



European Commission Pilot Action

Regions in Industrial Transition

Capitalisation Phase Final Report

Written by Claire Nauwelaers and Richard Harding
Project Coordinator and Project Manager
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**European Commission
Pilot Action**

Regions in Industrial Transition

**Capitalisation Phase
Final Report**

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**European Commission
Pilot Action
Regions in Industrial Transition
Capitalisation Phase
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The Single Regional Coordinators supporting the 12 Pilot Regions, and providing input for this Capitalisation Report, were:

- Cantabria: Julio Navio
- Centre-Val de Loire: Marc Pattinson
- East and North Finland: Vincent Duchêne and Daniela Kretz
- Grand Est: Frédéric Pinna
- Greater Manchester: Andy Westwood
- Hauts-de-France: Alasdair Reid
- Lithuania: Edgaras Leichteris
- North-Middle Sweden: Emily Wise
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In memory of Edgaras Leichteris

This Report is dedicated to Edgaras Leichteris, our Single Regional Coordinator for Lithuania, who passed away at the beginning of November 2019, tragically early in life. Over the last decade, Edgaras had considerable influence in the development of innovation policy thinking in Lithuania. The Project Coordinator and Manager had the chance to work one-to-one with Edgaras on different aspects of the Pilot Action. We both appreciated his thorough knowledge of the institutional terrain, the consistent strength of his input and above all, his directness and the friendliness of our exchanges. He will be sorely missed throughout Lithuania’s innovation community – especially the National Industry 4.0 Platform, which he had a strong hand in creating. We hope our work, as embodied in this Report, measures up to his enthusiasm for the subject and professionalism in the execution of tasks. Above all, our thoughts go at this time to the young family he leaves behind.

EXECUTIVE SUMMARY

This Final Report presents the learning drawn by the Project Coordinator and the Project Manager at the end of the EC Pilot Action ‘Regions in Industrial Transition’ implemented in 2018 and 2019 in 10 EU regions and 2 EU Member States (hereafter ‘Pilot Regions’): Cantabria, Centre-Val de Loire, East and North Finland, Grand Est, Greater Manchester, Hauts-de-France, Lithuania, North-Middle Sweden, Piemonte, Saxony, Slovenia and Wallonia.

Key lessons learnt and illustrative examples from all Pilot Regions are presented in the Report, with the objective to inform the enhancement of Smart Specialisation Strategies (S3) by all EU regions needing to address industrial transition, as they prepare for the 2021-2027 phase of EU Cohesion Policy.

1. The EC Pilot Action ‘Regions in Industrial Transition’

The EC Pilot Action had the overall aim of helping regions explore new approaches to address the challenges of industrial transition. The Pilot Action reconfirmed the essential relevance for future industrial transition of the innovation-led and place-based approach inherent in Smart Specialisation, building on the specific assets and resources of each individual region.

The key challenges of industrial transition - increasing globalisation, automation, digitalisation and accelerated emergence of new technologies, coupled with the need for transition to a low-carbon and circular economy - are multi-faceted and interlinked. This so-called 4th Industrial Revolution has highly disruptive impacts on skills, employment, industrial sectors, business models and the economy as a whole, yet it affects different regions in different ways. The new paradigm offers tremendous potential benefits of high economic value, but traditional industrial regions can suffer substantial barriers to maximising the industrial modernisation opportunity before them. They risk being left behind – ultimately, even stagnating – in the context of rapid technological change.

The 12 Pilot Regions share common problems linked to these multiple industrial transition challenges, to which enhanced S3 are expected to provide a response:

- Deficit of attractiveness as ‘second-tier’ regions - for talent, companies, research, technologies and investments;
- Dual economy syndrome: small ‘pockets of excellence’ versus large less innovation-aware segments (urban/rural territorial fracture);
- Divided society: deep and growing divides between skilled and less-skilled, who become increasingly less equipped for industrial transition.

The Pilot Action encompassed the following elements:

- Strategy development work within each Pilot Region on enhancing S3 approaches, supported by Single Regional Coordinators (SRCs), appointed to advise regional authorities, bring an external perspective and reflect on lessons learnt. This included

detailed analyses and identification of new priorities and instruments – through stakeholder interaction within each region;

- Development and launch of a High Impact Action (HIA) in each Pilot Region, an experimental policy action addressing one, or several, industrial transition challenges, to be assisted financially by a grant from the EC of up to €300K;
- OECD Peer Learning workshops beginning in early 2018, culminating in an OECD Report¹ published in November 2019. The workshops examined possible policy responses to core industrial transition challenges and encouraged exchange of experience between the Pilot Regions on their on-going strategy development work;
- Support from the European Observatory for Clusters and Industrial Change (EOCIC), including a series of regional workshops, resulting in Policy Briefing documents for 10 regions and a summary report², published in October 2019;
- A final Capitalisation Phase to assist European Commission’s Directorate General for Regional and Urban Policy in drawing relevant, tangible and transferable lessons from the Pilot Action overall. The lessons learnt were based on SRCs’ reports for each region and on evidence gained by the Project Coordinator and Project Manager during site visits in Pilot Regions.

2. Lessons learnt from the Action in the Pilot Regions

The findings from the Pilot Action provide key insights into the ways Pilot Regions are:

1. deploying new S3 policy tools;
2. testing new strategic approaches and processes;
3. moving towards genuinely ‘enhanced’ S3 for industrial transition.

2.1 Learning for deployment of new S3 policy tools

The Pilot Action has clearly provided a momentum for regional authorities to take a fresh look at their policy tools so that they fit better with ambitious industrial transformation goals. New strategic intelligence and peer learning were brought to bear during the Action, which have resulted in a range of radical and incremental policy innovations.

Skills development beyond acquisition of technologies

Shortage of relevant skills is a major bottleneck to industrial transition in all Pilot Regions, with key skill sets becoming increasingly rapidly obsolete. Pilot regions have found that more accessible and agile forms of re-skilling – plus a major boost to lifelong learning - are needed. These need to be closely linked with the evolving needs of the economy. Digitalisation, in particular, must pay consideration to public acceptability and human-machine interactions, as well as individual creativity and capacity to learn and change.

¹ OECD (2019), *Regions in Industrial Transition: Policies for People and Places*, OECD Publishing, Paris, <https://doi.org/10.1787/c76ec2a1-en>

² European Observatory for Clusters and Industrial Change (2019), *Pilot Project Regions in Industrial Transition: Summary report*, <https://www.clustercollaboration.eu/news/policy-briefings-10-european-regions>.

Broadening and diffusing innovation

Tools to broaden and diffuse innovation have received renewed attention under the Pilot Action. Pilot Regions were seen to develop a special focus on certain target groups not necessarily well served by traditional innovation policies, e.g. less innovation-aware SMEs or those in less developed areas. Better segmenting of target groups in this way can promote a more inclusive growth and minimise the societal costs of industrial transition.

Implementing international value chain approaches

Global value chains can also provide a credible route towards industrial transition. Pilot Regions increasingly strive to become recognised innovation nodes in global value chains. However, there is a major bottleneck - responsibilities, structures and budgetary means are usually tied to places seen as self-contained entities. There is therefore strong interest in new interregional cooperation tools – e.g. the “interregional innovation investment instrument” proposed for 2021-2027.

Building more effective innovation support systems

Many Pilot Regions are addressing weaknesses they have identified in the internal coherence of their innovation support portfolios by:

- reviewing complementarity between instruments along the Technology Relevance Level (TRL) scale;
- ensuring coverage of enterprise life cycle;
- moving towards performance-driven funding models;
- reducing fragmentation between instruments - delivery of 'policy packages'.

This is helping the regions take more of an 'ecosystem' view across the entire policy mix in order to bring greater effectiveness to their innovation support systems overall.

2.2 Learning from work underway to enhance S3 strategic processes

The Pilot Action generated lessons in terms of new processes to design industrial transition into their S3. These included lessons learnt about enhancing policy intelligence at all points of strategy development and the enabling role of regional authorities in enhancing the Entrepreneurial Discovery Process (EDP), as well as the alignment of S3 to functional geography and multilevel governance imperatives.

Strengthening intelligence at all points of strategy development

Reinforced intelligence throughout the strategy building process is evident in all the Pilot Regions. Thanks to strategic studies and peer learning exercises under the EC Pilot Action, minds have been opened to new concepts and new perspectives. Work to enhance EDP has contributed to a better exploitation of collective intelligence already present. This, together with the new insights brought by the pool of SRCs, represent major assets of the Pilot Action.

Evolving role of regional authorities in enhanced EDP

The Pilot Action has contributed to a generally increased empowerment of the regional (or national) authorities involved in S3 coordination, providing them with greater credibility and legitimacy. Many are expanding their role by facilitating EDP processes involving significantly broader ranges of stakeholders, organised around specific industrial transition challenges.

Functional geography of industrial transition and multi-level governance

Pilot Regions recognise that functional geography differs with the particular industrial transition challenge in question:

- cities or local authorities may be the most appropriate vehicles for circular economy, energy transition or social innovation;
- high-tech hot spots may be better addressed at larger regional level - including cross-border perspectives;
- National programmes provide important strategic frameworks and resources for major technology shifts and large investments.

A key main lesson to emerge from the Pilot Action is that S3 are better designed in a multi-level governance framework reflecting this functional geography.

2.3 Towards genuinely ‘enhanced’ S3 for industrial transition

The overarching insights gained during the Pilot Action indicate that a paradigm change is being experienced by all Pilot Regions.

Industrial transition = economic and technological change + societal transformation

The essential difference with an ‘enhanced’ S3, compared to the current 2014-2020 generation of S3, is that enhanced strategies for industrial transition should not only have an economic rationale, but need also to embrace societal challenges, such as inclusive growth, demographic issues, health and wellbeing of their populations. Circular economy is increasingly seen as a useful transversal driver, because it demands integration of many policy domains and necessitates system transition. Inclusive growth is for many regions the most elusive, yet also the most crucial challenge.

Broader integration across policy domains

Multiple industrial transition challenges need to be addressed in an integrated way across policy domains - research, technological development and innovation, industry, education, environment, social etc. Yet in the Pilot Regions, integration is incomplete in practice, largely due to different policy governance structures across domains. The necessary demand will need to be co-created through enhanced EDP involving a broader range of regional stakeholders to take societal and economic factors, as well as technical and non-technical innovation perspectives fully into account.

3. Conclusions and policy implications: how to make it all happen and learn from the experience?

The Pilot Regions therefore now approach their S3 enhancement with a much broader view of innovation than has been the case hitherto. They are already experimenting with new policy tools to address societal, as well as economic objectives in this regard. They are also facilitating more extensive EDP to define enhanced S3 priorities, whilst current S3 governance arrangements and implementation systems are under review, with substantial changes proposed in several cases. Thereafter remains the crucial business of implementing the new strategies, for which three key success factors are identified:

Capacity for learning from experimentation, scaling up and mainstreaming

Implementing an enhanced S3 will require exploration of new fields, based on learning from past experience and some experimentation into the unknown. Experimenting should be combined with a deliberate learning perspective, allowing replicable results of exploration to be mainstreamed into regular policies.

Maximum use of available EU financial support conducive to enhanced S3 approaches

EU Cohesion Policy funds are expected to play the major role in supporting implementation of enhanced S3 in the 2021-2027 period. The enabling condition for good governance of Smart Specialisation requires Member States or regions to address actions to manage industrial transition and covers the entire proposed Policy Objective 1 (PO1), promising a much broader ERDF funding approach to S3. Member States and regions need to make full use of the flexibility offered by the proposed ERDF and Cohesion Fund regulations to promote innovative approaches, including inter-regional investments in innovation under the new instrument proposed for 2021-2027. Regions should also make maximum use of the wide array of other EU funding sources to support enhanced S3 implementation and strengthen upstream and downstream synergies - in particular Horizon Europe, COSME, Digital Europe Programme etc.

Monitoring and evaluation adapted to the industrial transition context

'Monitoring and evaluation tools to measure performance towards the objectives of the strategy' represents a central element of the proposed enabling condition for good governance of Smart Specialisation for 2021-2027. The following enhancements to monitoring and evaluation systems are considered essential for S3 promoting industrial transition:

- production of better organised monitoring data - a smart organisation of existing, but hidden or unexploited, data can already help capturing low-hanging fruit;
- definition of new 'transition indicators' - i.e. bridging the gap between outcome indicators and internationally comparable context indicators;
- design of formative evaluations to elucidate impacts of interventions.

Many of the Pilot Regions have on-going work in progress in this area, with regard to enhanced S3, yet none currently consider that they fulfil this aspect of the enabling condition.

Policy implications of the 'Regions in Industrial Transition' Pilot Action

Six main policy implications emerge from the Capitalisation Phase of the Pilot Action.

- 1. Genuinely transformational strategies for industrial transition need to bring innovation to bear on societal challenges as well as economic objectives:** from the outset, the regions should be aware that a broader and more radical strategic vision is called for in enhanced S3 – with people at the centre alongside economic objectives - ultimately embracing overall system innovation.
- 2. An enhanced S3 will require significantly enhanced and continuous EDP throughout its production and implementation:** EDP in each region must be reinforced to embrace the enlarged vision for S3 as change-maker, involving broader ranges of stakeholders – including those actors not usually targeted by innovation policy. A continuous EDP should support a 'place-based' understanding of industrial transition challenges, the co-creation of enhanced S3 priorities and play a key role in S3 implementation.
- 3. Strengthened policy intelligence will be required to underpin S3 enhancement in all regions:** significantly improved policy intelligence provisions, both from within and from outside each region, will be needed to help regions better grasp global industrial trends affecting their populations and underpin enhanced EDP processes for defining strategic vision and priorities.
- 4. Regions will need to significantly upgrade their policy tools to match the enhancement of S3:** regions must further develop their policy tools and improve their user-friendliness to apply existing competences, technologies and assets in challenging areas for society. More systematic innovation diffusion is needed to address territorial fracture, dual economy syndrome and the inclusive growth imperative. The funding mix for enhanced S3 should embrace the optimum combination of regional, national and EU-level instruments.
- 5. More effective innovation support ecosystems will be needed to make enhanced S3 a reality:** the enhancement of S3 presents an important opportunity to overhaul support and governance structures and address the problem of fragmentation between policy governance and delivery structures. EU Cohesion Policy, as proposed for 2021-2027, has aspects of its enabling condition for good governance of Smart Specialisation associated with governance of enhanced S3.
- 6. Special attention is needed to ensure Monitoring and Evaluation systems suitable for enhanced S3 for industrial transition:** none of the Pilot Regions considered that they had adequate tools in place to '*measure performance towards the objectives of the strategy*' in view of the broader objectives foreseen for enhanced S3. This remains a key weak point to emerge from the Pilot Action overall - one where further support from the EC would be of great value.

The Report draws lessons for regions for each of these policy implications. These appear relevant not only for traditional industrial regions, but also for regions less dependent on industry, which nevertheless face similar transition-related challenges.

INTRODUCTION

This Report is the Final Report on the Capitalisation Phase of the ‘Regions in Industrial Transition’ Pilot Action, launched by European Commission’s Directorate General for Regional and Urban Policy (EC) in 2018. It is produced by the Project Coordinator and Project Manager of the Pilot Action, using contributions from the Single Regional Coordinators (SRCs) working for each of the Pilot Regions. Its main purpose is to capitalise on lessons learnt in the 12 Pilot Regions during 2018 and 2019, while they worked to develop enhanced, innovation-led strategic approaches, based on Smart Specialisation, to address the major industrial transition challenges facing them.

The Report consists of three chapters:

- **Chapter 1: EC Pilot Action ‘Regions in Industrial Transition’ – aims and key components:** this chapter introduces the rationale for launching this Pilot Action and the expectations from the EC with respect to its contribution to the preparation of the 2021-2027 phase of EU Cohesion Policy. It highlights the range of industrial transition challenges faced by the Pilot Regions, to be addressed by enhanced Smart Specialisation Strategies (S3). It provides a description of the methodology followed during the two years of the Pilot Action, including the final lesson-drawing component – the Capitalisation Phase.
- **Chapter 2: Lessons learnt from the Action in the Pilot Regions:** this core chapter gathers our overall findings from the Pilot Action. It provides key insights into the ways Pilot Regions have deployed new S3 policy tools, as well as new strategic approaches and processes, with a view to supporting industrial transition through enhanced S3.
- **Chapter 3: Conclusions – how to make it happen and learn from the experience?:** this final chapter provides our conclusions on the conditions for mainstreaming the lessons learnt from this Pilot Action into future strategies and policies. It reflects on the role to be played by EU financial support and by enhanced monitoring and evaluation systems for industrial transition. Finally, it draws together the key policy implications of the Pilot Action and suggests possible elements of lessons for regions in relation to each of them.

The Report was produced just before the COVID-19 crisis took hold in Europe in March 2020. We believe that the lessons learnt from the Pilot Action – in particular regarding the importance of societal challenges for the next generation of industrial regions’ Smart Specialisation Strategies – actually take on increased validity in the context of post COVID recovery.

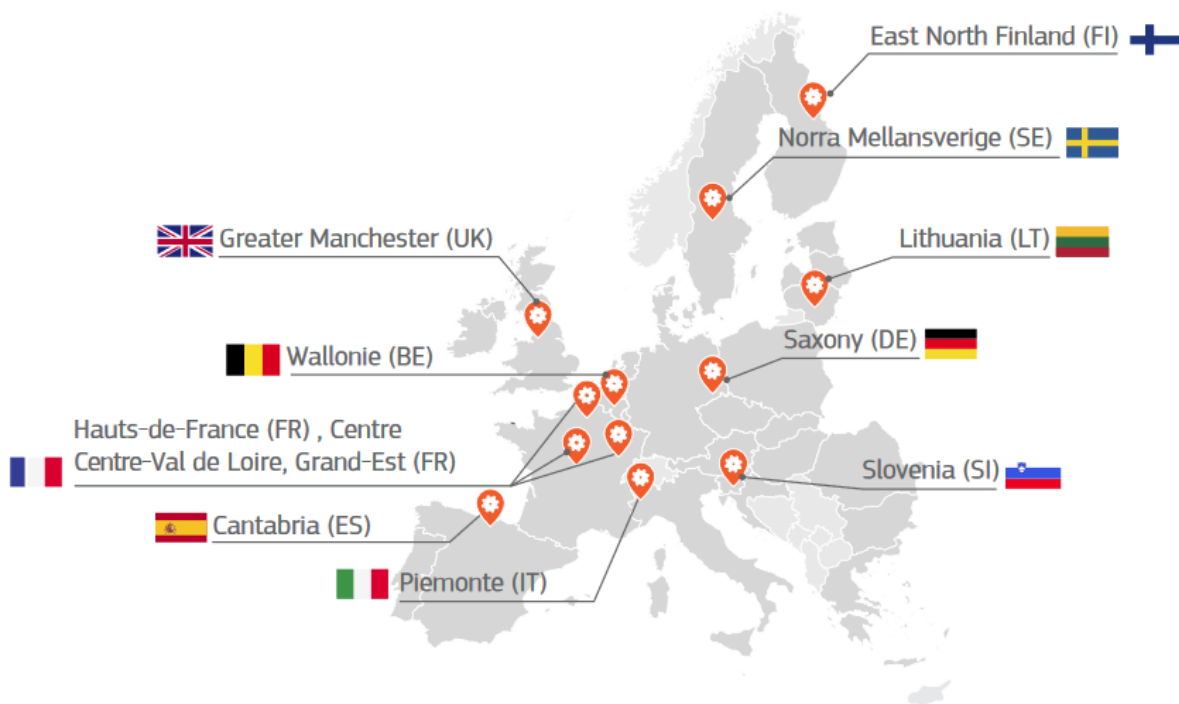
The High Impact Actions deployed by the Pilot Regions and the basis upon which they were selected are described in [Annex 1](#). The current state-of-play on development of enhanced S3 in the 12 Pilot Regions is set out in a summary overview table in [Annex 2](#).

1. EC PILOT ACTION ‘REGIONS IN INDUSTRIAL TRANSITION’ - AIMS AND KEY COMPONENTS

The European Commission (EC) Pilot Action ‘Regions in Industrial Transition’ had the overall aim to test new approaches to address key challenges of industrial transition. The lessons from the Pilot will feed the post 2020 Cohesion policy and programme design.

The Pilot Action ran for two years, from early 2018 to the end of 2019. Ten EU regions and two small Member States (hereafter the ‘Pilot Regions’) were selected for the Pilot Action by the Directorate General for Regional and Urban Policy on the basis of two calls for expressions of interest launched at the beginning of the initiative: Cantabria, Centre-Val de Loire, East and North Finland, Grand Est, Greater Manchester, Hauts-de-France, Lithuania, North Middle Sweden, Piemonte, Saxony, Slovenia and Wallonia.

Figure 1: The 12 Pilot Regions of the EC Pilot Action for industrial transition



Source: European Commission (2018) Regions in Industrial Transition: No region left behind³

All 12 Pilot Regions are regions of predominantly industrial character, which have had to come to terms with the decline of traditional industries in the past and which now face arguably greater challenges associated with radical industrial transition in the future. The EC’s subtitle to the Pilot Action, ‘No region left behind’, set the tone for the collective work to follow in each Pilot Region and underlined the role of initiative overall as source of inspiration to others.

³ https://ec.europa.eu/regional_policy/en/information/publications/brochures/2019/industrial-transition-no-regions-left-behind

1.1. Addressing the new challenges of industrial transition

1.1.1. The challenges of the 4th Industrial Revolution

The challenges of future industrial transition were described in the calls to participate in the EC Pilot Action. Increasing globalisation, automation, digitalisation and accelerated emergence of new technologies, coupled with the need for transition to a low-carbon and circular economy - are all major challenges which are both multi-faceted and interlinked. This so-called *4th Industrial Revolution* has highly disruptive impacts on skills, employment, industrial sectors, business models and the economy as a whole, yet it affects different regions in different ways. The new paradigm offers tremendous potential benefits of high economic value, but traditional industrial regions can suffer substantial investment barriers and often lack the breadth of future-oriented skills and economic agility necessary to maximise the industrial modernisation opportunity before them. They risk being left behind – ultimately, even stagnating – in the context of rapid technological change.

