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Territorial dimension of the Industrial Policy Package

This report was written by t33, SWECO and OIR.

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Index of contents

Executive Summary

This report analyses the territorial dimension of the industrial policy Package as proposed by the European Commission in "*European Industrial Renaissance* COM (2014) 14" and "*A vision for the internal market for industrial products* COM (2014) 25".

Part 1 describes the main problems and needs facing LRAs (Local and Regional Authorities) when promoting industrial policy. Problems and needs are related to: (1) the role of local and regional areas in the global value chain; (2) the uneven and persistent impact of the crisis on territorial, economic and social cohesion; (3) multi-governance and policy co-ordination; (4) the institutional capacity and strategic governance of industrial policies; (5) the capacity to promote entrepreneurial discovery and to regulate the market fairly and efficiently.

Part 2 evaluates the links between EU industrial policy and the problems and needs identified in Part 1 by focusing on the two communications.

"*European Industrial Renaissance*" provides a well-balanced set of policy tools to promote structural change in industrial sectors and to stimulate agglomeration and the development of new domains. There is, however, little guidance about how to capitalize on regional competitive advantages. Furthermore, "smart specialisation" aims at providing support for governance, the construction of a vision and the provision of institutional capacity. However due to its relatively recent implementation, it is too early to fully assess whether regional needs are addressed sufficiently.

"*A vision for the internal market for industrial products*" deals with some of the issues related to the LRA needs identified in Part 1, even though the territorial dimension is not specifically targeted by Integrated Industrial Policy. This Communication focuses on the importance of governance and building institutional capacity to foster innovative product development and the development of an outward oriented, market driven industrial policy.

Part 3 is based on bibliographic research and provides an overview of best practice case studies which have promoted industrial activity effectively. In particular, these case studies review regional RIS3 (Research and Innovation Strategies for Smart Specialisation) and relevant urban experiences within different economic and institutional

frameworks (Navarro et alii, 2014). They highlight how to promote manufacturing activity at regional level, how to deal with the current problems and needs faced by LRAs when promoting industry, how to support the uptake and development of new technologies (notably Key Enabling Technologies - KET) and how to contribute to industrial growth and jobs (Smart Specialisation Platform, 2014).

The seven selected regional case studies are: Berlin/Brandenburg in Germany; Flanders in Belgium; Navarra and Basque Country in Spain; Limburg in the Netherlands; Lower Austria and Malopolska in Poland. The three urban case studies are: Vaxjo in Sweden, Brno in the Czech Republic and Newcastle-Gateshead in the United Kingdom.

Part 4 identifies proposals for local and regional authorities to support and promote industrial activity. These are: 1) Performing an evidence and place based situation and needs analysis; 2) Identifying the appropriate "context specific" structural change priorities; 3) "Peer reviews" of strategy; 4) Integrating regional and local strategies in the national system; 5) Promoting the development of institutional and governance capacity; 6) Implementing sound monitoring and evaluation system; 7) Promoting market rules and the bottom-up approach in policy design; 8) Exploring and promoting context-specific KET integration and development.

Part 1: Current problems faced by LRAs when promoting industry

1.1 Local and regional areas in the global value chain

The main problems for the local and regional areas in the global value chain come from the process of economic globalization, which has contributed significantly to a new geography of development. Some LRAs have become more relevant and powerful, others have lost importance and have declined, in addition new spatial densities and functional areas have been created beyond administrative boundaries. The new geography of development is not necessarily linked to spatial proximity unlike traditional industrial districts but it is mainly linked to knowledge creation sources and networks as well as major investment/technological centres (Annoni *et alii*, 2013; European Commission, 2013*a*). From the problems described above the needs for LRAs promoting industrial policy are: 1.1.1) To promote industrial policy that enables structural change. This may include: transition from an existing sector to a new one based on cooperative institutions and processes; modernization i.e. the technological upgrading of an existing industry, with specific application of Key Enabling Technology; economic diversification to new activities as well as the radical foundation of a new domain (European Commission, 2011b); 1.1.2) To develop an outward oriented industrial policy, to promote connectivity and clusters within and across borders that capitalise on regional and local competitive advantage and growth potential as well as to support more effective use of the region's human and physical resources in the global value chain.

1.2 Uneven and persistent impacts of the crisis on territorial, economic and social cohesion

Financial and economic crisis has affected local and regional areas with uneven and persistent impacts. As a matter of fact the Eighth progress report on economic, social and territorial cohesion highlights that regional and urban inequalities have increased as a consequence of the crisis (European Commission, 2013*b*). In about 80% of European regions unemployment increased between 2008 and 2012, while GDP fell in two

out of three regions between 2007 and 2010 and disparities grew among EU regions. Capital cities and metropolitan regions have shown both better resilience and resistance after the economic crisis as well as an increase in problems of social inclusion and economic vulnerability. Following the above analysis, two needs for LRAs promoting industrial policy stand out: 1.2.1) To identify a limited number of priorities and concentrate resources on the basis of local and regional strengths and international specialisation to achieve critical mass and to avoid duplication and fragmentation; 1.2.2) To ensure territorial, economic and social cohesion through industrial policy and avoid an increase in disparities between areas.

