

The potential of cross sectoral value chain innovation

A policy brief from the Policy Learning Platform
on SME competitiveness

August 2017



Introduction

New products and services, as well as new industrial sectors are not always the result of breakthrough innovation; they can be the result of value chain innovation.

Value chain innovation is hereby defined as the transformation of 'traditional' value chains into new ones - emerging industries - through cross-border and cross-sectoral collaboration.

The following two examples (see also the related [article](#)) provide a glimpse on how technologies and processes from, for example, the information technologies or genomics, can be a source of innovation and significant competitive advantage when they are combined with established practices from other sectors:



Precision farming, digital farming: the increased use of multiple data collection devices (satellites, drones, sensors, etc.) and data processing technologies enable new practices in agriculture for irrigation, fertilisation or the use of pesticides, which can be adapted very precisely to the specific needs of every piece of land. Precision farming not only aims at increasing the yields but also contributes to optimise the use of resources, including fuel, fertilisers and land. Artificial-intelligence-based solutions will likely further transform agricultural practices.



Personalised medicine: the developments in different fields of medicine, such as genomics and diagnostic techniques, combined with modern information technologies, lead to the emergence of personalised medical approaches, which enable the delivery of therapies and healthcare services tailored to every patient. Such approaches do for instance already play a significant role in cancer treatment.

Such collaboration processes have become more and more visible on the European innovation policy radar due to their high potential in terms of innovation and economic growth. As stated by DG GROWTH, “the development of emerging industries is often driven by cross-cutting technologies, creativity and service innovation, and societal challenges such as the need for eco-innovative and resource-efficient solutions. As emerging industries are frequently characterised by high growth rates and further market potential, they hold the key to future competitiveness and prosperity.”¹

The translation of the value chain innovation concept in a truly cross-border European – and international – policy level remains a difficult challenge. Smart specialisation is actually a cross-border approach to innovation policy, which aims at tightening the policy collaboration among European regions with respect to the development of European value chains and to some extent the mutualisation of efforts in common priority areas; however, the implementation of the concept is commonly mainly driven by regional or national policy developments.

¹ Source: https://ec.europa.eu/growth/smes/cluster/emerging-industries_en



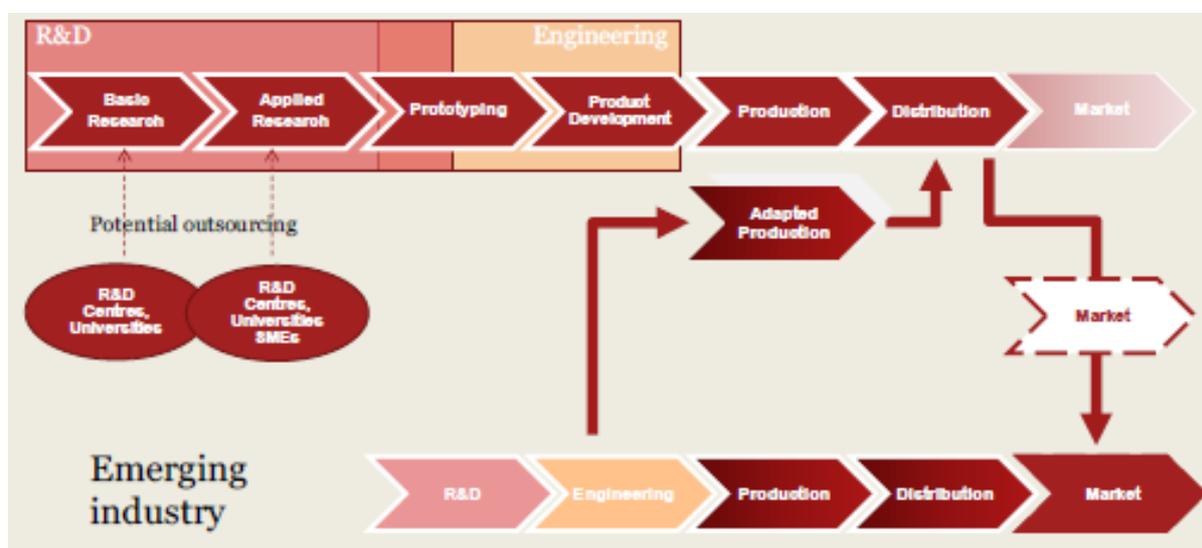
This policy brief explores the concept of cross-border and cross-sectoral value chain innovation and highlights the potential benefits in the context of regional smart specialisation strategies and innovation policies.

