introduced smart specialisation as a legal pre-condition or *ex ante* conditionality for using the European Regional Development Fund (ERDF) in the new funding period (2014–2020). To help in this, the European Commission established the Smart Specialisation Platform² (S3 Platform or S3P) at its Joint Research Centre in Seville, Spain in July 2011. The S3 Platform was established specifically to assist EU Member States and regions to develop, implement and review Research and Innovation Strategies for Smart Specialisation (RIS3).

These national or regional innovation strategies build competitive advantages by developing and matching research and innovation strengths with business needs while aiming to identify new and emerging market opportunities, and simultaneously, trying to avoid duplication and fragmentation of efforts. The RIS3 strategies are currently being implemented by national or regional managing authorities in close cooperation with other relevant stakeholders (including universities, industry and social partners) through what is known as a continuous entrepreneurial discovery process (EDP). In this context, European policymakers recognise a need to work together to align innovation roadmaps across European policies and territories. Any such transnational cooperative efforts require appropriate methodological development and related tools.

Public authorities and stakeholders across Europe have been designing their research and innovation policies based on a common set of methodological principles. The identification of key strategic areas for any RIS3 intervention can be achieved through an analysis of existing regional strengths and their potential impact on the economy. It also requires an ongoing process of entrepreneurial discovery with adequate stakeholder engagement. The very concept of smart specialisation encourages regional and national authorities to embrace a broader definition of innovation that goes beyond research-

¹ Council Conclusions on Innovation Union for Europe, 3049th Competitiveness Council meeting, Brussels, 26 November 2010.

² See <http://s3platform.jrc.ec.europa.eu>

oriented and technology-based activities, and requires a sound logic of intervention supported by effective monitoring and evaluation mechanisms.

Since its launch in 2011, the S3 Platform has become an important facilitator for EU MS and regions in the uptake and incorporation of the smart specialisation concept and methodology in their research and innovation strategies (RIS3).

Over the last 6 years, Member States and regions have prepared a total of over 120 smart specialisation strategies which establish (national and regional) priorities for research and innovation investments from 2014 to 2020. It is estimated that over EUR 40 billion (and more than EUR 65 billion including national co-financing) allocated to regions through the European Regional Development Fund will fund these priorities during this period.

*As a result, support to research, innovation and entrepreneurship is expected³ to help **15,000 enterprises** to introduce new products to market, to support **140,000 start-ups** and to create **350,000 new jobs** by the end of the programming period. In addition, **EUR 1.8 billion** has been programmed under the European Social Fund for strengthening human capital in research, technological development and innovation.*

As of January 2017, over 1,300 smart specialisation priorities have been encoded in the EYE@RIS3 database⁴ maintained by the S3 Platform. About 21% of these recorded priorities⁵ are linked to key enabling technologies (KETs), 16% are health-related, and 12% of all entries are related to the Digital Agenda⁶ (see *Figure 1* and *Figure 2* below).

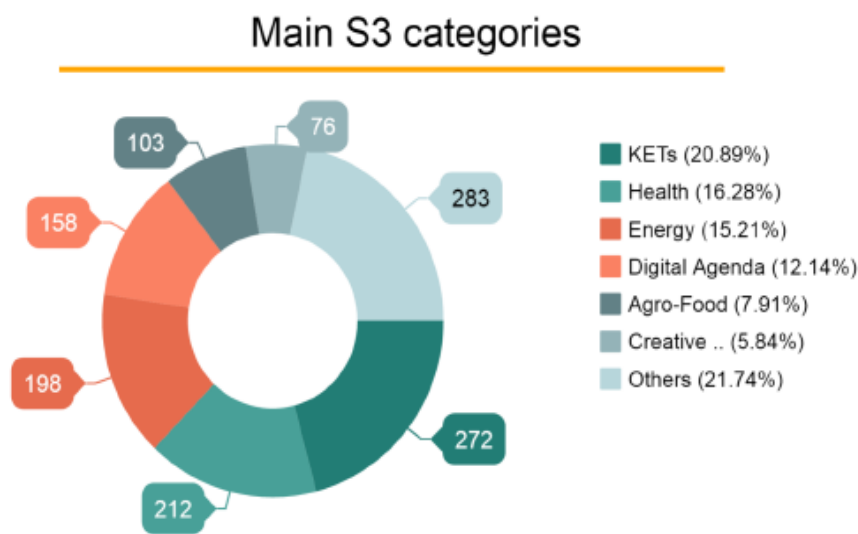


Figure 1: Main categories of EYE@RIS3 database
(Source: EYE@RIS3 database, 2017)

Close to two thirds (68%) of all regions and Member States (with priorities in the database) have indicated at least one priority related to key enabling technologies, while 58% of regions have at least RIS3 priority linked to the Digital Agenda.

³ As planned in the national or regional operational programmes for 2014-2020: <https://cohesiondata.ec.europa.eu/themes>

⁴ See <http://s3platform.jrc.ec.europa.eu/map>

⁵ It is important to note that many priorities can be related more than one category at the same time.

⁶ The Digital Agenda forms one of the seven pillars of the Europe 2020 Strategy.

Furthermore, a total of 6% of all priorities in the database are related to the creative industries. At least a third (34%) of all regions have indicated at least one such priority.

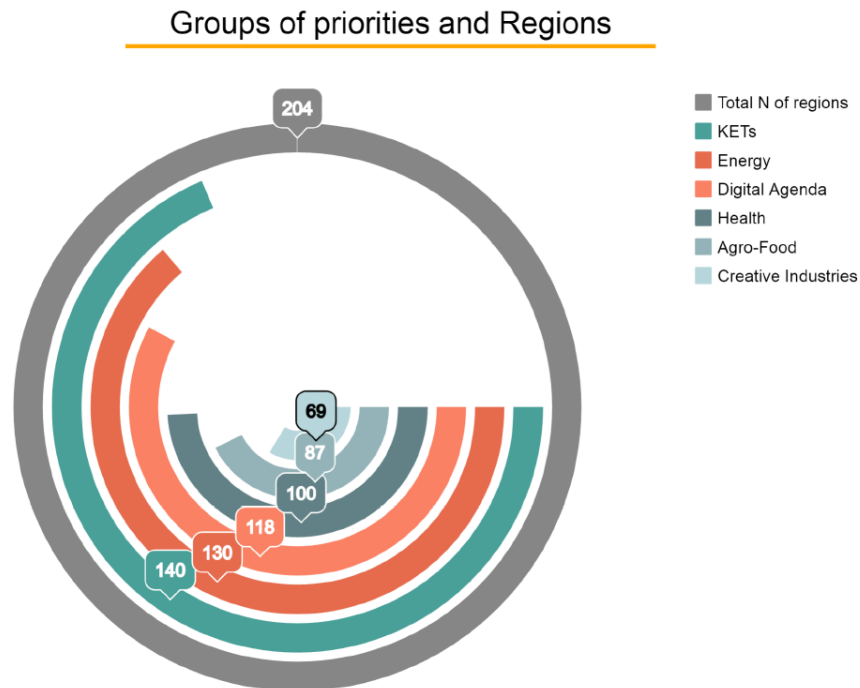


Figure 2: Smart Specialisation Priorities encoded by regions
(Source: EYE@RIS3 database)

Furthermore, a total of 36% of all KETs-related RIS3 priorities are related to Advanced Manufacturing Systems (AMS), while a further 29% of priorities are linked to Advanced Materials (AM). The third largest sub-group of all registered KETs-related priorities is related to Industrial Biotechnology (18%).

As of 2016, DG JRC (the Commission's in-house science service) had already undertaken significant work in a number of technology specific areas (including KETs and ICT). Some of this work contributes to the development of the technology itself, while other activities support the deployment of these technologies by various industries in EU regions, for instance, via smart specialisation. These activities were carried out by the S3 Platform, which supported the implementation of the EU's KETs strategy⁷ in encouraging and monitoring the industrial deployment of KETs along the value chain.

In addition, the European Commission fostered further diffusion by catalysing trans-regional cooperation on KETS. One particular contribution of the S3 Platform in this policy area is related to mapping regional KETs-related RIS3 priorities, including a broad mapping exercise of KETs priorities declared by regions in the context of their work on RIS3 strategies. This exercise was launched with a preliminary report⁸ on KETs in early 2013.

⁷ See http://ec.europa.eu/growth/industry/policy/key-enabling-technologies_en

⁸ See <http://ftp.jrc.es/EURdoc/JRC84659.pdf>

In its recent 2017 Communication⁹, the European Commission explicitly recognises the important role smart specialisation increasingly plays in shaping a more effective innovation policy:

*Smart specialisation strategies have been used to drive a more effective innovation policy and push interregional cooperation in **new value chains across borders**. Linking research and innovation actors with industrial stakeholders helps to exploit complementarities in the development of products and process design. This will help build and reshape EU-wide value-chains by encouraging the synergy of investment between the private and public sector. The creation of stable pipelines of projects matching the strategic priorities identified should be developed by the relevant stakeholders together.*

The S3 approach became increasingly accepted as a recognised strategic framework as the current focus on the RIS3 implementation is bringing regional policy closer to a variety of thematic policies from a systemic and place-based perspective. With no precedent to build upon such an extensive methodological framework for the implementation of research and innovation strategies, the S3 Platform developed and continues to elaborate new and innovative ways to support regional authorities in charge of such policies. In the implementation phase, these support measures vary significantly depending on the policy focus, target markets, identified needs or the commission services and/or type of authorities involved in the process.

Three thematic platforms¹⁰ were highlighted in the 2017 Communication as a unique opportunity for policymakers at EU, national and regional level to address these priorities in a regional context.

*The three thematic smart specialisation platforms have drawn significant interest as over **100 regions came together putting together 17 interregional partnerships** on common topics to foster innovation, value chain linkages and develop joint investments, with support from the Commission services.*

The *Thematic Smart Specialisation Platform for Industrial Modernisation*¹¹ (S3P Industrial Modernisation or S3P-Industry) was launched in June 2016 as a support action to accelerate the implementation of smart specialisation across the EU while contributing to the competitiveness and innovation capacity of the EU industry.

However, the Commission recognises that additional efforts would be required to integrate other large European initiatives with these platforms and their regional partnerships, to facilitate the commercialisation and upscaling of inter-regional innovation projects and to incentivise joint business investment. As a result, the new thematic platforms should also be used to deepen cooperation between less developed regions, regions in industrial transition and more advanced ones, to facilitate their industrial and technological transition.

⁹ [Communication](#) from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions Strengthening Innovation in Europe's Regions: Strategies for resilient, inclusive and sustainable growth {SWD(2017) 264 final}.

¹⁰ Thematic platforms on industrial modernisation, energy and agri-food

¹¹ See <http://s3platform.jrc.ec.europa.eu/industrial-modernisation>

Interregional cooperation in the S3 context

In its 2017 Communication¹², the European Commission suggests that Europe's competitive edge depends increasingly on its capacity to promote new regional level growth models, by targeting investments in innovative sectors with significant growth potential and high added value.

