



SMART SPECIALISATION STRATEGY (S3)

A Policy Brief from the Policy Learning Platform on
Research and innovation

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**Interreg
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Summary

Some 18 Interreg Europe projects are dedicated to developing and delivering better regional policies regarding the design and implementation of smart specialisation strategies (S3). Following the structure of the **handbook on [Implementing Smart Specialisation Strategy \(S3\)](#)**, this policy brief delves into the very rich amount of knowledge created within Interreg Europe projects related to S3. Interreg Europe projects have shared **good practices** and delivered concrete and transformative **policy changes** on regional policy challenges ranging from the Entrepreneurial Discovery Process (EDP) to S3 Monitoring, offering regional policymakers the possibility **to learn from practices implemented in different regional institutional contexts across Europe**. The interregional exchange approach to find the most effective policy solutions for S3 makes Interreg Europe projects the ideal space for policy learning. Finally, this policy brief explores, in a very timely fashion, ways forward for **policy design and experimentation** regarding smart specialisation strategy (S3) in the context of the next programming period 2021-2027.



Forewords

Acknowledgements: The authors would like to particularly thank our external contributors, Ron Boschma, Katerina Ciampi-Stancova, Mathieu Doussineau, Dominique Foray, Elisabetta Marinelli, Claire Nauwelaers, Alessandro Rainoldi, and Elvira Uyerra for their insightful contributions into some of the key issues currently facing Smart Specialisation Strategies (S3).

Pr. Dominique Foray, Ecole Polytechnique Fédérale Lausanne

Following the first formulation of the smart specialisation strategies concept (S3) in 2009, the integration of this approach into EU innovation policies has been rapid and the ex-ante conditionality mechanism has led to a massive implementation of S3 in European regions within the framework of the cohesion policy.

Even though the rapidity of the transition from idea to practice may have seemed excessive, it also resulted in a positive mobilisation and commitment of the regions as well as an accelerated collective learning process regarding S3 procedures and practices. Another characteristic of this learning process has been the commitment on the part of the regions to learn for themselves by analysing and comparing their experiences through numerous decentralised interregional programmes. Thanks to this impressive collective effort surprising progress has been made. This progress has concerned especially the practical aspect as now we have achieved an implementation concept, which is consistent with the theory, is ambitious and whose feasibility has been proved. The different levels of detail that have enhanced it (transformative activities, the methods for projects mapping and selection, the relevant locus of entrepreneurial discovery) have made it an effective tool to help regions to better master their S3 approach. The result is that the most recent S3 regional projects are far better conducted than they were a few years back.

Today, on the eve of the next programming period of the EU (2021-2027), we can confirm that the *raison d'être* of this approach as well as its basic principles still remain valid and that we are better at “doing” an S3 today than we were a few years ago. These are all important lessons for the next version of the cohesion policy programme under discussion and preparation in Brussels and the European capitals for 2021.



Alessandro Rainoldi, Joint Research Centre S3 Platform, Seville

Smart specialisation has inspired regional innovation strategies in the EU for the last seven years. It has proved a successful driver for change, namely in governance settings, inclusiveness of the policy processes and adoption of strategic priorities combining science and communities as knowledge base for their identification. Still, in several cases the strategies have been “lost in translation” when moving from design to implementation. Capitalising on the knowledge gained and on our experience of this first period, it is possible to grasp the great potential for further enhancement of smart specialisation strategies post-2020.

Let's start from inter-regional co-operation. It is the essence of Interreg Europe. Widespread evidence of networks and partnerships based on common S3 priorities and challenges has emerged well beyond our own expectations. The future brings in a new level of ambition: regions joining forces across borders on common S3-driven interests help upscale local innovation priorities into broader EU-wide goals and policy considerations, as well as draw the territorial articulation of European R&I top challenges and missions.

In order to make this happen, further efforts must be made in making the applications of smart specialisation in and across regions as solid as the design. The supported project portfolios will need to be more carefully selected in order to meet the ambitions and respect the priorities of the strategies. The next years will be crucial in deploying a robust toolkit for S3 evaluation, including modelling exercises as well as deep dives into specific cases of regions and partnerships where the logic of intervention “vision-objectives-design-implementation-monitoring” can be traced down and challenged.

And finally, the transformative element of smart specialisation needs to be further nurtured, as both the “territorial enabler” of Europe's twin green and digital transitions, and a substantial element of a territorial response to the COVID-19 crisis – for a Europe that leaves no one and no place behind.

Introduction

The European Commission introduced the S3 concept in the EU Cohesion Policy 2014-2020 as an ‘**ex-ante conditionality**’ for European regions to obtain funding for research and innovation from the European Regional Development Fund (ERDF) ([European Commission, 2012](#)). Smart Specialisation strategy (S3) is a **place-based** innovation policy concept to support **regional prioritisation** in innovative sectors, fields or technologies through the ‘**entrepreneurial discovery process (EDP)**’, a bottom-up approach to reveal what a region does best in terms of its **scientific and technological endowments** ([Foray, David, Hall, 2011](#)).

Smart Specialisation strategy (S3) requires regions to have a comprehensive understanding of their regional institutional contexts **to identify their strongest research, innovation and entrepreneurial assets so that they can select a limited number of priorities** where they can build critical mass in areas of comparative advantage. The terms of specialisation can be confusing for policymakers, as the **S3 policy concept is not a sector or cluster-like policy concept** to reinforce regions in their most advanced industrial sectors, **but rather to diversify their economic bases in a smart way**, that is, in the most promising areas with the most socio-economic potential ([European Union, 2017](#)).










The S3 concept was developed also with an emphasis on less-advanced regions to develop certain capabilities within specific fields, technologies, sub-systems to build competitive advantages in a few market niches rather than developing generic capabilities (Foray, 2014). Less-advanced regions, however, have faced S3 implementation challenges due to their weaker institutional capabilities, especially regarding S3 governance and S3 monitoring and evaluation (JRC S3 Platform). Moreover, the S3 concept aims to address some common issues that regions face when drafting their regional innovation strategies such as:

- the **picking winner syndrome**,
- the **lack of understanding of the regional institutional context**,
- and the **copy-paste imitation** of innovation policies designed in best performing/leading regions (JRC S3 Platform).

The S3 concept highlights **the role of entrepreneurial knowledge**, which combines ‘knowledge about science, technology and engineering with knowledge of market growth potential, potential competitors as well as the whole set of inputs and services required for launching a new activity’, **as the driver of the discovery of regional priorities** (Foray, 2014). As a result, **the entrepreneurial discovery process (EDP)**, which is a bottom-up process that involves interactions among quadruple helix actors who have the entrepreneurial knowledge, plays a central role in the S3 concept. The theoretical advances made by evolutionary economic geographers who have **provided tools for regions to measure related variety and economic relatedness** facilitate, through evidence-based approaches, the regional prioritisation process (Neffke, Henning, & Boschma, 2011).