In this context, the [INNOSUP initiative](#), building on this approach and implemented within the Horizon 2020 Framework Programme for Research and Innovation (H2020) of the European Union, will be presented.

Finally, the relevance and potential benefits for Interreg Europe projects will be addressed.

What do the emerging industries have in common?

The [European Cluster Observatory](#) modelled the emergence of new industries that resulted from value chain innovation in a report published in 2012 ([Emerging industries](#)) as displayed in the following picture:



Source: [Emerging industries](#), Page 12

The European Cluster Observatory identified and described in [The European Cluster Panorama 2014](#) ten such emerging industries of significant importance, in terms of measurable economic activity such as employment, turnover, and number of companies:

List of 10 emerging industries		
Advanced Packaging	Biopharmaceuticals	Blue Growth Industries
Creative Industries	Digital Industries	Environmental Industries
Experience Industries	Logistical Services	Medical Devices
Mobility Technologies		



The analysis of the development of those emerging industries shows that beyond the specificities of each of them, they have in common some major drivers:

Key Enabling Technologies (KETs)	Resource efficiency
Digital transformation	Service innovation

What impact of the European cluster policy?

An additional finding related to these new industries is that they tend to emerge and develop in geographically concentrated areas, so that emerging industries might also often be considered as emerging clusters, where some commonly known benefits of cluster ecosystems come into play:

- Stimulating a mix of competition and cooperation among firms with different backgrounds;
- Building a culture of trust among actors;
- Intense and fast circulation of ideas and knowledge, spill overs from one sector to the other;
- Development of an entrepreneurial climate;
- Access to highly qualified human resources.

Building on the findings of the European Cluster Observatory, a new approach to the development of new industrial value chains was initiated in H2020 under the [INNOSUP](#) umbrella:

The **Cluster facilitated projects for new industrial value chains** brings together the concepts of value chain innovation and large scale demonstrators, a key element of the European Commission's reindustrialisation strategy.

The selected projects are expected to demonstrate the innovation potential of cross-sectoral and trans-national collaboration on European level in selected areas with expected growth potential, i.e. emerging industries as defined above. Projects are driven by clusters, which are here considered to be mobilising and accompanying the relevant stakeholders on the one side, and ensuring the exploitation of the results beyond the lifetime of the projects on the other.

As a result of the first two calls for proposals – a third one closed recently - there are currently [eight such projects ongoing](#) which support different emerging industries through cross-border and cross-sectoral collaboration, promoting the development of new products, services and processes. These projects are expected to have a significant impact on the development of new strategic industries of global relevance across Europe because of the key role of clusters and the link to the smart specialisation strategies of the regions involved.



The eight INNOSUP projects and their targeted sectors are:

Short name	Full name	Sectoral/industrial focus
<u>INCluSilver</u>	Innovation in personalised Nutrition through Cluster cooperation in the Silver economy	Agro-food, ICT, health and creative industries
<u><IMPACT> Connected Car</u>	Impacting on the Emerging Connected Car VaLuE Chains	Connected Car, Automobile, ICT, Advanced Manufacturing, IoT, Road Infrastructures
<u>INNOLABS</u>	INNOvative LABS for leveraging cross capacity building between healthcare and ICT sectors for new emerging industries in personalized health	ICT, BIO, Health, Medicine
<u>PERMIDES</u>	Personsalised Medicine Innovation through Digital Enterprise Solutions	Medicine, Biopharma, Biotech, IT and Software sector
<u>SuperBIO</u>	SUpport and PartnERship for the development of multiple sustainable and market ready value chains in the BIO-based economy	Bio-economy (chemistry, agriculture)
<u>NEPTUNE</u>	New Cross Sectoral Value Chains Creation across Europe Facilitated by Clusters for SMEs' Innovation in Blue Growth	Water management in urban (smart city and smart grids adapted to drinking water and wastewater infrastructures) and rural environments (rationale irrigation, sustainable agriculture); Fluvial and maritime transport and port logistics Environment and marine renewable energy
<u>KATANA</u>	Emerging industries as key enablers for the adoption of advanced technologies in the agrifood sector	Agrifood, emerging industries (eco-industries, mobile industries, personalized health), ICT
<u>ACTTiVate</u>	Pan-European Clusters for Technology Transfer and new Value chains	Aerospace, agro-food, health and ICT



All INNOSUP projects share some methodological steps, which can be broken down as follows:

1. **Idea generation** through promotion, creative processes, open calls for proposals and matchmaking activities;
2. **Idea validation and selection** through a transparent and systematic evaluation process, addressing both technical and market aspects;
3. **Delivery of support measures** according to the needs of the selected innovation activities.