The European Commission further points out specific challenges that need to be addressed in order to achieve this:

Four challenges have been identified and need to be addressed:

1) Further reform of research and innovation systems within regions;

2) Increasing cooperation in innovation investment across regions;

3) Leveraging research and innovation in less developed and industrial transition regions;

4) Harnessing synergies and complementarities between EU policies and instruments.

New and existing networks of transnational learning (also known as communities of practice) can help regions tackle various obstacles linked to the implementation of RIS3. In fact, earlier research suggests¹³ that in addition to advancing various policy objectives, interregional learning can support the knowledge base of regional innovation systems, enhancing the potential for upgrading products, improving participating regions' position in global value chains, and leading to new opportunities and growth. As a result, new paths of development could be created through transnational collaboration on policy tools, effectively leading to transnational joint strategies of innovation.

One driver behind transnational and inter-regional collaboration in the S3 context relates to an attempt to overcome the lack of public investment in research and innovation, while trying to align various S3 agendas through joint S3 initiatives in order to overcome capability failures hindering innovation. Furthermore, transnational cooperation can be used to source new ideas, innovative approaches and skills. It can effectively improve facilitate transfer of knowledge, capabilities and learning. Regional authorities can address this particular challenge by connecting their regional innovation ecosystem with relevant actors outside their region by exploring opportunities across three key dimensions:

1. Emerging European and macro-regional networks and innovation eco-systems;
2. Global, European, and macro regional value chains and business networks;
3. New opportunities for entrepreneurial discoveries, exploiting the new possibilities created by the extension.

Collaborating in S3 countries/regions combines complementary strengths, exploits their competences in R&I, get necessary research capacity, overcome any lack of critical mass as well as fragmentation and access to global value chains.

¹² Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions Strengthening Innovation in Europe's Regions: Strategies for resilient, inclusive and sustainable growth {SWD(2017) 264 final}.

¹³ 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.

The European Commission suggests¹⁴ that linking innovation actors with relevant industrial stakeholders at the regional level and across the EU could help explore complementarities in the development of products and process design. This is then expected to enable the creation of new EU-wide value-chains by encouraging investment synergies between the private and public sector:

Smart specialisation is a new and different way of working together, which ensures stronger local and regional participation in decision making, and whose potential can be scaled-up for the benefit of the EU's regions and the EU as a whole¹⁵.

European Commission's ambition on restructuring the industrial processes

The European Commission has repeatedly confirmed its willingness to support the modernisation of Europe's Industry in order to ensure the EU's global competitiveness. This ambitious objective is now supported by a number of EC's Directorates-General (DGs) through a focused alignment of their multi-level policies. These DGs are now aligning their efforts aiming to support new strategic growth areas including those linked to the development in a number of strategic, cross-cutting areas¹⁶ such as key enabling technologies (KETs)¹⁷ including advanced manufacturing, clean vehicles and transport, bio-based products, construction and raw materials and smart grids.

These and other technologies are now recognised as the means to address important societal challenges, by facilitating new ways to new products and services and effectively leading to smart, sustainable and inclusive growth. They also play an important role in the research, innovation and cluster strategies of many industries. The automotive, aeronautics, energy and health sectors can be listed as examples of typical KETs application areas.

These technologies are also expected to result in new applications required for improving resource efficiency, boosting the fight against climate change, or allowing for healthy ageing. In other words, the role of these technologies is 'enabling', 'horizontal' and 'ubiquitous' in both new and traditional products. These technologies also possess a higher economic potential in terms of value-added and systemic relevance. They contribute to the restructuring of industrial processes that accelerate the transition to a knowledge-based, low carbon economy.

In its 2014 communication 'For a European Industrial Renaissance'¹⁸, the European Commission recognised that fostering growth and competitiveness to sustain and strengthen recovery and to achieve the goals of the Europe 2020 agenda have effectively become *the top priority* for the Commission and EU Member States. It is further acknowledged that Europe's mid and long term competitiveness is linked to extent to which the European industries are able to take advantage of these new technical

¹⁴ [Communication](#) from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions Strengthening Innovation in Europe's Regions: Strategies for resilient, inclusive and sustainable growth {SWD(2017) 264 final}.

¹⁵ *ibid*

¹⁶ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. A Stronger European Industry for Growth and Economic Recovery Industrial Policy Communication Update COM/2012/0582 Final.

¹⁷ KETs include Advanced materials, Advanced manufacturing systems, Industrial biotechnology, Photonics, Micro- and nanoelectronics (including semiconductors) and Nanotechnology.

¹⁸ *ibid*

opportunities. Hence, the new challenge ahead is for the European industry to explore these technological opportunities. To address this particular challenge, the European Commission encourages its Member States and regions to consider supporting potential spill-over effects of KETs-based solutions and, as a result, strengthen existing and possibly developing new European industrial value chains.

One way this could be done is through the integration of these technologies into national and regional RIS3 strategies. While generally KETs are technology- and research-intensive, various regions are able to participate in KETs-related activities in different roles. The S3 framework, coupled with an increase in interregional connectivity, can give rise to cooperation in deployment, diffusion or even co-innovation of applications. Such dynamics may be distributed between regions specialised in basic inventions and regions investing in specific application domains.

In addition, the adoption of new digital technologies can result in increased productivity of European Industry. Various EU policymakers agree¹⁹ that their transformative power and growing impact across all sectors can help redefine traditional business and production models while resulting in a range of new product and service innovations (also known as '*servitisation of industry*').

The European Commission offers a list of six additional actions that recognise the important role of industry for creating growth and jobs. Importantly, these actions confirm the ambition to mainstream industrial competitiveness in other policy areas, use the existing instruments for regional development to support innovation, skills and entrepreneurship as well as facilitate the integration of EU firms in global value chains. In its 2014 Communication²⁰, the European Commission commits to pursue a number of ambitious priority areas, including the following:

Advanced manufacturing: *implementing the Knowledge and Innovation Community on value-added manufacturing and establishing a Public Private Partnership on Sustainable Process Industry through Resource and Energy Efficiency, Factories of the Future, Photonics and Robotics, upgrading innovation capacity and competitiveness of Europe's manufacturing sector. The integration of digital technologies in the manufacturing process will be a priority for future work in light of the growing importance of the industrial internet. The use of 'big-data' will be increasingly integrated in the manufacturing process.*

Key Enabling Technologies: *this task-force is working on the identification of potential KETs projects of European interest in a number of areas including batteries, intelligent materials, high performance production and industrial bio-processes; facilitating pan-European access of SMEs to technological infrastructure; and exploiting further the possibilities of the Memorandum of understanding signed with the European Investment Bank.*

Bio-based products: *granting access to sustainable raw materials at world market prices for the production of bio-based products. This will require the application of the cascade principle in the use of biomass and eliminating any possible distortions in the allocation of biomass for alternative uses that might result from aid and other mechanisms that favour the use of biomass for other purposes (e.g. energy).*

Clean Vehicles and Vessels: *adoption and full implementation of the Commission's proposal on alternative fuels infrastructure, implementing the Green Vehicle Initiative and other H2020 initiatives promoting clean and energy efficient transport, pursuing global standards for electric cars and implementing the priorities identified under CARS 2020.*

¹⁹ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions for a European Industrial Renaissance. COM/2014/014 final.

²⁰ *ibid*

Sustainable construction and raw materials: setting up a EUR 25 billion EIB lending capacity for energy efficiency in residential housing; and improving recycling and sustainable waste management in construction.

Smart Grids and Digital Infrastructures: defining further targets for the development of smart grid components; revising and broadening standardisation mandates and development and guidance on performance indicators. The infrastructure and connectivity software for industrial internet is a priority area in the light of its growing importance and should help integrate high performance processes including cloud computing.

The European Commission also commits to working towards implementing the instruments of regional development with national and EU instruments in support of innovation, skills, and entrepreneurship to deliver industrial change and boost the competitiveness of the EU economy. It urges its Member States and regions to encourage investment while doing more to facilitate the integration of EU firms in global value chains to boost their competitiveness and ensure access to global markets on more favourable competitive conditions.

This position was further strengthened by the 2016 *'Communication, Digitising European Industry - Reaping the full benefits of a Digital Single Market'*²¹ which promoted digital transformation and recognised key challenges such as funding, ICT standardisation, big data or skills. While the communication further stresses the increasingly important role of the manufacturing industry in Europe, it further points out that a new industrial revolution is in fact driven by new generations of technologies including digital technologies such as big data. Hence, advances in new technologies²² pave the way for new and transformed products, processes and business models in all sectors ultimately creating new industrial patterns as global value chains shift.

Many of the strategic technology areas outlined by the Commission in the two Communication documents are closely intertwined with the areas of investment for Cohesion policy 2014-2020. The EC explicitly invites²³ Member States and regions to take these policy synergies into account in their industrial policies, as well as in their strategies for social cohesion and economic development of their regions. The European Commission further encourages regions to seek synergies between various EU instruments including Horizon 2020 and ESIF.

During the current programming period, Cohesion Policy guides the investment of over EUR 450 billion (including national co-financing) to help achieve the EU-wide goals of growth and jobs and reduce economic and social disparities. Investments are to be concentrated on 4 key priorities: innovation and research, the digital agenda, support for small and medium-sized businesses and the low-carbon economy with EUR 125 billion allocated to these areas. In addition, Article 9 of the general Regulation on the EU Structural and Investment Funds (ESIF) lists 11 thematic objectives to be supported. In this framework, thematic objective 1 focuses on investments in research and innovation. In addition, this objective envisages that all regions or Members States develop research and innovation strategies for smart specialisation (RIS3) which should guide the spending of both ESIF and other public/private investments.

²¹ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. *Digitising European Industry Reaping the full benefits of a Digital Single Market*. COM/2016/0180 final.

²² Such as the Internet of Things, 5G, cloud computing, data analytics and robotics

²³ Cohesion Policy 2014 -2020: Investing in growth and jobs COM(2011)614 of 6 October 2011

The competitiveness and growth of European industry depends very much on the capacity of Europe's regions to provide a vibrant ecosystem for innovation that facilitates cooperation between industry, academia and other innovation actors. To achieve this, an integrated approach is necessary to ensure strong involvement of industry in the implementation of RIS3 strategies and intensify cross-regional cooperation with a specific focus on making better use of clusters and fostering industrial modernisation. The ultimate objective is to facilitate concrete cross-regional innovation that could be supported through the European Structural and Investment Funds, Horizon2020, COSME, European Fund for Strategic Investments (EFSI)²⁴ (see Figure 3).