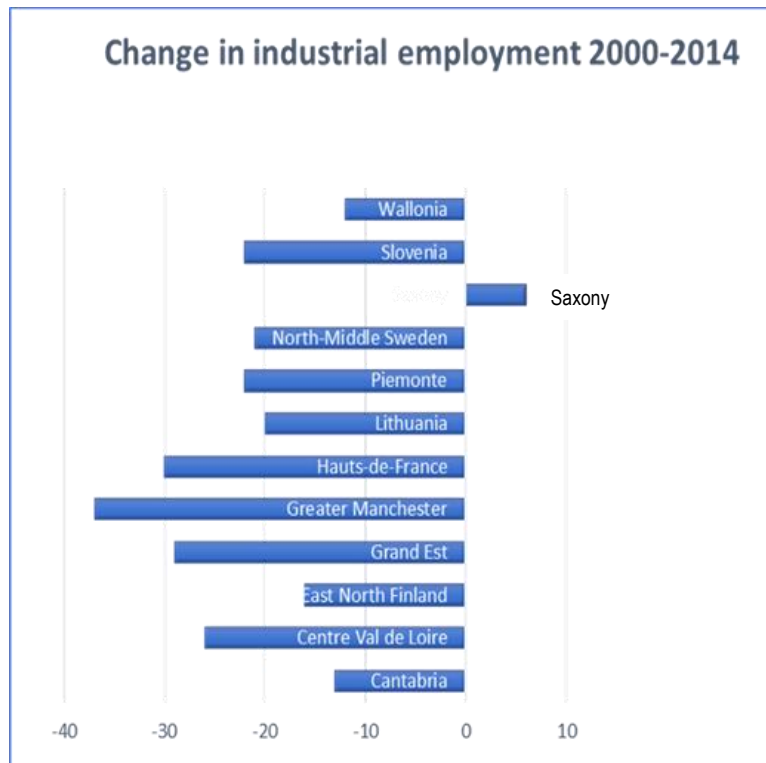
1.1.2. Common problems of the Pilot Regions

The 12 Pilot Regions are located in different parts of Europe, have wide variations in size and population and are strongly diverse in culture, economic fabric and tradition. Nevertheless, in the context of industrial transition, they all share certain key handicaps.

Figure 2 presents a striking image of the scale of difficulties facing the Pilot Regions. All, except Saxony, have recorded substantial industrial job losses since 2000. Saxony's case of a growth in industrial employment shows its significantly different position in the cycle of industrial transition in the historical perspective of German reunification.

For Saxony, a key risk is one of 'double' industrial transition, as the jobs created in the auto industry may be significantly threatened by automation or by disruptive changes in the shift from traditional internal combustion engines to other propulsion modes.

Figure 2: Change in industrial employment in the 12 Pilot Regions

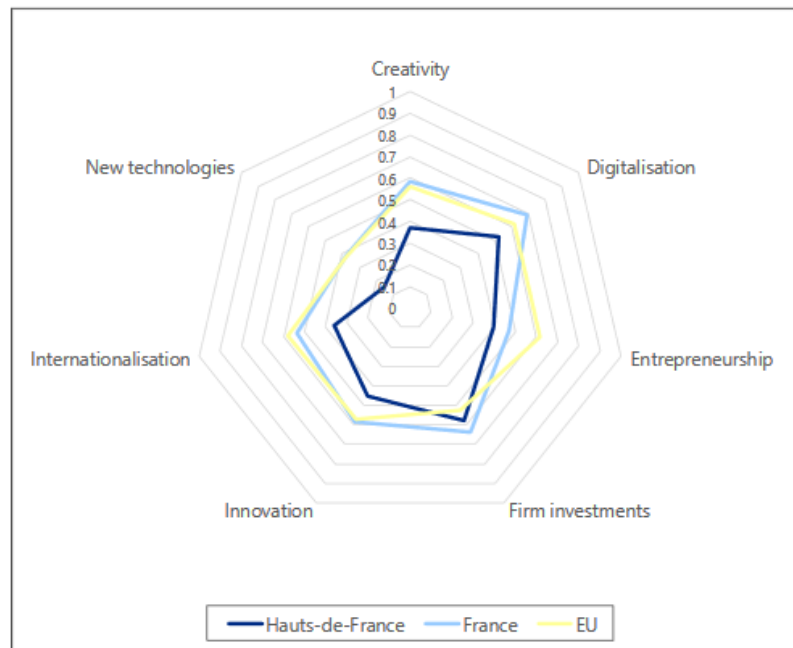


Source: EC Factsheet Pilot Action Industrial Transition (2019)

Attractiveness deficit for second-tier regions

Despite having assets which have contributed to a successful industrial past, the Pilot Regions generally suffer from being ‘second-tier’ regions in their national context, or from a ‘halo’ effect in relation to a capital or larger city (e.g. Hauts-de-France vis-à-vis Paris Ile-de-France, see Figure 3, Cantabria vis-à-vis the Basque region and Bilbao etc.). Lithuania and Slovenia may be countries in their own right, rather than regions, the same principle applies. As such, the Pilot Regions have an overall deficit in attractiveness for dynamic companies, research, new technologies, investment and talented people, which instead tend to gravitate towards more dynamic locations. Increasingly, the latter relates to young persons, thereby exacerbating already worrying demographic trends in many Pilot Regions.

Figure 3: Composite indicators for industrial change: Hauts-de-France



Source: European Cluster Observatory for Clusters and Industrial Change: Policy briefing: Hauts-de-France ⁴

Dual economy and divided society syndrome

Pilot Regions’ economies are generally divided between ‘pockets of excellence’ with advanced and competitive knowledge-based activities in contrast to large segments of their economies, where SMEs are less innovation-aware.

This divide often also translates into a territorial fracture with growing (predominantly urban) areas and declining (predominantly rural) areas. Similarly, there are important societal divides between skilled and less-skilled populations within the Pilot Regions, with the latter being much less equipped for industrial transition. This divide can also have an age-related character.

⁴ https://www.clustercollaboration.eu/sites/default/files/news_attachment/eocic_-_policy_briefing_-_hauts-de-france_france.pdf ISBN 978-92-9202-655-4doi:10.2826/183015

Successful future industrial transition, then, will depend on the ability of a region to foster innovation-led growth and ensure that the benefits from growth are widespread – spatially and across its population.

Importance of image for the Pilot Regions

Decades of de-industrialisation, huge job losses (still going on), firm displacement and brain drain etc. have left a strong negative imprint, not only on regional economies and landscapes, but also on peoples' minds. Restoring faith in the future for a region in the eyes of its inhabitants is seen as an important strategic goal. Image is not a banal issue for the Pilot Regions and international positioning is a crucial part of image building for them.

1.2. Enhancing the Smart Specialisation approaches of the Pilot Regions

1.2.1. Using Smart Specialisation as a response to new industrial transition challenges

Against this background, the central objective underlying the Pilot Action was to substantially improve the innovation capacities of EU industrial regions. The approach adopted was to help each Pilot Region enhance its Smart Specialisation strategy (hereafter ‘S3’) to better address the new challenges of industrial transition. In this way, the Pilot Action reinforced the EC’s increased emphasis on Smart Specialisation in its proposal for EU Cohesion Policy 2021-2027 and related enabling condition for Policy Objective 1.

The Pilot Action therefore reconfirms the crucial relevance for future industrial transition of the innovation-led and place-based approach inherent in Smart Specialisation, built upon the specific assets and resources of each individual region.

1.2.2. Support provided to the Pilot Regions by the EC Pilot Action

Each Pilot Region benefitted from the assignment by European Commission’s Directorate General for Regional and Urban Policy of an expert, a Single Regional Coordinator (SRC), who accompanied the region throughout the Pilot Action. The SRCs advised the participating regional authorities on each stage of the Pilot Action and brought a valuable external perspective to help enrich their work. In addition, the Directorate General for Regional and Urban Policy appointed an external Project Coordinator and Project Manager (the authors of this report) to assist with coordination of the Pilot Action and the work underway in each Pilot Region. Our key role was to draw lessons learnt from the Pilot Action overall, based on reports by the SRCs in the Pilot Regions.

The Pilot Action comprised the following main components:

- **OECD Peer Learning workshops** beginning in early 2018, exploring policy responses to the key challenges facing regions in industrial transition. These workshops helped inspire the work in the Pilot Regions throughout the Pilot Action and facilitated exchange of experience between them on specific aspects, such as preparing for the jobs for the future (in the context of ‘Industry 4.0’), broadening and diffusing innovation, supporting the low-carbon energy and promoting inclusive growth. The Peer Learning phase culminating in an OECD Report *Regions in Industrial Transition: Policies for People and Places*⁵ published in November 2019.
- **Support from the European Observatory for Clusters and Industrial Change (EOCIC)**, including a series of regional workshops, resulting in Policy Briefing documents for 10 regions and a summary report⁶, published in October 2019.

⁵ OECD (2019), *Regions in Industrial Transition: Policies for People and Places*, OECD Publishing, Paris, <https://doi.org/10.1787/c76ec2a1-en>

⁶ European Observatory for Clusters and Industrial Change (2019), *Pilot Project Regions in Industrial Transition: Summary report*, <https://www.clustercollaboration.eu/news/policy-briefings-10-european-regions>.

- **Guided S3 development work**⁷, through stakeholder interaction within each Pilot Region, on enhancing the regions' S3 approach to better address imperatives of future industrial transition. Each Pilot Region's strategy development exercise was supported by their SRC and facilitated by the Directorate General for Regional and Urban Policy, with our assistance, through provision of common frameworks for SWOT analyses, identification of region-specific challenges and assessment the degree of each region's fulfilment of the EC's proposed enabling condition for governance of Smart Specialisation for 2012-2027. Collective discussions in Brussels between the Directorate General for Regional and Urban Policy, the SRCs and ourselves on progress on these items, were organised periodically during the lifetime of the Pilot Action.
- **Development and launch of a High Impact Action (HIA) in each Pilot Region**⁸, an experimental policy action addressing one, or several, industrial transition challenges, supported by an EU grant of up to €300K.
- **Capitalisation Phase** to help the Directorate General for Regional and Urban Policy draw relevant, tangible and transferable lessons from the Pilot Action overall, to inform enhancement of S3 by all EU regions needing to address industrial transition, as they prepare for the 2021-2027 phase of EU Cohesion Policy.

1.2.3. Capitalisation methodology

The Capitalisation Phase was launched in July 2019. We developed a Capitalisation Template, which was agreed with the Directorate General for Regional and Urban Policy and then circulated to the SRCs in the Pilot Regions. The Template was designed to elicit detailed information on lessons being learnt in the Pilot Regions, from all aspects of their participation in the Pilot Action, with specific regard to:

- achievements of new policy approaches and tools/processes and use of strategic intelligence;
- context conditions, bottlenecks and success factors;
- potentials for scalability and replicability;
- monitoring, evaluation and policy learning.

In completing the Template, during the course of July–December 2019, the SRCs were asked to focus particularly on new approaches and/or new policies being tested and lessons emerging from any experimentation in their regions.

In parallel, we conducted supplementary Capitalisation Visits to Pilot Regions chosen by the Directorate General for Regional and Urban Policy, as follows:

- o Lithuania (15-17.10.2019)
- o Piemonte (21-23.10.2019)
- o Cantabria (18-19.11.2019)
- o North Middle Sweden (20-23.11.2019)
- o Hauts-de-France (27-28.11.2019)

⁷ The state-of-play of S3 development at the end of the Pilot Action can be found in [Annex 2](#).

⁸ A description of these HIAs is found in [Annex 1](#).

- o Wallonia (13-14.01.2020).

It should be noted that only one of the 12 Pilot Regions, Saxony, had completed its S3 enhancement by the end of 2019. Although almost all of the HIAs were approved by the end of 2019, only two had actually been launched. The SRCs' Capitalisation assessments of these two latter aspects therefore represented work-in-progress only.

2. LESSONS LEARNT FROM THE ACTION IN THE PILOT REGIONS

This chapter – the core of the report - presents our findings on lessons learnt during the Pilot Action. The sections of the chapter are structured according to three different types of lessons:

- Learning for deployment of new S3 policy tools (section 2.1): this section presents lessons from the efforts deployed towards new or enhanced policies and policy instruments to shape industrial transition, in the field of innovation and beyond;
- Learning from work underway to enhance S3 strategic approaches (section 2.2): this section sets out our findings in terms of new processes used by the Pilot Regions in designing their enhanced strategies. Lessons learnt for successfully developing approaches with renewed intelligence, the new role for regional authorities and improved territorial conception are covered in this section;
- Towards genuinely ‘enhanced’ S3 for industrial transition (section 2.3): this section extracts the overarching lessons amongst the many insights gained during the Capitalisation Phase. These lessons indicate that a paradigm change is being experienced by all Pilot Regions, namely: a shift in approach towards broader strategies, spanning many policy domains, aiming to address societal transformation in addition to economic goals.

In each section, key learning points and illustrative examples are explored. Both the learning points and the examples are extracted from the SRC reports and from the lessons we identified during our site visits in Pilot Regions.

2.1. Learning for deployment of new S3 policy tools

In the first instance, the Capitalisation Phase revealed how the Pilot Regions are experimenting with new tools and policies to be put in place to deliver their enhanced S3 once prepared.

Past experience has shown that gaps can be wide between S3 ‘on paper’ and the actual delivery of policies. The adequacy of the portfolio of instruments used to reach the goals set out in these strategies, is therefore a crucial issue. Most of the Pilot Regions are all already equipped with a wide range of policies, support organisations, programmes and funding instruments. The essential question is how to reform the portfolio so that it has a better fit with broader and more ambitious industrial transformation goals.

We found that the Pilot Action has clearly provided a momentum for regional authorities to take a fresh look at their policy tools. New strategic intelligence and peer learning were brought to bear during the Action, which has resulted in a range of radical and incremental policy innovations.

This section looks at lessons emerging from the Pilot Regions during the Capitalisation Phase with regard to the following:

- **Skills development beyond acquisition of technologies;**
- **Broadening and diffusing innovation;**
- **Implementing global value chain approaches;**
- **Building more effective innovation support systems.**

Each of these aspects, which appeared as crucial themes during the exercise, is illustrated by specific learning points and examples from the Pilot Regions.

2.1.1. *Skills development beyond acquisition of technologies*

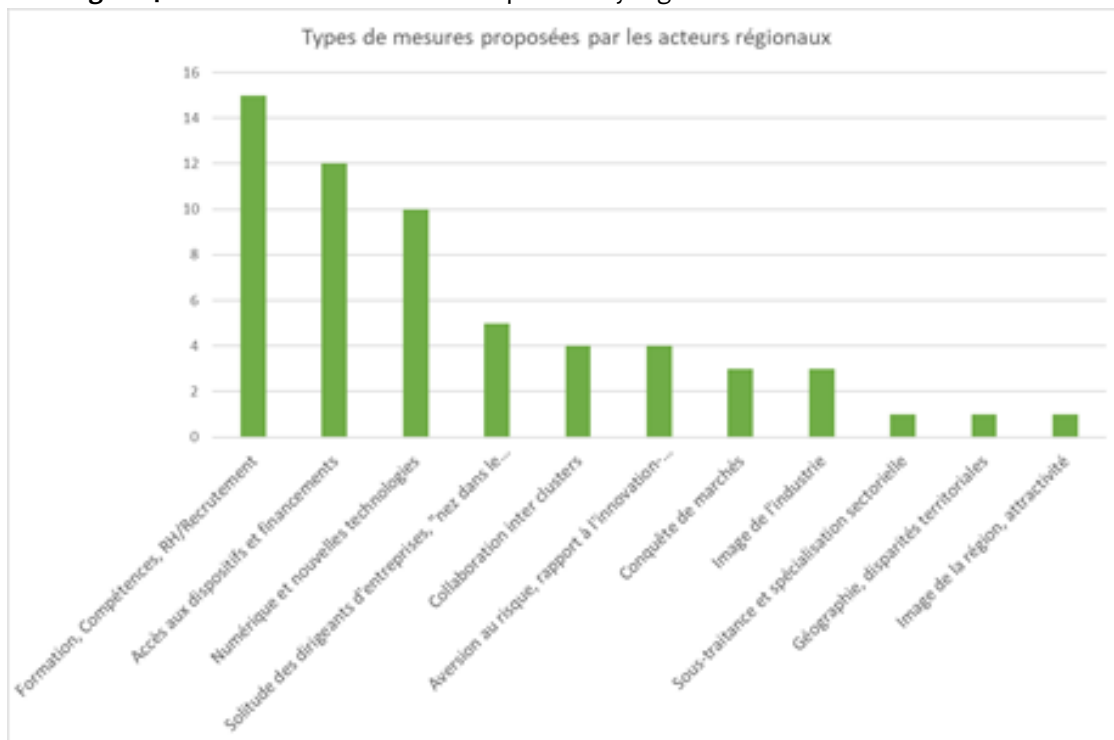
Shortage of relevant skills is a major bottleneck to industrial transition in all Pilot Regions

- Key skill sets are becoming increasingly rapidly obsolete;
- There is a legacy of strong engineering and technical skills in industrial regions;
 - but much lower emphasis on managerial skills and creativity;
- More accessible and agile forms of re-skilling are needed:
 - closely linked with evolving needs of the economy;
 - with a major challenge to boost lifelong learning;
- Digitalisation beyond technology - must pay consideration to:
 - public acceptability and human-machine interactions;
 - individual creativity / capacity to learn and change.

The Pilot Regions recognise that the most important resource for successful industrial transformation is human capital. Yet their S3 have so far been designed within an innovation policy frame: our first key lesson is that future S3 need to be broadened beyond the innovation policy domain, to encompass skills and competence development policies.

During the Capitalisation exercise, all Pilot Regions reported that severe shortages of appropriate skills were one of the greatest bottlenecks they faced (e.g. see results of an enquiry carried out by EOCIC in Centre-Val de Loire, in which training, skills and human resources and recruitment emerged as the dominant need, Figure 4).

Figure 4: Centre-Val de Loire : needs expressed by regional actors for industrial transition



Source: EOCIC workshop in the framework of the Pilot Action, Orléans Dec 2018

Many of the Pilot Regions have taken on the character of *branch plant* economies – where manufacturing/assembly tasks are carried out for large firms, without those firms also locating major decision centres, R&D facilities, or other higher value activities in the region itself. A large proportion of SMEs in these regions are subcontractors to the larger firms. Skills of their employees – although strong in engineering and other technical disciplines - have evolved to serve this subcontractor culture, rather than pursuing more ambitious innovations.

Management skills – in particular the ability to anticipate and manage change and to *think outside the box* – are often in short supply in the Pilot Regions: accordingly, addressing this deficit is the main focus of the HIA in Centre-Val de Loire for example. Yet to become innovators, in the context of Industry 4.0, all firms need to grasp the potential of digitalisation, beyond simply adaptation to the new technology.

In this regard, transformation needs to pay due consideration to:

- acceptability of new solutions: the human-machine interaction is as important as the availability of the latest technologies;
- individual creativity and the capacity of users to learn;
- effective management of change itself.

Box 1. Centre Val de Loire - developing management skills for digital transition in SMEs

Difficulties with recruitment and retention of suitably skilled persons is a major problem for SMEs in the region Centre Val de Loire. Previous broad-based training interventions have not delivered effective results overall. The region's HIA primarily targets sub-contractor SMEs in the region. It aims to match supply with demand by first coaching SME managers in digital transition fields to help them better articulate their skills needs. It will then work with training providers to support recruitment of appropriately skilled persons to those SMEs, facilitating their uptake of new digital technologies.

Overall, the HIA is expected to provide a better understanding on how the recruitment process in industrial SMEs can be adapted to meet the new challenges linked to industrial transition trends, such as digitalisation and automation or energy management.

In the face of accelerating change, established skill sets are becoming increasingly rapidly obsolete. Constant re-skilling / up-skilling is needed in the Pilot Regions, as well as more accessible and more agile new forms of re-skilling – a life-long-learning approach, rather than simply going back to school. While general education is often not the remit of regions (with some variation between them), training and re-training closely linked with the rapidly-evolving needs of the economy is often within their competences. Bringing policy efforts in those domains closer to the needs of companies and individuals for successful industrial transition, has been experienced as a new need in the Pilot Regions.

Box 2. Hauts-de-France : from textile production to high-tech and creative fashion design, upskilling workers

The Plateau Fertile in Roubaix, in the Hauts-de-France region, is an initiative by 130 enterprises in the textile creation and distribution sector, both large and small, aiming to develop a more innovative, responsible and green fashion sector.

An old textile factory has been transformed into a place where fashion and textile designers, graphists, web artists, IT and video specialists, start-ups and entrepreneurs meet with large fashion groups, to develop innovative concepts and products for the fashion sector. Large companies are investing in this creative hub where a customisation lab produces original solutions, notably using up-cycling methods. The creative hub, which includes co-working spaces, is equipped with high-tech machines (e.g. for 3D conception), which are configured in a way to make them easily accessible ('in one hour') to persons with limited digital skills. This way, people still holding more traditional skills from the textile sector can contribute to the emergence of a new type of activity, with positive social impacts on this lagging part of the region. The hybridisation of skills present within the ecosystem at the Plateau Fertile works as an effective skills upgrading mechanism.

The Plateau Fertile is also an experimental place for the development of 'circular fashion'. It is built on eco-responsible concepts, uses recycling and upcycling methods and is working towards reducing over-consumption and the minimisation of unsold textile stocks - a major problem in the fashion industry.

Creative approaches are being tested in Pilot Regions, with a view to upgrading existing skills, with roots in traditional or obsolete industries, to embrace more future-oriented activities. This is very much in line with the S3 concept, which centres on innovative exploitation of region-specific endogenous assets. The case of Plateau Fertile⁹ in Hauts-de-France is a good illustration of such an experiment. It shows that building skills for the future is not restricted to simply educating and retaining more high-level MScs or PhDs in scientific fields in a region. It is also about upgrading skills at all competence levels. To achieve this, new S3 will need to extend their reach well beyond the traditional target groups of technology or innovation policies.