The future programming period of EU Cohesion Policy 2021–27 dedicates the bulk of its budget to promoting a **Smarter Europe** through the confirmation of the Smart Specialisation Strategy (S3). European regions have to update their S3 and to respond to ‘**seven enabling conditions**’, they are:

-  Up-to-date analysis of bottlenecks for innovation diffusion, including digitalisation
-  Existence of competent regional / national institution or body, responsible for the management of the smart specialisation strategy
-  Monitoring and evaluation tools to measure performance towards the objectives of the strategy
-  Effective functioning of entrepreneurial discovery process
-  Actions necessary to improve national or regional research and innovation systems
-  Actions to manage industrial transition
-  Measures for international collaboration



Box 1. The S3 Platform

The **Joint Research Centre Seville S3 Platform** is the European Commission's science and knowledge service on Smart Specialisation Strategy (S3). Its experts provide advice to EU countries and regions for the design and implementation of their S3. Namely, the **S3 Platform**:

- Provides guidance material and good practice examples
- Informs strategy formation and policymaking
- Facilitates peer-reviews and mutual learning
- Supports access to relevant data
- Trains policymakers.

The **S3 Platform** provides a combination of **mapping tools** that allow users to identify regions' economic domains of specialisation and aims at facilitating interregional cooperation and the creation of partnerships among various actors throughout Europe.

1. The Entrepreneurial Discovery Process (EDP) cycle: from priority selection to strategy implementation

How to select S3 priorities?

Ron Boschma, Full Professor at Utrecht University

A crucial question in S3 is how to identify high potentials in regions: **which activities can be considered most promising given the capabilities of a region?**

The literature has primarily focused on two ways of determining high potentials in regions. **One way of doing that is through the entrepreneurial discovery process**, in which local stakeholders decide in a decentralised and collective manner which activities are held as being most promising and should be targeted in Smart Specialisation policy. **Another way is to use and analyse big data** (for example, data on trade, patents, industries and occupations) to determine whether a region possesses relevant capabilities to develop a new activity, and to which other regions a region can connect to get access to complementary capabilities.

Both approaches have their merits but also their limitations, and therefore need to be integrated in Smart Specialisation policy. Local stakeholders may reveal other potentials in regions that cannot be taken up or measured by secondary data. Local stakeholders also have the capacity to identify bottlenecks that might prevent local capabilities to be activated and exploited. At the same time, local stakeholders may be over-ambitious (striving to become the 'new Silicon Valley') while the data analysis would reveal the region has no relevant capabilities whatsoever. The data analyses can also identify potential activities in regions that local stakeholders did not think of or just ignored, due to strong local vested interests.

The **entrepreneurial discovery process (EDP)** is one of the core elements of the S3 concept. The EDP is a **bottom-up process** that involves interactions among **quadruple helix actors—private companies, public institutions and innovation enablers, academic and research centres, and civil society—to identify new regional technological domains and market opportunities** to pursue, depending on contextual elements such as regional scientific and technological endowments. The EDP encourages **co-creation of actions and policies** among quadruple helix actors to promote the development and emergence of strategic priority sectors, for example by examining the scope for inter-



sectoral cooperation and the creation of new value chains. The role of regional government is to provide a dedicated management and **to act as a platform to enable, sustain and guide quadruple helix stakeholders' participation** across the policy-making process ([JRC S3 Platform](#)).

Interreg Europe projects

Four Interreg Europe projects are specifically dedicated to developing and delivering better policies regarding the entrepreneurial discovery process (EDP). [Beyond EDP](#) aims to improve the design and implementation of the EDP by encouraging continuous interactions among **quadruple helix stakeholders**. [HIGHER](#) aims to **reinforce regional policy instruments designed to promote innovation projects through triple helix collaboration**—research centres, industry and public authorities. [INNOHEIS](#) aims to encourage higher education institutions (HEIs) and their research and innovation infrastructures (RIIs) to participate as enablers of **smart specialisation strategy (S3) and the entrepreneurial discovery process (EDP)**. Whilst [S3Chem](#) aims to improve the **implementation of S3 with regards to the chemical sector** regional prioritisation.

Interreg Europe good practices

Interreg Europe projects have identified many good practices to improve the delivery of the **entrepreneurial discovery process (EDP)**. A common approach from Interreg Europe good practices to improve the delivery of the **entrepreneurial discovery process (EDP) is the creation of thematic working groups involving quadruple helix actors to identify S3 priorities**. Interreg Europe good practices have given many insights into how to better deliver the EDP, namely:

- In [Beyond EDP](#), the good practice [RIS3 thematic working groups](#) in Extremadura, Spain, points out the importance to motivate quadruple stakeholders to participate in the working groups **through empowering them to co-create actions and policies**.
- In [HIGHER](#), the good practice [Strategic Research and Innovation Partnerships \(SRIPs\)](#) in Slovenia shows that a thematic working group can be **piloted by different institutions** (clusters, higher education institutions, intermediary organisations...), devise its **strategic roadmaps** to achieve a higher competitive position not only through **technological foresight but also through identifying regulatory framework bottlenecks**.
- In [Beyond EDP](#), the good practice [EDP Governance Structures in Umbria](#), Italy, highlights the importance to have **individual entrepreneurs** to participate in thematic working groups. **Entrepreneurs act as knowledge brokers** and enablers in their networks and rapidly diffuse knowledge and information to other entrepreneurs thanks to trust and shared social capital.
- In [S3CHEM](#), the good practice [Roadmap for the Regional Agenda of Sustainable Materials for Asturias](#), Spain, emphasises the importance to have a **coordinator in each thematic working group** to facilitate interactions under a participatory governance model and to ensure that thematic working groups meet regularly.
- In [MARIE](#), the good practice [Entrepreneurial discovery process \(EDP\) management](#) in Centre-Val de Loire, France, shows the importance of **capacity-building for regional policymakers to understand their regional institutional contexts**.

Interreg Europe good practices highlight that the EDP can not only be implemented at regional level but also on different **territorial levels such as the metropolitan and rural levels**. It can also facilitate intersectoral exchanges that will support the transformation of traditional industries by incorporating digital technologies or societal challenges such as the green growth.