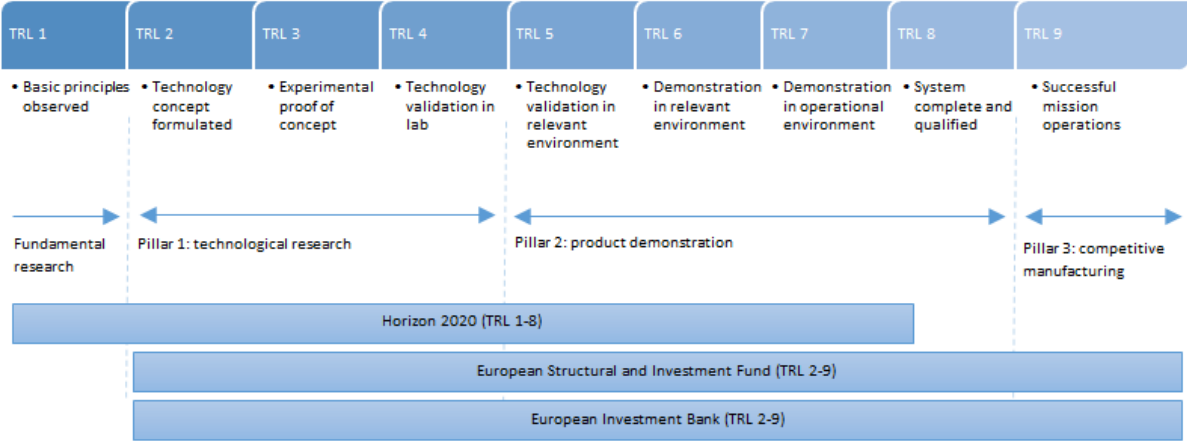


Figure 3: Multiple European instruments adapted to support closer-to-market KETs-related activities²⁵.

Furthermore, the Commission outlined²⁶ its plans to launch a set of dedicated initiatives supporting the building of the *digital industrial platforms of the future*. In this context, the EC defines these new platforms as '*multi-sided market gateways creating value by enabling interactions between several groups of economic actors*'.

Finally, the 2014 Communication offers a recommendation to Member States to look for ways to combine regional and industrial policy tools to create thematic Smart Specialisation Platforms to help roll out regional and national smart specialisation programmes by facilitating contacts between firms and clusters, enabling access to the innovative technologies and market opportunities.

The European Commission²⁷ also recognises new challenges such as putting together any such platform. It points out that this work would require addressing new challenges which could include the development and implementation of new reference structures:

Among others, platform building requires the development of reference architectures and their gradual implementation, testing and validation in evolving ecosystems that trigger broad value creation.

²⁴ European Commission, 2016. Boosting the potential of Key Enabling Technologies Addressing Skills Needs in Europe.

²⁵ *ibid*

²⁶ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions for a European Industrial Renaissance. COM/2014/014 final.

²⁷ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. *Digitising European Industry Reaping the full benefits of a Digital Single Market*. COM/2016/0180 final.

To address this challenge, a number of EC services (including DG Regio, DG Grow, DG RTD²⁸ and DG JRC) proposed to establish a dedicated *Thematic Smart Specialisation Platform for Industrial Modernisation (S3P-Industry)*. The proposal suggested carrying it in parallel with setting-up European Cluster Partnerships for Smart Specialisation Investments, and putting in place complementary services to support the activities of both.

Learning with the Vanguard Initiative regions

In its 2017 Communication²⁹, the European Commission highlights the Vanguard Initiative as an example of how more strategic inter-regional cooperation and sustainable linkages between regional ecosystems along smart specialisation priority areas such as industrial modernisation can increase competitiveness and resilience:

The Vanguard Initiative for new growth through smart specialisation is driven by a political commitment by regions to use their smart specialisation strategies to boost new growth through bottom-up entrepreneurial innovation and industrial renewal in European priority areas. Thirty regions are now part of this initiative.

The Vanguard Initiative seeks to lead by example in developing interregional cooperation and multi-level governance to help regional clusters and eco-systems to focus on priority areas for transforming and emerging industries. Vanguard regions seek to exploit complementarities identified in smart specialisation strategies in order to develop world-class clusters and cluster networks, in particular through pilots and large-scale demonstrators.

The Vanguard Initiative (VI) is as a good example of interregional smart specialisation collaboration initiated by a group of European industrial regions with multi-level governance that supports clusters and regional innovation eco-systems with a particular focus on RIS3 priority areas for transforming and emerging industries. It is also a frequent reference³⁰ of interregional collaboration that brings together regional eco-systems in a number of key priority areas such as Advanced Manufacturing.

The initiative is committed³¹ to embedding clusters or cluster-like organisations (co-creating eco-systems for public private partnerships in innovation and transformation) in regional eco-systems as the backbone of emerging cross-EU and cross-sectoral innovative value chains.

The Vanguard Initiative and related activities

The smart specialisation Vanguard Initiative seeks to lead by example in developing interregional cooperation and multi-level governance in the support of clusters and regional eco-systems to focus on smart specialisations in a number of priority areas, for

²⁸ DG Research and Innovation joined the S3P – Industry initiative on the 30th of June 2017. <http://s3platform.jrc.ec.europa.eu/-/dg-research-and-innovation-has-joined-the-initiative-of-s3p-industry?inheritRedirect=true&redirect=%2FIndustrial-modernisation>

²⁹ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions Strengthening Innovation in Europe's Regions: Strategies for resilient, inclusive and sustainable growth {SWD(2017) 264 final}.

³⁰ Rakhmatullin Ruslan, Stanionyte Lina and Åge Mariussen. (2016) "Chapter IV. Transnational cooperation and value chains." In Implementing Smart Specialisation: A Handbook, edited by Gianelle, C., D. Kyriakou, C. Cohen and M. Przeor, 78–97. Brussels: European Commission.

³¹ Vanguard Initiative workshop on Clustering Policy (2014): <http://tinyurl.com/h5u64mn>

transforming and emerging industries. These regions seek to build upon the synergies and complementarities in S3s to boost world-class clusters and cluster networks, in particular through pilots and large scale demonstrators.

These investments will bolster the competitive capacity of Europe to lead in new industries for the future and develop leading markets that offer solutions for common challenges. The areas covered by the Vanguard Initiative are: Advanced Manufacturing for Energy Related Applications in Harsh Environments, High Performance Production with 3D Printing Efficient and Sustainable Manufacturing Bio-based Economy and Nanotechnology. The Vanguard Initiative builds on the Milan Declaration.³²

The European Commission has been closely following the exciting progress made to date by the Vanguard Initiative regions in order to better understand what steps would need to be taken and what possible bottlenecks would need to be overcome by collaborating regions. This pertinent knowledge could then be used to develop a relevant methodology outlining a variety of best practices to be considered, as well as shortcuts and steps that could be taken by other regions that plan to launch interregional collaborative initiatives aimed at cross-border investments.

S3P-Industry: a new Platform approach

The growing importance of the global economy and innovation networks requires a regional innovation policy that goes beyond regional, national and EU borders³³. In order to accelerate the EU-wide implementation of RIS3 and increase the competitiveness and innovation capability of European Industry, it is important to reinforce the linkages between the EU Regional and Industrial policies with a view to facilitate the development of a pipeline of concrete ambitious investment projects across the EU.

The European Commission services agreed that this process can be facilitated at EU level by establishing a new Smart Specialisation Platform on Industrial Modernisation and Investment. The new *platform* is expected to contribute to the development of common investment projects across and between regional value chains, Important Projects of Common European Interest, new investment platforms under the Investment Plan and/or the development of new or sharing of existing infrastructure such as testing facilities, pilot lines, data centres, and Fab-Labs.

This thematic platform would also contribute to improving the business environment by identifying barriers to innovation and investment and address eventually the availability of appropriate skills for implementing industrial modernisation.

Effectively, the platform is set to become a key tool that would help regional and national actors to identify relevant synergies between their smart specialisation strategies and interregional cooperation to boost industrial competitiveness and innovation (see Figure 4). The key objective of the Smart Specialisation Platform for Industrial Modernisation (S3P-Industry) is to coordinate the efforts of all EU regions committed to working together for developing a pipeline of investment projects in smart specialisation areas through interregional cooperation.

³² <http://www.s3vanguardinitiative.eu>

³³ <http://s3platform.jrc.ec.europa.eu/transnational-cooperation>

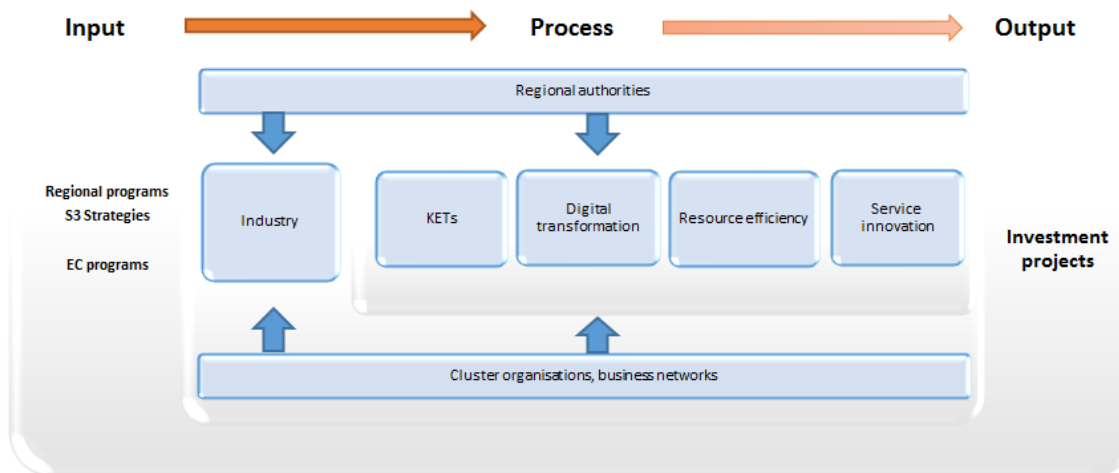


Figure 4: Smart Specialisation Platform for Industrial Modernisation (S3P-Industry)
(Source: European Commission)

All EU regions are encouraged to invite their regional stakeholders (including clusters and industrial partners) to take part in this initiative and benefit from the services that are to be developed on the platform. It is envisaged that the development and governance of the actual platform and partnerships is to be co-managed by European regions, which would have a key role to better connect regional authorities with various industrial interests and needs.

Cooperation between industry and other local partners is often facilitated through clusters and business networks that operate at regional level but also have the capacity to create business linkages with other regions, particularly along industrial value chains. Due to their capacity to mobilise the industry at local and regional level, it is expected that clusters and business networks will play a key role in helping EU regions implement their smart specialisation strategies in a more efficient way.

Along with the priorities set in the communication³⁴ on '*A Stronger European Industry for Growth and Economic Recovery Industrial Policy*', it is expected that the platform would contribute to innovation activities that would:

- Result in high innovation capacity to improve products (i.e. goods and services) and processes, including productivity, R&D investments, adoption and usage of advanced technologies, in particular, digital and key enabling technologies, investment in machinery and equipment, in ICT, service innovation, design, use of advanced innovation infrastructure (e.g. labs, testing facilities, demo sites, pilot lines, etc.);
- Contribute to industrial sustainability (including energy saving, resource-efficient and environmental friendly production processes and eco-innovative solutions) and use of an appropriate workplace environment for innovation;
- Support new capability to master new challenges, including disruptive transformation of industries (enabled by digital-based platforms), servitisation, market reactivity and anticipation, flexibility, and fast decision-making;

³⁴ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. *A Stronger European Industry for Growth and Economic Recovery Industrial Policy* Communication Update COM/2012/0582 Final.