1.3 Multi-level governance and policy co-ordination

According to both the Polish Presidency Report on "How to strengthen the territorial dimension of Europe 2020 and the EU Cohesion Policy" and the EC report "Cities of Tomorrow", LRAs play a crucial role in sectors such as urban policy, transport policy and industrial policy (European Commission, 2011*a*, 2013*c*, 2014). In order to meet the challenges for LRAs promoting industrial policy in terms of multi-level governance and policy coordination, two main needs can be identified: 1.3.1) To develop collaborative « vertical » leadership and coordination through multilevel governance (top-down and bottom-up) at interregional and international level; 1.3.2) To promote horizontal coordination among industrial development (public-private partnership) actors.

1.4 Institutional capacity and strategic governance

The Eighth progress report on economic, social and territorial cohesion highlights that maximising the impact of public policies requires both the right institutional and economic context and adequate governance to improve the conditions for growth (European Commission, 2013*b*). In order to increase the institutional capacity and improve the strategic governance, the following needs for LRAs promoting industrial policy stand out: 1.4.1) To set up a sound and inclusive governance organisation and establish a suitable policy mix; 1.4.2) To develop the capacity to identify local strengths, the ability to align policy actions and build critical mass as well as the ability of regions to develop a vision and implement strategy; 1.4.3) To design sound and integrated monitoring and evaluation mechanisms.

1.5 From market to policy and from policy to market

New types of industrial policy such as smart specialisation strategies present new problems for LRAs which are mainly related to a new role of the market. In particular new industrial policies are based on an interactive process of "entrepreneurial discovery" where market forces discover and produce information on new activities. Moreover, another problem is policy "induced" specialisation. According to the OECD (OECD, 2013) these risks can lead to rent-seeking, hyper specialisation and diminishing returns. In particular, regional specialisation can be influenced by specific local interests that are against market rules, while very high public investment can have diminishing returns. Two main needs emerge for LRAs promoting industrial policy are: 1.5.1) To promote incentives (e.g. IPR, prizes) to reward entrepreneurs who discover new domains and activities, incentives (e.g. lead markets, public procurement) to attract other agents and firms and facilitate entry to get agglomeration and scale effects at a later stage; 1.5.2) To reduce regulative and administrative burdens to the market and to the free movement of goods, services, capital and people.

Part 2: The correspondence between EU industrial policy and the needs of LRAs

This part examines the link between EU industrial policy and the problems and needs identified in Part 1 by focusing on "European Industrial Renaissance COM (2014) 14" and "A vision for the internal market for industrial products COM (2014) 25".

2.1 European Industrial Renaissance COM (2014) 14

The following table describes how the Communication addresses the needs identified in Part 1 for LRAs promoting industry.

Need	**How the Communication addresses LRA needs**
1.1.1 Promote an industrial policy that enables structural change	Deepening the internal market and promoting standards, developing infrastructure, identifying areas in which investments should be encouraged to guide industry, funding pilot projects and demonstration plants, initiating new legislation for guidance, improving education to reduce skills mismatches, providing financial tools.
1.1.2 Develop an outward oriented industrial policy	Integrating infrastructure to improve synergies between industries across borders, using "smart specialization" to encourage cross-border European value chains, helping European firms gain access to third country markets including improved access to international public procurement markets.
1.2.1 Identifying a limited number of priorities and concentrating resources on the basis of local and regional strengths	Using "smart specialization" to encourage cross-border European value chains by allowing member states and regions to concentrate investment on their comparative advantage.

1.2.2 Ensure territorial, economic and social cohesion by avoiding increasing disparity between regions	Providing a comprehensive reform of EURES for better cooperation among European Public Employment Services to facilitate mobility and skills-based matching, developing vocational training, developing financial tools to support the private sector including regions hardest hit by the economic crisis (which also have a weak financial sector).
1.3.1 Develop collaborative, vertical leadership and coordination through multilevel governance	The European Commission proposes a common approach to anticipate and facilitate industrial change at regional level.
1.3.2 Promote horizontal coordination among participants	The Commission is considering including a broad range of participants in a discussion on the 2013 Strategic Implementation Plan of the European Innovation Partnership for raw materials and the promotion of "smart specialization".
1.4.1 Establish an inclusive governance organization and a suitable policy mix	The Commission is to present an initiative on growth friendly public administration, especially e-government and public procurement.
1.4.2 Develop the capacity to identify local strengths, build regional visions and implement strategy	Using "smart specialization" to encourage cross-border European value chains by allowing member states and regions to concentrate investment on their comparative advantage.
1.4.3 Design sound and integrated monitoring and evaluation mechanisms	Improving member states competitiveness monitoring, integrating competiveness proofing, cumulative cost assessments estimate the cost of regulation on industry. Fitness checks review the competitiveness and regulatory framework of major industrial value chains.
1.5.1 Promote incentives (e.g. lead markets, public procurement) to attract the development of new	Horizon 2020 will provide €80 billion for research and innovation including commercial research and leveraging private investment. EU structural funds will be made available for states to invest in innovation and public

domains and new entrants for agglomeration and scale effects.	procurement rules. The framework for R&D&I state aid is being reformed to stimulate investment in strategic areas. Additionally, the Commission is proposing a €25 billion lending facility for energy efficiency projects.
1.5.2 Reduce regulatory and administrative burdens	Promoting internal market liberalization and cutting red tape, implementing the services directory, simplifying EU legislation and the regulatory burden facing businesses.