- In [HIGHER](#), the good practice [Innovation Stockholm](#) is a collaborative platform that involves **quadruple helix actors**—public actors (CAB Stockholm, Stockholm County Council, Stockholm city, Invest Stockholm, the Association of municipalities in Stockholm County), academia (KTH, Karolinska Institute and Stockholm university), the Chamber of Commerce, national agencies, research institutes, companies, incubators and science parks—**to devise and update** the regional S3 at the **metropolitan-region level**.
- In [BEYOND EDP](#), the good practice [LAG TAGUS promoting Smart Specialisation in the scope of Rural Development](#) in the region of Extremadura in Spain provides a good practice on how the EDP can be implemented in a more rural setting. **Local Action Groups (LAGs) are**



not-for-profit structures that are formed by multiple local stakeholders—public institutions, private actors, universities, civil society—and are operating under a bottom-up approach to elaborate regional rural development plans.

Interreg Europe good practices points out **the importance of an ‘evidence-based approach’** to guide the EDP.

- In **BEYOND EDP**, the good practice **Identification of the Regional Specialisation Pattern** provided an objective basis for the selection of the priorities using **3 dimensions (economic, scientific and technological)**. The quantitative data were used to guide thematic working groups in the **identification of new technological domains**. **This approach has been particularly well deployed in the Region Centre Val de Loire in France.**

The impact of interregional cooperation on EDP policies

Thanks to **Interreg Europe projects**, partners were able to improve the delivery of the **entrepreneurial discovery process (EDP)**.

- In **S3CHEM**, the **Wallonia Region, Belgium**, has established a Regional Innovation Stakeholder Group (RISG) related to the chemical sector, bringing together federations, research entities and clusters. Learning from **S3CHEM** partners, the **Wallonia Region** is using **creative collaboration techniques to foster the EDP** such as with small groups of 4-5 people working on specific questions to feed sectoral analysis.
- In **HIGHER**, the **Central Macedonia region, Greece**, created the **One Stop Liaison Office ‘OSLO’**, which is a mechanism to support quadruple helix collaboration through public-private collaboration to foster a **continuous entrepreneurial discovery process (EDP)**. The inspiration came from **Abruzzo Region** that is performing continuous EDP, meanwhile the **Cross-Border Smart Specialization Strategy of Galicia & Northern Portugal (RIS3T)** inspired Central Macedonia on how to capitalise on interregional partnership experiences, and the **RIS3CAT Catalanian RIS3 Monitoring System** demonstrated how to involve the quadruple helix into the monitoring RIS3 process.

Box 2. How can the Policy Learning Platform help projects?

The **Interreg Europe Policy Learning Platform** can help project partners understand the multifaceted dimensions of **smart specialisation strategy (S3)** by facilitating the exchange of experience from different institutional contexts and showcasing success stories via the **Policy Learning Platform good practice database**. In addition to the good practice database, the **Policy Learning Platform** can provide a forum for direct discussions among partners from different projects – either in thematic workshops, peer review learning, or in webinar and online discussions, and provide expert advice through our on-demand **policy helpdesk**.



2. S3 Governance

The importance of interregional learning for S3 governance

Elisabetta Marinelli, PhD, PR-i: Policy Research interface

Governing Smart Specialisation has proven an incredibly challenging task for several reasons. On the one hand S3 governance requires an **in-depth engagement of stakeholders**, as well as **significant coordination** at the local, national and supra-national levels. On the other hand, the different actors of the governance systems may lack a shared understanding of S3 and its objectives, hindering the decision-making process. Such challenges are of both a complex and long-term nature: **caution, patience and an in-depth understanding of the institutional set-up** of each region/member state is necessary if progress is to be achieved.

The governance of S3 requires significant capacity-building and Interreg Europe projects, with their focus on identification of good practices and policy-learning, have an important role to play. Such a beneficial outcome, however, will not happen automatically and must be deliberately pursued both by S3 governance bodies and IE project consortia. **It is essential to build structured communication and cooperation channels between these two actors**, ensuring an in-depth understanding of each other's objectives. At the same time, the engagement of Interreg Europe local partners in S3 needs to be reflected in the participatory governance and monitoring systems. **Such types of mutual engagement is critical to translate Interreg Europe policy-lessons into actionable proposals at the local level.** In sum, the challenges ahead are too significant for such learning opportunities to be missed.

S3 governance refers to how the **whole process of designing and implementing S3 is governed**, including who is involved, the structures that are put in place and how decisions are taken. During the Policy Learning Platform workshop on **better monitoring, evaluating, and designing RIS3**, **Peter Berkowitz, DG Regio**, stressed the importance of governance as a key enabling condition for the next programming period 2021-2027 and the difficulties that encountered many regions **in setting-up effective S3 governance and EDP**. The **JRC Seville S3 Platform** has identified seven principles of good governance (see Figure 1).



Figure 1. The seven principles of good governance. Source: [JRC Seville S3 Platform](#).



Interreg Europe projects

Four Interreg Europe projects are dedicated to developing and delivering better policies regarding **S3 Governance**. **BRIDGES** has the objective to improve **S3 governance and the delivery of the structural funds**. The project focuses on enhancing industry-led Centres of Competence (CoC) as S3 implementation units. **COHES3ION** aims to **align sub-regional innovation policies with regional S3** and thus promotes effective **multi-governance models**. **IMPROVE** focuses on **better managing and implementing Structural Funds Programme** to deliver research, development and innovation policies with an emphasis on S3. Meanwhile **RELOS3** focuses on **implementing regional Smart Specialisation Strategies (RIS3) in a local context** by actively involving triple helix actors, namely local authorities, innovation actors and companies in a truly bottom-up approach.

Interreg Europe good practices

Interreg Europe good practices are offering many valuable insights to policymakers on potential ways forward to improve S3 governance.

- **On the leadership dimension of S3 governance**, in **BRIDGES**, the good practice **Helsinki-Uusimaa Regional Council RIS3 coordination** shows the importance to have a strong coordination methodology from the regional government to promote **effective S3 delivery through building interfaces**.
- **On cohesion and vision-sharing**, in **RELOS3**, the good practice **Emilia-Romagna High Technology Network**, which aims to rally laboratories, innovation centres, technopoles around the six thematic platforms selected for the regional S3, shows that **networks can promote vision-sharing**.
- **On S3 governance transparency**, in **S3Chem**, the good practice **Transparent Presentation and Communication of Innovation Projects Funded** developed by the economic development agency of the Principality of Asturias, IDEPA, offers an **open online tool to monitor indicators related to priorities and projects** in their S3.
- **On embedding S3 in regional policy-making**, in **BEYOND EDP**, the good practice **Innovation support ecosystem management** shows the importance of **capacity-building for intermediary organisations to improve offers and visibility**.
- **On multi-level governance**, in **RELOS3**, the good practice **Multilevel governance in RIS3 Basque Country** shows the importance to **facilitate the construction of multi-level governance** to define the role for public organisations and procedures for collaboration in order to limit institutional complexity.
- **On S3 reflection and learning**, in **COHES3ION**, the good practice **Mazovian Innovation Council** is an advisory body consisting of triple-helix stakeholders that continuously monitor, assess, and evaluate the strategy thus allowing to **update and revise Mazovia's S3 in a continuous manner**.