- Aim at absorptive capacity, including share of employees with tertiary education and in particular, relevant university specialisations, share of R&D personnel, share of engineering, scientific and technical personnel, share of ICT specialists, share of skilled production workers and vocational training indicators;
- Contribute to adaptability to external competitiveness, including changes in world shares, exports' growth, revealed comparative advantages (RCAs), also measures of cost competitiveness, such as, unit labour costs and other production costs.

It is envisaged that *S3P-Industry* would help reinforce the linkages between European Union Regional and Industrial policies with a view to facilitate the development of joint investment projects across the European Union. In the framework of the Industrial Modernisation platform, a governance structure is set to facilitate investment projects linked to specific areas of smart specialisation priorities connected to industrial modernisation.

S3P-Industry is therefore supporting and advising regional and national authorities in the implementation of smart specialisation strategies through developing methodological, benchmarking and web-based tools to facilitate the smart specialisation process in member states and is reinforcing the incorporation of the RIS3 concept and methodology into regional and national economic development. More specifically, it is accompanying the organisation of European eco-systems for interregional collaborations based on areas of smart specialisation priority areas linked to industrial modernisation.

As a result, *S3P-Industry* should be seen as a tool to connect regional policy objectives and instruments meet with thematic policies, through the involvement of regions (through their smart specialisation priorities).

The starting point of each partnership is linked to a region's smart specialisation priority area and its intention to translate the specific S3 priority into concrete investment project through collaborating with other regions interested to invest in that area. The process is linked to each region's S3 monitoring activities through gathering empirical evidence on and analysis of strong/weak or missing competences in terms of research and innovation capacities, available facilities, skills or business networks.

A number of existing analytical tools can help European regions identify possible partners that have RIS3 priorities, resources and capabilities in a specific thematic area. The results of any such analytical exercises (e.g. mapping existing and emerging European and global value chains) conducted by any one region could be further strengthened and complemented with relevant information from other regions with strong scientific, technological and innovation/research potential.

S3P-Industry is an open platform that aims to accommodate ongoing, emerging or future interests and commitments of regions and Member States. The platform's focus on the alignment of regional capabilities, planned investments and cooperation among relevant innovation actors is further supported with its governance structure. This structure is there to generate a stream of bankable projects by utilising various EU funding sources while following the methodological workflow defined by the platform. It is anticipated that such projects would focus on shared domains, including new or shared infrastructure, testing facilities, pilot lines, data centres, and etcetera. Any such joint investment projects should effectively lead to the development of new European and global value chains.

S3 Platform for Industrial Modernisation: Key milestones 2016-2017

Since its official launch in June 2017, the Industrial Modernisation Platform has carried out a large number of support activities (see *Figure 5* below). This chapter will focus on some of these elements in more detail.



Figure 5: Milestones of S3P – INDUSTRY

Info-Day Event, May 2016

Prior to the formal launch of the new thematic platform in June 2017, the European Commission services launched an exercise aimed to develop a better understanding as to which thematic sub-areas could be of interest to various EU regions and Member States in the context of the new Industrial Modernisation Platform.

With the support of other EC services, the S3 Platform organised a dedicated Info-Day event. Over 100 regional and national stakeholders attended the Industrial Modernisation Info-Day event in Brussels on 11 May 2016. It was initially anticipated that the workshop would allow identifying a number of thematic sub-areas which could then be further elaborated and validated by interregional partnerships supported by the new Platform.

This participatory workshop offered EU policymakers an opportunity to meet various regional and national authorities, regional cluster organisations and representatives of various industrial sectors who are actively interested in exploring opportunities to be offered by the proposed S3 Thematic Platform for Industrial Modernisation. Prior to the event, the European Commission conducted a survey to collect additional information about any specific regional interests linked to industrial modernisation, as well as to provide an overview of regional capabilities related to these subareas.

The event was an early opportunity to analyse an initial spectrum of sub-themes for potential interregional cooperation under the umbrella of the new platform. The following thematic sub-areas have been identified by the regions during the Info-Day event in Brussels:

- Photonics,
- Innovation and textiles,
- Circular economy,
- Sustainability in production,
- Emerging industries,
- Smart materials, including new nano-enabled materials,
- Mechanical precision and engineering,
- Smart tooling and engineering, and
- Industry 4.0.

Many of the indicated sub-areas cover horizontal issues related to industrial modernisation, with the exception of textile innovation and photonics, which seem to have a specific sectoral focus. Each indicated thematic sub-area gathered a group of interested partners. During the workshop sessions, many of these groups were able to better define each sub-area of interest, effectively leading to better defined proposals for interregional cooperation.

The interactive nature of the event allowed participants to explore how new synergies could be utilised based on potential overlaps between these topics. It was also recognised by the participants that the horizontal character of many sub-areas would require further elaboration from the global value chain (GVC) perspective. Such an approach could offer better results when combined with detailed, sector-specific analyses providing a better understanding of current and future sectoral challenges and limitations. This knowledge could further improve the involvement of business and industrial players in future activities to be supported by the platform.

Key results of these table discussions are summarised in *Table 1* below.

Table 1: Thematic Areas addressed at the Info-Day event, 11 May 2016

Subject and participants	Key issues discussed	Needs and joint actions suggested
Smart tooling (3 regions)	<ul style="list-style-type: none"> • Transforming the passive industrial tools into active instruments with the use of sensors and interfaces • Reducing cost of production and time to market • Diminishing waste 	Joint actions could include: <ul style="list-style-type: none"> • Identification and transfer of best practices • Joint R&D projects • Raising industry awareness
Textile innovation (4 regions +15 regions involved in RegioTex Initiative)	<ul style="list-style-type: none"> • Boosting innovation in textile regions • Involving and strengthening existing clusters and other sectorial organizations 	Joint actions could include: <ul style="list-style-type: none"> • Peer-to-peer learning and best practice exchange • Joint R&I projects • Matchmaking events and brokerage • Identifying technology needs

Subject and participants	Key issues discussed	Needs and joint actions suggested
		<ul style="list-style-type: none"> • SME coaching
Photonics (5 regions)	<ul style="list-style-type: none"> • Photonics in plastic • New laser technologies 	Joint actions could include: <ul style="list-style-type: none"> • Market research • Raising industry awareness
Emerging industry (3 regions)	<ul style="list-style-type: none"> • Methods of identifying emerging industries and assessing their critical mass 	Joint actions could include: <ul style="list-style-type: none"> • Peer-to-peer learning • Best practice exchange
Mechanical and precision engineering (6 regions)	<ul style="list-style-type: none"> • Finding complementarities between regions • Cooperation in international value chains • Convincing regional authorities to support collaboration 	Joint actions could include: <ul style="list-style-type: none"> • Defining the areas of application • Common international projects (Horizon 2020, INTERREG etc.)
Smart materials/new, nano-enabled (4 regions +14 regions involved in Vanguard Initiative)	<ul style="list-style-type: none"> • Involving companies and using their initiative • Using the experience of pilot projects already started by the Vanguard Initiative 	Joint actions could include: <ul style="list-style-type: none"> • Transfer of knowledge and good practice between regions; • Raising SME awareness concerning brand new technology
Circular Economy (7 regions)	<ul style="list-style-type: none"> • Demonstrating powerful examples of the need for circular economy • Finding specific areas of activity 	Joint actions could include: <ul style="list-style-type: none"> • Raising industry awareness • Mapping and matchmaking

The results of the workshop have been summarised by invited experts as follows:

- Further analytical work is to be carried out by regional partners on European value chains or the position of European partners in global value chains for each thematic sub-area. Such information could help partner regions identify specific enough priority areas for interregional collaboration. This could be facilitated through **identification and mapping of Europe-wide industrial value chains**.
 - The exercise could help define specific challenges and opportunities for improving regions' competitive advantage, in particular through various forms of international collaboration and application of knowledge- and research-based solutions.
 - Such a mapping exercise could be a resource for the regions that want to take part in new partnerships under the Industrial Modernisation Platform and a way to find new partners.
- There is a clear need for an **exploratory phase** – many regions mentioned the need for defining more precisely areas of collaboration, identifying key trends and technology needs, etc.

- Lead regions could involve other interested partners in a discussion that would narrow down any proposed thematic sub-areas and finally lead to concrete joint actions and investment.
- A dedicated **guide** or a set of guidelines could be developed by the European Commission to help regions advance from a collaboration idea to specific projects. These steps would cover various elements from mapping partners' needs and identifying key issues, through learning, to demonstration and application.
 - The Vanguard Initiative (VI) approach (Learn, Connect, Demonstrate and Commercialise) could also be used as a good inspiration in this case as it is currently being tested. Also, the VI focus on joint demonstration projects can help show concrete effects in a relatively short time.
- Some scope for **organisational flexibility** would be needed – the new initiatives are to be built on existing networks, organisations and initiatives, which come with their institutional potential. On the other hand, existing regional networks could also exclude regions that did not take part in these initiatives before. They should be allowed to explore different possibilities for partnership and modify the existing solutions. It is important to address this issue as it was raised at a few tables during the meeting.
- It is important to ensure the involvement of regional authorities (in charge of RIS3) in any such interregional partnerships. Hence, it would be critical to provide a clear indication of **thematic calls in schemes and instruments at European level**, so that regional authorities could identify relevant opportunities to leverage existing regional investments, finance the generated project ideas and help joint interregional investments.

First Smart Region Conference, June 2016

The new platform for Industrial Modernisation was formally launched on the **1st of June 2017** at the Smart Regions Conference. This High-Level Event organised by DG REGIO aimed to highlight the key role of regions and the S3 approach in developing new growth dynamics for Europe, based on bottom-up entrepreneurship and innovation.

'Smart specialisation strategies create clear, stable, predictable investment conditions in regions to mobilise public and private research and innovation investments'.

Jyrki Katainen, Vice-President of the European Commission

The High-Level Event was expected to accelerate the set-up of effective partnerships for co-investing across regions that commit to their smart specialisation priorities. The conference was also used to illustrate that smart specialisation strategies can leverage numerous new growth opportunities for all regions when aligning their business driven smart specialisation investments in new European value chains.

The conference marked the mobilisation of this potential for transformation in priority areas, e.g. energy transition, digital growth, circular economy, agro-food or industrial modernisation.

'Smart Specialisation is one of the key innovations of the new programming period 2014-20 for the European Structural and Investment Funds. It's about creating a new growth dynamics and a transformation of the EU economies.(...) Linking up the Smart Specialisation Strategies between regions in related areas can create additional growth potential beyond the silo approach'.