To sum up, for the role of LRAs in the global value chain and the relation between the policy and the market, the Communication:

- provides a seemingly well balanced set of policy tools aimed at enabling structural change in industrial sectors. It proposes regulatory and financial policies as well as guidance to firms that encourage existing and new participants in the structural development of industrial sectors. Particular emphasis is put on the green energy sector as well as sustainable production and construction;

- addresses in detail the need to reduce regulatory and administrative burdens;

- describes a well balanced mix of policy tools aimed at the development of new domains and new entrants to get agglomeration and scale effects. The tools are, however, more focused on actors at European or national level with clarification of the role of LRAs in EU industrial policy;

- gives relatively little attention to capitalising on regional competitive advantages by promoting connectivity and clusters. Although efforts are being made to integrate infrastructure, the focus is on liberalizing markets without giving concrete suggestions as to how regional competitive advantages should be identified and developed. As such, the role of LRAs and the tools they should have at their disposal are not clarified.

For the impacts of the crisis, governance and institutional capacity, the Communication highlights that:

- "smart specialization" is the key framework policy for providing regions and national actors with support for strategic governance, the construction of a vision and institutional capacity in industrial transformation and diversification, thus promoting a bottom-up and cross-sectoral approach. It is, however, too early to tell whether the framework policy will sufficiently address the needs of regions as Smart Specialisation Strategies are in a relatively early stage of implementation.

- the development of LRA institutional capacity and their ability to perform multi-level and strategic governance is of substantial importance for the successful implementation of the tools dealt with in Part 1. The Communication emphasizes that the European Commission will propose a comprehensive approach to anticipating and facilitating industrial change at regional level as well as an initiative concerning growth friendly public administrations. LRA needs to be able to develop interventionist policies and a high level of institutional capacity needs to be balanced with continued measures of liberalization.

2.2 "A vision for the internal market for industrial products COM (2014) 25"

While the territorial dimension is not specifically identified in Integrated Industrial Policy, the Communication "*A vision for the internal market for industrial products*" analyses some issues related to the needs of LRAs as identified in Part 1. In particular, the Communication focuses on the importance of governance and institutional capacity building to foster innovative product development and on the development of an outward oriented, market driven industrial policy.

Need	**How the Communication addresses LRA needs**
1.1.1 Promoting an industrial policy that enables structural change	The European Commission aims at (i) facilitating innovation, adoption of new technologies and innovation marketing leading to the technological upgrading of existing industries; (ii) improving the interface between manufacturing products and services within the internal market, exploiting potential synergies between existing and new activities.

1.1.2 Developing an outward oriented industrial policy	An important part of EU industrial policy concerns the promotion of international convergence in technical and product standards. This should further help to promote an outward looking perspective for businesses and industries.
1.3.1 Develop collaborative, vertical leadership and coordination through multilevel governance	Exploiting synergies in the implementation of legislative harmonization, involving cooperation between SOLVIT, the Enterprise Europe Network and Product Contact points, effectively promoting collaborative vertical leadership.
1.3.2 Promoting horizontal coordination among actors	Streamlining and simplifying the existing common legal framework for marketing industrial products. Creating a more horizontal and less sector-specific approach to legislation. Such horizontal legislation for products aims to reduce overlapping or conflicting requirements related to sector rules. In line with the needs of LRAs this would allow and stimulate more horizontal coordination among industrial development actors.
1.4.1 Establishing an inclusive governance organization and a suitable policy mix	The Commission will give further consideration to ways of strengthening inclusive governance through the participation of SMEs and civil society stakeholders. Furthermore, the EC aims to capitalize on synergies in the implementation of legislative harmonization involving cooperation between SOLVIT, the Enterprise Europe Network and Product Contact points.
1.4.3 Designing sound and integrated monitoring and evaluation mechanisms	The European Commission aims to simplify and clarify rules through an effective legislative review and monitoring system.
1.5.2 Reduce regulatory and administrative burdens	Generally, the European Commission is interested in producing more regulations and fewer directives to create greater coherence of the overall regulatory framework for products.

Part 3: Case studies analysis

3.1 Presentation of case studies

This part presents an overview of case studies of best practices to tackle the needs and problems identified in Part 1. Selection is based on there being either an evaluation report or a study where LRAs have been particularly effective in implementing industrial policies at regional and local level (Ortega-Argilés, 2012; OECD, 2013; Smart Specialisation Platform, 2014). To ensure broad representation, case studies refer to different territories in terms of:

- economic wealth, industrial specialisation, localisation, human capital and governance systems;
- innovation patterns, according to the OECD scale (OECD, 2011);
- industrial development needs, problems, actions and context-specific strategies.