Box 3. Piemonte - Apprenticeships for Higher Education and Research

The regional authority in Piemonte supports ESF co-financed apprenticeship collaboration between employers and higher education institutions. The scheme provides tailored training programmes for individuals, leading to qualifications in innovation-related fields. Each individual programme is based on the employer's needs and combines 'internal' training in the company and 'external' training at the education institution. At the end, the host company can decide to award an employment contract to the apprentice. The region now combines the apprenticeship scheme with grants for innovation support and technology transfer co-financed by ERDF.

This integrated approach has proved successful beyond expectations, with over 300 young researchers gaining new employment contracts as a result. The scheme was originally deployed in large companies only, but now the region is also extending it also to SMEs.

⁹ From presentation at *Journée Industrie du futur dans les Hauts-de-France, vision 360°* (28 November 2019), organised by Université Catholique de Lille - <http://plateaufertile.fr/>

2.1.2. *Enhanced tools for broadening and diffusing innovation*

Tools to broaden and diffuse innovation receive renewed attention and are reshaped to respond to the inclusive growth imperative

- Broadening and diffusing innovation is a classical objective in regional innovation strategies, which translates into a wide set of policy tools;
- The Pilot Action has fostered a rethinking of the portfolio of tools with these purposes:
 - Better segmenting target groups of these instruments;
 - Developing more effective support tools in view of the industrial transformation goal;
 - Incorporating the inclusive growth imperative within the portfolio of tools, in an effort to minimise the costs of industrial transition.

Broadening and diffusing innovation is central to successful industrial transition. It is not a new item on the agenda of regional innovation policies, but we found that it has gained a new momentum and a wider scope in the Pilot Regions. Regional authorities are seeking to reap the benefits brought by the opportunities of industrial transformation while also minimising the costs of this transition. We noted that a much stronger linkage is now evident between innovation diffusion and inclusive growth, as a result. Providing a complete overview of policy tools for broadening and diffusing innovation is beyond the scope of this Capitalisation exercise.

Table 1 depicts instead the main shifts experimented upon in the Pilot Regions while they try to better adapt their policy portfolios to the new directions of their strategies for industrial transition.

Table 1: Enhanced view and tools for broadening and diffusing innovation in the Pilot Regions

| Target | Policy direction and examples of tools |
|-----------------------------------|---|
| Competitive SMEs | Turning SMEs from excellent product makers to out-of-the-box innovators. Boosting capacity of SMEs to tap into business opportunities of digitalisation. <ul style="list-style-type: none"> • Piemonte: Competence centres fostering development of own products by subcontractor SMEs; • Wallonia: HIA experimenting with a new user-driven approach to stimulate innovative solutions in the field of circularity of plastics; |
| Less innovation-aware SMEs | Enhanced focus on SMEs absorptive capacities and human resources under a broader innovation concept incorporating also social innovation. <ul style="list-style-type: none"> • Hauts-de-France HIA: integrating a specialist in digitalisation/AI in the regional agency to conduct a series of targeted ‘digital innovation audits’ in selected traditional manufacturing firms; digital transition voucher’ for SMEs; • Grand–Est: large scale industry diagnoses as a basis for defining actions for supporting less innovation-aware SMEs; • Lithuanian Innovation Centre: adopting a new client-centred and pro-active approach with key account managers, helping companies navigate through the innovation support system; • Cantabria: mapping of ‘digital facilitators’ able to support SMEs in traditional sectors. |

| | |
|---|---|
| SMEs in less developed areas | <p>Fostering innovation in activities of special importance for the territories left behind.</p> <ul style="list-style-type: none"> • East and North Finland: HIA in the wood sector, well suited to companies in more peripheral areas; • Cantabria HIA: targeting innovation in agri-food sector; with a view to mainstreaming this experiment as a new branch in the regional Accelerator programme; • Lithuania: reflection on specific programmes, for 2021-2027, for companies outside of the capital area. |
| Multi-National Corporations (MNCs) | <p>Developing linkages between local SMEs and MNCs.</p> <ul style="list-style-type: none"> • North Middle Sweden HIA: engages and works with large companies (typically out of scope for regional development activities) in order to better attract and engage SMEs in collaborative innovation projects, together with HEIs. • Piemonte: attracting innovative SMEs for collaborative research with General Motors in the region's blossoming biomedical sector. |
| Universities/Research institutes | <p>New role for universities and research institutions to support innovation; open labs; partnerships with companies.</p> <ul style="list-style-type: none"> • Lithuania: transforming research institutes into RTOs (Research and Technology Organisations); plans to incorporate new criteria for assessment and funding - e.g. revenues from contracts with or services to industry; new rule for universities: labs should be open to companies minimum 30%; • Centre-Val de Loire: S3-oriented cooperative research programme 'Ambition R&D 2020'; • Piemonte: Politecnico Torino's expanded third mission – capacities to address SDGs; • North Middle Sweden: Knowledge Transfer Partnerships (KTPs) forging links between public research and SMEs. |

Source: authors, based on SRCs reports and capitalisation visits

The lessons learnt here are twofold:

- Broadening and diffusing innovation requires a renewed attention to some target groups that are not necessarily well served by traditional innovation policies, e.g. less innovation-aware SMEs or SMEs in less developed areas. This is a way to address the dual economy syndrome of industrial transition regions, mentioned above;
- Different target groups have different needs and potential with respect to their capacity to create, absorb and diffuse innovation. This requires a more explicit definition of the goals pursued by the various tools as well as more carefully designed tools.

Here, we can infer that reinforcing a strategy of broadening and diffusing innovation, therefore translates into a shift in emphasis towards new target groups and policy directions.

Box 4. Hauts-de-France: HIA targeting less innovation-aware SMEs to upgrade digital skills

The HIA in Hauts-de-France aims to encourage employment-rich industrial transition to adapt to increasingly rapid technological change - notably in terms of industry 4.0 type changes related to digitalisation of production, application of artificial intelligence, robotics, etc.

Beyond a group of some 500 'innovation active' firms, there is a larger second tier - estimated to be as many as 6,000 firms - of SMEs that are often sub-contractors or suppliers serving mainly the French, or at best markets in neighbouring countries. These firms are classified as 'potential innovators' but generally lack management capacities, knowledge of market and technology developments and in-house capacity. An additional difficulty identified is that when such firms do recruit specialist staff with knowledge of digital technologies, it proves difficult for them to retain these staff members due to competition for such skills from larger firms in the region or in the neighbouring regions.

The HIA will reinforce the team of mainly generalists working within the regional support agency by making available a specialist in digitalisation/AI to conduct a series of targeted 'digital innovation audits' in selected 'traditional manufacturing SMEs' in the region. In addition, the pilot action will enable to test a 'digital transition voucher' that will support selected firms to recruit and train a young or previously unemployed specialist (vocational or engineering/ICT qualifications). A key element of the process will be to ensure that the application of digital technologies is done in a way to reinforce competitiveness of the firm and avoid job losses.

Box 5. North Middle Sweden: bringing researchers and SMEs closer together through KTPs

Knowledge Transfer Partnerships (KTPs) build higher 'change capacity' in North Middle Sweden (NMS) SMEs, through cementing strong linkage between participating companies and relevant research and researchers. Through the KTPs:

- client SMEs obtain solutions to specific problems they are facing – creating high-skilled jobs along the way;
- universities gain knowledge about how to improve their course offers for broader development of key skills and a better match with companies' needs.

Strong emphasis is placed on digitalisation by the KTPs, which is then spread through related supply chains. One KTP reported an impact on companies' behaviour, with 75% of graduates being offered a position after the end of the subsidised period.

2.1.3. *Implementing global value chain approaches*

Global value chains can provide a credible route towards industrial transition

- Internationalisation and inter-regional cooperation are strategic goals in all S3;
- Regions strive to become crucial innovative nodes in international value chains:
 - actors in regions team up with players with complementary expertise and assets outside of their region;
 - however - responsibilities, structures and means (budgets) are usually tied to places seen as self-contained entities;
- There is a strong interest in EU interregional funding tools – particularly the “interregional innovation investment instrument” proposed for 2021-2027.

Working in a global value chain perspective emerges from the Pilot Action as a credible route towards successful industrial transition. This is not a new aspect of the smart specialisation approach, but from our findings, it appears strengthened as an expectation for enhanced S3.

If a region is serious about moving towards a global value chain approach for S3, it will soon realise that it does not have all the necessary elements of the chains at home. Actors in regions can far better achieve their objectives in their *specialised* areas of strength, if they team up with other players who have complementary expertise and assets – some possibly located in the same region, but many more likely based elsewhere.

Box 6. Slovenia - Industrial modernisation through cross-regional collaboration

The particular geography of Slovenia makes collaboration with actors in neighbouring countries especially important for industrial transition. The HIA includes a novel component supporting company-driven modernisation cases via a cross-regional collaboration approach in key fields – including food medicine, materials and circular economy. An international expert group will be put in place to oversee implementation of this component of the HIA.

The Capitalisation exercise revealed that the Pilot Regions increasingly have ambitions to become recognised innovative nodes in global value chains, rather than self-contained innovation nodes in isolation. Internationalisation and inter-regional cooperation are therefore present as strategic policies in all of their S3. Many of the Pilot Regions, for instance, take part in the Vanguard initiative.

International positioning also helps to confer a stronger profile and better visibility of the regions on the European or even international scene, thus addressing the attractiveness and image deficits of second-tier regions mentioned above.

Box 7. Grand Est: cross-border automobile pole

The automobile sector has a strong presence in the Greater Region (at the border between France, Belgium, Germany and Grand-Duchy of Luxembourg), with 2,500 companies, 450,000 employees and nearly 2 million vehicles produced. However, SMEs in this sector tend to operate primarily within national value chains and are highly dependent on manufacturers and subcontractors located on their own side of the border. Access to immediately adjacent markets, which would expand their operational base, is made difficult because of the lack of market knowledge and the specificities of products and services.

The European Automotive Cluster (<http://www.pole-auto-europe.eu/>), a cross-border project co-financed by ERDF via the Interreg VA Greater Region, aims to strengthen the competitiveness and attractiveness of Greater Region automotive companies through coordinated cross-border actions. The cooperation between actors and the creation of synergies between the companies of the different regions has the ambition to create a leading European Automotive Pole in Europe, both in terms of dimension (jobs, produced vehicles) and technological level.

However, we acknowledge that the institutional context often acts against this outward-looking approach, since responsibilities, structures and budgetary means are most often tied to places, which themselves are seen as self-contained entities. For most of the Pilot Regions, INTERREG was said to play a key role in their work on global value chains, although some felt that INTERREG programmes were not always managed in the most strategic way (i.e. lacking connection with regional strategies and priorities, funding disparate collection of projects).

The Pilot Regions are generally enthusiastic about the proposed “interregional innovation investments” for 2021-2027, as a means to induce new cooperation patterns by alleviating financial obstacles to development of joint investments. There is so far almost no usage of the mechanism for transferring (max 15% of) ERDF funds outside eligible area (article 70 (2) of CPR) in Pilot Regions. A mechanism specifically dedicated to inter-regional investments in innovation might have more chance of success, at least in the short term.

2.1.4. *Building more effective innovation support systems*

Taking an ‘ecosystem’ view across the entire policy mix to enhance its effectiveness

- Pilot Regions identify weaknesses in the internal coherence and effectiveness of their portfolio of innovation support instruments;
- They are revising their support system by:
 - reviewing complementarity between instruments along the TRL scale;
 - ensuring coverage of enterprise life cycle;
 - moving towards performance-driven funding models;
 - reducing fragmentation between instruments through the delivery of ‘policy packages’.

The Pilot Regions are not newcomers with respect to establishing instruments to support regional innovation. The often broad arrays of policies and instruments these regions are able to deploy, have generally evolved over time in successive waves.

Under the Pilot Action, we noted that many of the Pilot Regions have grasped the opportunity to rethink their portfolio by taking an ecosystem view of it. We summarise the results of these efforts in the form of two main lessons:

- First, these policy portfolios do not constitute a fluid, coherent and integrated ecosystem, able to cover the innovation needs of the businesses; they appear as a fragmented portfolio with gaps and overlaps and weak visibility for the target groups;
- Second, they are not sufficiently geared towards the support of transformation of socio-economic fabric of the region in line with the industrial transition challenges.

Box 8. Lithuania: evaluation of the innovation support system

An external evaluation of the innovation support system in Lithuania has been conducted and delivered the following messages:

- The system is characterised by agency and policy fragmentation;
- There is a need to revise policies to ensure that the whole journey “from idea to market” is well taken care of by the support system;
- Start up support is deficient;
- The imbalance in the system should be corrected, with more money directed to companies rather than to intermediaries.

In many cases, the adequate response to this situation consists of improving and better articulating existing tools, rather than adding new ones. We observed that the Pilot Regions have revised their policy mix in the following four directions (Table 2):

- Ensuring good complementarity between instruments along the TRL scale: in many cases this has resulted in an enhanced focus on support to higher TRL activities, which were not well-covered by the set of tools in place. This typically takes the form of supporting industrial pilots, e.g. in Wallonia with the new COOPILOT programme, supporting industrial pilots and demonstrators at higher TRL;
- Ensuring coverage of enterprise life cycle: e.g. in Centre-Val de Loire there is an identified gap in supporting the scaling up of newly created enterprises that has led to the creation of the SC-UP – Scheme to support innovative start-up growth;
- Moving towards performance-driven funding models, clarifying the missions for different instruments while verifying their effectiveness: when regions are merged (as in France) or willing to work across borders (as in North-Middle Sweden and East and North Finland), this creates an opportunity to reframe instruments and funding models. Several Pilot Regions, including Piemonte and Slovenia, are working on clarifying the role of their clusters in terms of supporting industrial transition;
- Reducing fragmentation between instruments for more user-friendliness: a number of Pilot Regions experiment with the concept of ‘policy packages’, namely delivering instruments in an

integrated way (covering advice, finance and training, e.g.) or combining R&D and skills development such as in the Piemonte apprentice scheme (see Box 3).

Table 2: Building more effective innovation support systems in the Pilot Regions

| |
|---|
| <p>Complementarity along TRL</p> <ul style="list-style-type: none">• Wallonia: industrial pilots and demonstrators at high TRL• Saxony: living labs, experimental innovation zones• Piemonte: Projects for industrialization of research (Strumento IR²) (TRL 5-8) |
| <p>Coverage of enterprise life cycle</p> <ul style="list-style-type: none">• Centre-Val de Loire and Piemonte: filling gap in supporting the scale-up of new enterprises |
| <p>Performance-driven funding models</p> <ul style="list-style-type: none">• Piemonte and Slovenia: clusters seeking to reorient the logic of their support from a sectoral towards a challenge-based approach |
| <p>Reducing fragmentation between instruments</p> <ul style="list-style-type: none">• Slovenia and Lithuania: tailored 'policy packages', incorporating soft and financial support• East and North Finland and North-Middle Sweden: cross-regional instruments• Piemonte: apprentice scheme combining R&D and skills development |

Source: authors, based on SRCs reports and capitalisation visits

2.2. Learning from work underway to enhance S3 strategic processes

Turning now specifically to how the Pilot Regions are working to enhance their S3 processes, we identified lessons in the following main areas during the Capitalisation Phase:

- **Strengthening intelligence at all points of strategy development;**
- **Evolving role of regional authorities in enhanced EDP;**
- **Functional geography of industrial transition and multi-level governance.**

The first point deals with the process of strategy development and aims to identify the new or reinforced sources of strategic intelligence used by regions to design their S3. The Pilot Action was designed with this goal in mind: stimulating the Pilot Regions to experiment with more effective and better-informed processes to design their industrial transition strategies.

The second point covers process issues specific to the authorities in the Pilot Regions and their broader facilitator role in the context of enhanced strategic approaches.

The third raises the question of the articulation between measures deployed at the regional level (under the spotlight in the Pilot Action) with those under the responsibility of other levels (European, national and local), thus stressing the place-based dimension of the strategic work.

These areas of learning are examined below, with examples from different Pilot Regions concerned.

2.2.1. *Strengthening intelligence at all points of strategy development*

Strengthened intelligence for innovation strategy enhancement – a key legacy of the Pilot Action

- The Pilot Action brought improved strategic intelligence to the strategy development process for industrial transition;
- The OECD and EOCIC Peer Learning exercises were highly valued by the Pilot Regions;
- The expanded collective intelligence mobilised in the Pilot Regions, as well as new insights brought by the pool of SRCs, are major assets of the Pilot Action.

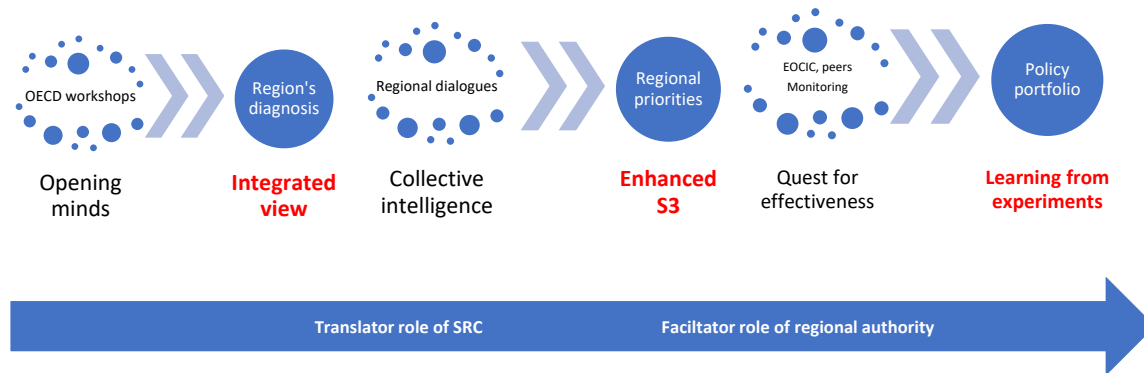
‘Minds are like parachutes: they only function when open.’ T. Dewar¹⁰

Working towards enhancement of their S3 under the Pilot Action, the Pilot Regions have so far largely followed a 3-step approach, with each step fed by new sources of strategic intelligence (Figure 6). Throughout the process, the Pilot Regions were supported by an expert, the Single Regional Coordinator (SRC), in charge of bringing external insights to bear as useful inputs for the region. In

¹⁰ Lord T. Dewar, Whiskey Distiller (1928)

addition, the regional authorities concerned played an orchestrator, or facilitator role throughout the process, as discussed under Section 2.2.2 below.

Figure 5: Role of strategic intelligence throughout the Pilot Action



Source: authors, based on SRCs reports and capitalisation visits

Reformulation of the region’s SWOT analysis with respect to industrial transition challenges

Pilot Region participants generally acknowledged that their minds had been opened by the OECD Peer Learning workshops – they were fed with new concepts and new perspectives. Other strategic studies also nurtured new thinking, such as the ‘Independent Prosperity Review’ in Greater Manchester, the French national level ‘Industry of the Future’ diagnoses, or studies on industrial transition challenges in Piemonte etc. The peer learning helped Pilot Regions reformulate their own regional diagnoses. Some regions noted the helpful *stamp of authority* which the involvement of the EC and OECD gave to these reflections vis-à-vis their regional stakeholders. This supported efforts towards developing more integrated views on regional challenges, as well as initiatives to create more linkages and synergies between various policy domains.

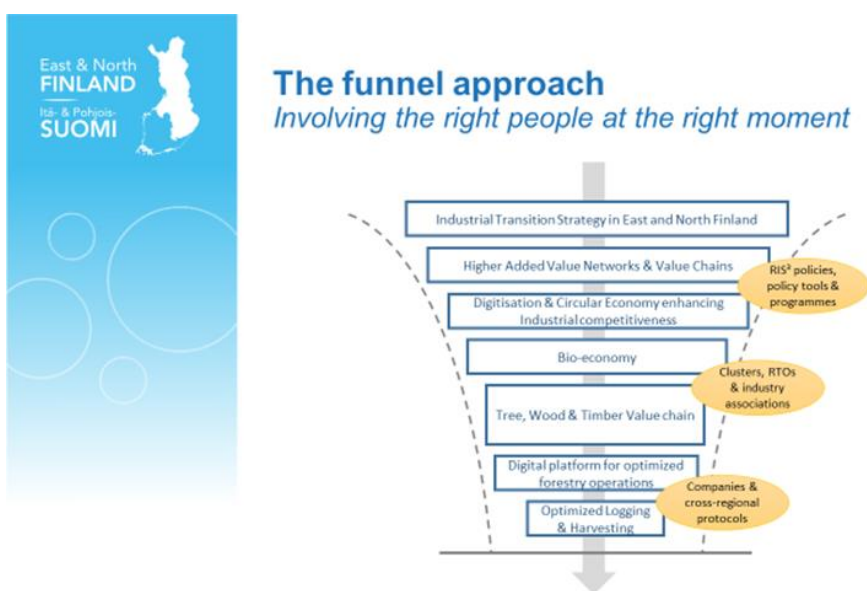
Box 9. Strategic intelligence on industrial transition challenges in Piemonte

To monitor ongoing economic transition of companies in Piemonte, the Regional Institute of Socio-Economic Research ‘IRES’ has conducted a survey of companies’ innovative activities. The study targets a representative sample of 1,000 firms (excluding agriculture and distribution) with more than 5 employees, collecting information on company strategy in innovation, internationalisation, technological investment and human capital. The last S3 monitoring report prepared by IRES analysed economic transition challenges. In particular, all projects financed in the period 2014-2018 were studied to understand possible new transversal clustering related to the transition challenges. Three main areas of horizontal clustering were identified: digital transition, circular/sustainability transition and health and wellbeing.

Identifying S3 priorities for industrial transition, based on regional dialogues, specifically translated to the regional situation

Work to enhance EDP in the Pilot Regions was reported to have contributed to a better exploitation of collective intelligence already present (e.g. the process followed in East and North Finland, Figure 6, and the cases of North-Middle Sweden and Saxony in the boxes below). In several regions, workshops were structured around key industrial transition challenge themes. As external triggers in the process, the SRCs helped to *translate* generic challenges into region-specific issues, for further definition as enhanced S3 priorities. SRCs carried out both analytical and process-oriented activities: they acted to some extent as coaches, facilitating regional dialogue and bringing new perspectives on key issues. This gave rise to a new frame and new orientations for the enhanced S3.

Figure 6: Mobilising collective intelligence for strategy design in East and North Finland



Source: Vincent Duchêne (IDEA Consult), presentation at the Directorate General for Regional and Urban Policy on 13 December 2019.