Walter Deffaa, Director-General for Regional and Urban Policy

Regional stakeholders showed a significant interest in the activities of the newly launched Industrial Modernisation Platform. Furthermore, a large number of groups of regions put forward about 25 possible cooperation ideas, which later resulted in 18 thematic sub-areas linked to industrial modernisation. On the one hand, this active regional engagement confirmed that regions recognise the importance of interregional cooperation in thematic sub-areas linked to Industrial Modernisation. On the other hand, table discussions revealed that many regional stakeholders recognise the challenge in the identification and operationalisation of such proposed sub-areas for joint work.

The overall interest in the proposed topics varied. The following thematic areas attracted significant numbers of workshop participants:

- 3D Printing,
- Emerging industries,
- Role of universities,
- Health – innovative medical devices,
- Smart adaptive manufacturing, and
- Health technologies.

Many proposed topics showed a varying degree of maturity. Some ideas for interregional partnerships such as the ones developed under the Vanguard Initiative were clearly building on earlier (existing) efforts. As a result, these more mature proposals had already involved a number of participating regions, many of which had a prior experience in interregional cooperation and setting up necessary organisational structures.

Other interregional proposals appeared to be somewhat less developed and so would need to be further elaborated and defined by interested regions. Such new interregional proposals would require more support from the new platform, as they would also need to be throughout the overall process. The following **comments** were also made by some invited experts:

- While some topics put forward were horizontal in their nature (e.g. the proposal on sustainable manufacturing), other proposals had a more sectoral character (examples of such ideas include proposals from the textile and health sectors). Experts also pointed out that some proposals should consider merging due to significant similarities in ideas and approaches.
- Industrial modernisation is an important subject for many European regions and there is a clear need for international collaboration both on horizontal and industry-specific matters.

- While a number of proposals might have appeared as somewhat general at the start of table discussions, they were later able to identify possible applications in specific sectoral niches present in the regions. Some of these were identified during an industry mapping exercise, with some applications coming from more specific regional specialisations. Participants generally recognised that the path from an idea for interregional cooperation to interregional projects and investment can be shortened if the ideas are well defined and detailed.
- The potential of cross-fertilisation between projects and even between the S3 Platforms has also been highlighted (e.g. the industrial dimension of bio-economy or advanced manufacturing in energy applications).
- Some issues that still need to be clarified include the type of organisational model for cooperation and any specific financing instruments that could be used to incentivise. Clear financial incentives are needed, especially to help involve business in the design and implementation phase. The Vanguard Initiative can provide inspiration for organisational model of cooperation.

The main **recommendations** after the session are as follows:

- There is a need for new knowledge resources at European level including Europe-wide mapping of regional specialisations and value chains, as well as industrial value chain analyses for most common specialisations;
- Further guidance is needed on applications of value chain methods in the context of Entrepreneurial Discovery Process (EDP in regions, organisational models of cooperation and IPR issues);
- A strategic focus should be maintained at regional and European level so the projects can contribute to building a competitive advantage;
- Business representatives should be involved in project elaboration and implementation, including bringing the Entrepreneurial Discovery Process to an international level;
- There is a substantial knowledge in European regions concerning their regional economies and many challenges they face. However, in many cases, there is a lack of wider awareness concerning international (global/European) value chains, market niches, other regions with similar specialisations that could be potential partners, or pan-European challenges. Therefore, more detailed mapping and value-chain analyses that could serve as a resource for different regions are recommended. It could show regions their relative position, areas where there is a critical mass for cooperation, niches in value chains and also help in finding matching partners;
- Apart from mapping, additional tools on how to work with value chains in the EDP context, IPR issues and organisational partnership models are needed to facilitate the further development of project ideas and their implementation.

There is a need to preserve a strategic focus while developing project ideas. It means a need to:

- Connect the ideas that are being developed in current international meetings with the EDP and strategic visions developed earlier;
- Develop a clear idea as to how each proposed project contributes to building regional competitive advantages by understanding the present and preferred position in relevant value chains;

- Recognise a wider strategic perspective based on the challenges facing industrial value chains in Europe. Follow-up by identifying bottom-up projects that could address these challenges;
- It is vital to ensure that the resulting project ideas are not just an exercise for regional public administrations, but that businesses are directly involved in defining and implementing these project ideas. The value chain approach can make such interregional cooperation projects meaningful to international business partners participating in the same or related value chains, which will bring the EDP to EU level.

Kick-off Event of the Smart Specialisation Platform on Industrial Modernisation, Nov 2016

The kick-off Event of the Smart Specialisation Platform on Industrial Modernisation took place in November 2016 with the participation of over 200 stakeholders. The event was open to all European regions committed to industrial modernisation. More specifically, the event aimed to bring together regions that have already submitted their expressions of interest in specific thematic partnerships as well as those willing to join these proposed partnerships, or interested in submitting new proposals for such interregional collaborations.

A key objective for this operational meeting was to kick-off the first group of partnerships that have already expressed their interest in becoming members of this thematic platform. The European Commission services jointly presented an overview of EU support activities ranging from analytical support as well as expert/advisory support to various funding instruments.

The event was attended by representatives from over 60 regions, 22 Member States (MS) present, and also Norway (which wants to lead a new group on circular economy/energy-intensive industries).

The main points that emerged as focus for future work of S3P - Industry are:

- A need for considerable cross-sector support from European Commission directorates involved;
- Many EU programme and funding options are available for this work – the Industrial Modernisation Platform must clarify and advise potential beneficiaries;
- Certain funding gaps are nevertheless evident – e.g. for systematic early-stage developmental and networking work – the thematic Platform³⁵ must identify gaps and alternative (national, regional, private sector);
- Simple and quick funding instrument is proposed (but not easy to provide – which was made clear) at EU level to help in financing demonstration and pilot projects (networks) with partners coming from different member states/regions across the EU;
- More emphasis is needed on experimental and specific regional ESIF support e.g. infrastructure/equipment/training for experimental and developmental testing work (which need not to be confined to innovators from the region, but could be made available to other MS – if needed on a commercialised basis. There are models for this approach in Flanders (BE) and south Netherlands);

³⁵ Thematic Smart Specialisation Platforms or TSSP

- Good practices are emerging, and must be made available by the TSSP;
- Specific bottlenecks must be quickly addressed by the TSSP;
- In general, more attention must be paid by the TSSP to facilitate the administrative aspects of the work (as well as e.g. the innovation or technical aspects), in particular how to access public funding, how to leverage private funding and how to give projects 'bankability';
- Overall the 'pockets of excellence' in EU-13 must be marketed, developed and linked in – there is a major need to work on the S3 capacity within as well as between regions;
- There is no one-size-fits support possible for specific subthemes of TSSP which requires tailored approach / some common issues can be identified.

The following next steps have also been identified:

- (a) Clarify these TSSP 'hands-on' roles and emphasise the practical support in the TSSP work-plan;
- (b) Support specific sectoral events and regional initiatives, to generate critical mass and credibility;
- (c) Use the experience for the TSSP Agri-Food Kick-off meeting in Florence on 6/7 December 2016;
- (d) Set-up effective governance structure of each subtheme to be capable to design, implement and monitor work-plan;
- (e) Involve other DGs to offer their support towards needs of specific smart specialisation areas like 'blueprint for skills in textiles' for TSSP subtheme 'innovative textiles'.

Thematic areas covered by the partnerships to be included under the Industrial Modernisation Platform are included in *Table 2* below.

Table 2: Thematic Areas addressed at the Kick-off Event, November 2016

Topics	Description
Efficient and Sustainable Manufacturing	The goal of this Vanguard Initiative project is to put in place a European network of demo-sites and pilot lines at regional level that would enable manufacturing companies (including SMEs) from different sectors to develop and introduce highly efficient and sustainable processes, technologies, systems and methods.
Advanced manufacturing for energy related applications	The Vanguard Initiative pilot project for Advanced Manufacturing for Energy Related Applications seeks to make the EU the global leader in manufacturing robust high integrity components for marine renewables and offshore energy applications. The pilot project is being developed across a dozen of the most advanced EU regions in this area to pool their resources and expertise for the benefit of industry.

Topics	Description
Bio-based materials	The pilot concerns the implementation of synergies in new bio-based value chains across regions based on their smart specialisations. Its main objective is to develop new integral bio-based value chains and new connections between sectors as chemistry, agro, wood & paper and energy, leading to new interregional business opportunities, investment pipelines and co-investment through interregional cooperation and partnerships for co-investment, exchange of information and ideas.
De- and Re-manufacturing Pilot Network	This is a demo-case of the Vanguard Initiative in the domain of circular economy to exploit synergies in pilot and demonstration infrastructure for recycling across seven regions, offering demonstration solutions to companies in order to 'de-risk' further private investments.
High Performance Production through 3D-Printing	3D-Printing can induce more local production in Europe thanks to flexibility and customisation of manufacturing. Many application fields for 3D-Printing are still only partially exploited because of different bottlenecks in the emerging value chains. This Vanguard Initiative pilot project wants to accelerate the uptake of 3D-printing technologies in specific application areas by combining efforts across regions.
New nano-enabled products	The Vanguard Initiative pilot project on new nano-enabled products groups 14 regions and focuses on identifying existing and missing value chains within nanotechnology across Europe. A number of cases for joint demonstration activities have been identified; Printed nano-electronics; Nanowires for ICT & Energy applications; Integrated nano-bio systems; Pilot production of Nano-Materials.
Innovative Textiles in creative industries	ReTextile Europe - Exploring with a group of committed regions how a new wave of textile innovation revitalises traditional manufacturing clusters across Europe.
Smart Engineering and Tooling	Working on the fundamental principle of 'Connected, smart and adaptive production', the joint alliance of the cross-regional industrial modernisation partnership aims to consolidate the infrastructures, technologies and know-how capabilities in order to boost the production processes and enable companies to quickly adapt to market requirements. The expected results from interregional co-operation would include the optimisation of production processes and the improvement of innovation in terms of products, technologies, and services offered.
SMEs integration into Industry 4.0	Facilitate the transition of SMEs' to Industry 4.0 paradigm (technological, societal change and change in business paradigm), their integration into digital (global) value chains and the role of the public sector.
Digital Services towards Industry 4.0	Exploring how to create a pan-European Innovation Ecosystem on Industry 4.0 that needs new infrastructures (like the Catalan Ring 4.0) and High Performance Computing facilities and which is the role of policy makers as facilitators; in particular the introduction of the STIMULI project (www.stimuli.cat), where the creation of a HPC Hub has been defined.

Steering Committee meeting – governance of the S3P – Industry, March 2017

Many activities under the new platform require regular exchanges between the European Commission services and European regions leading and/or taking part in various thematic partnerships. To ensure the smooth functioning of this joint initiative, it has been agreed to establish a *Steering Committee* that would bring together the European Commission services and all thematic partnerships represented by leading (and co-leading) regions. The Committee is to monitor the implementation of the Platform's activities, resolve potential issues, and provide strategic guidance.