The impact of interregional cooperation on S3 governance

Thanks to **Interreg Europe projects**, partners were able to improve some aspects of the design and delivery of **S3 governance**.

- In **BEYOND EDP**, the **Regional Development Agency of Centru** in Romania has achieved an interesting policy change. Following the intensive exchange of experience and capacity building deriving from the activities of the project, the **Regional Consortium for Innovation (RCI) was set up by the Centru region as the relevant governance structure of the RIS3**. The **Regional Consortium for Innovation (RCI)** was built on the Local Stakeholder Group (LSG) with the extended involvement of clusters, SMEs, and the civil society to monitor and implement the RIS3. The creation of RCI offered the opportunity to the Region to revise the priority-setting of its RIS3 by including emerging sub-domains. Also, the updated RIS3 adopted a new overall approach, moving from a sectoral to a more cross-sectoral perspective.



Box 3. Interreg Europe Policy Learning Platform webinar on RIS3 Governance

The [Interreg Europe Policy Learning Platform](#) organised a **webinar** on [better RIS Governance](#) last 22 October 2019. [One of the key learnings from the webinar](#) is that S3 governance is a **complex activity** that can either **enable or hinder the effective design, implementation, monitoring, and evaluation of place-based innovation policies**. Indeed, S3 governance is not only about policies but also a **process that involves interactions between various actors** who together determine the priorities, strategies, activities and outcomes in research and innovation.

3. From priorities to projects: selection criteria and selection process

The importance to measure projects' socio-economic impacts

Mathieu Doussineau, Joint Research Centre S3 Platform, Seville

An effective smart specialisation strategy should result in a robust translation of priorities into projects that ultimately **have positive socio-economic impacts**. The question of impact resulting from the implementation of the S3 concept is of crucial importance. In the context of the Cohesion Policy implementation, managing authorities often face difficulties to spend funding and produce tangible socio-economic impacts. Too often in the past, R&I support policies resulted in a “projects factory” with limited long-term sustainable impacts. **The ambition of the European Commission with a new industrial strategy towards a green economy and digital transition increases the importance of public resources used for ambitious projects that have impact**. The creation of favourable conditions to scale-up project results allowing territorial ecosystems to grow is an important enabling factor for regions to meet the EU policy objectives and to create jobs and growth.

It is still too early to assess the socio-economic impacts of projects funded through S3 approach but there is little doubt that it contributes, if well designed and adequately resourced, to addressing the challenges faced by regions. Today, **the S3 concept with an inclusive, shared and place-based approach, has gathered considerable momentum**. After seven years of implementation, the next generation of S3 should be even more result-oriented with a better focus on high potential projects and ambitious outcomes and impacts.

The concept of smart specialisation is implemented through policies requiring policymakers to **design calls and select projects for funding**. The [JRC Seville S3 Platform](#) has identified 5 categories of interventions to support S3 implementation. They are:

- **Launching strategic initiatives**, which are bold actions that involve quadruple helix around a S3 priority domain.
- **Re-orienting existing programmes** by adding a new criterion dedicated to the ‘contribution to the smart specialisation areas’ in competitive programmes
- **Changing strategic agendas from existing operators** through aligning actors to respond to S3 priorities.
- **Aligning infrastructure** to relate them with the S3 agenda.
- **Setting up S3 fora** by establishing platforms or fora gathering for the key actors of the S3 domains.

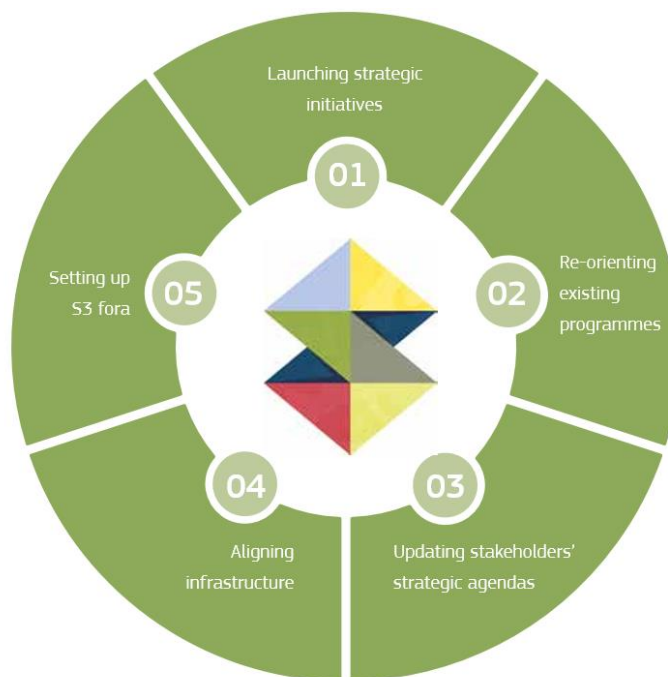


Figure 2. From priorities to projects. Source: [JRC Seville S3 Platform](#).

Interreg Europe projects

Six Interreg Europe projects are dedicated to developing and delivering better policies regarding **S3 implementation and priorities**. **ClusterS3** aims to **adopt cluster policies to improve S3 implementation**. The project focuses on the insertion of SMEs in the global value chains (GVCs). **CREADIS3** looks at policies to involve to a greater extent, **cultural and creative industries (CCI) into regional economic development and S3**. **ecoRIS3** delves into innovation policies to **improve knowledge transfer** between higher education institutions, research and technological organisations (RTOs), and regional private companies. **INKREASE** has for objective to improve regional innovation policies **regarding science-industry collaboration**. The project explores the economic valorisation of research results and value chains to support science-industry collaboration within S3 context. **P2L2** focuses on **improving regional innovation policies for advanced materials** and on policy instruments related to the implementation and evaluation of S3. **TraCS3** aims at **improving regional innovation ecosystems by focusing on innovation infrastructures in regional S3 priorities**.

Interreg Europe good practices

Interreg Europe good practices offer many valuable insights to policymakers on potential ways forward to improve S3 implementation, impacts and priorities.