Box 10. Mobilisation of stakeholders in North-Middle Sweden

In North-Middle Sweden, an enhanced participatory process took place through:

- a series of roundtable meetings in each of the 3 counties: 10 county-level roundtable meetings, mobilising more than 100 stakeholders across the three counties were held on the topics of: digitalisation and business development; innovation and entrepreneurship; energy effectiveness and circular economy. As a result, NMS prepared an initial elaboration and prioritisation of (approximately) 100 joint actions for industrial transition;
- hosting of the National Industry Day in Gävle: more than 600 participants (including 17% of government ministers, including the Prime Minister) participated in 60 roundtable discussions which highlighted over 1,000 possible actions for strengthening lifelong learning in Sweden. A summary overview of the NMS work (the above 100 actions) was presented to the Prime Minister on that day.

Box 11. Enhanced strategy consultation processes in Saxony

Saxony launched broad-based, formal consultation events in the course of designing its new innovation strategy (which was not the case with the previous version). A first event communicated the findings of an in-depth preparatory empirical study to a broader audience and raised awareness for the subsequent online consultations. A second, higher profile meeting (including an opening by the regional Minister) presented the consolidated draft innovation strategy. It included an extensive 2-3h world café phase during which various stakeholders could help refine possible strategies under the various priority headings, as well as under a number of cross cutting themes.

These events and consultations were organised by a mix of public servants, professional moderators and external experts with prior involvement in the process. The audience included local entrepreneurs, associations, scientists, consultants, representatives of different levels of government, regional development agencies/clusters and the European Commission.

Revising policy portfolios to address the identified challenges, using external sources of intelligence

On the basis of the preceding exercises, existing policy instruments were revised in the Pilot Regions and new ones developed. Learning from elsewhere was a key ingredient here, with EOCIC playing an important role specifically regarding the operation of clusters. Most Pilot Regions also emphasised the benefit gained from participating in EU-level platforms and networks geared towards policy learning, with Interreg Europe featuring most prominently from the point of view of policy learning. The SRCs also helped in bringing external expertise and benchmarks into their Pilot Region.

Exchanges between peers facilitated by the Action were seen as invaluable and greatly appreciated by the Pilot Regions. Many regional actors interviewed during our visits said they felt they would benefit from more peer learning with other regions beyond the timeframe of the Pilot Action. By the end of the Pilot Action, the collective intelligence built up in the pool of SRCs represents an important asset, which could be further exploited to beneficial effect.

Box 12. Examples of specific contributions brought by the SRCs

The SRC for Slovenia completed a comparative study of technology transfer policies across EU and has supported the Slovenian authorities in importing an Industrial PhD scheme.

The SRC for East and North Finland acted as the Chairman of the Evaluation Panel established to select the projects to be funded through the HIA, a new inter-regional SME voucher scheme aiming at introducing a circular economy element into the agri-forestry sector.

The SRC for Wallonia was instrumental in the preparation and detailed articulation of the High Impact Action for the region.

The SRC for Cantabria prepared a detailed note translating key industrial transition messages from the OECD workshops into operational proposals specifically tuned to the regional context.

2.2.2. *Evolving role of regional authorities in enhanced EDP*

New innovation strategies demand new types of skills and behaviours in regional authorities

- Empowerment of regional authorities through their work on enhancing S3:
 - provides them with greater credibility and legitimacy;
 - facilitates EDP involving a broader range of stakeholders;
 - requires a degree of risk taking by public bodies;
- Creativity and competence are also being upgraded in regional development organisations – e.g. clusters;
- There is a risk of disconnection between this new creative role and the central mission of operational programme Managing Authorities (creativity vs ‘spend imperative’...).

The move towards S3 addressing industrial transition demands new capacities from regional authorities in charge of these strategies. What is needed here is what the OECD Report describes as effective ‘transition governance’ – an active management of the transition process towards positive outcomes - ensuring a fertile enabling environment, or ecosystem, for innovation and experimentation, underpinned by robust performance measurement systems¹¹ (see section 3.3).

Yet our observations from the Capitalisation exercise suggest that so far, the coordination of the strategic work in many of the Pilot Regions has rested on relatively few shoulders. These are often key committed administrators in the relevant regional authorities, who are relatively isolated, but adept at navigating between universities, businesses, public sector institutions and usually able to gain political support. Success to date seems to have been mainly due to the personal qualities of these individuals.

Now, in the context of industrial transition, the role of regional authorities (or national authorities in the case of Lithuania and Slovenia) is becoming increasingly about facilitating the EDP process with broader ranges of stakeholders – including companies – to identify new S3 priorities around topics of high relevance for the future of the region. This evolving role necessarily involves a higher degree of risk for public authorities. Several authorities interviewed during our visits in the Pilot Regions admitted to being somewhat *out of their comfort zone* in this regard and recognised that it demanded new kinds of skills. In many cases, the regional authorities cement stronger partnership with other regional players, such as development agencies and clusters, to bring additional competence and creativity to bear, reducing their individual risk exposure. In others, such as North-Middle Sweden, the regional authorities are beginning to use the services of professional facilitators.

Political leadership, however, remains a fragile factor for S3 development. During the Capitalisation Phase, many of the Pilot Regions went through election processes, which all but brought progress to a standstill in the regions concerned. In Wallonia, for example, the newly elected regional government took a long time to become operational, while very little work could move forward on S3 enhancement.

¹¹ Source: OECD Scoping Paper for Peer Learning Workshop, Lille, 11-12 April 2018.

Grand Est region encountered on-going difficulties in establishing leadership arrangements, following the merger of three smaller regions.

Box 13. North-Middle Sweden – leading Pilot Region in enhanced EDP

The North-Middle Sweden HIA is designed to address complex systemic challenges related to energy transition and the move towards a resource-efficient society. A painstaking co-creation approach has been adopted, engaging a diverse range of stakeholders across three Counties, including large companies and SMEs. This approach, known as ‘Challenge Lab’, requires important people skills in regional authorities.

Although already well-versed in Challenge Lab type processes, the regional authorities concerned have engaged the services of professional facilitators, as part of the HIA budget, to help them navigate the human complexity of this particular task. Additionally, the model foresees the inclusion of students in Challenge Lab events, which has proved surprisingly effective at nurturing group creativity in similar processes.

With specific regard to EU Cohesion Policy funding, one problem of the more pioneering approaches called for in S3 enhancement, is the potential for disconnection between authorities responsible for S3 and Operational Programme (OP) Managing Authorities. The latter have the last word on OP implementation and may tend instinctively to avoid risky S3 investment types, if these look likely to threaten OP financial performance or to present higher audit risk.

2.2.3. Functional geography of industrial transition and multi-level governance

Adapting enhanced S3 to functional regions

- Geography differs according to the challenge in question:
 - cities or local authorities may be the most appropriate vehicles for circular economy, energy transition or social innovation;
 - high-tech hot spots may be better addressed at larger regional level - including cross-border perspectives;
 - National programmes provide important strategic frameworks and resources for major technology shifts and large investments.
- S3 are better designed in a multi-level governance framework.

The very large diversity between the Pilot Regions in population size should not be forgotten. They range from Cantabria – at less than 0.5 million – to Hauts-de-France at nearly 6 million, with different size brackets in between (Figure 7).

There are also big differences in terms of the degree of functional autonomy these regions enjoy. At the two extremes - Wallonia has almost all the necessary policy levers in-region, whilst Greater Manchester is almost entirely dependent on national levers.

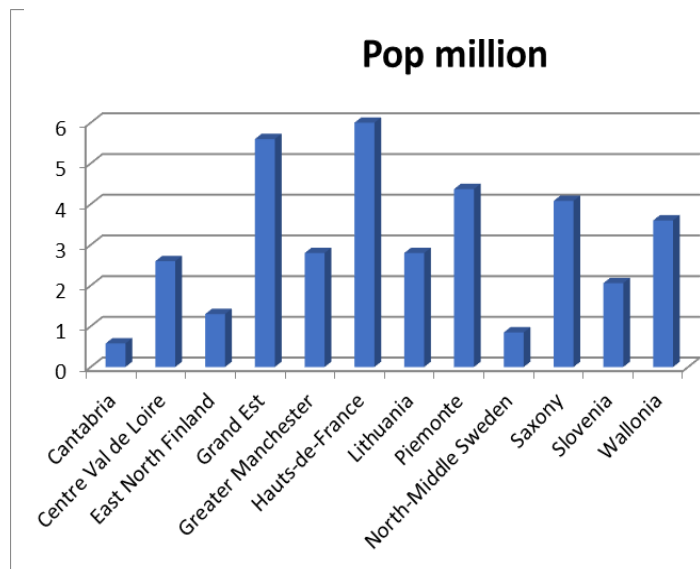
What, then, is the ‘right’ spatial level for an enhanced S3? The question is problematic. Enhanced S3 for industrial transition are best defined at the level of functional regions. However, functional geography can differ significantly according to the challenge under consideration:

- Cities and local authorities can play an important role for initiatives promoting circular economy, energy transition, or social innovation;
- High-technology hot spots may best be addressed and supported at the level of larger regions, including cross-border perspectives;
- The national level remains important for all regions. In most cases, large national programmes are important determinants of the regional industrial transition strategy due to the key role played by national funding sources for larger system shifts (e.g. for the automobile industry). This is true even for relatively autonomous regions, such as the German Länder. For example:

- French ‘Territoires de l’industrie’ and ‘Industrie du Futur 4.0’;
- German industrial policy - programme for decarbonisation;
- Italy - Industry 4.0 national policy;
- UK industrial strategy;
- Sweden – ‘Vinnväxt’ programme directly supporting S3.

See also the additional examples at the end of this section (Box 15).

Figure 7: Population of the 12 Pilot Regions (2018)
Source: Eurostat



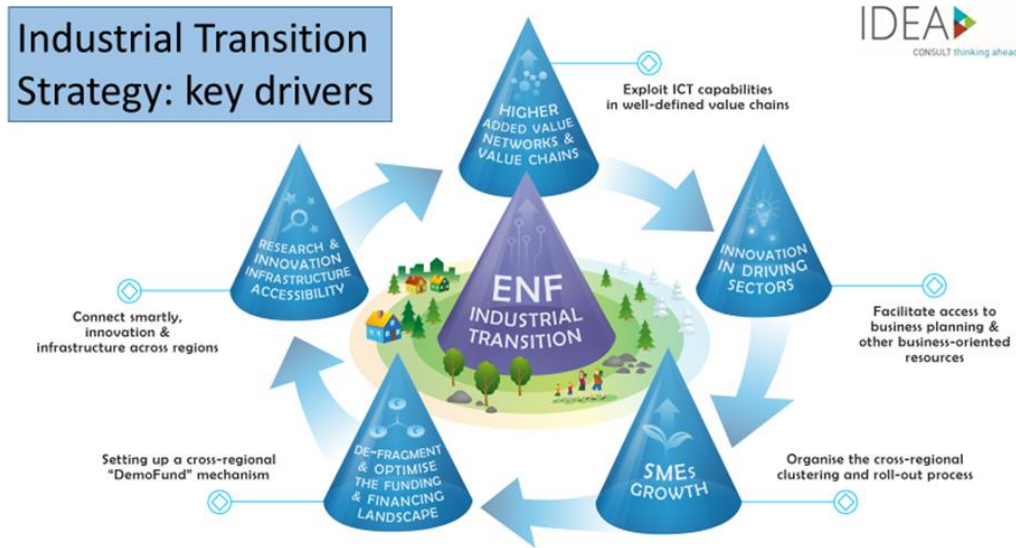
Box 14. Grand Est – the role of Cities

Grand Est is a newly formed region with a wide territory (the size of the region is among the largest in Europe). It has not yet completed its merger process, initiated in 2015, which is facing strong resistance. The merger coincides with a growing power of main cities that were the centre of the former regions (Metz, Nancy, Strasbourg), each of them creating their development agencies - even though the mission of economic development is primarily the responsibility of the new Region. Strategies at the regional level are hampered by the difficulty to establish leadership through a single body (despite the emergence of the new regional development agency Grand e-Nov).

Pilot Regions have sought to define their strategies at the level of functional regions. This is likely to meet with resistances and institutional barriers, since administrative regions do not always correspond to functional regions.

The cases of North-Middle Sweden and of East and North Finland (Figure 8) illustrate efforts to foster a cross-regional dimension, based on the identification of new potential for industrial transition by joining forces between regions of sub-critical size.

Figure 8: East and North Finland: fostering the cross-regional dimension



Source: Vincent Duchêne (IDEA Consult), presentation at the Directorate General for Regional and Urban Policy on 13 December 2019.

The most relevant policy mix will usually be a combination (with variable weightings) of national, regional, and local actions. Our key lesson from the experience of the Pilot Action is that the more S3 moves towards an approach embracing societal as well as economic objectives, the more important multilevel S3 governance becomes.

Box 15. Articulating national and regional efforts in three large Member States

Piemonte – Italy

The Piemonte Region has successfully worked with the national government to pool resources together to support the development of two critical projects for industrial transition:

- **CIM4.0 (Digital Manufacturing Competence Centre):** a new Competence Centre, based in Torino for the development of Industry 4.0 technologies for the Automotive, Aerospace, ICT and Service Industries. It includes as funding partners two Universities (University of Torino, Politecnico of Torino) and 23 Large enterprises and SMEs. CIM4.0 aims to contribute to technology transfer, training, finance and networking. It focuses on innovation at TRL 5 to TRL 9. The Centre was established thanks to funding gained as a winner of a national competition, matched by regional funding and by company and universities with in kind and financial contributions.
- **HPC4AI (High-Performance Centre for Artificial Intelligence):** The University of Torino and Politecnico of Torino have joined forces to create a federated centre for High-Performance Computing (HPC), Artificial Intelligence (AI) and Big Data Analytics (BDA). HPC4AI collaborates with entrepreneurs to boost their ability to innovate on data-driven technologies and applications. The first goal of HPC4AI is to establish a modern laboratory to co-design with large companies and SMEs research and technology transfer projects. HPC4AI has been co-funded by national and regional funding sources.

Centre-Val de Loire - France

An agreement has recently been signed between the State and the Centre-Val de Loire Region in the framework of the national level initiative 'Industrie du Futur 4.0'. It focuses on delivering services to 250 businesses (SMEs and fast-growing companies) to support industrial transition measures. The total budget is €4.6m split 50/50 between the two partners. It is a good illustration of the alignment of the national and regional policy interventions. These activities will target the 'Territoires d'Industries' priority zones defined at national level in each region.

Saxony - Germany

Implicitly, there is an established division of tasks in Germany, in which the federal government addresses high-volume investments of national importance – be it with a view to nation-wide and global excellence (e.g. leading-edge cluster), or with a view to far-reaching challenges (e.g. coal phase-out due to decarbonisation). National funds allocated in this context notably surpass what would be feasible with ERDF and regional funds. Historically, it has been the national, more than the regional government, which has been in charge of supporting 'specialisations' or domains of future potential through dedicated project funding – whereas local ERDF funding has more commonly been used to provide a baseline of horizontal SME support.

Currently, Saxony awaits large-scale national investment in its core industrial transition regions (about €2bn for the next 20 years) which has yet to be channelled into concrete projects. The regional government will seek to understand and then lever the opportunities for co-investment that this evolving portfolio of national interventions will provide.

In addition, the goal of promoting cross-regional innovation is by and large fulfilled by national funding initiatives open to - and in part also encouraging - cross-regional consortia, based on relevant competences rather than on consideration of eligible territories.

2.3. Towards ‘enhanced’ S3 for industrial transition - embracing societal as well as economic goals

The Pilot Action started with an in-depth analysis, in all regions, of the way the broad generic challenges shaping future successful industrial transition apply in their particular context. During the analytical phase, regional authorities and their stakeholders examined: how well the region’s workforce is prepared for the jobs of the future; what stage the region has reached in terms of transition towards ‘circular’ economic solutions and widespread uptake of low-carbon technologies; how far innovation, taken in a broad sense, diffuses to all parts of the economy and with all actors; whether the innovation ecosystem is responsive to the needs of the private sector; to what extent entrepreneurship is flourishing; and how innovation-based developments can move the region towards an inclusive and job-rich growth path.

The detailed pictures emerging are different from region to region, reflecting the diversity of situations, opportunities and trajectories followed by each of them. But beyond the variety of individual situations, we noted a striking consensus: all Pilot Regions have worked from the starting point that achieving industrial transition is a pervasive goal, which touches on many areas of regional economies and societies. They have learned that what is at stake is widespread societal transformation, in addition to economic change.

The essential difference, then, between an ‘enhanced’ S3 and the current 2014-2020 generation of S3, is that **enhanced strategies for industrial transition should not only have an economic rationale, but need also to embrace societal challenges**. These include inclusive growth, demographic issues, health and wellbeing of their populations and how they will function in a future with a whole new dimension of automation, artificial intelligence and ‘circularity’ etc. in the economy.

The Pilot Regions recognise that their efforts to move in this way represent a more demand-driven strategic approach than the current generation of S3. This demand needs to be co-created through **enhanced EDP involving a broader range of regional stakeholders** to take societal and economic factors, as well as technical and non-technical innovation perspectives fully into account. The exercise has proved to be an important learning process for the Pilot Regions so far, which has highlighted significant needs for capacity building, particularly among actors new to S3 processes.

The work on S3 enhancement in the Pilot Regions is still on-going. Our findings from this work-in-progress build on those presented in the two previous sections and are arranged under the following headings:

- **Industrial transition = economic and technological change + societal transformation;**
- **Broader integration across policy domains.**

Findings are examined under each heading, illustrated by specific examples from the Pilot Regions.

2.3.1. *Industrial transition = economic and technological change + societal transformation*

Human-centred industrial transition

- The Pilot Regions' understanding of innovation is broadening to encompass societal, as well as economic goals and non-technological, as well as technological innovation;
- Many Pilot Regions can be seen applying existing competences, technologies and assets in areas of societal importance;
- Circular economy is seen as an important transversal driver with strong elements of system innovation;
- Inclusive growth, with people at the centre, is for many regions the most elusive, yet also the most crucial and urgent challenge – often with a territorial dimension.

The need to create space for change

“The difficulty lies not so much in developing new ideas as in escaping from old ones” - J.M. Keynes¹²

All the Pilot Regions have gone through processes of industrial transition already. Some have decades of transition behind them. These regions have reached different stages in their transformation journey. Mentalities shaped by the profile of the ‘old region’ are experienced as a cultural barrier for the changes needed. Yet transition implies that something has to stop existing, so that something new can come and take its place. How can a region create a break, an inflexion point, in current socio-economic pathways to create the necessary *space for change*?

Box 16. Saxony – energy transition and strategic anticipation of the phase-out of brown coal

A brutal de-industrialisation started in Saxony in the early 1990s after the collapse of the GDR, followed gradually by notable successes in growing microelectronics and to a lesser extent bio-technology and advanced materials industries. The region is therefore no stranger to transition.

Nevertheless today, brown coal production still remains a mainstay of the regional economy, long after coal mining has been phased out in many other EU regions. As part of Germany’s national strategic drive towards low carbon energy transition, Saxony’s mines are being shut down and brown coal production will be phased out from 2020. Some 24,000 jobs are at issue in a specific part of the region. National programmes, with substantial resource allocations are being directed towards physical regeneration of the areas concerned, new business development and comprehensive re-skilling of workers, in anticipation of the change.

Notably in the context of energy transition, Saxony was host from 2013, to some of the first electric car manufacturing in Europe. A key focus of the region’s new Innovation Strategy is the transition towards much larger scale electric vehicle production across its automotive supplier base.

Strategically, therefore, Saxony is having to deal with two very different faces of the energy transition question. How far the two can be joined together will be a key determinant of future success.

¹² John Maynard Keynes (1936) ‘The General Theory of Employment, Interest and Money’

Successful industrial transition, based on a broad innovation concept, requires wider societal transformation

One of our key findings is that the Pilot Action has helped the Pilot Regions understand that future industrial transition implies broader societal transformation, beyond adaptation to technology-driven changes in industry and beyond purely economic imperatives. For all the Pilot Regions, their current S3 is already a strategy which builds on regional potential, endogenous strengths, niches and emerging opportunities. However, the overall objectives of current S3 are almost entirely economic. In their different ways, the Pilot Regions are taking on board the idea that for successful industrial transition, innovation must be considered in a broader perspective than hitherto. In this context, they have grasped that an enhanced S3 should encompass not only technological innovation, but also non-technological and social innovation, to achieve societal as well as economic objectives.

The first logical step towards this broader strategic approach, fostered by the S3 concept, is to apply key competences already existing in the regions to new emerging fields of societal importance.

- In North-Middle Sweden, the previous S3 focus on the paper/pulp sector has broadened into a new priority for bioeconomy;
- In Piemonte, a traditionally important regional specialisation in mechatronics for the auto industry is successfully adapting to medical and health/wellbeing applications. The only European research centre of General Motors, located in the region (and specialising in diesel engines), is applying its considerable expertise in sensors to new solutions for the biomedical industries;
- In Wallonia, the deployment of a more inclusive participatory process with inclusion of civil society and local institutions, around societal challenges, is seen as an evolution from the overly sectoral approach pursued so far. The process of revision of S3 priority domains starts with the identification of a long list of ten societal challenges, among which four to five will be selected as the starting point for the new priority domain identification. This is expected to generate a radical change from the previous approach, in which the priorities were aligned around the activity sector of the competitiveness poles.

Circular economy as a transversal driver for industrial transition strategies

We also noted that circular economy is proving a particularly well-suited transversal driver in this regard, since it can embrace many aspects of innovation in different sectors, as well as itself embodying an important system innovation dynamic. Of the four HIA with a circular economy focus, that for East and North Finland identifies new high-value activities for the region through newly-established symbiotic relationships between companies in the wood/timber value chain based on exchange of waste products. The HIA for Wallonia is experimenting with a new demand-led approach to circular economy in plastics, where the driving force does not come from the plastic (recycling) industry but from potential users and clients, therefore allowing new combinations of actors from different clusters or research centres. The HIA explicitly aims at combining innovation with welfare objectives.