The Steering Committee is to be composed of representatives of the European Commission services and the Committee of the Regions as well as the (co-) leading regions of each (qualified) thematic partnership. The Steering Committee is to be co-chaired by the European Commission services and a lead-region appointed for one year which will also host an annual Steering Committee meeting. The management of the Steering Committee is to be ensured by the Directorate responsible for Innovation and Advanced Manufacturing of the DG Internal Market, Industry, Entrepreneurship and SMEs.

More precisely, the Steering Committee is responsible for the following tasks:

1. Assess the progress achieved in each partnership, discuss any difficulties and propose solutions;
2. Provide strategic guidance for the next period on several issues such as synergies with EU funding programmes, regulatory obstacles for investment, and skills.

The Industrial Modernisation platform was launched collectively by a number of European Commission services including DG Internal Market, Industry, Entrepreneurship and SMEs (DG GROW), DG Regional and Urban Affairs (DG REGIO) and the Joint Research Centre (JRC). Since then, a number of additional directorates have expressed their strong interest in joining the initiative including DG Research and Innovation (DG RESEARCH)³⁶, DG Employment (DG EMPL) and the Committee of the Regions (CoR).

The Steering Committee of the Smart Specialisation Platform for Industrial Modernisation (S3P-Industrial Modernisation) held its first meeting on 17 March 2017 in Brussels with the participation of qualified partnerships of the S3P – Industry and European Commission directorates. Future Steering Committee meetings are expected to take place *twice a year*. The organisation of these meetings is to be organised and hosted in rotation by the European Commission services and the co-chairing region. At the time of the Steering team meeting, there were 8 qualified partnerships (see Figure 6 below).

³⁶ DG Research has officially joined the S3P – Industry in May 2017.

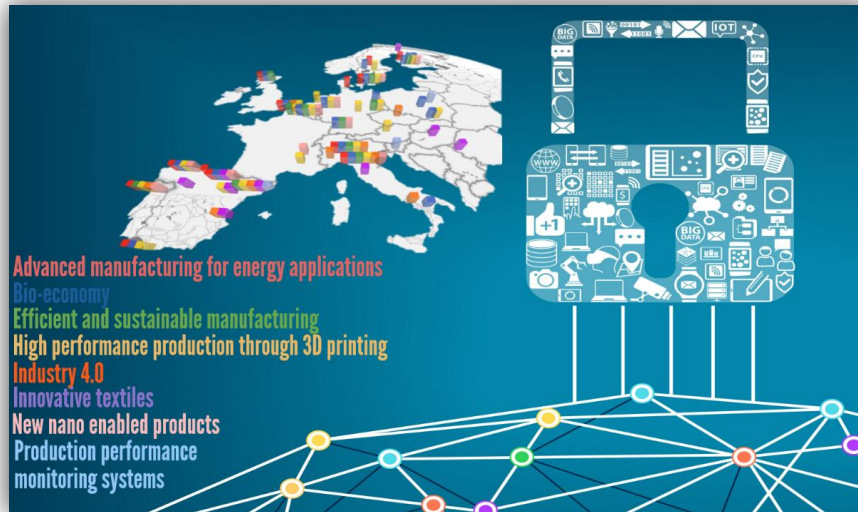


Figure 6: Qualified partnerships and member regions of S3P – Industry on the first steering team meeting

Thus, the eight qualified partnerships at the time of the steering team meeting have been represented by 16 lead regions, which represented 51 participating regions all together, as depicted on the map in the above figure. In preparation for the event, a status update has been developed of each partnership to be able to review the progress that was presented by the lead regions' representatives (see Figure 7).

The main take away of the meeting can be summarised as follows:

- Essential work needs to be done by the thematic partnerships themselves while the European Commission will provide support services to the regional partnerships along all implementation phases;
- Partnerships and commission services both found it useful to have a status update of all qualified partnerships – to see possible overlaps of activities for example – and to get to know the potential new partnerships;
- The responsibilities of the Steering Committee have been presented and discussed. These include assessing progress, discussing difficulties and proposing solutions as well as providing strategic guidance for the next period.


S3P – IM		High Performance Production through 3D-printing								
Participants	Leads	Participants								
	 Flanders, BE South Netherlands, NL Norte, PT	Asturias, ES Aragon, ES Catalonia, ES, Andalusia, ES Skåne, SE Orebrö Lan, SE Tampere, FIN Baden-Wurttemberg, DE Nord Rhine Westphalia, DE Saxony, DE	Wallonia, BE Auvergne Rhône-Alpes, FR Hauts de France, FR East-Netherlands, NL Randstad, NL Emilia-Romagna, IT Lombardy, IT Sviluppo-Trentino, IT Upper Austria, AT Lower Austria, AT							
Background	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 at global level. They are considered to empower the transition from mass production to mass customization in several leading sectors. AM Technologies are mainly concerned with “High performance manufacturing” and were identified as a segment with “particular high growth potential” and a global market volume of 2.2 billion dollars in 2012 that is expected to grow to 11 billion dollars in 2021. The potential for Smart production and efficient processes opens new perspectives, which has very often be associated to a possible new “Industrial Revolution”.									
Rationale of partnership	The area concerns the implementation of synergies in new 3DP value chains across regions based on smart specialisations of the regions. The key objective is to identify opportunities for joint-demonstration between regions, based on a solid mapping exercise and the detected complementarities between existing demonstration facilities and company needs. The Vanguard regions want to build the synergies and complementarities in Smart Specialisation strategies to boost world-class clusters and cluster networks, in particular through pilots and large-scale demonstrators. These will strengthen Europe’s competitive capacity to lead in new industries in the future and develop lead markets that offer solutions to our common challenges.									
Status	Phase 1. Scoping Mapping Done Done		Phase 2. Preliminary project ideas Done		Phase 3. Matchmaking Continuous		Phase 4. Design of projects Done		Phase 4. Business plan Funding mix Investment projects Continuous, on-going	
(Expert) support	All activities are being led from the start by the co-leading regions, who have additionally hired on their own expenses a daily network manager (IDEA Consult)									
Next steps / further info	Matchmaking events 3DP plenary meeting/MME (with Watify), February 2017		Demo-cases Multi-materials components by hybrid 3D-printing manufacturing (metal-CFRP) Mono-material metal 3D printing for automotive components and tools for large, medium and small parts 3D-Printing complex parts for machinery & tooling Additive subtractive high precision and high finish pilot production hubs 3D-Printed customized components for orthosis, exoskeleton and exoprosthesis Mass-customized consumer goods in creative industries							

Figure 7: Example of a Status report for a qualified partnership
 (Source: 1st Steering team meeting, Brussels, March 2017)

Representatives of the Vanguard Initiative presented a number of specific funding issues and possible solutions that are related to cross-regional joint demonstration projects (standalone or linked demo projects). These include the funding of the demo infrastructure (layer 1), its maintenance (layer 2) and the upscale of tested and validated industrial projects (layer 3). The Commission welcomed this input and proposed a working process to explore possible medium and long term solutions by involving other relevant Commission services and interested regional partnerships, and eventually the EIB/EIF at a later stage.

High-level Smart Regions Conference, June 2017

The second edition of the high-level Smart Regions event, took place this 1-2 June in Helsinki. It offered the opportunity to national and regional authorities to share experience of how smart specialisation has been implemented in their countries and regions. The event also provided the opportunity to share experience between projects supported by the European Structural Investment Funds and other EU programmes and policies in the areas of research, industrial policy, education and skills. It enabled project promoters to learn from experience in other regions and find cooperation partners across EU in areas such as energy, agri-food, industrial modernisation, cybersecurity, health, and the maritime industry.

The Smart Regions 2.0 Conference was seen as the next step in building a 'Community of practice' to implement Smart specialisation strategies. The implementation of Smart specialisation has generated an increasing demand for interregional collaboration, to spur investment in innovation across borders, based on complementary strengths. The

Thematic Smart Specialisation Platforms for Energy, Agri-Food and Industrial Modernisation aim at supporting such partnerships. By June 2017, over 15 partnerships have been created, involving more than 60 regions.

This Conference was promoted as the place-to-be, to meet, connect, discuss and learn on national and regional innovation investments. It provides space for match-making and for an exhibition of your region's projects in smart specialisation areas and collaboration opportunities with other regions and their innovation actors.

Given the global competitive positioning of the EU, there is an acute need to modernise the EU industry, with more effective deployment of technologies, and more value-adding interregional collaboration in this regard, facilitated by the EC. Industry Modernisation is a common concern for Industrial competitiveness, Growth and Employment, Regional Policy (and Smart Specialisation 2.0). It requires coordinated efforts across levels of governance (regions - MS - EU).

Conference participants generally recognised that deployment and absorption of new technologies in and by industrial companies is a critical ingredient of Industrial Modernisation, growth & jobs. As the European Union is increasingly challenged by (new) competitors with regard to technology deployment and industrial performance, there is now an urgent need to better align regional strategies, regional capabilities and competencies, to speed up industrial re-deployment.

In the session on Industrial Modernisation, two major partnerships already established were shortly presented ('Innovative Textiles' and 'Vanguard Initiative investment projects'). These were followed by 8 pitches of other established (or recently created) partnerships, namely: 1) industry 4.0; 2) medical technologies; 3) Efficient and sustainable manufacturing (Vanguard Pilot); 3) 3Dprinting (Vanguard Pilot); 4) Nano-enabled products (Vanguard Pilot); 4) Bioeconomy (Vanguard Pilot); 5) Sport; 6) tourism safety; 7) New Energy Applications in Harsh Environments (Vanguard Pilot); 8) Photonics. Presentations and pitches were followed by 16 parallel round-tables for an open discussion on the drivers of inter-regional collaboration (in Industry Modernisation), the way to build capabilities across regions and the scope for action and support (see below).

*Conference participants were further invited to discuss what **drivers are behind successful cooperation across EU borders in Industrial Modernisation**. The following are some of their conclusions:*

- Recognised / identified common Needs/Challenges. These needs/challenges could be: missing critical mass in the regions and the necessity to generate some, collaboration to induce economies of scale/scope, missing capabilities or competencies in the region and the need to complement them by accessing others from other regions, to limited company population and potential users in specific domains and the need to access wider communities of potential users, sharing workload, cost savings, etc.);
- The sense of Urgency. Public intervention is needed where there is a market failure, but market failure can be exacerbated by urgency, which would require an even stronger and faster public intervention. In other words: we should not only modernise our industrial texture, we should do it (at least) as quickly as our competitors;
- Trust & openness (which could be developed through the entrepreneurial discovery process); and
- Availability of appropriate funding for such activities.

Furthermore, participants discuss which capacities would need to be built up to boost cooperation in industrial modernisation across EU borders. Below is a short summary of this discussion:

- Some key principles are transparency, being inclusive and open.
- Strong stakeholders' commitment & strategic leadership combined with good balance of stakeholder's reflecting policy knowledge, technology knowledge, companies' needs' knowledge (e.g. clusters managers) and dedicated staff with established structures behind such as boards / steering committees;
- Clear, shared and recognised method (VI, see below) supported by experts for implementing method and presented through a database of best practices.