- **Interreg Europe good practices have launched strategic initiatives.** In **BEYOND EDP**, the good practice **Ambitious Research Development 2020** from region Centre-Val de Loire, France, aims to spur **ambitious regional R&D projects with an international reach and socio-economic impact for the territory**. The program provides funding for up to 10 million euros per project through public calls to create partnerships among research centres, universities, and private companies on ambitious R&D projects. **The large amount of public funding facilitates the creation of strategic projects structuring the regional S3 priority**.
- **Interreg Europe good practices have also played a role in reorienting or adapting existing programmes.** In **S34GROWTH**, the good practice **S3-INNODRIVER** from the Lombardy region, Italy, was using an innovation voucher scheme since 2010 to support collaboration between SMEs and knowledge providers. The voucher scheme was **modified to align the voucher scheme with regional S3 strategic objectives**.



- **Interreg Europe good practices have changed strategic agendas.** In [ClusterS3](#), the [Regional Cluster support strategy](#) in Piedmont, Italy, established seven regional innovation clusters covering each S3 thematic area. In 2009, the region started a cluster policy with 12 regional innovation clusters in 12 different thematic areas. In 2015, the region undertook a process of revision of the clusters through launching a public call for the constitutions of the following clusters: Smart Products and Manufacturing, Green Chemistry and Advanced Materials, Energy and Clean Technologies, Information and Communication Technologies, Agri-food, Textile, Life Sciences to better align them with S3 strategic priorities.
- **Interreg Europe good practices have aligned infrastructures with S3 priorities.** In [TraCS3](#), the [Energy Transition Centre \(EnTranCe\)](#), an initiative from BAM Infra, GasTerra, Gasunie, Groningen Hanze University of Applied Sciences & Imtech, in the Netherlands, is an energy state-of-the-art facility offering technical support for product research, development and testing regarding the S3 priority: reliable, clean, and efficient energy.
- **Interreg Europe good practices have set-up S3 fora.** In [S3Chem](#), the [Open Innovation Platforms \(OIPs\)](#) in Lombardy, Italy, aims to improve the smart specialisation strategy (S3) through supporting the launch, implementation, and communication of research and innovation projects. The OIP encourages interactions among quadruple helix stakeholders to co-create and drive regional structural changes. In [MARIE](#), the [Tampere Region Open Innovation Platforms \(OIP\)](#) is a programme to support the creation of platforms to encourage co-creation among different actors, such as companies-students, companies-universities, and triple helix stakeholders. As an example, the platform [Demola](#) connects leading companies and students through innovation challenges, and it has contributed to the creation of 135 new jobs, connecting 180 companies and more than 500 people involved in projects

The impact of interregional cooperation on S3 delivery

Thanks to **Interreg Europe projects**, partners were able to improve some aspects of the delivery and impact of **S3 policy interventions**.

In [P2L2](#), **Innovouchers** is a voucher scheme for SMEs to strengthen R&D and university-industry collaboration in Lithuania. **Learning from similar voucher instruments**, namely **InnoBooster** in Denmark and **Innovouchers** in Podkarpackie region in Poland, the Lithuanian partner implemented policy changes to revise its Innovouchers in order to increase funding per participants, to simplify project administration and lengthen project duration.

In [ClusterS3](#), the **Lublin Province** introduced a **policy change related to cluster policy**. Indeed, clusters are crucial actors in the design and implementation process of the regional S3 but there was a lack of coordination between clusters and regional policies. **Learning from the experience of the Basque Country and Northern Ireland**, the Lublin Province was able to strengthen cluster networks and cluster coordination by creating **direct links between the Marshal Office and cluster managers**.



Box 4. Interreg Europe Policy Learning Platform peer review

The **Interreg Europe Policy Learning Platform** organised a **peer review** on the topic of ‘**Artificial Intelligence (AI) in the health sector**’ with the Region Sud Provence-Alpes-Côte-d’Azur on 17-18 December 2019 in Marseille, France. Five talented peers from Denmark, Estonia, Finland, and Switzerland from Interreg Europe projects **INTENCIVE**, **MEDTECH4EUROPE**, and **DIGITAL REGIONS** came to Marseille to share with the host region and regional stakeholders their experience and suggestions in integrating the priority ‘Artificial Intelligence (AI) in the health sector’ into the future regional smart specialisation strategy (S3). The insights provided by the experts also highlighted how cross sectoral collaboration can help shape future S3 growth priorities. **The main policy challenge that the peer review was addressing is ‘how to integrate the priority sector artificial intelligence in the health sector in the regional S3?’**

4. Interregional cooperation and value chains

S3P Thematic Platforms as enablers of new European Value Chains

Katerina Ciampi-Stancova, Joint Research Centre S3 Platform, Seville

Interregional collaboration plays a crucial role in the implementation of the smart specialisation strategies. Since the launch of S3P Thematic Platform on Energy in 2015 and the Agri-food and Industrial Modernisation Thematic Platforms in 2016, the European Commission’s S3 Platform has become an important facilitator of the implementation of interregional cooperation on smart specialisation. In total 179 national and subnational authorities from 28 EU and non-EU countries as well as representatives of the European Commission participate. The S3P Thematic Platforms offer a structure **to learn, network, build capacities and prepare joint bankable co-investment projects.**

The objective is to develop **new European value chains** in key smart specialisation niches and/or to improve the position of European stakeholders in existing global value chains **to generate more added value for the European economy and society.** By participating in the S3P Thematic Platforms, regions can: (a) identify new opportunities for investments and unlock new business opportunities, (b) share resources to achieve joint goals more efficiently, (c) improve their competitiveness, resilience and sustainability by promoting a shared value economy, (d) connect partners in a better way, (e) enable regional representatives to improve their skills or gain new ones in networking, project management, diplomacy.

All 32 existing partnerships have put in place leadership, capacities and innovative ideas and they are ready to contribute to the achievement of the European Green Deal and Sustainable Development Goals objectives. In fact, **the partnerships are prepared to address increasing societal and environmental issues** by developing and deploying environmentally friendly solutions and solutions required to achieve systemic changes. with a better focus on **high potential projects and ambitious outcomes and impacts.**

Interregional cooperation within S3 delivers many benefits ranging from better policymaking to more efficient global value chains (GVC). S3 interregional cooperation involves **sharing knowledge, coordinating and exploiting synergies** with S3 initiatives in other regions. Regions can participate in S3 interregional cooperation initiatives to gain access to wider business and knowledge networks, to obtain additional research capacity, to reach out to other markets, to expand business opportunities, to combine complementary strengths, and to join GVCs (**JRC Seville S3 Platform**).