Box 17. Wallonia: HIA testing a demand-driven approach to circular economy in plastics

The HIA in Wallonia addresses the industrial transition challenge of circular economy in the area of plastics. As opposed to traditional firm support, a user-driven approach puts specific emphasis on the demand side. The action has therefore a strong potential to promote entrepreneurship and private sector engagement in the area of circular economy and further strengthen entrepreneurship ecosystems around the ‘plastics’ issue.

The general objective is to test a new approach focused on societal challenges, helping to develop a ‘generated project idea’ process that complements the actual ‘spontaneous idea’ method. The HIA will encourage start-up and SME projects that aim to market innovative solutions, based on the specific challenges proposed in a user-driven and needs-based approach by market players such as companies, local authorities, public buyers, non-profit organisations working on environmental concerns and civil society. These challenges could, for instance, deal with alternatives to, or reduction of, plastics in products and promotion of bioplastics, re-use, sorting, recycling. The specific challenges to be addressed will have been previously defined according to a discovery process using a ‘quadruple helix’ logic.

Harnessing innovation to tackle dual economy/society syndrome

Another key finding from the Capitalisation phase is that tackling dual economy/society syndrome is seen as a growing priority many of the Pilot Regions, with strong economic and societal dimensions. Some regions were seen to be seeking to be tailoring programmes to the potential of actors in their less dynamic zones. This is the case of Cantabria, which through its HIA, aims to empower persons operating businesses in the agri-food sector in its poorer rural area by creating a social approach to innovation policy which is entirely new to the region.

Box 18. Cantabria – adapting HIA support to needs of rural agri-food producers

With a flourishing urbanised coast and poor depopulated rural hinterland, Cantabria focuses its HIA experiment on traditionally lower-skilled actors in the rural agri-food sector, with eligible activities tailored to their specific needs for economic modernisation.

The HIA complements earlier large-scale investment by the region in rural infrastructure for mobility, education and healthcare, as part of a wider policy to attract younger people to settle in the rural areas.

The HIA’s social approach to foster industrial transition of the agri-food sector, highlights aspects such as reskilling, collaboration, or support for groups at risk of exclusion. This provides an element of novelty and experimentation to the usual policy instruments, trying to mitigate the costs of industrial transition.

This emphasis on addressing territorial fracture demonstrates particularly strong linkage with the theme of inclusive growth, which emerges from the Capitalisation exercise as the most elusive challenge - yet, in many respects, the most crucial for the Pilot Regions. Regional populations were said to be looking increasingly to innovation to deliver solutions to their growing problems of division and alienation.

Box 19. Piemonte – WeCaRe: an integrated strategy for social inclusion through innovation

WeCaRe is a regional integrated strategy that involves public and private actors and combines social policies, labour policies and economic development. WeCaRe considers social cohesion as an opportunity for territorial development and growth as a challenge to be achieved through the reduction of social inequalities. The programme aims at providing an additional boost to the solution of social problems through systems and solutions capable of improving the health, social inclusion and well-being of citizens.

Among the various measures that constitute the overall plan to stimulate social innovation processes, one is dedicated to strengthening entrepreneurial activities that produce social effects (ERDF funded, €5m). This experimental initiative provided subsidised loans for social innovation interventions in areas related to citizens' wellbeing and territorial development, favouring new entrepreneurial initiatives with social impact and potential for scalability and replicability.

Human-centred and socially equitable industrial transition

Work in the Pilot Regions demonstrated a concern for people being at the heart of the transformation strategies. Strategy development started from this premise: improving citizens' well-being needs to be one of the ultimate goals of such strategies, which themselves should 'speak to people', not least because a robust commitment from elected persons needs to be maintained. Bringing new technologies into the regions is seen as necessary, but not sufficient.

Box 20. Greater Manchester - HIA with inclusive growth at its heart

The Greater Manchester Good Employment Charter – subject of the HIA under the Pilot Action - directly targets low-income, low-productivity sectors (hospitality, retail, caring etc.) for innovation support, linked to employer commitments to improve conditions and skills development for workers. Traditionally these sectors – although rising in scale, in recent years, to account for over 40% of the regional economy - have not been considered worthy targets for innovation-oriented business support.

The urgency for more socially equitable results is evident in many Pilot Regions. This was eloquently illustrated by regional actors during our Capitalisation visit in Hauts-de-France, for example, by mention of the persistent rise of the 'Gilets jaunes', as well as by additional references to growing tendencies towards populist/right-wing politics in other Pilot Regions, such as Saxony, Greater Manchester and even North-Middle Sweden.

2.3.2. *Broader integration across policy domains*

Integration: theory vs practice

- Pilot Regions understand that industrial transition challenges need to be addressed in an integrated way across policy domains - research, technological development and innovation, industry, education, environment, social etc;
- Yet integration is incomplete in practice, largely due to different policy governance structures across domains;
- Two directions are evident for S3 priority domains definition:
 - narrowing down: towards more fine-grained specialisation areas
 - broadening: over-strict definition of S3 domains acts against the transformation goal - priorities need to be less sectoral and more user-centric.
- Effective integration is likely to require overall ‘system innovation’ approaches.

The very inter-connectedness and inter-dependence of the challenges of industrial transition was a crucial learning point for the Pilot Regions throughout the Pilot Action. The dynamic relationships between increasing globalisation, accelerated emergence of new technologies, digitalisation, transitions to low-carbon and circular economies and the demand for inclusive growth present different risks and opportunities in different regions, which will change over time. Although each Pilot Region has its own specific characteristics and distinct needs, the Capitalisation exercise showed they all understood that they will need to tackle industrial transition challenges in an integrated way.

However, the new paradigm of integrated strategies creates complex demands for S3 in the future, because its remit will need to embrace many new policy domains beyond research, technological development and innovation. Whilst the strategic thrust must continue to be innovation-led, other crucial aspects like environment, skills development, education, healthcare and social inclusion tend to belong to different policy frameworks and governance structures, not previously involved in S3. It has become vital, therefore, for the Pilot Regions to be open to potentially radical changes or innovations, whilst remaining able to capture what may currently be weak strategic signals. In this context, an over-rigid institutionalisation of S3 domains may act against efforts to build new capacities.

In practice, the Pilot Regions are struggling to develop governance structures to make a fully integrated approach an operational reality. Nevertheless, the Capitalisation exercise showed that the Pilot Regions’ on-going efforts on enhancing S3 to embrace broader strategic perspectives, is beginning to foster new cooperation between various policy domains:

- In Cantabria, the work led by the Department of Economy has been instrumental in initiating better cooperation with other units of the regional government (Rural Development, Tourism, Transportation, Research, etc.);
- In East and North Finland, the strategic enhancement is fostered by an ‘Inter-agencies task force’ established during the S3 preparation process;
- In Piemonte, the collaboration between different administration units (education, innovation, economy and internationalization, placed under 4 different Ministries) is cumbersome. An attempt

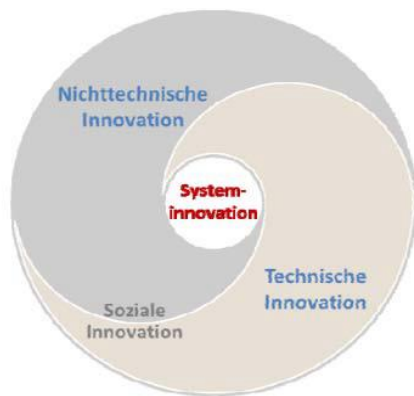
at defragmentation between the areas of skill development and R&D is ongoing, with Innovation Clusters being gradually involved in the management of Istituti Tecnici Superiori (tertiary technical education at ISCED 5 level);

- In Centre-Val de Loire, an important achievement of recent years has been the strengthening of inter-departmental collaboration between different Regional Council departments. This has been developed as part of the recent evaluation process and the current S3 implementation phase, notably the horizontal actions. The *usual suspects* of Research and European/International departments have been joined by Training, Environment, Agriculture and Tourism departments ensuring a much broader perspective and enhanced policy development and coordination. The regional development agency Dev'Up is responsible for facilitating these exchanges and has already noticed improved synergies and complementarities between functional programmes.

The main lesson being learnt here is that it is not so much the sector, nor the technology, which is important, but rather development of the *capability* to apply existing competences, technologies and assets in challenging areas for society. The shift is not necessarily easy, since the first generation S3

approach has already defined priority sectors with highest combined potential for the regions, from both economic and technological angles.

Figure 9: Saxony: Integration of innovation dimensions with System Innovation at the centre



Innovationsbegriff

Source: Saxony – Revised Innovation Strategy with perspective to 2030
<http://innovationsstrategie.sachsen.de/download/Innovationsstrategie-Anhoerung.pdf>

Saxony, the one Pilot Region which has completed its S3 enhancement, highlights in it the priority themes of digitalisation, energy, environment, resources, health and mobility as part of a new person-centric strategic approach.

Saxony’s enhanced S3 recognises the importance of promoting simultaneous changes in technological, economic and societal dimensions – hence the central need for overall ‘system innovation’.

This need for comprehensive system innovation, from the ground up, is increasingly apparent from the Pilot Regions’ experiences as they move forward with their S3 enhancement. Yet system innovation itself is a new concept for S3. Embracing this whole system dimension in S3 implies a requirement for considerably enhanced EDP and correspondingly strengthened governance arrangements overall, which in turn reveals needs for building the appropriate capacities.

3. CONCLUSIONS AND POLICY IMPLICATIONS - HOW TO MAKE IT ALL HAPPEN AND LEARN FROM THE EXPERIENCE?

Drawing together the different aspects examined during the Capitalisation exercise, we conclude that the EC Pilot Action has raised the level of ambition of the Pilot Regions significantly, as they work on enhancing their S3 to better address the challenges of future industrial transition. In so doing, the Pilot Regions are taking a much broader view of innovation than has been the case hitherto - requiring the creation of strong linkages with a variety of other policy fields. Many of these regions are on a new 'policy discovery' path, already experimenting with new policy tools to address societal, as well as economic objectives in this regard. They are also facilitating more intensive EDP with broader ranges of stakeholders to define enhanced S3 priorities for the 2021-2027 period. Current S3 governance arrangements and implementation systems are being reviewed, with substantial changes proposed in several cases.

Overall, then, intensive work on S3 enhancement is underway in the Pilot Regions¹³, but in all cases except one (Saxony), it is still currently work-in-progress and will remain so for some months. Finalisation and adoption of the enhanced S3 in the majority of Pilot Regions is not expected before late- to end-2020. Thereafter remains the crucial business of implementing the new strategies.

Despite the differences between the Pilot Regions, they will all need three things to translate their new strategic ambitions into reality and learn from the experience:

- the capability to scale up and mainstream new policy instruments based on learning from previous experience and experimentation (section 3.1);
- flexible and responsive financial support, conducive to enhanced policy integration (section 3.2);
- monitoring and evaluation systems capable of capturing the effects of enhanced S3 on industrial transition and enabling continuous policy learning (section 3.3).

Each of these crucial needs is examined in the next three sections and illustrated with cases from the Pilot Regions. The final section of this chapter (section 3.4) presents a summary of the key policy implications to arise from the Pilot Action, together with lessons relevant for all regions seeking to address new industrial transition challenges.

¹³ The state-of-play with S3 developments in the 12 Pilot Regions at the end of the Pilot Action (December 2019) can be found in [Annex 2](#).

3.1. Learning from experimentation, scaling up and mainstreaming

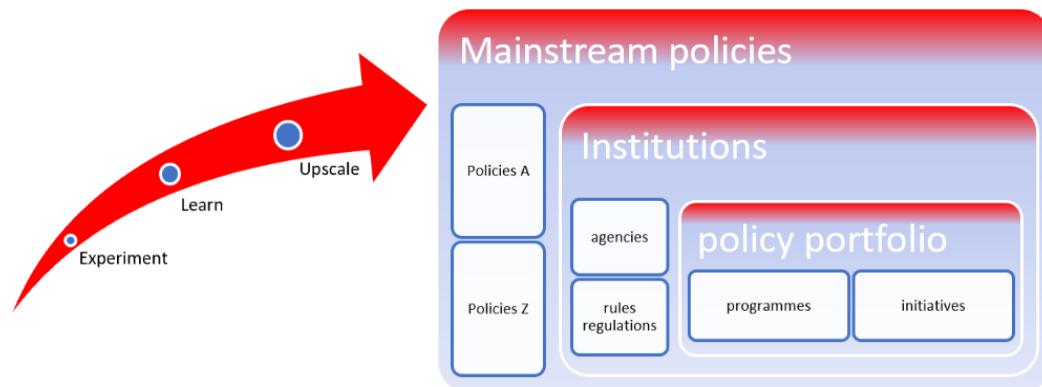
Making enhanced S3 happen for real will require exploration of new fields and learning from experience and experimentation

Although risky, this can be a fruitful trajectory of ‘policy discovery’ processes when:

- experimenting is combined with a deliberate learning perspective;
- experimenting and learning are followed by scaling up;
- results of exploration are replicable and mainstreamed into regular policies.

Implementing an enhanced S3 will involve learning from previous experience of what works, upscaling and ultimately mainstreaming successful approaches. This process may involve a degree of experimentation (Figure 10):

Figure 10: Learning from experimentation, scaling up and mainstreaming



Source: authors

- In the discovery of new paths or instruments to address the challenges of industrial transition, experimentation serves to strengthen a region’s evidence base on what works and what doesn’t work. Experimentation, however, should not be seen as the only means for doing this – evidence may well exist from previous mainstream initiatives. Often, a region may need to combine mainstream experience and results from experimentation to develop new solutions. ‘Policy discovery’ processes take place where new policy approaches are co-created through suitably inclusive EDP between stakeholders and policymakers (see experiments conducted by the Pilot Regions through their HIA in Table 3);
- Learning is the purpose of experimentation: it is necessary to draw lessons from new discoveries, in terms of both successes and failures, also drawing inspiration from what is being done in other regions facing similar challenges or trying out new solutions;
- Upscaling is seen as a way to generate wider effects from policy experiments, with a potential to drive regional development to a more ambitious level;

- Mainstreaming represents the successful integration of new approaches or new tools at the heart of an enhanced policy mix.

Under the Pilot Action, an EU grant of up to €300k could be awarded to each Pilot Region for the HIA, with the explicit mission to encourage experimentation. Some of these HIA experiences feature as examples in boxes at different points in the text of this Report. Table 3 below sets out a summary overview of the learning purposes and upscaling potential of the different HIA grants awarded to the Pilot Regions.

| Table 3 Policy experiments using EU grants awarded to the Pilot Regions for High Impact Actions (HIA) | | |
|---|--|--|
| Pilot Region HIA title | Learning purpose | Policy Experiment and Upscaling potential |
| Cantabria <u>High impact initiative for social inclusion in the primary industries</u> | Integrating a new theme in innovation policy: social inclusion. | A shift away from the straight ‘call for proposals’ approach – to incorporate interviews with bidders and related project improvement process foreseen prior to approval of grants for social innovation in the agri-food sector. If successful, to be replicated for other sectors. |
| Centre Val de Loire <u>SME Executive Recruitment and Skills Competence Audits: Challenges Experimentation Approach</u> | New approaches to support SME recruitment and retention of skills to meet emerging industrial transition challenges. | Working on the demand side by prior coaching of SME managers to correctly express their skills needs. Learning to be shared through the seven ‘Territoires d’Industrie’ working groups to promote replicability in other regions. |
| East and North Finland <u>Cross-regional voucher system to stimulate digitisation and circular economy in the tree, wood and timber value chain</u> | Testing out new innovation voucher approach exclusively for multi-County collaborative projects between SMEs and support providers. | New policy tool for simultaneous introduction of circular economy and digitalisation innovations into the agri-forestry sector, on a cross-regional basis. Policy tool designed to be replicable and scalable to other value chains and domains. |
| Grand Est <u>Interdisciplinary innovation hub for low carbon energies for the automobile industry</u> | New intervention methods through clusters and platforms towards a ‘market-pull’ approach, rather than current ‘techno-push’ in automotive sector. | Replication to other industrial challenges foreseen through the region’s Digital Innovation Hub (DIH) network. Scale-up anticipated via connection of the HIA with the INTERREG cross-border project of the European Automotive Cluster. |
| Greater Manchester <u>The Good Employment Charter</u> | Addressing economic actors so far bypassed by traditional innovation policies - low-income, low-productivity sectors: hospitality; retail; caring etc. | The idea of a voluntary Employment Charter, combined with support for employers, has not been previously tested at local level in the UK. Independent evaluation foreseen with a view to future replication in other regions. |
| Hauts-de-France <u>Accelerate the digital transition of traditional industrial firms</u> | Delivery of a new form of targeted support - for better job retention - focused on identified needs of individual SMEs undergoing digital transition. | Combination of ‘digital innovation audits’ of SMEs with ‘digital transition vouchers’ and placement of young graduate specialists in engineering/ICT. Results will feed into the region’s new S3 and definition of ERDF and Cohesion Fund programme priorities for 2021-2027. |

| Table 3 Policy experiments using EU grants awarded to the Pilot Regions for High Impact Actions (HIA) | | |
|--|---|--|
| Pilot Region HIA title | Learning purpose | Policy Experiment and Upscaling potential |
| Lithuania <u>Roadmap for Lithuania's industrial transition to a Circular Economy</u> | Strategic integration of a hitherto entirely unexplored new theme: circular economy. | Aims to convince through quantified demonstrations of potential viability of improved symbiotic relationships between companies. High degree of stakeholder learning foreseen, enabling broad consensus on comprehensive policy proposals, with schedule to 2030, to help make Circular Economy transition a reality in Lithuania. |
| North-Middle Sweden <u>Energy and resource efficient low carbon society Transition Lab and seed fund</u> | Articulating complex cross-regional societal and systemic challenges related to low carbon and resource efficiency transitions. | Innovative quadruple-helix Challenge Lab mechanism, coupled with seed Fund for testing out-of-the-box ideas emerging from stakeholder debates. Thematic expertise mobilised may continue as 'industrial advisory board' to guide longer-term implementation of sustainability transition policies. |
| Slovenia <u>Pilot for an Industry 4.0 Transformative Mechanism</u> | Testing new a flexible support structure to facilitate SME piloting and demonstration of innovations at high TRL level. | Experimental version of physical and virtual platform for piloting and demonstration in SMEs across various industries. If successful, it will be scaled up to become a permanent support structure. Dissemination of results across Slovenia's S3 partnerships, SRIPS (i.e. clusters) and other networks, including EU Vanguard Initiative, to promote replicability. |
| Wallonia <u>Piloting a challenge-based approach for SMEs support – 'Plastics go green and circular'</u> | Testing a strategic approach driven by challenges related to plastics in society, to better combine growth and innovation with well-being objectives of the population. | Innovative challenges-and-solutions mechanism, which seeks to stimulate projects around circular economy in plastics, based on identification of new demand and users. If successful, this demand-driven new policy approach will be integrated into cluster missions. |

Source: authors, based on SRCs reports and capitalisation visits

N.B. For Piemonte, the HIA grant used to finance an evaluation by OECD of effectiveness of the region's Cluster policy model. For Saxony, the HIA grant award did not go ahead.

Further information on the HIA supported under the Pilot Action, including the basis for their selection and details on their content and expected impacts, are presented in Annex 1.

3.2. EU financial support for enhanced S3 approaches

EU policy proposals for 2021-2027 aligned to better support industrial transition

- The proposed ERDF and Cohesion Fund regulations offer new perspectives for implementing enhanced S3 addressing industrial transition challenges with:
 - a broader range of ERDF Specific Objectives subject to Enabling Condition for Smart Specialisation under PO1, plus a new circular economy focus under PO2;
 - the possibility for ERDF to intervene on skills development under PO1, complementing ESF+ ‘supporting’ intervention fields;
 - support to global value chain approaches with the “Interregional innovation investment instrument”.
- There is substantial scope for suitably responsive Financial Instruments in 2021-2027;
- Beyond EU Cohesion Policy, regions should make use of the wide variety of other EU funding sources available to support enhanced S3 for industrial transition in 2021-2027.

3.2.1. *The evolved role of EU Cohesion Policy in support of enhanced S3*

The Commission’s proposal for Cohesion Policy 2021-2027 makes a strong policy statement, with its enabling condition for good governance of Smart Specialisation covering the entirety of the new Policy Objective 1 (PO1). This will favour more comprehensive S3 approaches than at present, synonymous with the broader understanding of innovation to emerge from the Pilot Action. Moreover, the inclusion of ‘actions to support industrial transition’ (where relevant) as a specific component of the enabling condition, confirms that such enhanced S3 approaches are actually to be a requirement for all regions facing industrial transition challenges.

Broader scope of mainstream Cohesion policy interventions available with greater flexibility

The ERDF Specific Objectives are less compartmentalised than for 2014-2020 – notably in grouping together, under PO1, the previously separate thematic fields of research and innovation and SME development. This provides the means to support broader ranges of interventions under S3, in keeping with the inter-connected nature of industrial transition challenges witnessed in the Pilot Regions. The new explicit focus on circular economy under PO2 also appears to be of high relevance, given the strength of circular economy as a transversal driver for industrial transition noted during the Capitalisation exercise. The other PO2 Specific Objectives also appear potentially relevant to innovation-led industrial transition, even if the enabling condition for good governance of Smart Specialisation does not apply there.

All of the Pilot Regions highlighted critical situations regarding skills for industrial transition. Yet despite good examples, such as Piemonte’s *Apprenticeships for Higher Education and Research* (described in Box 3 in Section 2.1.1), or the restructuring of the vocational training system in Slovenia, the overall impression gained from the Pilot Regions was that ESF was currently somewhat underused in S3 delivery. For the first time in Cohesion Policy history, the Commission proposal for PO1 foresees direct mainstream intervention by ERDF in skills development, in addition to the range of ESF+

intervention fields available. This greater flexibility offers more options for developing integrated approaches in the context of enhanced S3.

Increased emphasis on Financial Instruments

Given the tendency observed in the Pilot Regions to direct more investment towards higher TRL close-to-market projects, Financial Instruments would seem logically to take on an increased significance for 2021-2027. Whilst some Pilot Regions were already making good use of Financial Instruments, the main finding was again of an opportunity currently under-exploited overall. In this context, the importance of Financial Instruments as part of a region's implementation capacity – possibly easing some of the administrative burden for regional authorities associated with traditional grant funding, should not be underestimated.