There are seven regional case studies: Berlin/Brandenburg in Germany; Flanders in Belgium; Navarra and Basque Country in Spain; Limburg in the Netherlands; Lower Austria; Malopolska in Poland. For analysis at local level, there are three urban case studies: Vaxjo in Sweden, Brno in the Czech Republic and Newcastle-Gateshead in the United Kingdom. These studies:

- highlight the decisive role of LRAs in assessing specific needs;
- offer suggestions on how LRA actions could be effective in dealing with local industrial needs, with particular attention to RIS3 and KET strategies.

3.2 Selected case studies of LRAs promoting industrial activities

Berlin/Brandenburg (DE) - *Knowledge-intensive city/capital district and Structural inertia/(de)industrialising region*
Implemented actions. The two local governments of Brandenburg and Berlin in August 2006 agreed on a common industrial model called 'Capital Region Berlin Brandenburg'. This resulted from a broad dialog which involved a lot of citizens, associations, municipalities, and

politicians. This approach, also called 'The InnoBB approach' is based on industries that have a critical mass of actors with joint interests in markets with big growth potential on an international scale. Key targets of the *inter-regional innovation strategy* are the development of innovative products through know-how and technology transfer from excellent academic institutions, the creation of new companies, the expansion of cooperative projects, better resource deployment and more effective market penetration. This industrial strategy is based on strengthening selected 'Future Fields': Health, Energy, Mobility, ICT and Optics. These clusters are developing systematic network relationships and strategic partnerships with both individual companies and cluster organisations from Europe and beyond.

To meet their strategic goals, both States created specific support mechanisms to sustain innovative entrepreneurship, such as parallel funding schemes to support R&D projects as well as research by regional institutes for regional companies. 80% of the funding is given to companies in the five joint innovation strategy clusters. In addition extensive services are offered by cluster management organisations. Scientists and new companies are supported in networking, searching for partners, technology transfer, founding businesses, financing, advanced training, business development and internationalisation as well as the initiation and realisation of joint R&D projects. In addition venture capital funds managed by subsidiaries of the developments banks of both Berlin and Brandenburg are crucial in providing seed finance for young innovative companies.

From an institutional point of view both States are equally represented at the political and administrative levels. Representatives of the innovation and economic development agencies of Brandenburg and Berlin manage the clusters, coordinate funding and support activities and report the issues and requests of their members to politicians and administrators.

Lessons learnt

• Promote an industrial policy that enables structural change through an interregional innovation strategy (similar to the RIS3 approach) for the development of innovative products through know-how and technology transfer from excellent academic institutions.

• Develop an outward oriented industrial policy to promote connectivity and clusters within and across borders to capitalise on regional and local competitive advantage.

• Identify a limited number of priorities and concentrate resources on the basis of local and regional strengths.

• Develop collaborative « vertical » leadership and coordination through multilevel governance (top-down and bottom-up) at interregional level.

• Promote horizontal coordination among industrial development (public-private partnership) actors.

• Set up a sound and inclusive governance organisation and establish a suitable policy mix.

Flanders (BE) - *Medium-tech manufacturing and service provider region*

Implemented actions Flanders in Action (ViA) and Pact2020 were implemented by Flanders to promote industrial policies. By combining a science policy with social added value, the strategy aimed at achieving real progress on five major issues (prosperity and welfare, a competitive and sustainable economy, the number, quality and longevity of employment opportunities, living standards and efficient and effective public administration). The main goal is to place Flanders in the top-5 EU regions by 2020, based on the prioritisation of strategic breakthroughs which are regarded as being crucial for the future wealth and wellbeing of people in Flanders. The focus of this strategy is to diversify the Flemish nano-electronics research and technology sector, particularly by means of cross-fertilisation with the Flemish based health research and medical sectors. This should create a new KET economic domain: *Nanotechnology-for-Health*. This process of diversification is based upon a unique set of underlying nanotechnology platforms and nanotech competencies in local research centres (e.g. Imec for micro- and nano-electronics, and the Flemish Institute for Biotechnology for biotechnology and life sciences). This entire process is supported by the Flanders government, but the initiatives are put forward by local entrepreneurial actors and the discovery process is bottom-up. To facilitate and leverage structural transformation through innovation, Flanders launched a new public investment fund in March 2011, the Transformation and Innovation Acceleration Fund (TINA), as a key part of the New Industrial Policy developed in Flanders. It is mainly based on minority equity stakes and

subordinated loans with potential commercial return and on the promotion of open innovation and manufacturing consortia[1]. This new financing system is managed by PMV, the Flanders' public investment company, to leverage "public" returns.

Lessons learnt

• Promote an industrial policy involving the development of specific applications of a KET (e.g. Nanotechnology-for-Health) and establish a new sector.

• Concentrate knowledge creation sources and networks and support cooperative processes.

• Identify a limited number of priorities and concentrate resources on key local technologies centres.

• Promote horizontal coordination among industrial development (public-private partnership) actors.