Finally, the workshop participants were invited to identify the biggest scope for action and need for support for the efficient organisation of building business/research/public administration partnerships across EU borders and to manage the platform. Below is a short summary of some of their ideas.

- Frequent promotional events with the objective of raising awareness and expertise within public authorities for cross-border collaboration and to enhance the long-term commitment;
- Continued expert support service;
- Support for business plan development (including IPR arrangements);
- New funding solutions for industrial implementation;
- Smart money and flexible solutions (interregional vouchers, expanded Interreg B, new fund for demonstration infrastructure / projects);
- Assessment of new solutions (article 70 of the Regulation³⁷, cross regional vouchers systems, etc.);
- Support for training (demonstration training: i.e. training operators on new machines, during demonstration, training for certification, etc.);
- Support for standardisation / certification;
- Support for continuous monitoring of the cases / pilots (designing indicators, reducing risks, etc.)
- Public efforts for network/platform coordination (even though funding of pilots' projects is more important); and
- Simplification.

The overview below (see Table 3) provides an insight of the themes covered from the very first event until today. All partnerships progress with different pace, thus it is important to match their progress and peculiarities with individuated support that best enhance their development. The table below provides a reflection of since when a specific theme has been discussed, when the participating regions have submitted an official expression of interest and when the partnership has qualified under the S3P – Industry.

³⁷ Article 70 of the EU regulation no. 1303/2013 of the European Parliament and of the Council of 17 December 2013.

Table 3: Themes Covered during key milestones of S3P – Industry

THEME	STATUS	MAY 2016	JUN 2016	NOV 2016	MAR 2017	JUN 2017	AUG 2017	
		Info-day	1 st Smart region	Kick-off	Steering team	2 nd Smart region		
SMART TOOLING AND PRECISION ENGINEERING	THEME	→						
	EOI	→						
	QUALIFIED					→ MERGED WITH INDUSTRY 4.0		
TEXTILE INNOVATION	THEME	→						
	EOI	→						
	QUALIFIED		→					
NANO-ENABLED PRODUCTS (VI)	THEME	→						
	EOI	→						
	QUALIFIED					→		
MEDICAL TECHNOLOGIES	THEME	→						
	EOI	→						
	QUALIFIED					→		
3D PRINTING (VI)	THEME							
	EOI		→					
	QUALIFIED		→					
BIO ECONOMY (VI)	THEME							
	EOI		→					
	QUALIFIED		→					
EFFICIENT AND SUSTAINABLE MANUFACTURING (VI)	THEME							
	EOI		→					
	QUALIFIED		→					
ADVANCE MANUFACTURING FOR ENERGY (VI)	THEME							
	EOI		→					
	QUALIFIED		→					
INDUSTRY 4.0	THEME							
	EOI							
	QUALIFIED					→		
PHOTONICS	THEME	→						
	EOI	→						
	QUALIFIED					→		
EMERGING INDUSTRY	THEME							
	EOI	→						
	QUALIFIED							
CIRCULAR ECONOMY	THEME	→						
	EOI	→						
	QUALIFIED		→					
EDUCATION, SKILLS, UNIVERSITIES	THEME							
	EOI	→						
	QUALIFIED		→					
TOURISM (SAFETY)	THEME							
	EOI							
	QUALIFIED					→		

* EOI stands for Expression of Interest

** VI stands for Vanguard initiative

Progress to date

This new thematic S3 Platform on Industrial Modernisation continues to be driven to a great extent by a recognised need to foster industrial modernisation, develop synergies and bring together complementarities between diverse funding sources (including the European Regional Development Fund (ERDF), the EU program for the Competitiveness of Enterprises and Small and Medium-sized Enterprises (COSME), and Horizon 2020). While the objectives behind the various funding programmes differ, it is argued that these could be used collectively to enable the most optimal and effective implementation of Cohesion Policy funds for high quality industrial modernisation and investment projects and to better align innovation actions at national, regional and local levels.

While some support mechanisms can already be used to support concrete cross-regional cooperation projects, further new instruments are to be made available to support partnerships working under the thematic platform. These new instruments could be further attuned based on the maturity level as well as specific needs of each qualified partnership.

A number of European Commission services continue to work together to ensure the S3 Platform on Industrial Modernisation can offer direct assistance to EU regions to advance new interregional partnerships through a sequence of steps in line with the proposed methodological approach. This hands-on approach allows the platform to closely monitor the progress of each partnership to be able to match their needs with the best available support mechanisms.

As of July 2017, a total of 9 thematic partnerships have qualified under the S3P – Industry (while two partnerships merged into one). A complete overview of these thematic partnerships is included as *Table 4* (p. 33).

Furthermore, several other proposals (Expressions of Interest) have now been submitted in relation to other thematic areas including integrated photonics and tourism (safety). These developments indicate a growing interest of regional and national authorities to work together in these thematic areas with an ultimate goal jointly to deliver bankable investment projects linked to specific S3 priorities selected by their regions.

Conclusions

In its recent 2017 Communication³⁸, the European Commission recognised the role of smart specialisation in driving a more effective innovation policy and pushing interregional cooperation in new cross-border value chains. In order to be able to better exploit the complementarity that comes with such cooperation, various innovation actors should be further linked with industrial stakeholders in their own region as well as in partner regions with similar development ambitions and objectives.

It is currently anticipated that such increased connectivity and collaboration would help build and reshape EU-wide value-chains by encouraging the synergy of investment between the private and public sector. To help EU regions to achieve this ambitious

³⁸ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions Strengthening Innovation in Europe's Regions: Strategies for resilient, inclusive and sustainable growth {SWD(2017) 264 final}.

objective, the European Commission launched new thematic platforms focusing on interregional innovation activities related to smart specialisation priorities in the areas of Agri-Food, Energy and Industrial Modernisation. This new approach focusing on thematic partnerships allows regional stakeholders to build new interregional innovation networks across the EU as a way to leverage their existing collective potential for innovation while also tackling challenges that regions face when exploiting the possibilities offered by interregional cooperation.

The new Industrial Modernisation platform is a dedicated support action designed to help EU regions to overcome the lack of public investment in research and innovation while aligning certain mutually-reinforcing elements of their individual S3 agendas. Its goal is to unlock the greater collective potential for industrial modernisation and helping this untapped innovation ideas to be translated into commercially successful technologies, goods and services through targeted forms of interregional cooperation.

The European Commission supports the strengthening of the EU regions' research and innovation eco-systems by further facilitating cooperation in interregional innovation-focused investments and leveraging research and innovation in less-developed regions. The EC has also committed to working towards implementing the instruments of regional development with national and EU instruments in support of innovation, skills, and entrepreneurship to deliver industrial change and boost the competitiveness of the EU economy. It also encourages its Member States and regions to enable further investment while doing more to facilitate the integration of EU firms in global value chains to boost their competitiveness and ensure access to global markets on more favourable competitive conditions. This challenging task can be accomplished by taking advantage of the synergies and complementarities available through existing funding instruments.

To achieve this, the Industrial Modernisation Platform will continue supporting a constructive and focused dialogue between lead partners of qualified partnerships and the EU Commission services. The ambitious objectives set by new thematic partnerships require partner regions to work closer with each other and the European Commission services. Due to the experimental nature of the thematic platform approach, the experiences of individual partnerships can offer the European Commission services important information for the evaluation of the current programming period as well as useful pointers for the development of the next period.

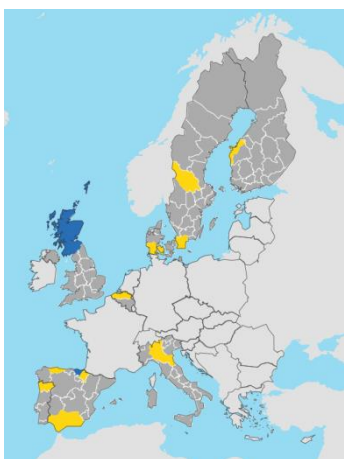
The interregional partnerships currently operating under the S3P – Industry (see Table 4, p. 33) are working together to discover new ways to build stronger and more systematic linkages between their innovation actors.

Furthermore, the European Commission recognises the importance of documenting good practices, analysing their strengths as well as examining any obstacles to the implementation of projects in order to provide new solutions to overcome these. Thus, the qualified partnerships under the Industrial Modernisation Platform offer good examples of political commitment and stakeholder participation. Learning from these experiences, the Commission services anticipate working with regions that are identifying pilot actions to scale up bankable interregional projects or align funds from various sources of funding to meet the needs of the partnerships as they advance along the workflow process.

Table 4: S3P – Industry qualified partnerships, July 2017

S3P – Industry partnerships

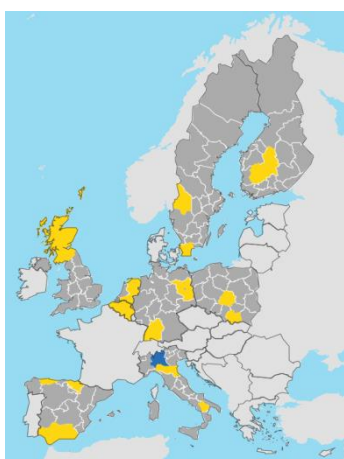
Advanced manufacturing for energy applications (ADMA Energy) is a Vanguard Initiative pilot focuses on the design of tools and services leading the way towards new solutions and innovative products for the development of a competitive cross-regional ADMA across the existing energy value chain. It is anticipated that this work will address and solve specific challenges in the markets and segments of offshore oil & gas, offshore wind energy and ocean energy.



Lead regions:
Basque Country, ES
Scotland, UK

Participants:
Asturias, ES
Andalusia, ES
Dalarna, SE
Emilia-Romagna, IT
Flanders, NL
Lombardy, IT
Navarra, ES
Norte, PT
Ostrobothnia, FI
Skåne, SE
Southern Denmark, DK

Bio-Economy - Interregional cooperation on innovative use of non-food Biomass is a Vanguard Initiative Pilot which focuses on the implementation of synergies in new bio-based value chains across regions with relevant S3 priorities. Its main objective is to develop new integral bio-based value chains and new connections between sectors as chemistry, agro, wood & paper, cosmetics and energy, which would in turn lead to new interregional business opportunities and co-investment.