The financial support is typically provided in the form of vouchers, such as

- Travel vouchers, covering travel costs for the participation of SMEs to international meetings and events;
- Consultancy vouchers, enabling SMEs to access specific expertise;
- Innovation vouchers, covering a wide scope of activities necessary to the implementation of cross-sectoral innovation projects (business intelligence, access to infrastructure, patenting, applying for funding...)

The vouchers are normally complemented by coaching and mentoring schemes provided by the clusters involved in the projects and their members.

Identifying the relevance to Interreg Europe projects

Although the concept of value chain innovation is not strongly emphasised in Interreg Europe projects in the SME competitiveness theme, several of them have a sectoral focus that is related to emerging industries (as listed above).

This is for example the case for the **Cultural and Creative Industries**:

Title	Approach
<p>RCIA Regional Creative Industries Alliance – From European recommendations to better regional CCI policies for a more competitive economy</p>	<p>The RCIA project aims at developing the competitiveness of SMEs from the creative industries in general, but also to highlight the potential of creative SMEs as enablers for other sectors of the economy.</p> <p>The project also expects to bring the level of collaboration among SMEs and further stakeholders of innovation ecosystems beyond the regional level in a truly transnational and cross-sectoral approach to collaboration models.</p> <p>As RCIA was selected in the second call, the results and good practices are expected for the next months.</p>
<p>CRE:HUB Policies for cultural CREative industries: the HUB for innovative regional development</p>	<p>CRE:HUB aims to improve the framework conditions in the regions involved for a better development of creative industries, taking into account their high innovation potential.</p> <p>Beyond the regional dimension of the project, CFE:HUB clearly addresses the issues of traditional industries</p>



faced with social, cultural and technological changes leading to new developments and industries. This is also the fact for cultural and creative industries. CRE:HUB therefore also addresses the potential of cultural and creative industries in terms of positive interaction with other sectors.

The **Blue Growth Industries** are also at the heart of a project from the second call with a value chain approach:

Title	Approach
CLIPPER Creating a leadership for maritime industries - New opportunities in Europe	One of the work packages of CLIPPER addresses how SMEs from the maritime industries can take part in collaborative and cross-sectoral development approach, specifically in the framework of cluster-based approaches. Internationalisation is another focus of the project.

Besides those projects from the SME competitiveness theme, several projects from the research and innovation theme address either the topics of value chain innovation or have a cluster / thematic approach:

Short name	Full name
STEPHANIE	Space TEchnology with Photonics for market and societal challenges
STRING	STrategies for Regional INnovative Food Clusters
FoodChains 4 EU	Strengthening regional innovation policies to build sustainable food chains
ClusterFY	Fostering Clusters' Interregional Collaboration and Integration into International Value Chains
S34Growth	Enhancing policies through interregional cooperation: New industrial value chains for growth