Potential for cross-border and interregional innovation investments

Certain Pilot Regions saw potential in 2021-2027 to further align INTERREG cross-border programmes with enhanced S3 in neighbouring regions, where this can better address the functional geography of particular industrial transition challenges. The 'GoToS3' initiative under the current INTERREG programme France-Wallonia-Flanders (see Box 21) provides an illustration of what can be achieved in this regard, although the approach is mainly sectoral at present. Actors interviewed in the Pilot Regions generally felt that much stronger ex-ante collaboration between the regional authorities in charge of S3, on the definition of future INTERREG cross-border programmes, would be needed to make the most of this opportunity in the context of enhanced S3 with broader strategic goals.

Box 21. France-Wallonia-Flanders: using INTERREG to support S3

Within the INTERREG cross-border programme France-Wallonia-Flanders 2014-2020, covering parts of two Pilot Regions, Wallonia and Hauts-de-France, a portfolio of 17 projects has been established under the common frame of 'GoToS3'¹⁴. This collection of cross-border projects contributes to 6 activity domains which are common across the 3 regions: health and caring, agriculture and food, textiles, cultural and creative industries, new materials and chemistry, mechatronics and mechanical engineering. These projects tap into the complementarity of assets across the borders in order to increase the impacts in the larger territory, contributing to the S3 of the 3 regions.

As mentioned earlier, great interest from the Pilot Regions was noted during the Capitalisation phase with regard to the EC proposal for a new instrument "interregional innovation investments" and its potential to boost EU support to joint investments in innovation in European value chains. The emphasis in the proposal on collaboration between civil society and public administrations, as well as researchers, businesses and other innovation actors within value chains resonates strongly with the enhanced S3 approach. "Interregional innovation investment instrument" can be expected to become an important tool for regions addressing industrial transition challenges.

¹⁴ www.gotos3.eu

3.2.2. Other EU funding sources to support enhanced S3

Early on during the Pilot Action, the Pilot Regions reviewed their experience in accessing and using other EU funding sources beyond Cohesion Policy. The main finding of this analysis was that the Pilot Regions have so far only partially exploited the great many opportunities available for using other EU-level funding sources to support S3 interventions.

- The EU R&D Framework Programme Horizon 2020 is currently the most widely used by the Pilot Regions to fund the research and innovation component of their strategies - in particular support to transnational research and innovation partnerships; the Knowledge Innovation Communities (KICs) under the European Institute for Innovation and Technology (EIT); the SME programme; Joint programming initiatives such as Factories of the Future, Bio-based industries, Innovative Medicines Initiative, European Green Vehicle Initiative, etc.
- COSME, the EU programme for the Competitiveness of Enterprises and SMEs, is seen as another relevant source, notably with the support for clusters and cluster internationalisation and SME support through a guarantee scheme.
- Digital Innovation Hubs supporting skilling and re-skilling and acting as key players in the regional ecosystems, are also potentially contributing to important goals of enhanced S3.

In the upcoming programming period, all industrial regions aiming to put their economies on a successful transition path, will be able to benefit from these, or their successors (e.g. Horizon Europe), as well as new funding sources in order to promote upstream and downstream synergies.

Three new strategies adopted in early 2020 are particularly relevant: the new EU industrial strategy, which addresses the twin challenges of green and digital transformation of European industry; the SME strategy, aimed at fostering the capacity of European SMEs to act as leaders in this transition; and the EU Circular Economy Action Plan, which will support this transition in all sectors, in particular resource-intensive sectors such as textiles, construction, electronics and plastics. The new Just Transition Mechanism is an additional instrument, introduced as part of the EU Green Deal towards the end of 2019 and is of particular relevance for those carbon-intensive regions particularly affected by the transition to a greener economy.

The above EU-level funding sources will be shaped to meet the goals of these strategies in 2021-2027. This process is currently underway. Thus, the potential of EU support - beyond Cohesion Policy - for delivering enhanced S3 addressing industrial transition challenges indeed appears substantial, provided regions can organise themselves sufficiently to grasp these new opportunities.

3.3. Enhanced monitoring and evaluation systems for industrial transition

Monitoring and evaluation in a transition context

- None of the Pilot Regions have fully transition-oriented Monitoring and Evaluation systems in place for an enhanced S3 scenario. However, many have work in progress in this area;
- The following enhancements to Monitoring and Evaluation systems are considered essential:
 - production of better organised monitoring data: a smart organisation of existing, but hidden or unexploited, data can already help capturing low-hanging fruit;
 - definition of new ‘transition indicators’ - i.e. bridging the gap between outcome indicators and internationally comparable context indicators;
 - formative evaluations to elucidate impacts of interventions.

“One of the greatest mistakes is to judge policies and programmes by their intentions rather than their results “ Milton Friedman.

The awareness of the need for policy-oriented monitoring and evaluation (M&E) exists in the Pilot Regions, but such exercises remain in infancy or, at best, incomplete. This is one of the greatest common weaknesses to emerge from the Capitalisation exercise.

M&E systems should aim at capturing the transformative power of the strategy and its actions. This is much more demanding than the usual practice of monitoring outputs, or even that of monitoring outcomes, as found in the more advanced cases. What is missing is the link between monitoring at instrument level and monitoring at level of the S3 domains or the whole economy.

Box 22. Well-performing programmes are not necessarily transformative

‘A programme can be well-performing, effective and efficient from multiple perspectives - yet not transformative. Quite to the contrary, programmes aiming at transition will at the beginning be typically less efficient and yield less immediately traceable impact as there are conceptual learning curves, cognitive barriers to overcome and quite simply, transaction costs.’

Extract from Capitalisation Template Saxony SRC (Henning Kroll - December 2019)

Progress is needed on three fronts:

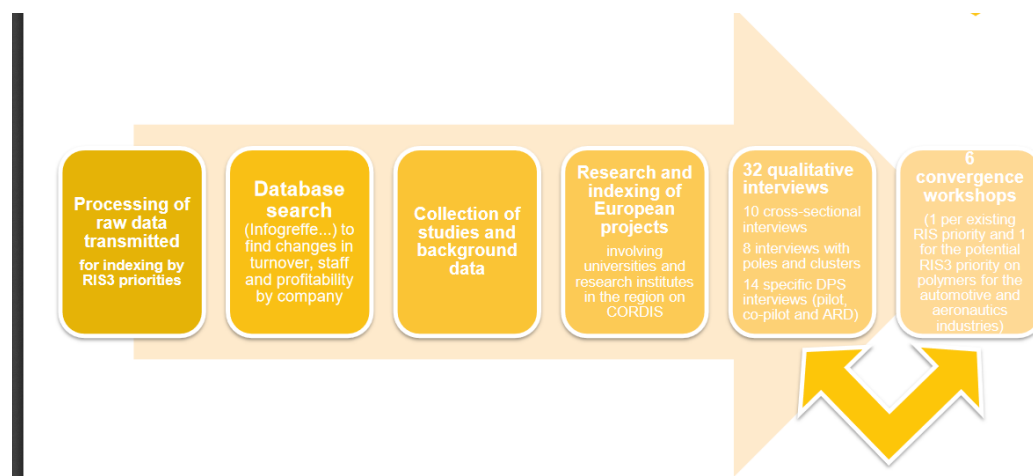
- Capturing low-hanging fruit in the form of better organised monitoring data: in Hauts-de-France, ASTRIDE is a large centralised data base including detailed data on innovative enterprises, including their relationship with support system and their use of various instruments, gathered by the members of the innovation support network. An innovative use of this source of multi-dimensional ‘big data’ on companies is being planned for the purpose of S3 monitoring;

- Developing new ‘transition’ indicators, which bridge the gap between traditional outcome indicators and traditional, internationally comparable context indicators (e.g. from Regional Innovation Scoreboard). Such indicators would need to be closely related to policy interventions (notwithstanding the attribution problem) and aim to capture effects of the projects and initiatives funded under S3 and track their diffusion effects on their target groups and on the challenges they aim to address. This is an unexplored field, but many efforts are currently underway to build new approaches, in particular the new “Key Impact Pathways” approach developed to assess the scientific, economic/technology and societal impact of Horizon Europe¹⁵;
- Evaluations to elucidate impacts of interventions: evaluations should have a formative character (oriented towards changes in policies). They should ideally embrace whole policy mixes: in practice this may take the form of meta-evaluations of different, more specific, evaluations of elements of the mix.

Several Pilot Regions (e.g. Centre-Val de Loire, Lithuania, Piemonte, North-Middle Sweden) have used mid-term evaluations of their earlier S3, together with monitoring data on concentrations of ERDF funding, awarded according to demand in current S3 priority areas, to inform development of the new strategy. For example, Centre-Val de Loire has conducted an analysis of the trends in each smart specialisation domain, gathering data and qualitative insights on:

- economic impacts;
- innovation dynamics of companies;
- dynamics in higher education;
- academic strengths;
- dynamics of academic and partnership projects;
- dynamic higher education ecosystem animation;
- major advances and success stories.

Figure 11: Centre-Val de Loire - Monitoring of S3



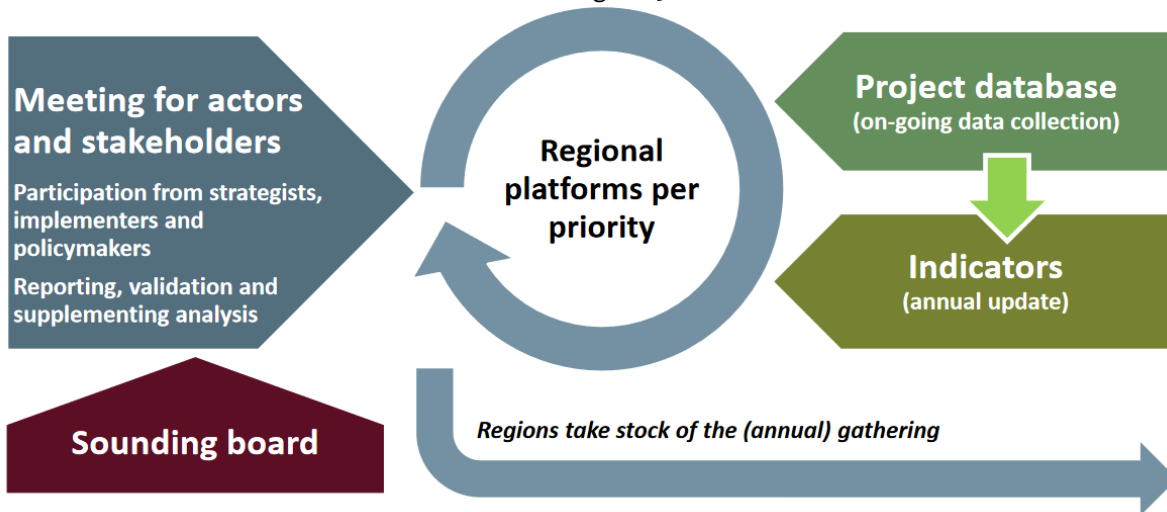
Source: Frederic Pinna, Dev’up Centre Val de Loire, Project Methodologies and RIS3 Tools -Good Practices from Interreg Europe on Monitoring, Designing and Evaluating RIS3 (Beyond EDP)

¹⁵

https://ec.europa.eu/info/sites/info/files/research_and_innovation/contact/documents/horizon_europe_impact_assessment_book_web_version.pdf

In both Centre-Val de Loire (Figure 11) and North Middle Sweden (Figure 12), data from the monitoring systems have been mixed with qualitative insights from stakeholder workshops or interviews to conduct the assessment of the S3. The presence of a 'sounding board' in North-Middle Sweden, including people from other regions, or experts giving perspectives on results, is an interesting feature.

Figure 12: North-Middle Sweden – Process for Monitoring of S3



Source: Oxford Research: S3 monitoring in North Middle Sweden: A prototype for a monitoring system, communication during Capitalisation visit.¹⁶

The list of proposed core indicators to monitor the strategy in North-Middle Sweden (Figure 13) shows that the search for appropriate 'industrial transition indicators' is only just beginning. The indicators below remain tied to a classical vision of innovation and would fail to capture the contribution of the strategy to societal challenges underlying the S3 priorities.

Figure 13: North-Middle Sweden – Proposed Core indicators for Monitoring S3



Source: Oxford Research: S3 monitoring in North Middle Sweden: A prototype for a monitoring system, communication during Capitalisation visit.

¹⁶ <https://oxfordresearch.se/publications/uppfoljningsmodell-smart-specialisering/>

The OECD Report provides a summary of critical elements for effective monitoring and evaluation of innovation policies and programmes, which constitutes a useful reference in this context, as follows (p.104):¹⁷

- Clear policy objectives;
- A good understanding of the full policy mix;
- Good data;
- Going beyond outcomes;
- A commitment to evaluation.

Finally, it should be remembered that '*Monitoring and evaluation tools to measure performance towards the objectives of the strategy*' represents a central element of the EC proposed enabling condition for good governance of Smart Specialisation under PO1 of Cohesion Policy 2021-2027. None of the Pilot Regions currently consider that they fulfil this aspect of the enabling condition, with regard to enhanced S3.

¹⁷ OECD (2019), *Regions in Industrial Transition: Policies for People and Places* (pp 104), OECD Publishing, Paris, <https://doi.org/10.1787/c76ec2a1>

3.4. Policy implications of the ‘Regions in Industrial Transition’ Pilot Action

During the EC Pilot Action, the twelve Pilot Regions have worked on a whole new vision and introduced new concepts for their second generation S3. These enhanced S3, addressing the challenges of industrial transition, differ from the current generation of S3 in two main ways.

- First, in their broader approach to innovation, encompassing not only technological innovation, but also non-technological and social innovation, in support of their ambitions;
- Second, in their expansion towards many other policy domains beyond innovation, in line with the broader strategic approach.

This evolution has strong policy implications in terms of the vision and definition of strategic priorities, the design process itself and the policy instruments to be deployed for enhanced S3. This final section of the Report examines the six main policy implications to emerge from the Capitalisation Phase of the Pilot Action and suggests possible lessons for regions in relation to each one.

1. **Genuinely transformational strategies for industrial transition need to bring innovation to bear on societal challenges as well as economic objectives.**

To enable successful industrial transition – embracing increasing globalisation and technological development, the digital economy and green economy - enhanced S3 will need to touch on many different aspects of the economic and social life of the regions. From the outset, the regions should be aware that a broader and more radical strategic vision is called for in enhanced S3 – ultimately embracing overall system innovation.

Lessons for regions

- a) Recognise that people will need to be at the centre of enhanced S3, alongside economic objectives – understanding that the Industry 4.0 paradigm will bring profound societal change.
 - b) Strike a balance between exploiting the opportunities of industrial transformation and minimising the costs of transition by promoting an inclusive growth approach.
 - c) Ensure that skills development with regard to ‘jobs for the future’ is integrated into all aspects of the strategic vision for enhanced S3.
 - d) Aim to maximise the potential of the ‘sustainability transitions’ – low carbon and circular economy – as transversal drivers and motors of system innovation.
 - e) Take a long-term perspective overall, but also target short-term wins, to address social urgency and maintain political commitment and wide endorsement of the strategy.
- #### 2. **An enhanced S3 will require significantly enhanced and continuous EDP throughout its production and implementation.**

EDP in each region must be reinforced to embrace the enlarged vision for S3 as change-maker, involving broader ranges of stakeholders – including those actors not usually targeted by

innovation policy. This enhanced EDP should be deployed as the means to understand the breadth and depth of demand relating to the specific industrial transition challenges facing the region, to co-create the strategic response in terms of the enhanced S3 priorities and to oversee their implementation.

Lessons for regions

- f) Broaden EDP processes to include actors from policy fields beyond RTDI – such as environment, skills development, education, healthcare and social inclusion – as well as persons from NGOs, citizens associations etc. able to provide valuable insights on societal challenges and provide a more demand-driven perspective.
- g) Avoid over-rigid institutionalisation of S3 domains. Consider organising EDP around the broader challenges identified by the region, rather than around specific sectors.
- h) Develop capacity of stakeholders brought into EDP processes, but new to the innovation policy world, through programmes of awareness raising and training.
- i) Build the capacities of regional authorities to orchestrate more complex and ambitious policy design process, creating new cooperation links with governmental and non-governmental field actors in different policy domains. Where necessary, regional authorities should consider purchasing in specialist facilitation capacities.

3. Strengthened policy intelligence will be required to underpin S3 enhancement in all regions

The regions will need significantly improved policy intelligence provisions at all stages of development of enhanced S3, to support the broader strategic vision and underpin enhanced EDP processes. It will be crucial for regions to be conversant with global industry trends affecting them and their societal implications. They should also fully exploit the various intelligence resources they already possess across various policy domains, as well as maximising the value of relevant peer learning exercises.

Lessons for regions

- j) Perform an inventory of the different sources of policy intelligence in the region relevant to enhanced S3, including possible inputs from participation of regional actors in EU and other international platforms and networks. Put systems in place for effective marshalling of intelligence from these sources. Ensure timely commissioning of new policy research items needed for enhanced S3 development.
- k) Use strengthened intelligence to support re-examination of the region's S3 SWOT analysis. Reformulate the SWOT analysis in partnership – through enhanced EDP processes - with respect to the industrial transition challenges facing the region and opportunities outside, such as positioning in global value chains. Ensure that the analysis explores the functional geography of different challenges and opportunities.
- l) Work together with stakeholders – through the enhanced EDP established – to formulate S3 priorities for industrial transition, specifically translated to the regional situation, including their related functional areas, using the best intelligence available.

4. Regions will need to significantly upgrade their policy tools to match the enhancement of S3

Enhancing S3 implies development of the capability and tools to apply existing competences, technologies and assets of the region in challenging areas for society. The newness of the approach compared to S3 of the current generation should not be underestimated and a degree of experimentation is likely to be needed in many regions. In particular, regions should recognise the increased importance of innovation diffusion in addressing industrial transition challenges such as territorial fracture, dual economy syndrome and inclusive growth. The funding mix for enhanced S3 should embrace the optimum combination between regional, national and EU-level funding instruments. EU Cohesion Policy, as proposed for 2021-2027, strongly supports enhanced S3 approaches, as do a wide range of other EU funding sources.

Lessons for regions

- m) In revising policy portfolios to deliver enhanced S3 priorities, learn from previous interventions to strengthen the evidence base on what works and what doesn't work. Experimentation can help here, if appropriate lesson learning provisions are built into interventions from the outset.
- n) Particular attention should be paid to ensuring good complementarity between instruments along the TRL scale and ensure coverage of the entire enterprise life cycle.
- o) Encourage universities and research centres to support business and societal development objectives more directly and maximise the potential diffusion benefits of MNC involvement in EDP and interventions to be supported.
- p) Ensure that innovation serves the inclusive growth agenda by targeting groups less traditionally addressed by innovation policies. These could be less innovation-aware SMEs, firms in less favoured areas, or sectors not usually associated with innovation. Tailor policy tools to the specific needs of the more diverse target groups of enhanced S3.
- q) Work towards a good articulation between regional-level and national-level funding sources, as national programmes can offer important support and incentives for industrial transition.
- r) Use the full flexibility offered by the proposed ERDF and Cohesion Fund regulations for 2021-2027 to finance enhanced S3 policy tools and maximise the region's opportunities to access the various other EU funding sources available.

5. More effective innovation support ecosystems will be needed to make enhanced S3 a reality

Fragmentation between policy governance and delivery structures for S3 was evident in many of the Pilot Regions. Often these have evolved in successive waves and exhibit gaps, or overlaps, in support provision. The situation is exacerbated in the context of enhanced S3, designed to address industrial transition challenges, where a broader approach and greater user-friendliness will be needed. Yet the enhancement of S3 presents an important opportunity to overhaul its own support and governance structures. EU Cohesion Policy, as proposed for 2021-2027, has aspects of its Enabling Condition for Smart Specialisation associated with governance of enhanced S3.

Lessons for regions

- s) Take an overall ecosystem view of the entire governance and support structure for S3 in order to pinpoint areas where overhaul is needed in relation to industrial transition. Aim to reduce fragmentation between instruments and promote greater user-friendliness (e.g. through one-stop-shop mechanisms and ‘policy packages’).
- t) Further develop demand-driven policy tools in the policy portfolio, e.g. by starting with societal demand identification as a first step for the definition of tools or funding programmes.
- u) Move towards performance-oriented funding models for organisations in the support structure (e.g. clusters), ideally related to the challenges they seek to address rather than sector-based outputs.
- v) Strengthen mechanisms dedicated to supporting inter-regional investment in innovation and the positioning of regional actors in global value-chains.
- w) Reinforce multilevel S3 governance structures, as S3 moves towards an approach embracing societal as well as economic objectives.
- x) Reflect in partnership, from an early stage, upon how the region can fulfil the enabling condition for good governance of their Smart Specialisation strategy proposed under EU Cohesion Policy 2021-2027 and use this as a guide for upgrading governance and support structures.

6. Special attention is needed to ensure Monitoring and Evaluation systems suitable for enhanced S3 for industrial transition

As regards the criterion of the proposed enabling condition for good governance of Smart Specialisation on Monitoring and Evaluation, it should be remembered that none of the Pilot Regions considered that they had adequate tools in place to ‘*measure performance towards the objectives of the strategy*’ in view of the broader objectives foreseen for enhanced S3. This remains a key weak point to emerge from the Pilot Action overall.

Lessons for regions

- y) Design Monitoring and Evaluation systems aiming at capturing the transformative power of enhanced S3 and its actions. Start with better organisation of existing monitoring data in relation to the region’s industrial transition challenges and work on developing ‘transition indicators’ for monitoring purposes.
- z) Build an evaluation approach embracing the whole policy mix encompassed by the enhanced S3 priorities and more systematic policy learning provisions based on evaluation.

Monitoring and Evaluation is particularly challenging in the context of industrial transition strategy. The EC could play an important role in developing more detailed guidelines for regions in this area.

We firmly believe that the lessons learnt from the Pilot Action and the lessons suggested here, whilst primarily aimed at EU regions of industrial tradition, can also be relevant for regions that are less dependent on industry, which nevertheless face similar transition-related challenges.

