5 Steps to Smarter Specialisation

A briefing note on innovation investments to be made under the European Commission’s new cohesion policy
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I. Introduction

“All happy families are alike; each unhappy family is unhappy in its own way.”

Leo Tolstoy, Anna Karenina

The world’s most innovative regions have much in common – excellent universities, cutting-edge industry and talented entrepreneurs. But how can regions that lack one or all of those key ingredients build a more innovative local economy? Where do they start, and what are the essential building blocks?

The European Commission thinks it has the answers. It has boosted its budget for Europe’s poorer regions to fund innovation and climb up the global value chain. Critical to this new cohesion policy, which took effect on the 1st of January, are “smart specialisation strategies.” Every region or state that wants the EU structural funds for innovation is now supposed to run out and get one.

Many regions already are experimenting with such strategies – but there is so far little policy evidence about what works and what doesn’t. What if regions lack individuals with the skills to define a strategy? And how should policymakers react when a seemingly well-designed strategy fails to produce results? How long should projects be funded?

This briefing note seeks to pool the ideas and advice of academic experts and innovation managers for sparking innovation in regions where it is incomplete or absent. Its publication follows a Webcast conference held on 5 February 2014 with Johannes Hahn, the Commissioner for Regional Policy.

We would like to thank the Commissioner and his Directorate-General for their assistance, as we gathered policy views far and wide. Our intent: To provide a snap-shot of what the policy “experts” are saying now, as the ambitious new programme begins.
II. EU regional policy and innovation – a short history

STRUCTURAL FUNDS FOR INNOVATION

Since the mid-1990s, governments around the world have made innovation a top policy priority. The ability to translate knowledge and technological breakthroughs into new goods, products or processes creates jobs, helps renew existing industries and gives birth to new ones.

The European Union buys that logic in many of its programmes. The 2014-2020 budget dedicates €79 billion to its primary research and innovation programme, Horizon 2020 – a conventional grant machine for researchers and innovative companies focused on excellence. Other programmes provide funding for small companies, education, and cross-sectoral innovation partnerships.

And then there are the regional innovation funds — an entirely separate pot of money with different rules from Horizon 2020 and implemented by the national and regional governments. EU regional policy has sought to broadly improve economic development in lower income regions, channeling regional development funds mainly to infrastructure projects. The concept of regional innovation strategies in the EU first arose in the mid-1990s as a more focused approach to supporting economic development. The channel for such strategies has been the EU’s so-called structural funds, mainly through the European Regional Development Fund.

The volume and percentage of EU structural funds directed at research, technology and innovation has increased steadily over the past 25 years (see table). From 2000-2006, an estimated €29.5 billion of the total EU structural fund budget was spent on RTDI, rising to some €86 billion in the 2007-13 budget and up to €100 billion for 2014-20 — exceeding the total R&D spending under Horizon 2020. From 2014 on, structural funds for research and innovation will be invested through “smart specialisation strategies.”

A CLOSER LOOK AT 2014 – 2020

After more than thirty years of intervention, the cohesion policy’s contribution to development and growth across EU regions remains difficult to quantify. Academic
reviews of the performance vary widely. Some studies report positive correlations linking structural funds and development; others report negative impacts. A range of critics including academics, practitioners and European governments have lambasted cohesion programmes for their ‘catch-all’ quality, lack of a clear mission, inadequate policy instruments and excessive bureaucracy.\(^2\)

“In the past funding period 2007-2013, you could get a lot of money to work on whatever it is you wanted to work on. In the end, we have a lot of asphalt, a lot of concrete, a lot of roads,” said Lambert van Nistelrooij, MEP and member of the Committee on Regional Development, in an interview. “In Portugal, you have 60 per cent more highways per capita than you do in Germany and [the country] is losing thousands of young people a month.”

But now, van Nistelrooij said, the Commission’s approach to regional

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1 According to EC estimations around €84 billion of ERDF money will go to innovation-related investments (R&D, innovation, ICT, competitiveness of SMEs) and €26 billion the low-carbon economy, including research and innovation in low-carbon technologies and their take-up.

development is totally different. “You have to start something and it has to deliver.”