Lead regions:
Lombardy, IT
Zuid-Holland (*West Netherlands/Randstad*), NL

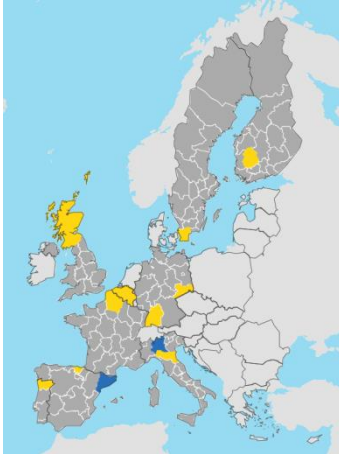
Observers:
(*not shown on the map*):
Värmland, SE

Other interested regions:
Brandenburg, DE
Central Finland, FI
Lodzkie, PL

Participants:
Andalusia, ES
Asturias, ES
Baden-Württemberg, DE
Basilicata, IT
Basque Country, ES
East-Netherlands, NL
Emilia-Romagna, IT
Flanders, BE
Malopolska, PL
Navarra, ES
North Netherlands, NL
North Rhine-Westphalia, DE
Scotland, UK
Skåne, SE
South Netherlands, NL
Tampere, FI
Wallonia, BE
West Finland/Ostrobothnia, FI

S3P – Industry partnerships

Efficient and Sustainable Manufacturing is a Vanguard initiative pilot focusing on technologies, methods and tools aimed at increasing economic, environmental and social sustainability of manufacturing activities through the conception and implementation of a European network of pilot plants in key-manufacturing areas: de- and remanufacturing to recover and re-use functions and materials from end-of-life products; adaptive and intelligent manufacturing and assembly for personalised products and components; advance sustainable surface and coating manufacturing technologies on polymer materials; digital and virtual factory integrated planning and simulation into operative environment; energy and environmentally efficient manufacturing processes and solutions.



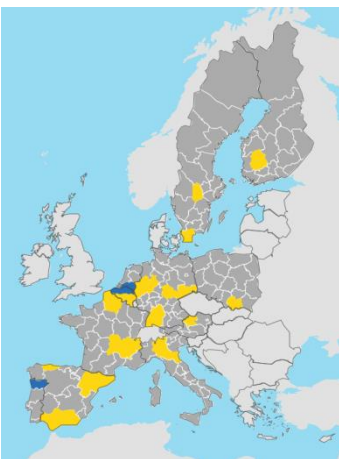
Lead regions:

Lombardy, IT
Catalonia, ES

Participants:

Baden-Wurttemberg, DE
Basque Country, ES
Emilia-Romagna, IT
Flanders, NL
Hauts-de-France, FR
Norte, PT
Scotland, UK
Saxony, DE
South Netherlands, NL
Skåne, SE
Tampere, FI
Wallonia, BE

High Performance Production through 3D-printing is a Vanguard pilot that concerns the implementation of synergies in new 3DP value chains across regions based on smart specialisations of the regions in the following demo-cases identified: multi-materials components by hybrid 3D-printing manufacturing (metal-CFRP), mono-material metal 3D printing for automotive components and tools for large, medium and small parts, 3D-Printing complex parts for machinery & tooling, additive subtractive high precision and high finish pilot production hubs, 3D-Printed customised components for orthosis, exoskeleton and exoprosthesis, mass-customised consumer goods in creative industries.



Lead regions:

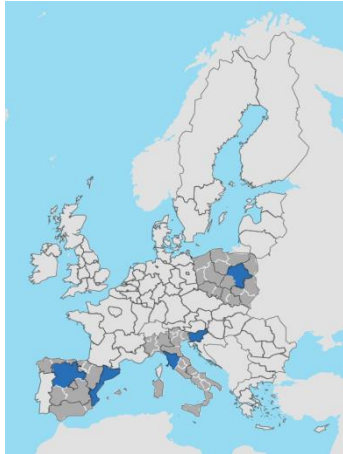
Flanders, BE
Norte, PT
South Netherlands, NL

Participants:

Andalusia, ES
Asturias, ES
Aragon, ES
Auvergne Rhône-Alpes, FR
Baden-Wurttemberg, DE
Catalonia, ES,
East-Netherlands, NL
Emilia-Romagna, IT
Hauts-de-France, FR
Lombardy, IT
Lower Austria, AT
Nord Rhine Westphalia, DE
Orebrö Lan, SE
Randstad, NL
Saxony, DE
Skåne, SE
Tampere, FIN
Trentino, IT
Upper Austria, AT
Wallonia, BE

S3P – Industry partnerships

Smart Regional Investments in SME integration to Industry 4.0 / Production performance monitoring systems is focusing on bringing solutions to address the challenges identified in the context of Industry 4.0. The partnership will also support SMEs to properly position/integrate themselves into global value chains while retaining higher added-value segments of production. The partnership is focusing on addressing the increasing competition in the market. This implies looking for new methods to extend the range of the produced goods while also improving production quality and efficiency. One way to achieve this is to develop flexible production systems that would allow flexible management of production, flexible logistics and monitoring of production processes.

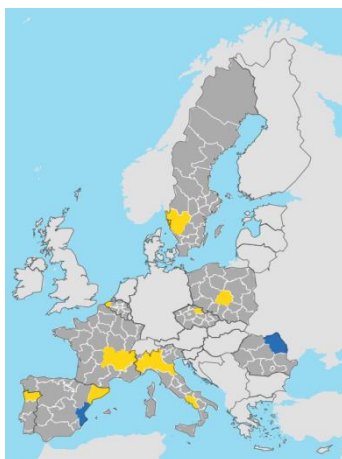


Lead regions:

Tuscany, IT
Castile and León, ES
Catalonia, ES
Mazowieckie, PL
Slovenia*
Valencia, ES

* national level

Smart Regional Investments in Textile Innovation Partnership is focusing on bringing together stakeholders from the textile, clothing and related industries, relevant research actors, technology and education providers as well as public authorities and agencies in a joint effort to develop and implement strategies that will facilitate and accelerate the emerging industrial renewal in traditional manufacturing regions across Europe. The goal is to strengthen existing regional innovation capacities, to facilitate new investments in open innovation infrastructures or new technologies by SMEs as well as to establish effective interregional collaboration between various actors.



Lead regions:

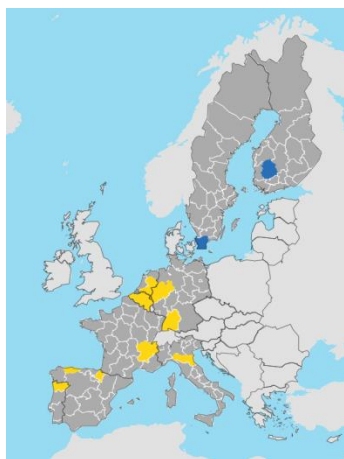
Valencia, ES
North East Romania, RO

Participants:

Auvergne-Rhône-Alpes, FR
Campania, IT
Catalonia, ES
Emilia-Romagna, IT
Hradec Králové, CZ
Lodzkie, PL
Lombardy, IT
Norte, PT
North-East Romania, RO
Piedmont, IT
Valencia, SP
Västra Götaland, SE
West Flanders, BE

S3P – Industry partnerships

New Nano-Enabled Products aims to connect regions to build an industrial ecosystem in nanotechnology and to create pilot production facilities for products based on nanomaterials. These products can be based on a synthesis of nanomaterials and nanocomponents which can be integrated into corresponding technical applications in areas as broad as clothing, cars, windows, computers, displays, cosmetics and medicine. The following demo-cases have been identified: nano wires for ICT and energy applications, nano-enabled Microsystems for Bioanalysis, printed nano-electronics: integrated energy harvesting / cross technology application platform, industrial pilot production of nano-materials establishing new value chains.



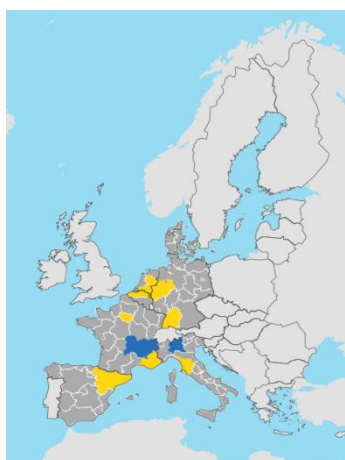
Lead regions:

Skåne, SE
Tampere, FI

Participants:

Asturias, ES
Baden-Württemberg, DE
East Netherlands, NL
Emilia-Romagna, IT
Flanders, BE
Navarra, ES
Norte, PT
North Rhine-Westphalia, DE
Rhône-Alpes, FR
South Netherlands, NL
Wallonia, BE

Medical Technologies Partnership aims to empower the participation of citizens and transforming the care cycle to more person-centred and community-based care models will not only allow Europe to maximise the potential of Digital Economy for Healthcare sector, but also ensure a better access to healthcare for all. Europe needs smart, scalable and sustainable solutions building on new innovation opportunities coming from integration of Key Enabling Technologies (KET) with digitalisation in order to overcome these challenges, and must grasp every opportunity for leadership. Technology and innovation continue to offer new opportunities at an accelerating pace.



Lead regions:

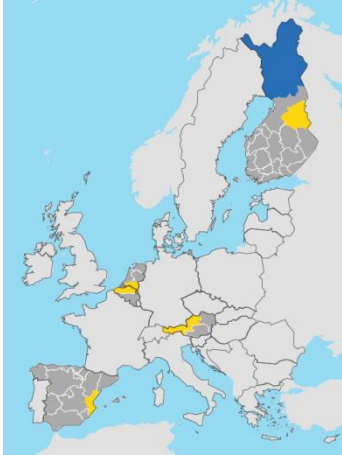
Auvergne-Rhone-Alpes, FR
Lombardy, IT

Participants:

Aragon, ES
Baden-Württemberg, DE
Catalonia, ES
Copenhagen Region, DK
East Netherlands, NL
Flanders, BE
Ile de France, FR
Navarra, ES
North-Rhein-Westfalia, DE
Provence-Alpes-Côte d'Azur – Occitanie, FR
South Netherlands, NL
Tuscany, IT

S3P – Industry partnerships

The **Sport** Partnership aims to reinforce existing regional innovation capacities with an objective to facilitate investments based on open innovation infrastructures or new technology by clusters in regional innovation ecosystems and to spread the knowledge of expert organisations to support regional growth and new work opportunities. Finally, the partnership aims to identify opportunities for joint demonstrations between regions which will be informed by an exercise mapping any complementary advantages between existing demonstration facilities and industry needs.



Lead region:
Lapland, FI

Participants:
Flanders, BE
Kainuu, FI
South Netherlands, NL
Upper Austria, AT
Valencia, ES

- Lead regions of the partnership
- Participating regions of the partnership

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List of abbreviations

CoR	Committee of Regions
DG	Directorate-General
EC	European Commission
EDP	Entrepreneurial discovery process
EFSI	European Fund for Strategic Investments
EoI	Expression of Interest
ERDF	European Regional Development Fund
ESIF	European Structural and Investment Funds
EU	European Union
EU FP	European Union Framework Programme
FDI	Foreign direct investment
GVC	Global value chain
ICT	Information and Communication Technologies
IPR	Intellectual property rights
JPI	Joint Programming Initiative
JTI	Joint Technology Initiative
KETs	Key Enabling Technologies
KICs	Knowledge Innovation Communities
MS	Member States
RCA	Revealed comparative advantage
R&D	Research and Development
R&I	Research and Innovation
RIS3	Research and Innovation Strategy for Smart Specialisation
RTOs	Research and Technology Organisations
S3P-Industry	Thematic Smart Specialisation Platform for Industrial Modernisation
S3P	Smart Specialisation Platform
TO	Thematic Objective
TRL	Technology readiness level
VI	Vanguard Initiative

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