Limburg (NL) - *Service and natural resource region in a knowledge-intensive country (Western Netherlands) and knowledge and technology hub (Southern Netherlands)*

Implemented actions The Dutch Province of Limburg has taken up the challenge to work on real cross-border cooperation between the regions in the border area by establishing and developing the TTR (Top Technology Region) which represents a unique regional cross-border concept of innovation[2]. The TTR aims to create a cross-border region that can compete internationally and thereby guarantee employment and prosperity for its citizens. The focus of the initiative is to close the gap in 'Knowledge-to-skill-to-till' chains in three specified sectors with major potential for innovation and capacity for growth: *Chemicals & Advanced Materials, High-Tech Systems, and Health Sciences*. The TTR's strength lies in the complementary nature of these clusters and the synergies

[1] TINA presents some innovative aspects with respect to other financial instruments: investments can only take place in consortia; a transformation strategy (on the level of the value chain/cluster) and a vision on go-to-market; the involvement of a lead-company and spill-overs to SMEs as well as the presence of a detailed implementation plan and an exit strategy.

[2] The TTR area is composed of the German Federal State of North Rhine-Westphalia, the Belgian province of Liège, the Belgian province of Limburg, the Dutch Province of Limburg, the Dutch Province of Noord Brabant and the Belgian Province of Vlaams-Brabant.

between them that are supported by regional production location distribution, patent applications and the number of publications. The challenge therefore lies in the identification of the innovation potential of the three clusters and the creation of cross-border activities such as 1) stimulating strategic cooperation between high-tech campuses in order to establish a common approach; 2) creating a strategic network to enhance the possibilities for individual organisations to meet others and to initiate opportunities for business collaboration; 3) improving the competitiveness of the area, by supporting economic and technology-oriented development and strengthening knowledge institutions through (experimental) funding regulation, in which at least two enterprises from two different regions of the TTR jointly develop (possibly in cooperation with a knowledge institution from within, or outside the region) an innovation project; 4) optimizing the innovation climate by stimulating innovation in companies through the support of industry-university interactions and facilitating access to investors; 5) attracting and retaining knowledge workers from all over the world through a three-fold approach (arriving, settling and living) in which workers and students are strongly encouraged to set their career perspectives in the region.

Lessons learnt

• Develop an outward oriented industrial policy, aimed at promoting connectivity and clusters within and across borders to exploit regional and local competitive advantage.

• Identify a limited number of priorities and concentrate resources on the basis of local and regional strengths and international specialisation.

• Develop collaborative « vertical » leadership and coordination through multilevel governance (top-down and bottom-up) at interregional level.

• Promote horizontal coordination among industrial development (public-private partnership) actors.

• Reduce regulatory and administrative burdens to the market and obstacles to the free movement of goods, services, capital and people.

• Develop three very innovative technological sectors such as *Chemicals & Advanced Materials, High-Tech Systems, and Health Sciences*.

Lower Austria (AT) - *Traditional manufacturing region*

Implemented actions The 2007-2013 operational programme of Lower Austria developed an industrial policy based on 5 clusters: Green Construction, Food, Logistics, Automotive and Plastics. This last is through cooperation between Lower Austria, Upper Austria and Salzburg and has become the largest network for *plastic technology* in Europe. Priority topics specific to Lower Austria are organic plastics and fibre composites. Medical technology and recycling are due to be included. Complementing the clusters, Ecoplus (the business agency of Lower Austria) has been implementing the Lower Austrian Technopol Program since 2004. This seeks to develop and promote "technology-oriented business" locations that boast a high density of R&D facilities as well as companies engaged in research, higher and continuing education and training. The Technopol Program in Lower Austria is composed of four different technopols: *Medical biotechnology*, *Agro- and environmental biotechnology, Modern industrial technologies*, *Bioenergy, agriculture and food technology*. Technopols enhance regional value creation chains and networks. They support the structural transformation of the Lower Austrian economy, promoting the creation of a knowledge-intensive economy.

The Government of Lower Austria manages this programme. RIS NÖ is the steering committee, originally established in 1997, and includes technology and innovation service providers. It is responsible among other things for consensus building for measures to improve the regional innovation system of Lower Austria. In addition to RIS NÖ, each cluster initiative is accompanied by a cluster advisory board made up of companies, R&D institutions and intermediary organisations. In this way knowledge creation from stakeholder and policy dialogues is implemented bottom up as well as top down.

Other than the multi-level governance system, regional authorities have also implemented a specific monitoring system. The Innovation Assessment Methodology (I-AM Lower Austria) combines monitoring and evaluation tools at all levels of innovation policy impact assessment, from project to programme and up to the regional level. I-AM Lower Austria also provides information for the regional government to justify their budget for regional innovation policies and to promote its success. The evaluation process uses the Balanced Scorecard Methodology (BSC), which follows a holistic approach by building consensus on economic targets for the respective program. It also identifies and monitors performance indicators for these reporting to the intermediary, companies

and the market. It also defines the relevant processes influencing the performance indicators and the relevant input factors for process improvement.

Lessons learnt

• Upgrade technology of an existing industry, involving the development of specific applications of a Key Enabling Technology.

• Promote connectivity and clusters within and across borders to exploit regional and local competitive advantage and growth potential.