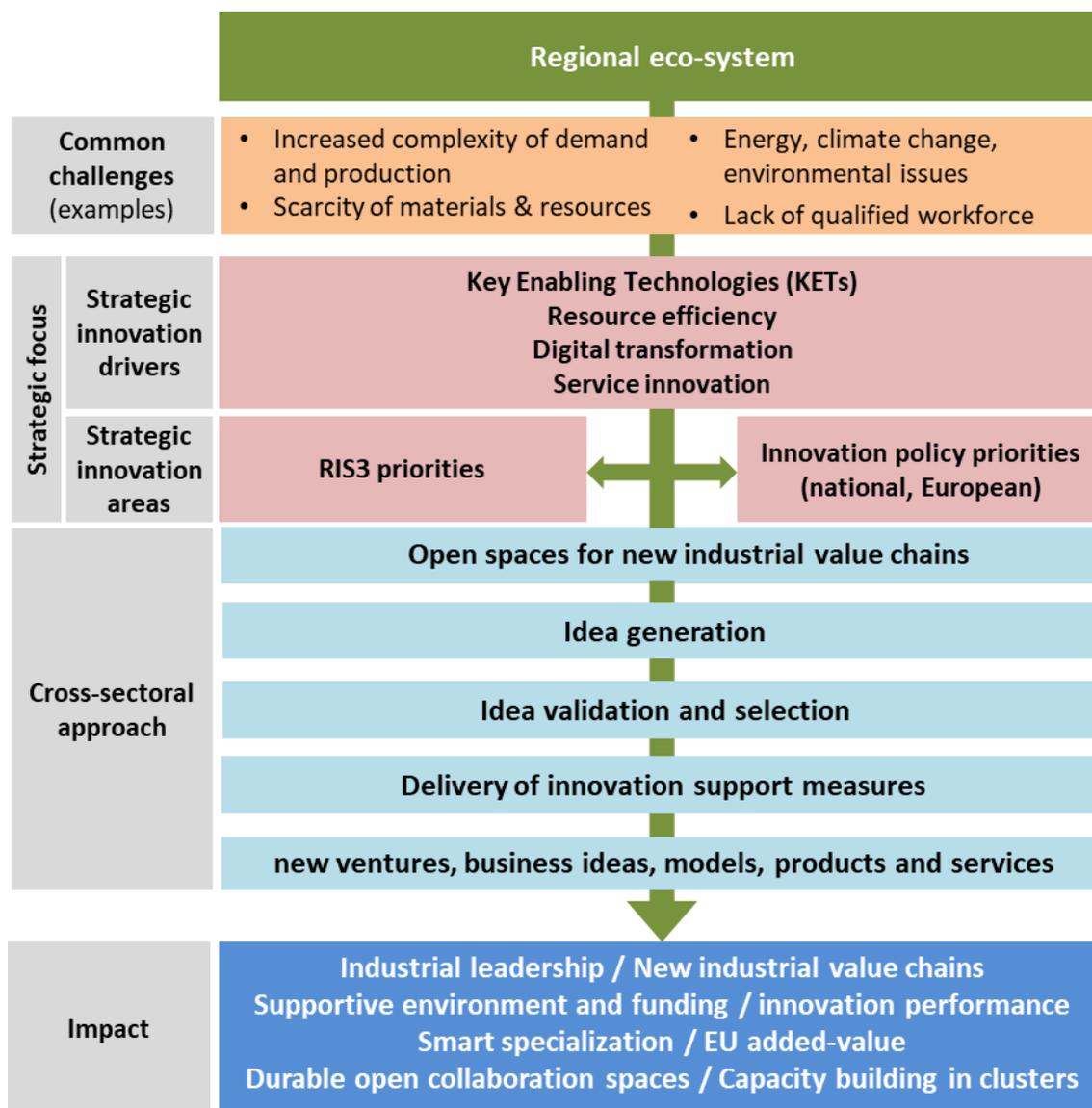
Conclusion – link to smart specialisation and innovation policy

The approach implemented within the INNOSUP initiative and projects – and to some extent in Interreg Europe projects – is by ambition and design strongly transnational. However, the rationale behind the initiative remains valid at regional and national level: those are the places where the initial spark for the emergence of new industries can first be seen and developed, before it becomes stronger and measurable in statistical terms.



A cross-sectoral approach to cluster policy, making for instance use of existing support instruments, has the potential to generate significant benefits in terms of impacts to regional economies and innovation policies.

It can be implemented according to the following model:



Source: inno AG, own depiction

The value chain innovation concept is therefore highly relevant to regional innovation policy makers in general, and especially with respect to cluster and internationalisation policies. It can certainly benefit the Interreg Europe projects and regions dealing with cluster policies but also internationalisation of SMEs, as part of a common trans-regional approach to cross-sectoral value chain innovation.

The Policy Learning Platform can provide both knowledge and support to bring interested partners together. Contact us for more information.



Sources of further information

- Emerging industries - Report on the methodology for their classification and on the most active, significant and relevant new emerging industrial sectors
Erica Monfardini, Laurent Probst, Krisztina Szenci, Benoît Cambier & Laurent Frideres, PwC Luxembourg, July 2012
- European Cluster Panorama 2014
Christian Ketels and Sergiy Protsiv, Center for Strategy and Competitiveness Stockholm School of Economics, October 2014
- European collaboration platform - INNOSUP initiative
- Smart Specialisation Platform (S3) – Industrial modernisation
- Call for the expression of interest: Towards European Strategic Cluster Partnerships for smart specialisation investments
- DG GROWTH – Smart Guide to Cluster Policy
- DG GROWTH – Innovation
- DG GROWTH - Clusters and emerging industries

Image credit: Photo by Luděk Maděryč from [Pexels](#)

#valuechain #cross-sectoral #innovation #emergingindustries #clusters
#smartspecialisation #SMEs #PolicyLearning #InterregEurope #Regions



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August 2017