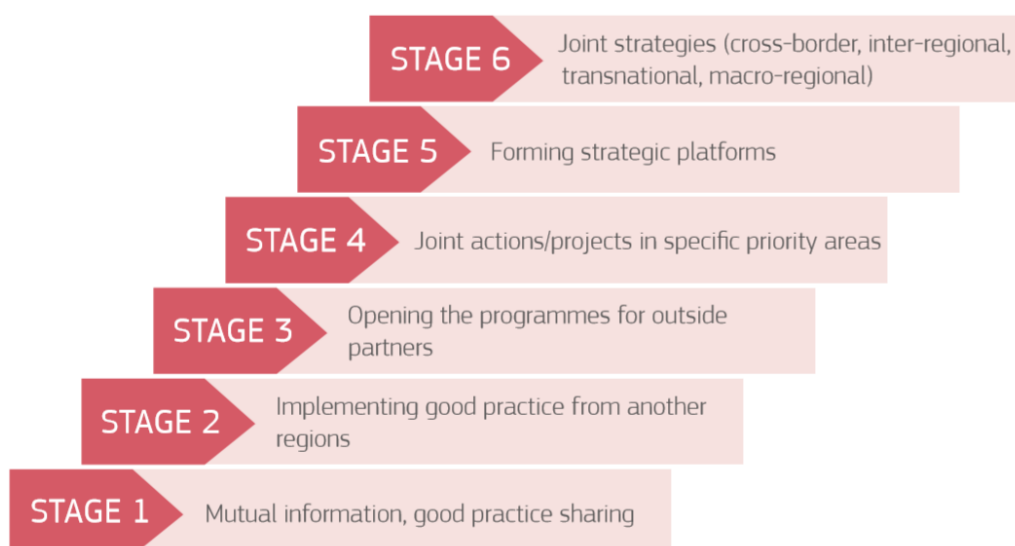


Figure 3. Evolution of interregional collaboration. Source: [JRC Seville S3 Platform](#).

Interreg Europe projects

Interregional cooperation is Interreg Europe’s DNA. Every Interreg Europe project aims to deliver better policies from interregional learning and collaboration. One Interreg Europe project is exclusively dedicated to developing and delivering better policies regarding value chains and interregional cooperation. This project is [S34GROWTH](#) which aims at **promoting new industrial value chains through interregional cooperation.**

Many Interreg Europe partners are also engaged in other **Interreg territorial cooperation programmes** dealing with S3. One example amongst many is the [SMART watch](#) project, a cooperation platform between key participants of the innovation sectors in Central Europe. Within [SMART watch](#) the partners seek to develop and share good practices, particularly among institutions implementing S3, monitoring technology trends and market developments.

Interreg Europe projects with a **cluster dimension** have also demonstrated how policies dedicated to implementing dynamic cluster policies **can act as drivers of interregional cooperation.** This is further illustrated by the role played by clusters, on behalf of their regional authorities in S3 Partnerships. For instance, the sport and technology clusters involved in [Inno4Sports](#) and the [ClusSport Consortium](#) or health clusters, such as Lyon Biopôle, in [Medtech4Europe](#) and the [Medtech S3 Partnership](#).

Interreg Europe good practices

Interreg Europe good practices are offering many insights to policymakers on potential ways forward to improve S3 interregional cooperation.

- In [S34GROWTH](#), the good practice [Cross-Border Smart Specialisation Strategy of Galicia – Northern Portugal \(RIS3T\)](#) is the **first cross-border S3** in the European Union (EU). The cross-border S3 is coordinated by the Galician Innovation Agency (GAIN) and the Regional Coordination and Development Commission in Northern Portugal (CCDRN). The good practice points out the importance **to identify common goals and synergies in both regions.**
- In [BRIDGES](#), the good practice [Traceability and Big Data for achieving European Agri-food Sector](#) from Andalusia, Spain, shows the disrupting effects of ICT on the agri-food value chain actors. **The S3 agri-food platform has created a cooperative ecosystem and network to foster new product development using big data.**



The impact of interregional cooperation on value chains

Thanks to Interreg Europe projects, partners were able to improve some aspects of the delivery of **interregional value chains and cooperation**.

In **S34GROWTH**, the **Basque Country** introduced an **interregional innovation voucher scheme for SMEs**. The Basque Country is characterised by a dense regional innovation system that is inward-looking. From exchanges with **S34GROWTH** partners, Basque policymakers understood the importance of interregional cooperation and global value chains to overcome fragmentation and to boost regional firms' competitiveness. The Basque policymakers were inspired from the **multi-country voucher scheme** during the visit at the **Biobase Europe Pilot Plant** in Ghent, Flanders. The policy change is a **pilot voucher scheme programme to provide Basque firms with access and technical assistance for testing and experimentation infrastructure** in selected **Digital Innovation Hubs (DIHs)** in priority European regions and in regions involved in the **Vanguard initiative**.

Box 5. S3 Platform – Thematic smart specialisation (S3) platforms

In 2015, the European Commission services launched three **thematic smart specialisation (S3) platforms** related to **Agri-Food, Energy and Industrial Modernisation** to provide an interactive and participatory environment supporting interregional cooperation. **Thematic smart specialisation (S3) partnerships** support regions to improve their **regional knowledge base, leading to new paths of development and a better position in global value chains** and to **transnational joint strategies of innovation**. Many synergies already exist between **Interreg Europe projects and S3 Partnerships** and are laying the foundations for future interregional cooperation in the next programming period 2021-2027.



5. S3 Monitoring

Three requirements for better S3 monitoring

Claire Nauwelaers, independent Science, Technology and Innovation Policy expert

S3 are experimental innovation strategies that not only require **ex-ante evidence**—e.g. on the position of regional actors in global value chains, on emerging sub-domains...—but also **on ongoing and ex-post** sources of policy intelligence to monitor whether the goals of the strategy are being achieved. While S3 monitoring systems have not been given enough attention in the past, **more and more regions are incorporating monitoring tools in their S3, linking policy objectives with policy tools**. To do so, regions must perform three functions:

- **To provide robust evidence for policy learning**, addressing questions such as: what has been achieved with the policy instruments in place? Which instruments contribute to which goals? What is the transformative power of the policy mix? Is the logic of intervention, as spelled out *ex-ante*, consistent with observed outputs and outcomes?
- **To create relevant data for external independent evaluations**, to support the impact assessment of the strategies.
- **To communicate about the strategy** to convey that public money is invested towards important goals thus raising the role of innovation within the policy agenda and maintaining the stakeholders' commitment towards the strategy.