• Develop collaborative « vertical » leadership and coordination through multilevel governance (top-down and bottom-up) at interregional level.

• Promote horizontal coordination among industrial development (public-private partnership) actors.

• Design sound and integrated monitoring and evaluation mechanisms.

Malopolska (PL) - *Primary sector intensive region*

Implemented actions The region of Malopolska has reshaped its multilevel governance system over the last decade, especially regarding innovation and science. This has led to the decentralization of public administration, a regional strategic management system and regional documentation. Adopting a new strategy based on support from most innovative sectors, the regional economy is gradually shifting from primary sectors towards life sciences, biotech, ICT, environmental technology and nanotechnology. The overall strategy is based both on involving different levels of governance and on a structured monitoring and evaluation system. In order to ensure effective coordination the Regional authorities of the Małopolska Region established a special working group of science, business and government experts. The working group has developed the *Regional Innovation Strategy* and is updating the plan for 2013-2020. The goals are to give new impetus to the regional innovation system by concentrating public funding (top-down initiatives) on key areas for future development (life science, sustainable energy, ICT and chemistry sectors, to support entrepreneurship in higher-education students and academics as well as to introduce new ways to test ideas at an early stage) and to gather the most interesting proposals for innovation projects (bottom-up initiatives) that are in line with key areas for future

development and which could be implemented by 2020.

To measure the effects of policies the regional authorities have created a system of monitoring and evaluation based on four Observatories working on observing development policy, economics, social policy and the labour market and education.

Lessons learnt

• Promote an industrial policy enabling the modernization and technological upgrading of existing industries.

• Identify a limited number of priorities and concentrate resources on the basis of local and regional strengths and international specialisation.

• Develop the capacity to identify local strengths, to develop a vision and implement the strategy.

• Design sound and integrated monitoring and evaluation mechanisms.

• Promote incentives (e.g. IPR, prizes) to reward entrepreneurs who discover new sectors and activities.

Navarra (ES) - *Medium-tech manufacturing and service provider region*

Implemented actions The *Moderna Plan* is a new regional innovation and development strategy for the Navarra Region. Moderna promotes an important shift in the social paradigm for Navarra's economy and society, moving from an industrial economy to a knowledge-based economy and encouraging the involvement and participation of each and every citizen. The plan is for an on-going improvement and extension of education in all areas (human, cultural, technical and scientific) at all stages of life and employment through lifelong, individualised educational processes.

One of the aims of the plan is to position Navarra among the 20 leading European regions in the UN Human Development Index (HDI). High quality health care and an excellent education system are two of Navarra's key strengths. In order to maintain and enhance these areas the Moderna plan seeks to direct wealth generation towards improving the quality of life and promoting human development in all clusters, specifically through education, talent and human capital as well as health care services. In order to achieve the core objective set by Moderna (improving the quality

of life), emphasis is placed on *healthcare economics*, green economics and talent economics. The Moderna plan has defined four different types of clusters: 1) Basic includes automobiles, electric vehicles and sustainable construction and Healthcare services, which are essential for maintaining employment in Navarra at target levels; 2) Strategic includes renewable energy and agro-food industries that benefit from significant global growth trends where Navarra has a clear initial competitive advantage; 3) Future commitments includes *biomedicine, medical appliances*, personal services, sustainable tourism, environment and waste, mechatronics, design and creativity that seem to benefit from major global growth trends, where Navarra has an emerging presence and significant capacities; 4) Complementary or leverage clusters include talent economics where development is essential for securing a competitive position in the other clusters.

Lessons learnt

• Move from an existing sector to a new one based on cooperative institutions and processes.

• Develop specific applications of a KET.

• A successful RIS3 strategy proposing the economic diversification of existing specialisation and activities towards new ones.

• Identify a limited number of priorities and concentrate resources on the basis of local and regional strengths and international specialisation.

• Ensure territorial, economic and social cohesion through industrial policy.

The Basque Country (ES) - *Medium-tech manufacturing and service provider region*

Implemented actions The Basque Country Plan for Science, Technology and Innovation (PCTI) has selected three areas in which the Basque Country is considered to have significant transverse capabilities: *Biosciences, Nanosciences and Advanced Manufacturing*. To support and enhance these capabilities, the PCTI defines the criteria for a multilevel governance model, taking into account the specific characteristics of the region. The model has three levels: *i)* Leadership and Strategic focus; *ii)* Planning and management; and *iii)* Monitoring and evaluation. The main

actions concern measures to improve and favour coordination amongst institutions, research centres and private actors. Co-ordination is at different levels. First, there is consensus in strategic planning activities between the various public and private entities. The Basque Council for Science, Technology and Innovation was created in 2007 to coordinate science and technology policies in Basque public bodies, including universities. Second, different entities and agencies within Science, Technology and Innovation Basque coordinate between different elements of the system[3]. To measure outcomes and impacts of research and innovation policies, the PCTI selected 25 Performance Indicators based on its own strategic objectives. These are grouped into nine strategic targets and divided into three areas (education, R&D and innovation).