ANNEXES

- 1. Summary of High Impact Actions approved for the Pilot regions**
- 2. State of Play with Development of Enhanced S3 in the 12 Pilot Regions**

ANNEX 1
Summary of High Impact Actions (HIA) approved for the Pilot Regions

| Pilot Region | Main industrial transition challenge(s) addressed by HIA | Basis for selection of HIA approach | Key features of HIA |
|--------------|--|---|---|
| Cantabria | Inclusive growth | <p>Rationale: based on strategy review performed by the Regional Government in 2018. Behind Cantabria’s flourishing urbanised coast lies a large rural hinterland - home to many traditionally small businesses, mainly in the agri-food sector. These businesses are intensive in manpower, but mainly run by older persons and often highly resistant to change. Agri-food is one the most relevant sectors at regional level, yet it is in danger of dying out with serious depopulation consequences for the rural area. Modernisation of this sector is essential, but it requires a more socially oriented approach than traditionally deployed in the region’s innovation policy mix.</p> <p>The HIA complements earlier large-scale investment by the region in rural infrastructure for mobility, education and healthcare, as part of a wider policy to attract younger people to settle in the rural areas.</p> | <p>Title: <u>Cantabria high impact initiative for social inclusion in the primary industries</u></p> <p>Main content: focus on the following sectors: canning industry; agriculture related industry; dairy industry; forestry manufacturing industries. HIA will facilitate industrial transition in these sectors through a combination of mentoring, reskilling, collaboration between businesses and support for groups at risk of exclusion. A call for proposals will be launched for 6 key reference projects – incorporating ‘social exclusion’ criteria (from a personal or territorial perspective). The HIA also includes capacity building for officials in the Regional administration.</p> <p>Expected impact: improvements in relation to competitiveness of companies supported - introduction of new products, increased expertise etc. Lessons learnt on how to provide new opportunities to groups at risk of exclusion, through training and incorporation of capabilities such as digital skills, how to make reindustrialisation an inclusive process etc.</p> <p>Potential for scale-up / replicability: high potential for replication in other sectors foreseen through diffusion activities; promotion of multi-level partnerships, local working groups, collaborative networks. Continuity of successful ‘reference projects’ through inclusion in existing regional Accelerator programme.</p> |

ANNEX 1
Summary of High Impact Actions (HIA) approved for the Pilot Regions

| Pilot Region | Main industrial transition challenge(s) addressed by HIA | Basis for selection of HIA approach | Key features of HIA |
|-----------------------------------|--|---|--|
| <p>Centre-Val de Loire</p> | <p>Preparing for the jobs of the future</p> | <p>Rationale: based on 2018 joint report by joint APEC (management recruitment agency) and Dev'Up (regional development agency), plus stakeholder interviews by SRC. Recruitment and retention of suitably skilled persons is identified as a major problem for industrial SMEs in the region – particularly linked to digitalisation and automation or energy management. Moreover, SMEs have difficulties expressing their precise skills needs in transition fields.</p> <p>Previous group/collective training and awareness raising interventions for SMEs are assessed not to have delivered effective results overall. The situation is worsening and there are currently no strategies or instruments in the region to address the problem comprehensively.</p> | <p>Title: <u>SME Executive Recruitment and Skills Competence Audits: Challenges Experimentation Approach</u></p> <p>Main content: targeting of 50, mainly sub-contractor, SMEs in industrial sectors. Coaching of SME managers on key strategic and technology bottlenecks to successful industrial transition and related skills needs (particularly senior management and engineer/technical profiles), plus talent retention. Work with recruitment agencies to support recruitment of appropriately skilled persons to the SMEs, facilitating their uptake of new digital technologies.</p> <p>Expected impact: adoption of entirely new approaches, in industrial SMEs and the SME support network, towards recruitment and retention of skills to meet emerging industrial transition challenges. Evaluation and impact assessment foreseen with counterfactual element (20 non-supported SMEs).</p> <p>Potential for scale-up / replicability: learning to be shared through capitalisation actions involving the seven 'Territoires d'Industrie' working groups, promoting scope for replicability in other regions. Scale-up possible through direct incorporation in national actions under 'Territoires d'Industrie' and use of ESF in 2021-2027.</p> |

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|--------------------------------------|--|--|--|
| <p>East and North Finland</p> | <p>Transition to a circular economy Digital transition</p> | <p>Rationale: the 7 Counties making up East and North Finland face common challenges:</p> <ul style="list-style-type: none"> - isolation, fragmentation and lack of critical mass; - abundant, rich but under-valorised natural capital; - lack of innovation in key industrial value chains; - under-developed ‘joint policy for industrial transition’. <p>Key rationale for HIA is to develop, test and deploy new approaches to better inter-connect the Counties and their stakeholders in a complementary way to reach the critical mass needed for a better industrial valorisation of their natural resources and to speed up industrial innovation and transition, while delivering new policy tools.</p> <p>HIA proposal developed through enhanced EDP with actors from across the region - including Innovation Camp, Regional Summit and Validation Workshop – which enabled inclusive co-creation of the and high-level political buy-in. Wood sector chosen as the focus for the Action due to its high prevalence across all 7 Counties, good potential for smart combination of different Counties’ assets and strong identity with local populations.</p> | <p>Title: <u>Cross-regional vouchers’ system to stimulate digitisation and circular economy in the tree, wood and timber value chain</u></p> <p>Main content: vouchers of €40-€45k each for 6-7 collaborative cross-regional projects between one or more companies, together with knowledge providers. Location of project partners in different Counties is a key requirement.</p> <p>Each project should promote new/improved digitisation/circular economy solutions in the wood sector, which help re-invigorate existing value chains and/or create new ones. Special focus on end-user driven actions in industrial demonstration/validation - close-to-market, post-prototyping beyond TRL 5.</p> <p>Expected impact: improved automation and digitisation of value chain, through enhanced industrial symbiosis with better valorisation of side streams. Promotion/upscale of solutions for water treatment and recycling in the value chain. Testing of the cross-regional collaborative approach to policy delivery.</p> <p>Potential for scale-up / replicability: upscaling through use of national and international funding for large industrial demonstration projects. Replicability envisaged in other value chains once the test is completed.</p> |

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|-------------------------|--|---|---|
| <p>Grand Est</p> | <p>Transition to low carbon economy</p> <p>Broadening and diffusing innovation</p> | <p>Rationale: accelerating the shift to Industry 4.0 in the automobile industry. The starting point is that technological, environmental, digital and societal disruptions are all unavoidable for the region’s automotive sector. Transition from fossil-fuelled to electric vehicles will require a major restructuring of the automotive value chain – particularly substantial new strengths in electronics and software development.</p> <p>HIA proposal built up to address the twin needs of:</p> <ul style="list-style-type: none"> - supporting transition of region’s automotive supplier companies towards E-mobility scenarios; - strengthening animation of the regional RTDI ecosystem through modernized clusters and development of new models for delivering existing policy tools. <p>Proposal based on 400 SME diagnoses carried out by Technical Center for Mechanical Industries (CETIM).</p> <p>Opportunity to locate new Innovation Hub for low carbon industry on site of decommissioned nuclear power plant Fessenheim – a strategic project for the territory.</p> | <p>Title: <u>Interdisciplinary innovation hub for low carbon energies for the automobile industry</u></p> <p>Main content: the HIA has two main components:</p> <ul style="list-style-type: none"> - study conducted by new regional development agency Grand E-Nov for the establishment of an innovation hub focused on low carbon technologies; - targeted workshops and audits/coaching for 25 SMEs (3 days per company) on the transition to E-mobility. A key output will be production of a catalogue of solutions directly usable for the companies for the targeted sector. <p>Expected impact: the HIA will contribute to S3 enhancement, in the recently-formed region, by testing new approaches to a specific industrial transition challenge and related governance arrangements. It will also support revision of intervention methods through clusters and large platforms towards a ‘market-pull’ approach, rather than current ‘techno-push’.</p> <p>Potential for scale-up / replicability: replication to other industrial challenges foreseen through the region’s Digital Innovation Hub (DIH) network. Scale-up anticipated via connection of the HIA with the INTERREG cross-border project of the European Automotive Cluster http://www.pole-auto-europe.eu/.</p> |

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| <p style="text-align: center;">Greater Manchester</p> | <p style="text-align: center;">Inclusive Growth</p> | <p>Rationale: Built upon ‘Independent Prosperity Review’ (June 2019), which identifies the industrial transition phenomenon – over the past decade - of shifting manpower from industrial jobs to service jobs, from high pay/high productivity/high skills jobs to low pay/low productivity/low skills and insecure jobs. Today, the majority of Greater Manchester’s low earners work in just three sectors: retail and wholesale (27%), hospitality, tourism and sport (21%) and health and social care (15%). Collectively, these sectors account for over 40% of the regional economy and the trend is growing.</p> <p>The Review was based on an initial Evidence and Consultation Paper (March 2018), which set out evidence on how providing secure and well-paid work helps make firms more productive and profitable and deliver improved services.</p> <p>The Greater Manchester Local Economic Strategy (June 2019) highlights how technological advances bring new opportunities to transform these sectors – such as emerging regional strengths in e-commerce in retail and new technology-led innovations – particularly in digital technologies – in the care sector. Yet these sectors have traditionally not been targeted by innovation policy, so a new focus is required which needs to be tested.</p> | <p>Title: <u>Greater Manchester Good Employment Charter</u></p> <p>Main content: companies in low pay, low productivity firms and sectors such as social care, hospitality and retail will be encouraged to sign up to the Charter. As members, they will be expected to commit to specific conditions, such as:</p> <ul style="list-style-type: none"> - paying employees a real Living Wage, offering flexible working and healthy workplaces; - high people management standards, including recruitment, skills development, apprenticeships etc. <p>Initially, 20 Charter members will be assisted with services to help them develop more sophisticated product and service strategies – including skills utilisation, innovation, deploying digital and technological solutions.</p> <p>Expected impact: targeted firms to move up the value chain and access new markets including in public sector procurement (e.g. social care), thereby further improving standards and conditions for their employees.</p> <p>Potential for scale-up / replicability: idea of a voluntary Employment Charter, combined with support for employers, is experimental and has not been previously tested at the local level in the UK. Independent monitoring and evaluation foreseen with a view to future replication in other regions.</p> |

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| <p>Hauts-de-France</p> | <p>Preparing for the jobs of the future Digital transition</p> | <p>Rationale: analysis carried out in 2019 by the Regional Authority reveals that beyond a group of some 500 ‘innovation active’ firms in the region, there is a larger second tier of some 6,000 SMEs that are often sub-contractors or suppliers. These SMEs are classed as ‘potential innovators’ but generally lack management capacities, knowledge and in-house capacity to adapt to increasingly rapid technological change – e.g. digitalisation of production, application of artificial intelligence, robotics etc. When such SMEs do manage to recruit specialist staff with knowledge of digital technologies, retention proves difficult due to competition from larger firms in the region or in neighbouring Ile-de-France.</p> <p>The HIA is conceived as a test for a new kind of support delivery approach for SMEs by the Agency Hauts-de-France Innovation Développement (HDFID), to increase effectiveness in addressing Industry 4.0 related challenges. Learning from the HIA is expected to support the further restructuring of the regional innovation support system following the creation of Hauts-de-France in 2014 via the merger of Picardy and Nord-Pas de Calais regions.</p> | <p>Title: <u>Accelerate the digital transition of traditional industrial firms in Hauts-de-France</u></p> <p>Main content: provision to HDFID of a specialist in digitalisation/AI to conduct a series of targeted ‘digital innovation audits’ in traditional manufacturing SMEs, resulting in an action plan with short-to-medium term actions to be taken to support digitalisation in each firm. Award of up to 20 ‘digital transition vouchers’ worth €10,000 each, to SMEs selected from the above process, to recruit and train a young specialist - engineering or ICT type graduate – to help carry out the actions in their action plan against agreed targets.</p> <p>Expected impact: application of digital technologies in targeted SMEs to reinforce competitiveness and increase skills. Future permanent employment of successful graduates – better job retention. Improved capacity of HDFID to deliver a new form of targeted support focused on identified needs of individual SMEs.</p> <p>Potential for scale-up / replicability: impact case studies to be prepared for voucher recipients and policy learning report, with recommendations for future support for digital transition, will feed into new S3 and its governance arrangements, as well as definition of ERDF and Cohesion Fund policy objectives priorities for 2021-2027.</p> |

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| Lithuania | Transition to a circular economy | <p>Rationale: Planning the Circular Economy transition is particularly challenging for Lithuania, since it has not been considered a policy priority to date and is largely absent from the country's S3. Domestic policy for the transition is only at a very early stage, with no analysis, or related implementation experience yet developed.</p> <p>On the industrial policy side, there are certain scattered initiatives/measures underway, which appear relevant – such as, support for eco-innovation and company recycling strategies, analysis of the potential of bioeconomy, research into the possibility of creating a Circular Economy cluster etc. However, there is no overarching strategy uniting these diverse aspects and providing a comprehensive framework for addressing the country's industrial transition to Circular Economy.</p> <p>The logic underlying the HIA proposal, by the Ministry of the Economy and Innovation, is the need for a strong focus on the industrial aspects of Circular Economy to help kick-start Lithuania's transition.</p> | <p>Title: <u>Roadmap for Lithuania's industrial transition to a Circular Economy</u></p> <p>Main content: a team of international experts will work together with Lithuanian experts engaged through the Agency for Science, Innovation and Technology (MITA) to deliver the different components of the Roadmap including:</p> <ul style="list-style-type: none"> - metabolism-type analysis of major industrial value chains and 'circularity' survey of Lithuanian businesses and support providers; - proposals on key regulatory changes and schedule of innovation-led public interventions to 2030, plus monitoring indicators to help measure progress. <p>There will be broad stakeholder consultation at each production stage of the Roadmap, culminating in formal adoption of the final Roadmap by the Lithuanian Government.</p> <p>Expected impact: high degree of stakeholder learning, with broad consensus on comprehensive policy proposals to make Circular Economy transition a reality in Lithuania.</p> <p>Potential for scale-up / replicability: firm rooting of the Circular Economy concept in enhanced S3 preparation and Cohesion policy programming for 2021-2027.</p> |

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|---|---|--|---|
| <p style="text-align: center;">North-Middle Sweden</p> | <p>Broadening and diffusing innovation</p> <p>Transition to low carbon and circular economy</p> | <p>Rationale: the three Counties - Dalarna, Gävleborg and Värmland - making up North-Middle Sweden (NMS) – currently each have separate S3 for administrative reasons, but seek a joint NUTS 2 regional level strategic approach to increase effectiveness in addressing industrial transition challenges. The NMS industry base is responsible for high energy consumption, but is also a lead user of low carbon, alternative or biofuels. However, most activities towards a low carbon and resource efficient economy are taken by large companies – without strong interaction with SMEs or other stakeholders in the system. As a result, the region suffers from relatively low innovation capacity among SMEs and lagging investments in research and innovation, as well as the current lack of a joint strategic framework, governance and operators at NUTS 2 level.</p> <p>The HIA is designed to test new approaches to develop common platforms engaging a more diverse group of stakeholders, across the three Counties, in innovation processes – targeting over-arching industrial transition themes such as energy efficiency, energy storage, sustainable energy supply, energy-effective transport, zero emissions logistics, coal-free steel industry etc.</p> | <p>Title: <u>Energy and resource efficient low carbon society Transition Lab and seed fund</u></p> <p>Main content: creation of a Transition Lab, with high-level professional facilitation, pooling resources across the three Counties to identify and common low carbon economy and resource efficiency challenges to be addressed through the NUTS 2 regional strategy for industrial transition. Transition Lab processes will train stakeholders in the innovation support system to work more proactively with industrial transformation. In parallel, the HIA will support a seed financing mechanism for initial phases of collaborative RDI projects involving large and small companies.</p> <p>Expected impact: a shared cross-regional strategic vision developed for addressing societal challenges relating to low carbon economy and resource efficiency – with engagement of at least 15 large companies and HEIs and at least 30 SMEs in the Transition Lab workshops. New strategic approaches tested through at least 10 collaborative projects supported.</p> <p>Potential for scale-up / replicability: lesson drawing by action researcher and dissemination of results at 10 or more regional, national or EU-level events. Thematic expertise mobilised may continue as ‘industrial advisory board’ to guide longer-term implementation of sustainability transition policies.</p> |

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|-----------------|---|--|---|
| Piemonte | Broadening and diffusing innovation | <p>Rationale: Innovation Clusters are currently the region’s central instruments to implement S3. Their approach is traditionally sectoral and business-oriented. As the current 10-year funding system for Clusters is about to come to an end – due to State Aid rules – the regional administration is seeking to build a governance structure for future S3, which takes more account of societal challenges.</p> <p>Regional Institute of Socio-Economic Research ‘IRES’ is currently performing a web survey of all companies associated to the Innovation Clusters (about 1,300 companies) with a matching sample of non-associated companies. The aim is to understand the added value of the Innovation Clusters in the innovation processes of companies. Results will be available in Spring 2020.</p> | <p>Title: <u>Evaluation of Cluster policy effectiveness in Piemonte</u></p> <p>Main content: the evaluation will be carried out by OECD, building on the work currently being undertaken by IRES. The region currently proposes a new approach, in which traditional measures for clusters’ success – based on quantitative outputs and cluster size – are replaced by more dynamic measures of clusters’ contribution to industrial transition.</p> <p>Expected impact: enlarged evidence base on effectiveness of the region’s Cluster policy model in relation to governance of future enhanced S3 for industrial transition with broader societal, as well as economic, objectives. New funding models for clusters, aligned with S3 priorities.</p> |
| Saxony | <p>Preparing for the jobs of the future</p> <p>Transition to low carbon economy</p> | <p>Rationale: Saxony’s newly completed strategy has Mobility and Energy objectives, which combine in the themes of e-mobility, batteries and intelligent mobility solutions. The original HIA proposal was based on the idea of testing new policy responses on a new target group - the Saxon automotive industry - existentially affected by the E-mobility transformation and located in the less-developed Chemnitz-Zwickau-Erzgebirge area.</p> | <p>Original title: <u>Structural change through decarbonisation in the automotive industry using the example of the Chemnitz-Zwickau-Erzgebirge region</u></p> <p>The HIA did not go ahead due to unresolved issues surrounding nomination of the beneficiary of the grant - Ministry for Economic Affairs Labour and Transport (SMWA) vs Saxon Network of Automotive Suppliers (AMZ).</p> |

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|--------------|--|---|---|
| Slovenia | Broadening and diffusing innovation | <p>Rationale: although Slovenia has developed certain key niches in global value chains, these are often too dependent on decisions taken elsewhere and Slovenian companies have difficulties moving towards higher added value segments. Industry 4.0 technology deployment is sub-optimal in Slovenia and fragmentation is observed across the innovation ecosystem with a lack of operational assistance to technology transfer/diffusion and a persistent gaps in financial support between €30K and €300K up to €1m, for piloting and demonstration activities at high TRL level. Brain drain accentuates needs for appropriate Industry 4.0 related skills.</p> <p>The HIA proposal was designed through a process of desk research, interviews and roundtables and workshops with key stakeholders. Its aim is to set up a flexible support mechanism for Slovenian SMEs to accelerate adoption of Industry 4.0 technologies and solutions in the innovation ecosystem.</p> | <p>Title: <u>Slovenian Pilot for an Industry 4.0 Transformative Mechanism</u></p> <p>Main content: establishment of physical and virtual platform to support piloting and demonstration in SMEs across various industries. Voucher scheme for approx. 5 SME demonstration projects at TRL5+ level, which focus on industrial transition challenges, have significant lesson learning potential and cross-regional impact. The projects will be selected by an international expert panel. Each grant awarded must demonstrate 20% efficiency gain, plus a process improvement enabled by technological integration.</p> <p>Expected impact: main impact to be the ability to move from the test phase to a more permanent support structure for piloting and demonstration, in order to accelerate technology deployment in line with the need for industrial modernisation.</p> <p>Potential for scale-up / replicability: comprehensive monitoring and lesson-drawing mechanisms foreseen. Dissemination of results across Slovenia’s S3 partnerships, SRIPS (i.e. clusters) and other networks, including Vanguard Initiative, to promote replicability. Scale-up through influence on design of new S3 and its governance arrangements.</p> |

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|------------------------|--|--|---|
| <p>Wallonia</p> | <p>Transition to a circular economy</p> | <p>Rationale: HIA proposal reflects the strong desire of regional government to be at the forefront of the circular economy transition and maximise related opportunities for the region’s businesses and solutions for society. It is inspired by EU Plastics Strategy and complementary to other initiatives – e.g. Wallonia Green Deal and Circular Procurement.</p> <p>It was decided that the HIA should follow a value chain perspective rather than single company-support, in order to focus also on strengthening entrepreneurship ecosystems around the ‘plastics’ issue. Moreover, it was considered important to test a strategic approach driven by challenges related to plastics in society, to better combine growth and innovation with well-being objectives of the population.</p> | <p>Title: <u>Piloting a challenge-based approach for SMEs support – ‘Plastics go green and circular’</u></p> <p>Main content: two-phase call for projects on circular economy applied to plastic industry – challenges and solutions:</p> <ul style="list-style-type: none"> - Communication campaign to collect ideas from all types of stakeholders (public/private sectors, civil society, citizens etc.) on plastics-related challenges for which no solution yet exists. Selection of ‘best’ ideas by a jury involving innovation platform PEPIT ‘<i>PolymEr Platform for an Industrial Transition</i>’. - Subsequent call for project proposals to address one or more of the selected challenges. Lump sum grants of €15k each for 10 selected SMEs/start-ups, plus advice/mentoring to carry out the projects in question. <p>Expected impact: new products and services brought to the market. Better structuring/visibility of innovative companies around the plastic value chain. Proof of concept for the region in enhanced quadruple helix EDP approach.</p> <p>Potential for scale-up / replicability: comprehensive communication foreseen for successful projects with scale-up recommendations. Test of this demand-driven new policy approach to highlight for potential replication in other fields.</p> |