Monitoring is a strategic management tool to ensure effective S3 implementation. It allows policymakers **to make informed decisions to maintain or reorient the strategy** by (1) tracking the elements of the strategy, (2) assessing the completion of the strategic goals, and (3) identifying the elements to be further assessed in evaluation exercises ([JRC Seville S3 Platform](#)).

According to the handbook on [Implementing Smart Specialisation Strategy \(S3\)](#), **S3 monitoring** and its indicators should be **result-oriented**. S3 monitoring has thus two primary objectives, each associated with a different type of indicator:

- **Measuring the type and level of direct output** produced by funded projects that are providing a description of the deliverables of the interventions
- **Measuring the degree of achievement of the socio-economic objectives** and the changes taking place in the production systems for each and all S3 priorities.

Monitoring S3 is not only an '**enabling condition**' for the next programming period 2021-2027 but also an essential tool to assess the implementation of the RIS3, to support decision making on proposals for action lines, to revise or maintain priority areas, and to prepare for future evaluations. A monitoring system must reflect **the S3 intervention logic** in all its main components and articulations. **A well-designed monitoring system can act as an early-warning system** to signal critical aspects in the S3 implementation thus allowing for adjusting the course of policy actions.

Interreg Europe projects

Two Interreg Europe projects are particularly dedicated to developing and delivering better policies regarding **S3 monitoring**. [MONITORIS3](#) has for objective to **develop indicators, methodologies, monitoring systems** to better deliver innovation policies in the S3 context. [MANUMIX](#) delves into **the monitoring and evaluation of regional innovation policy-mix for advanced manufacturing** with regards to the implementation of their S3.

Interreg Europe good practices



Interreg Europe good practices are offering many insights to policymakers on potential ways forward to improve S3 monitoring.

- In **HIGHER**, the good practice **RIS3CAT (Catalonian RIS3) Monitoring System** is an open data monitoring system using innovative tools such as **social network analysis (SNA) to provide a comprehensive picture of the regional innovation ecosystem and policy interventions**. The monitoring through the SNA tool can inform on the type of program, RIS3 priorities, technologies, organisations' activity types, year, and location.

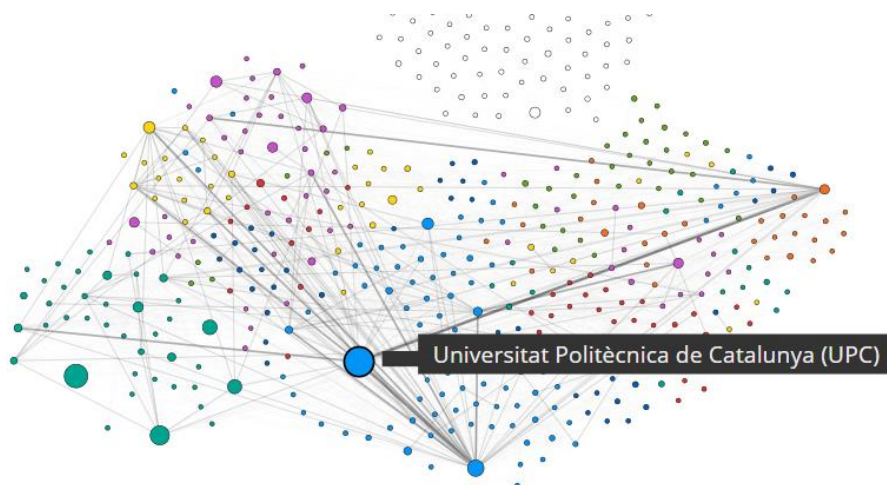


Figure 4. Social Networks in RIS3MCAT. Source: [RIS3MCAT](#).

- In **MONITORIS3**, the good practice **NORTE RIS3 methodological approach for monitoring RIS3** from Northern Portugal provides some important insights on how to set-up an effective RIS3 monitoring system. S3 monitoring must be **comprehensive** and **include bottom-up and top-down logical approaches**. Regional public administration staff must have **adequate skills and capabilities**. **Each indicator must correspond to a certain level of the hierarchy of objectives**. In the case of Norte RIS3, the dimension 'Vision and Regional Innovation Performance' corresponds to the 'Context Indicators' such as the Regional Innovation Scoreboard; the 'RIS3 Strategic and Transversal Objectives' corresponds to the 'Result Indicators' and 'Indicators by Priority Domains'; the 'Specific Objectives of Policy Mix' corresponds to the 'Input Indicators' and 'Output Indicators'.
- In **MANUMIX**, the good practice **Evaluation tools applied to innovation policy-mixes** in Lithuania highlights that large-scale innovation policy-mixes must follow a comprehensive approach including **monitoring, mid-term evaluation of progress and impact assessment**. **Monitoring aims to determine the state of implementation of the S3 policy-mix**. The aim of mid-term evaluation is to measure the relevance, efficiency, effectiveness of the policy-mix and whether S3 priorities are still relevant. The final evaluation aims to assess the benefits and impact of the intervention.
- In **MONITORIS3**, the good practice **Entrepreneurial Discovery Process for RIS3 Evaluation** in Galicia, Spain, highlights that **quadruple helix stakeholders can be involved in the S3 evaluation**. Thematic working group can provide qualitative analysis and interpreting S3 indicators allowing to reorient the strategy and improve S3 governance model.

The impact of interregional cooperation on S3 monitoring strategies

Thanks to **Interreg Europe projects**, partners were able to improve some aspects of the S3 monitoring strategies.

In **MONITORIS3**, **Veneto Region**, Italy, introduced some changes to its public call on 'supporting R&D activities in private companies' in order to facilitate monitoring and evaluation of the final outcome of call's projects. The overarching objective is to improve S3 monitoring within the **Regional Innovation**



Network (RIN), which involve private firms and research centres in the regional S3 domain and priorities. The Veneto region was inspired by the Galician good practice on [Monitoring of the "Joint Research Units" Programme](#), the experience of the Lisbon partner in [Counterfactual Evaluation: Impact of European Structural and Investment Funds on Firm Performance](#), and the Norland County Council good practice [Mo-FI](#).

Box 6. S3 Platform – Peer eXchange and Learning (PXL)

The [S3 Platform](#) has developed peer review methodology to support better design and implementation of S3. The [Peer eXchange Learning \(PXL\)](#) supports **transnational learning** by bringing together regions and countries for knowledge and experience exchange, and the exploration of ways in which innovation and development strategies can be **effectively implemented, adjusted and revised**. The [S3 Platform](#) organised a PXL on [Monitoring smart specialisation strategies \(S3\)](#) in Vilnius on 22 October 2018.