Lessons learnt

• Upgrade technology in an existing industry, involving the development of specific applications of a KET.

• Set up a sound and inclusive governance organisation and establish a suitable policy mix.

• Develop the capacity to identify local strengths, to align policy actions, to develop a vision and implement the strategy.

• Design sound and integrated monitoring and evaluation mechanisms.

Vaxjo (SW), Brno (CZ) and Newcastle-Gateshead (UK)

Implemented actions In the **Vaxjo** region of Sweden responsibility for addressing local challenges is with the municipality of Vaxjo, the County of Kronoberg, the University of Vaxjo, businesses (some 8.000, mostly SMEs) and NGOs. They have notably responded to the challenge of a sustainable energy policy through a long-term environmental strategy. This includes strategic documents written together with residents and public, private and academic partners, incorporating interrelated policies, aims, measures and success indicators. The key document, from 2006, has been the extensive environmental programme. It contains an energy policy

[3] Technology centres, for coordination between businesses and applied research, and the latter with public bodies; the University of the Basque Country, for coordination between scientific activities and the government; Mondragon University, for coordination between businesses and universities; and vocational training centres for interaction between business and technology development.

addressing local and global environmental challenges and has three sections: Living Life, Our Nature and Fossil-Free Fuel Vaxjo. So far, carbon dioxide emissions per inhabitant have fallen by 35 % over 10 years, alongside economic growth of 69 % (2008). Measures have also included cleaning up Lake Trummen, building a fossil-free fuel district heating and cooling system, constructing multi-storey houses of wood, making buildings more energy efficient and eco-friendly traffic planning.

Brno is a traditional industrial city, but since 1990 it has undergone a major transformation so by 2011, the tertiary sector dominated the local economy. Brno also has international status potential, given its Central European location, its many universities and research centres, and its capacity to host R&D development. Brno's challenges are to develop its innovative economy and international R&D functions and make them sustainable. To address these, the city is starting to attract highly qualified people through different research and grant programmes. In 2002, the South Moravian region formulated its Regional Innovation Strategy with the aim of being among the top fifty innovative regions in Europe by 2013. ERDF funding makes up 58 % of the total budget. The related action plan stresses the importance of cooperation between the city, the region and universities. The policy has resulted in the creation of a solid network of actors, all working towards the same goals. Sustainability remains the biggest challenge, research facility infrastructure development is limited, and there is a lack of larger urban infrastructure (e.g. rail, road and air). Attracting people and activities also raises important issues for future action, which include developing an integration policy for newcomers, increasing benefits for local students and convincing locals of the long-term benefits of the programmes.

Over the past 30 years, the economy in **Newcastle** and its surrounding area has undergone a rapid transformation, shifting from a heavy industrial base, including shipbuilding, coal mining and heavy engineering, to a more diversified industrial base, with the public sector accounting for some 38 % of all jobs. The recent financial crisis and ensuing recession have only added to the challenges faced by the region. Not wanting to let short-term shocks prevent long-term vision, action was taken. In June 2009, the city council drafted a 10-point action plan in support of both individuals and businesses. The city, together with **Gateshead**, also set up '1NG' (1 Newcastle Gateshead), a strategic body responsible for pushing forward the 2010 '1PLAN', a 20-year economic and spatial strategy for the two cities. The underlying aims include strengthening the cities' ability to cope with inevitable future external shocks, addressing the needs of

individuals and businesses, cooperating with like-minded communities, focusing on sustainable growth and paying special attention to living and working environments.
Lessons learnt • Promote an industrial policy to enable structural change. • Develop an outward oriented industrial policy, to promote connectivity and clusters also at an inter-urban level. • Identify a limited number of priorities and concentrate resources on the basis of local and regional strengths. • Develop collaborative « vertical » leadership and coordination through multilevel governance (top-down and bottom-up) at inter-urban level. • Promote horizontal coordination among industrial development (public-private partnership) actors. • Develop the capacity to identify local strengths, align policy actions and build critical mass.

Part 4: Proposals for action

This part presents eight proposals for action based on the analysis of the case studies in the previous chapter.

1) Performing an evidence and place based situation and needs analysis. This proposal is based on the continuous involvement of the stakeholders since the context analysis and the evaluation of the impact of external factors and driving forces. Stakeholders should therefore be involved in the formulation, implementation and evaluation of the strategy. Aim of this action is the identification of the context specific structural change needed and to be promoted by LRA industrial policy also by considering the situation across the EU in the fields where the changes are envisaged – thus paying attention to a possible regional niche position. An example of implementation of this action can be found in Lower Austria, where, in order to ensure a continuous dialogue between stakeholders and policy actors, each cluster initiative is accompanied by a cluster advisory board, made up of companies, R&D institutions and intermediary organisations.

2) Identifying the appropriate "context specific" structural change priorities, which can be: transition from an existing sector to a new one based on cooperative institutions and processes; the modernization i.e. technological upgrading of an existing industry, involving the development of specific applications of a KET; economic diversification of existing specialisation and activities towards new ones; the radical foundation of a new domain. Under this proposal, the context specific strategy implemented by Flanders is the most illustrative case, since it combines the diversification of an existing industry – the nano-electronics research and technology sector - by cross-fertilising and modernizing it with the local health and medical sectors in order to create a new KET economic domain – nanotechnology-for-health.