ANNEX 2

Summary of Progress Achieved in the Pilot Regions – January 2020

| Pilot Region | Status of work to enhance Smart Specialisation Strategy (S3) |
|------------------|---|
| Cantabria | <p>Strategy Strategy development ongoing: towards synergies between existing strategies being implemented in uncoordinated way ('juxtaposed strategies'). Analytical phase completed, bottlenecks and ways forward identified. Enhanced focus expected on: bioeconomy and Industry 4.0 "Factorías del Futuro" Plan adopted, aiming to support new model of industrial automation. Strong input from OECD workshops to define challenges to be addressed by future S3 in a broader perspective. HIA aims to provide a blueprint for introducing the social inclusion dimension further in the strategy.</p> <p>Key policy tools Analysis reveals portfolio of disconnected policies: identified need to create 'policy inter-linkages'. HIA on innovation in agri-food sector: testing novel approach towards inclusive growth and addressing territorial fracture. Identification of improvement routes for clusters. Need for educational initiatives with clear links to industry. Mapping of companies as "digital enablers" as a key tool to address digitalisation needs of SMEs. Launch of an accelerator programme to support start-ups. Participation in Vanguard network and projects with a view of joining European strategic alliances, facilitating participation of Cantabrian entities and companies in European and global value chains, clusters and investment projects.</p> <p>Governance Presence of a champion in the regional government. Improved quadruple helix EDP process: constitution of a co-creation umbrella and interaction with research groups, unions and employers. Weak cross-department communication / collaboration, being stimulated through HIA development. Establishment of a scorecard to provide a structured and objective vision of innovation in Cantabria. Still immature monitoring and evaluation system.</p> |

ANNEX 2

Summary of Progress Achieved in the Pilot Regions – January 2020

| Pilot Region | Status of work to enhance Smart Specialisation Strategy (S3) |
|----------------------------|---|
| Centre-Val de Loire | <p>Strategy Existing S3 is being reviewed on three fronts: Review of horizontal support measures; Review of smart specialisation choices – ‘Domains of Potential Specialisation’ (DPS); Update on governance (and coordination) issues. Dynamic EDP supported by Mid Term Thematic (DPS) evaluation resulted in merger and division of thematic priorities to ensure better match and granularity for targeting and relevance to regional needs. Studies launched to assess need for additional Thematic domain (multi materials). Strengthening of horizontal measures to better respond to Regional missions/priorities (introduction of agriculture/eco-resources transition element). Interregional cooperation enhanced through use of Interreg and S3 Industrial Modernisation Partnerships platform.</p> <p>Key policy tools HR /skills as highest priority instrument. The HIA focuses in improving SME skills through upgrading recruitment process. Shift focus from group/collective support to tailored individual support. New horizontal measures to tackle industrial challenges for SMEs. Enhancing inter-cluster collaboration. Developing synergies with national programme ‘Industries du futur’.</p> <p>Governance Improve DPS level animation: Steering Team - mandate given to clusters and group of 8-10 relevant actors to ensure focus and regional ownership. Enhanced inter-service cooperation with regional services, going beyond usual suspects of Economy, Innovation and Research to include Training, Agriculture, Tourism - facilitates policy synergies and long-term impacts. Benchmarking via enhanced international cooperation through Interreg Europe.</p> |

ANNEX 2

Summary of Progress Achieved in the Pilot Regions – January 2020

| Pilot Region | Status of work to enhance Smart Specialisation Strategy (S3) |
|-------------------------------|---|
| East and North Finland | <p>Strategy</p> <p>Strong evidence and early-stage agreement on the diagnosis and challenges at stake allowed a smooth move to Strategy-making.</p> <p>Formal uptake of new common Industrial Transition Strategy by the 7 regions end 2018.</p> <p>Successful cross-regional governance mechanisms for HIA as the basis for the search for other synergies, thanks to creation of common vision and shared intelligence created across the regions.</p> <p>Value chain approach at the heart of the strategy: priority on critical value chains for the regional economy.</p> <p>Stronger focus on thematic specialisation: targeted and better defined ‘application areas’ such as ‘digitalisation of (segments of) the bioeconomy’.</p> <p>Key policy tools</p> <p>Emergence of a cross-regional cluster policy and cluster policy implementation. New cross-regional ICT Boost network (ICT developers).</p> <p>HIA testing a cross-border voucher scheme to promote digitalisation and circular economy in the timber and wood sector: launched in 2019, projects selected end 2019 and implemented in first semester 2020. Replicability integrated in the scheme. Focus on industrial demonstration / validation - post-prototyping, beyond TRL 5. Linkages with regional database on biomass.</p> <p>Review of landscape and gaps in funding streams.</p> <p>Optimising accessibility of research and innovation infrastructure.</p> <p>Governance</p> <p>Political commitment - early-stage policy backing and sense of urgency shared among the 7 Counties.</p> <p>Strong and dedicated governance structure joining forces across the 7 Counties, with short decision lines.</p> <p>Addressing fragmentation through an ‘Inter-agencies task force’ and creation of cross-regional strategic intelligence sources.</p> <p>Wide consultation process - notably through Innovation Camp and validation workshops.</p> <p>Actions to mobilise the private sector across regions to develop joint vision, strategic partnerships, information exchange and plan joint action.</p> |

ANNEX 2

Summary of Progress Achieved in the Pilot Regions – January 2020

| Pilot Region | Status of work to enhance Smart Specialisation Strategy (S3) |
|------------------|--|
| Grand Est | <p>Strategy The Grand Est Region is the result of the merger, at the end of 2015, of 3 former regions: Alsace, Lorraine and Champagne Ardenne. After 4 years, there is still little regional unity about future S3. Representatives of the region were absent from many of the events organised of the Pilot Action. Institutional blockages have slowed strategic work. Since recent start of a convergence process between the three existing S3, they are largely still three 'juxtaposed strategies'. Political context is unfavourable to strategic thinking (focus on compromises rather than on efficiency). Regional Strategy for Higher Education, Research and Innovation 'SRESRI' (2020-2025) is expected to contribute to the new S3, but does not have a sharp focus on industrial transition challenges. Regional Plan for Economic Development, Innovation and Internationalisation – 'SRDEII' also expected to have a role in S3 enhancement, although its priorities are broad – e.g. 'Bio-economy', 'Enterprises 4.0' and not unique to the region. No genuine EDP process has been launched at the level of the new region.</p> <p>Key policy tools Over-complex support system to be simplified and streamlined. Slow start of convergence process of tools from the three previous regions. Plans to reconsider modes of intervention through clusters and large platforms, the results of which are not up to expectations. HIA as an experiment to set up an interdisciplinary innovation hub in the field of low carbon energies and encourage move towards more of a market-pull approach than the less techno-push of current policy tools.</p> <p>Governance Establishment of Grand E-nov, the new regional development agency. Appointment of new Deputy Director General to support stabilisation of the structure of Services of the Region Plans for new S3 governance structure, but political commitment lacking – strong influence of territorial lobbies of public research actors Fragmentation between the various members of the executive; silo thinking and action to be overcome. Opportunities being explored to use 'Industrie du futur' diagnoses as sources of strategic intelligence.</p> |

ANNEX 2

Summary of Progress Achieved in the Pilot Regions – January 2020

| Pilot Region | Status of work to enhance Smart Specialisation Strategy (S3) |
|---------------------------|--|
| Greater Manchester | <p>Strategy Highly uncertain on-going political context (re: Brexit and subsequent EU relationship / trade negotiations). Development of regional strategy is overwhelmingly dependent on UK National Industrial Strategy developed by UK Department for Business, Energy and Industrial Strategy (BEIS).</p> <p>Greater Manchester Local Economic Strategy published June 2019. Region claims it to be in line with enhanced s3 approach. Strategy in the mould of the UK Industrial Strategy with overarching target of ‘2.4% of GDP to be invested in R&D across the whole economy by 2027, increasing to 3% in the longer term’. Strategic priorities for city-region – to strengthen the innovation asset base in the fields of - health innovation, advanced materials, digital, creative and media; clean growth. Industrial transition challenges not explicitly covered – e.g. Circular Economy not specifically mentioned (in national or regional strategies).</p> <p>Inclusive growth focus of the Greater Manchester Good Employment Charter – subject of the HIA under the Pilot Action - directly targets low-income, low-productivity sectors (hospitality, retail, caring etc.) for innovation support, linked to employer commitments to improve conditions and skills development for workers. Traditionally these sectors – although rising in scale, in recent years, to account for over 40% of the regional economy - have not been considered worthy targets for innovation-oriented business support.</p> <p>Key policy tools Include nationally-led ‘sector deals’ for: Lifesciences; Creative industries; Tourism; Nuclear; Aerospace. Local Strategy mentions Early Stage Investment seed funding and Venture Capital Funding (targeting sub-£500,000 investments) and Cooperative Intellectual Property (IP) Bank ‘to make available to small companies, latent Intellectual Property held by research organisations and large firms’. HIA appears to offer preferential access to GM region public procurement contracts for companies signing up to Good Employment Charter.</p> <p>Governance Coordination by Greater Manchester Innovation Board - membership includes local universities, leading innovative firms, the Medicines Discovery Catapult, Manchester Science Partnerships, public bodies such as UK Research and Innovation (UKRI) and charitable body National Endowment for Science, Technology and the Arts (NESTA).</p> |

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Summary of Progress Achieved in the Pilot Regions – January 2020

| Pilot Region | Status of work to enhance Smart Specialisation Strategy (S3) |
|------------------------|--|
| Hauts-de-France | <p>Strategy</p> <p>Strategy revision process is ongoing: the Pilot Action has brought an improved understanding of the broad scope expected from S3 to address industrial transition challenges. Extended diagnosis completed.</p> <p>Revision of S3 priorities ongoing: detailed work carried out on research strengths by research actors, some difficulties in reconciling economic objectives with societal challenges in enhancement of S3 approach in the context industrial transition. Planned work on a European benchmarking of initial S3 domains as a new ingredient.</p> <p>Multiplicity of existing strategies, not yet well integrated at the level of the recently-merged region.</p> <p>Interest in incorporating social innovation in the S3.</p> <p>Reducing territorial disparities (which increased after merging of regions) as an important driving force for the S3.</p> <p>Key policy tools</p> <p>Problem of over complex and ineffective support system still unsolved. Gaps/overlaps analysis recommended.</p> <p>Role of the regional innovation agency HDFID to streamline innovation support services.</p> <p>Strategic use of joint database of assisted companies, ASTRIDE, under development ('Big data' approach).</p> <p>HIA focusing on digitalisation needs of SMEs, by reinforcing capacity in Agency HDFID, coaching SMEs in developing digitalisation plans and hiring people to implement them.</p> <p>Participation in European networks as a means to position regional actors in European value chains.</p> <p>Governance</p> <p>Articulation between new S3 and OP still to be defined.</p> <p>Monitoring and evaluation system for the strategy not yet available.</p> |

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Summary of Progress Achieved in the Pilot Regions – January 2020

| Pilot Region | Status of work to enhance Smart Specialisation Strategy (S3) |
|------------------|---|
| Lithuania | <p>Strategy</p> <p>Acceleration in process of enhancing S3 in 2019, but work still on-going. New Laws on Technology and Innovation (2018), Innovation Reform (2019) and Support for Start-ups (2019). Logic of two-level hierarchy S3 priorities abandoned in favour of broader and more inclusive single level. Out of 6 priority areas and 20 priorities, 7 priorities have been reformulated with the involvement of EDP stakeholders. List of corresponding technologies has been updated. Certain project selection procedures revised for better focus on key economic/societal challenges, which may enable more cross-sectoral proposals. Further work needed to develop a broader approach to S3 overall - inclusive growth does not appear strongly addressed.</p> <p>Key policy tools</p> <p>Large number of actions under consideration under most main challenge headings – except for Circular Economy, which relies solely on HIA. Tools include transforming research institutes into RTOs (Research and Technology Organisations) and developing new criteria for assessment and funding - e.g. revenues from contracts with or services to industry. New rule for universities: labs should be open to companies minimum 30%. Scaling up of “innovation training” programme and new Innovation Support Fund (a new branch of the national economic development fund), which includes financial instruments as well as more traditional grants. Move towards delivering “packaged” instruments, incorporating both financial assistance and “soft” (advice, mentoring) support. Attaching ‘results only’ type KPIs to agencies, to clarify their mission. Innovative public procurement, as a way to lever power of public investments: an ambitious target is being set - 20% of all public procurement by 2027. Many actions are connected to preparation of National Progress Programme 2021-2030 by the Government. Incorporating various sectoral strategies into one single document has taken time.</p> <p>Governance</p> <p>Innovation Reform 2019 - the innovation support system has good capacities - some 60 experts from industry 4.0 working groups regularly consulted on strategy development. Enlargement of mandate of the STI Council (from activities to strategies). Fragmentation has nonetheless been a limiting factor. Despite the existence of working groups and other consultative structures, there is little evidence of genuinely collective work between the key Ministries (e.g. Ministry of Environment not explicitly involved in HIA on circular economy etc.).</p> |

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Summary of Progress Achieved in the Pilot Regions – January 2020

| Pilot Region | Status of work to enhance Smart Specialisation Strategy (S3) |
|----------------------------|--|
| North-Middle Sweden | <p>Strategy</p> <p>Clear evolution towards strategic learning, and more formative/developmental evaluation approaches that are integrated in strategic development. Ideas for new priority areas relate more to challenges (or missions) instead of sectors. A ‘new’ horizontal emphasis is on integration of immigrants. Enhanced EDP process took place in 2019 through a series of roundtable meetings in each County on the topics of: digitalisation and business development; innovation and entrepreneurship; energy effectiveness and circular economy; and people in industry. The process was further enhanced by hosting of the National Industry Day in Gävle – highlighting over 1,000 possible policy actions.</p> <p>Key policy tools</p> <p>The ‘Vinnväxt’ programme is the place-based arm of Vinnova (national), supporting clusters in line with S3 priorities, but is being phased out. In NMS, clusters have a strong influence – e.g. ‘CLIP’ (Challenge-driven R&D in Logistics and Innovative Production), covering companies responsible for some 47% of Sweden’s GHG emissions; Paper Province cluster, transforming a distinctly traditional regional sector into a hub for forest bioeconomy. Knowledge Transfer Partnerships (KTPs) build strong linkage between participating companies and relevant research and researchers. Shared characteristics of the above: they are outcome-oriented; they are being upscaled beyond County borders; they benefit from policy learning.</p> <p>Governance</p> <p>Common NUTS 2 level strategy and development platform planned for industrial transformation in North-Middle Sweden, covering the three constituent Counties, which each currently each run their own S3. The platform operates informally, since decision-making (and budgetary capacity) is traditionally at the NUTS 3 County level. It seems likely that Sweden will have to put in place S3 at National level <u>and</u> NUTS 2 <u>and</u> County levels for 2021-2027 – even given the obvious inefficiencies involved (including multi-reporting). Very strong on innovative co-creation approaches, with increased focus on involvement of multiple new stakeholder groups beyond the Triple Helix (including users, civil society, students, immigrants, etc.). Understanding that different challenges may imply different regional/County governance arrangements, depending on ‘geography’ of particular transitions, despite the traditional NUTS 3 framework.</p> |

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Summary of Progress Achieved in the Pilot Regions – January 2020

| Pilot Region | Status of work to enhance Smart Specialisation Strategy (S3) |
|-----------------|---|
| Piemonte | <p>Strategy Work on enhanced strategy development on-going. Key directions identified - opening of S3 from sectors to transversal drivers with transformative character; societal challenges as innovation drivers - such as aging population, high youth unemployment, skill mismatch air pollution, low education. Continuation and enhancement of internationalisation – Vanguard Initiative: currently member of the Board; participation in two Pilots (Bioeconomy and 3d Printing) - interregional partnerships under Thematic S3 Platform on Industrial Modernisation: Innovative Textile; MedTech; AMBP (Batteries), Hydrogen Valleys. S3 Monitoring report – 2018 realized by IRES - emphasis on assessing the role of digitalization and circular economy in the S3, as well as other economic transition challenges.</p> <p>Key policy tools Strengthening innovation ecosystem - two new actors: ‘Competence Centre’ - for the support of competence development in SMEs and ‘City of Health’ - has received national support of €90m for transformative innovative activities in the health and medical areas. New tools include: ‘Apprenticeship on Higher Education and Research’ – highly successful in large companies, now being expanded to embrace SMEs; ‘WeCaRe’ - territorial development and growth through reduction of social inequalities; ‘SC-UP’ – Scheme to support innovative start-up growth; ‘Research Infrastructures’ – vouchers for SMEs to access key research facilities.</p> <p>Governance Regione Piemonte rethinking Innovation Cluster funding and functioning, to better understand how clusters can support ongoing industrial transition - particularly Digital transformation. OECD will carry out, through the HIA, an evaluation of the effectiveness of the Innovation Cluster system in the region. Region held elections in May 2019. New government nominated in mid-June. Some six months lost in the process, but now all seems back on track.</p> |

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| Pilot Region | Status of work to enhance Smart Specialisation Strategy (S3) |
|--------------|---|
| Saxony | <p>Strategy Enhanced Strategy already developed and published (in German) – see http://innovationsstrategie.sachsen.de/download/Innovationsstrategie-Anhoerung.pdf . The new strategy now puts more emphasis on "themes of the future" (i.e. challenges) as the objectives that the strategy highlights (digitalisation, energy, environment, resources, health and mobility). 'Intelligent diversification' approach covers processes of innovation-supported modernisation, improvement of living conditions in all parts of Saxony, economic, labour market, education and social policy – with innovation policy having a central role in shaping the dynamics of structural change.</p> <p>Key policy tools Leveraging German federal programmes on de-carbonisation in the mining sector. Measures specifically for Counties affected by industrial transformation with a view to re-designing local support infrastructures and better tailor their offers to the actual needs of local small and mid-size firms. Innovative scoping activities to better understand the situation in the local periphery. Examination of possible new interventions at regional level: Reallabore – living labs, Experimentierquartiere – experimental innovation zones. High-profile activities in industrially declining areas such as the “Innovationscampus Görlitz” in collaboration with Siemens and Fraunhofer.</p> <p>Governance Land level, horizontal style governance, largely using existing structures. Broad participatory process, not limited to Science and Technology. No regional development agency. Well-elaborated monitoring system developed for previous strategy through inter-ministerial consultation. Funding activities and main output indicators are classified by both "technology field" and "themes of the future". System based on a theory-driven approach on how the monitoring of different aspects of the regional innovation ecosystem relate to each other.</p> |

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| Pilot Region | Status of work to enhance Smart Specialisation Strategy (S3) |
|-----------------|--|
| Slovenia | <p>Strategy Co-existence of various strategies (digitisation, skills and industrial policy) needing alignment. Interest in developing a mission-oriented approach. Broadened scope: circular economy and digitalisation as topics receiving heightened attention. Internationalisation, both of businesses and intermediaries will be a key component of future S3. Social innovation remains a gap in the overall approach but is subject to increasing demand. Enhanced use of strategic intelligence fostered by the Pilot Action: e.g. analysis of technology transfer and obstacles hampering innovation diffusion to the Slovenian composite industry. Need for a more comprehensive methodology beyond statistical methods to understand more complex issues such as circular economy and digitalisation.</p> <p>Key policy tools The HIA is an experiment to set up a demonstration platform for reconfigurable production cells, as a new tool for Slovenia. One innovative aspect is to deliver support as a “package of instruments”. Another one is the international dimension (with cross-border voucher). Establishment of an Industrial PhD scheme, as a new tool borrowing good practice from other EU countries. Review of technology transfer schemes and tools in one test case. New performance framework for clusters, the SRIPs (Strategic Research and Innovation Partnerships), emphasising aspects such as the performance of innovators and the identification of breakthrough innovation. Extended efforts on internationalisation of clusters. Enhancement of the Slovene enterprise fund, supporting start-ups and now targeting also scale-up companies.</p> <p>Governance Difficulty to include cross-cutting themes (digitalisation, circular economy) in the administrative setting. Growing interest in obtaining better evidence as a basis for policy making. Effective and inclusive EDP process but subject to <i>fatigue</i>. The HIA contributes to the defragmentation of the policy landscape. Broadened perspective to include new actors e.g. Design Centre (combining economy-based and creative-based approaches) or Climate KIC. Work deployed in the context of SRIPs evaluation will be extend in view of developing an overall monitoring and evaluation system for the Strategy.</p> |

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Summary of Progress Achieved in the Pilot Regions – January 2020

| Pilot Region | Status of work to enhance Smart Specialisation Strategy (S3) |
|-----------------|---|
| Wallonia | <p>Strategy Revising existing S3 with new directions: process started at the end of 2019 with new government in place in Autumn 2019 - awareness of broadened scope for S3 is there, fuelled with lessons from the Pilot Action. Work for renewal of S3 priorities launched, to go beyond replication of competitiveness poles areas and adopt a more challenge-driven perspective: need to reconcile this work with recent adoption of R&I priorities. Broadening the dynamics of innovation and encouraging entrepreneurship and developing skills, notably in the S3 priority areas: will be at the heart of the new S3. Adoption of updated Digital Wallonia plan. HIA acting as a proof of concept for a new policy approach, demand-driven and challenge-driven, to be embedded in future S3.</p> <p>Key policy tools Work ongoing by SOWALFIN to optimise a rich, but over-complex, policy portfolio, clarifying roles and missions of various bodies/tools. Rethinking the competitiveness cluster model towards a more challenge-driven orientation, involving more cross-cluster collaboration. Focus on developing the international outlook of innovative firms and innovation intermediaries - better articulating regional and EU support. New COOPILOT scheme to support industrial pilot and demonstrators. HIA on circular economy in the field of plastics, with the perspective of replication in other parts of the policy mix. This innovation could lead to new ways of collaborating between clusters, public research centres and more horizontal support services. New voucher scheme encouraging international cooperation for SMEs through the use of research infrastructures in other regions of the EU. Launch of the Green Deal “Circular Procurement in Wallonia”.</p> <p>Governance Plan for creation of a body dedicated to the management, monitoring and evaluation of S3. M&E systems for S3 still to be developed. Silo practice across regional government and administration departments to be overcome. Whole-of-government transition plan in preparation should help. Deeper integration between services in charge of research and innovation in Walloon administration evident. Possible bottlenecks in terms of disconnection between innovation ecosystem and Managing Authorities, although improving. Efforts to establish a more efficient EDP (quadruple helix), workshops starting end 2019 and planned for 2020.</p> |

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