6. Policy experimentation for the next programming period 2021-2027

The importance of policy experimentation and institutional capacity-building

Elvira Uyarra, Professor, University of Manchester.

Putting smart specialisation into practice requires good governance, leadership, and **the capacity for policy experimentation**. The idea of smart specialisation is built around an experimentalist vision of the policy implementation process, which sees implementation not as a passive translation of higher-level policies **but a bottom-up, creative and experimental activity involving public, private and third sector actors**.

It is implicitly assumed that regions possess the capacity to implement the strategies in such a way, but this is often not the case. The logic of smart specialisation is applied in very different regions with different institutional contexts and capacity, including capacities of local governance systems, the presence of formal and soft institutions, the capacity of actors and multi-level governance arrangements. **There is often a disconnect between the experimentalist rhetoric of smart specialisation, and the reality of a public sector that is ill-equipped to deal with novel and experimental approaches.**

A number of voices have expressed concern that the focus of early smart specialisation strategies was too much on the design of the strategies and not enough on their implementation, perceived as straightforward and unproblematic. How to close the gap between policy aspirations and the implementation of smart specialisation strategies needs therefore to be a stronger focus in the new programming period. **In the current climate of uncertainty, experimental, adaptive and agile policy implementation is more important than ever.**

In addition to update their S3 and to respond to the [‘seven enabling conditions’](#) for [the next programming period of EU Cohesion Policy 2021–27](#), regions **will have to experiment with new**



policy approaches to respond to the unique policy challenges resulting from COVID-19 and its consequences.

The European Green Deal and one of its core elements the European Industrial Strategy combined with the emerging concepts of experimental governance, mission-oriented innovation policies, responsible research and innovation (RRI) in a **post-COVID-19 European Union will impact policymaking in many ways that are difficult to foresee**. However, one thing is certain, regional policymakers will continue to experiment in designing and implementing policy solutions to respond to their **unique regional policy challenges**. The rich knowledge accumulated within Interreg Europe will provide a source of lessons and policy practice to enrich regional innovation ecosystem adaptive and resilience capacity.

Interreg Europe projects

One Interreg Europe project is focused on experimenting with new policies regarding an emerging policy concept. MARIE has for objective **to align the concept Responsible Research and Innovation (RRI) with the S3 concept**. The concept of Responsible Research and Innovation (RRI) is defined as “a transparent, interactive process by which societal actors and innovators become mutually responsive to each other with a view on the (ethical) acceptability, sustainability and societal desirability of the innovation process and its marketable products (in order to allow a proper embedding of scientific and technological advances in our society)” (Von Schomberg, 2011). In other words, the aim of RRI policy is to create a **positive societal impact of research and innovation**.

Interreg Europe policy change

Thanks to MARIE, **Tampere Regional Council and Tampere University** have introduced responsible criteria such as ethics, engagement, openness/transparency and safety/reliability into a regional **ERDF call on Artificial Intelligence** (“Sustainable growth and jobs 2014 - 2020 - Finland’s structural funds programme”). The policy improvement was inspired by the good practice from Ireland, Broadening the Scope of Impact, owned by Science Foundation Ireland, as to how to focus the evaluation of the RRI criteria and the technical execution of the evaluation tool.

Box 7. Webinar on mission-oriented innovation policies

The Interreg Europe Policy Learning Platform organised a **webinar** on mission-oriented innovation policies last 18 February 2020. The **webinar** provided **6 insights for regional policymakers on how to pursue mission-oriented innovation policies** such that **mission-oriented innovation policies are not a one-size-fits-all policy**. They are most appropriate for regions that already have a critical mass of innovative actors, a well-functioning innovation ecosystem, and good public institutions.



Sources of further information

- Joint Research Centre (JRC) S3 Platform – [S3 Platform](#)
- European Commission, Joint Research Centre (2011) – [RIS3 Guide](#)
- European Commission, Joint Research Centre (2016) – Handbook on [Implementing Smart Specialisation Strategy](#)
- European Commission, Joint Research Centre (2020) – [Methodological Manual Developing Thematic Interregional Partnerships for Smart Specialisation](#)
- European Commission (2020) - [The European Green Deal](#)
- European Commission (2020) - [European Industrial Strategy](#)
- Horizon 2020 Research Project – [Policies for Smart Specialisation \(POLISS\)](#)
- Interreg Central Europe – [SMART Watch](#)
- Online Platform with a S3 toolbox to support regional policymakers – [OnlineS3](#)
- OECD (2019) - [Experimental governance](#)
- S3 Platform - [MOOC on Monitoring S3](#)
- S3 Platform – [Thematic smart specialisation \(S3\) platforms.](#)
- Tufts, Larosse, and Corpakis - [Friends of Smart Specialisation \(FoSS\)](#)

Annexe 1: Selection of relevant Interreg Europe projects dealing primarily with smart specialisation strategy (S3)

Project	Policy Objective
BEYOND EDP	To improve the design and implementation of the Entrepreneurial Discovery Process (EDP).
BRIDGES	To enhance industry-led Centres of Competence (CoCs) as RIS3 implementation units.
CLUSTERS3	To adopt cluster policies to improve S3 implementation.
COHES3ION	To align sub-regional innovation policies with regional S3.
CREADIS3	To involve cultural and creative industries (CCI) in S3.
ECORIS3	To support knowledge transfer from RTOs and HEIs to regional private companies.
HIGHER	To improve the design and implementation of policy instruments to promote collaborative innovation projects.
IMPROVE	To better manage and implement Structural Funds Programme.
INKREASE	To reinforce the collaboration between research and business communities and favour the exploitation of research results.
INNOHEIS	To encourage higher education institutions (HEIs) and their research and innovation infrastructures (RIIs) to participate as enablers of S3 and the EDP.
MANUMIX	To improve monitoring and evaluation of regional innovation policy-mix for advanced manufacturing.
MARIE	To align the concept of Responsible Research and Innovation (RRI) with the S3 concept.
MONITORIS3	To develop S3 indicators, methodologies, monitoring systems.
P2L2	To improving regional innovation policies for advanced materials.
RELOS3	To implement regional Smart Specialisation Strategies (RIS3) in a local context.
S34GROWTH	To promote new industrial value chains through interregional cooperation.
S3CHEM	To implement S3 with regards to the chemical sector.
TRACS3	To support regional innovation infrastructures to build research excellence.

*#ResearchAndInnovation #InterregEurope
#S3 #smartspecialisationstrategy
#policylearning*



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