3) Supporting the strategy with a "peer review" process, either by considering the main lessons learned from best practices and case studies or by participating in a process of peer review. This will provide the strategy with an adequate level of flexibility and resilience to external factors. The series of workshops (S3 Platform) organised by the JCR (Joint Research Centre) are currently the main instrument to create an open and trusted learning environment where practical and conceptual aspects of RIS3 are discussed and explored through challenges and experiences of individual regions. These workshops allow regions meet

their peers, the European Commission staff, academic experts and others to discuss common issues related to smart specialisation to peer-review each other's work on RIS3. Among the case studies analysed, the Basque Country and Berlin/Brandenburg participated in these workshops in 2012 and 2013 respectively.

4) Integrating regional and local strategies in the national system by promoting multi-level governance coordination (institutional mechanisms; resources; administrative and legal framework) as a key factor to the success and effectiveness of an industrial policy at local and regional levels. The inter-regional innovation strategy proposed by Berlin/Brandenburg (the InnoBB approach) is a valid example for this proposal. In this context, representatives of the innovation and economic development agencies manage the clusters, coordinate funding and support activities and report the issues and requests of their members to politicians and administrators. Moreover, specific support mechanisms were created to sustain innovative entrepreneurship, such as parallel funding schemes to support R&D projects as well as research by regional institutes for regional companies.

5) Building on point four, **promoting the development of institutional and governance capacity** at a regional level. In the analysed case studies, all the LRAs have reinforced their institutional and governance capacity. For example, in Lower Austria, the RIS NÖ, the steering committee which manages the innovation strategy, is responsible for consensus building for measures to improve the regional innovation system and coordinates the cluster advisory boards. In Flanders, the entire strategy is supported by the local government, but the initiatives are put forward by local entrepreneurial actors and the discovery process is bottom-up. The Basque Country has issued a Council for Science, Technology and Innovation to coordinate science and technology policies in local public bodies, including universities, while different entities and agencies within Science, Technology and Innovation coordinate between different elements of the system. An additional example is given by the case of the two cities of Newcastle and Gateshead, which set up the '1NG', the strategic body responsible for pushing forward the 20-year economic and spatial strategy for the two cities.

6) Implementing a sound monitoring and evaluation system to ensure accountability and consequently favour feasible strategies that can be evaluated. The case of Lower Austria is again very illustrative. The region uses the Innovation Assessment Methodology (I-AM Lower Austria) which combines monitoring and evaluation tools (the Balanced

Scorecard Methodology) at all levels of innovation policy impact assessment, from project to programme and up to the regional level. Other examples are represented by Malopolska - which created a system of monitoring and evaluation based on four Observatories working on observing development policy, economics, social policy and the labour market and education – and the Basque Country – where, in order to measure outcomes and impacts of research and innovation policies, the PCTI selected 25 Performance Indicators based on its own strategic objectives.

7) Promoting market rules and the bottom-up approach in policy design to reduce the risk of induced specialisation and rent seeking. An illustrative example is represented by Malopolska, where the strategy, in order to give new impetus to the regional innovation system, concentrates public funding (top-down initiatives) on key areas for future development and gathers the most interesting proposals for innovation projects (bottom-up initiatives) that are in line with key areas for future development. Another interesting case is Flanders, which, to facilitate and leverage structural transformation through innovation, launched the TINA initiative, which is mainly based on minority equity stakes and subordinated loans with potential commercial return and on the promotion of open innovation and manufacturing consortia. Moreover, in the Berlin/Brandenburg case, extensive services are offered by cluster management organisations to scientists and new companies to support them in networking, searching for partners, technology transfer, founding businesses, financing, advanced training, business development and internationalisation as well as the initiation and realisation of joint R&D projects.

8) Exploring and promoting context-specific KET integration and development by analysing the feasibility of adopting KET in local and regional areas through situation and needs analysis and stakeholder consultation. Feasibility will depend on the absorptive capacity (e.g. human capital and the use of advanced technology), compatibility between the KET and structural change proposed in the strategy as well as the role of local and regional industry in the global value chain related to the KET. Other than the Flanders' case already mentioned in the second proposal, specific strategies based on KET integration and development are represented by: the Technopol Program of Lower Austria, composed of four different technopols (Medical biotechnology, Agro- and environmental biotechnology, Modern industrial technologies, Bioenergy, agriculture and food technology), which enhance regional value creation chains and networks; the TTR strategy implemented by

Limburg, which focuses on closing the gap in ‘Knowledge-to-skill-to-till’ chains in those specified sectors with major potential for innovation and capacity for growth (Chemicals & Advanced Materials, High-Tech Systems, and Health Sciences); the Moderna plan of Navarra, where emphasis is placed on healthcare economics, green economics and talent economics; the PCTI plan of the Basque Country, focused on three areas in which the region is considered to have significant transverse capabilities (Biosciences, Nanosciences and Advanced Manufacturing).

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