Indeed, in unveiling the 2014-2020 budget, the Commission promised an end to a ‘business as usual’ cohesion policy with €100 billion in structural funds earmarked for more focused targets, namely:

- Research and innovation
- Information and communication technologies
- Competitiveness of SMEs
- Low-carbon economy – green energy

The decision to channel structural funds to research and innovation is “the biggest reform of EU regional policy since its inception,” said Johannes Hahn, Commissioner for Regional and Urban Policy, speaking at a Science|Business Innovation Board conference on 5 February in Brussels. Helping low-income regions learn how to innovate is now the top priority, he says, both to bridge the research divide and to halt the brain drain from Europe’s Eastern and Southern countries. “To reap the full potential of the internal market, we have to close its innovation divide,” Hahn adds.

This leads proponents to insist the programmes are moving in the right direction. A range of monitoring, evaluation and control conditions has been implemented to improve public administration learning, processes and cultures. The requirement to involve different types of partners in the design and implementation of innovation policy will be more effective, they argue.

THE SMART SPECIALISATION STRATEGY

Structural fund support for innovation through “smart specialisation strategies” is the linchpin of the new EU cohesion policy. This funding will be largely aimed at building competitive advantage by developing research and innovation strengths that match business needs. It will also be about capacity building — and it requires regions for the first time to design a coherent concept together with all the players in the innovation ecosystem. A smart specialisation strategy uses local know-how — or “entrepreneurial discovery” — to identify and build on a region’s existing strengths. Regional and local authorities will play a central role in designing, implementing, and monitoring investment. And this time around, the Commission has made it clear that regions should have a broader view on innovation and leverage not only new technologies, but any innovation that enhances competitiveness, such as new business models, production processes and design in a collaborative endeavour.

There is, of course, a policy theory behind this: Solving the “regional-innovation paradox” (Landabaso & Morgan, 2002). This draws attention to the contradiction between the comparatively greater need to invest in innovation in the regional laggards and their relatively lower capacity to absorb
earmarked public funds – a hard circle to square for many practitioners.

For the EU, smart specialisation strategies can overcome this handicap. Funding will not be spread thinly across projects, as in the past, diminishing its impact. Instead regions will be required to focus on a limited number of policy objectives to build up a critical mass of investment in selected areas. “Now we have a priority on knowledge, being smarter, sustainability, and creating jobs. This has to be repeated and repeated,” says MEP van Nistelrooij.

But, he cautions: “I am waiting to see whether these choices are really made, or if we will just continue to go on as we did with physical infrastructure and too little focus on high-value education and high-value production.”

While the term ‘smart specialisation’ is relatively new, policymakers and innovation cluster managers have applied the concept as a policy tool for years. The Commission applied a similar methodology when it launched the Regional Technology Plan initiative, later named the Regional Innovation Strategy or RIS, in 1994 with the aim of gaining a better idea of the existing strengths and weaknesses of a region.

### Smart Specialisation Strategy definition

**WHAT IS SMART AND WHAT IS SPECIALISATION?**

1. **Place** evidence based
2. **Not top down decision, but bottom up** partnership approach
3. **Global perspective** on potential advantage & potential for cooperation
4. **Source in Knowledge, services, technologies, talent and investors**

1. **Priority setting** in times of scarce resources
2. **Excellence** in something specific
3. **Accumulation of critical mass**
4. **Not necessarily focused on a single sector but cross sectorial approach**

**a) Best way to exploit territorial potential through innovation**

**b) Foster interregional comparative advantage**

*Source: European Commission*
To receive regional development funds over the next seven years, local officials must identify which activities hold potential for developing competitive advantage matching research strengths with business needs, and build an innovation strategy around them. But they must rely on companies and researchers public and private, large and small, to tell them which business sectors and research domains have potential and why. “Firms form the centre of gravity – the kingpin – of such processes because they are in the best position to explore and test the new avenues of innovation and structural changes in collaboration with research structures and other social organisations,” says Dominique Foray, professor and chair in Economics and Management of Innovation at École Polytechnique Fédérale de Lausanne, and one of the principal advocates for smart specialisation strategies as an EU regional policy tool.

The benefit of this approach is that it challenges policymakers to talk to business leaders and universities to find out what innovations might work in a particular local economy, says Mikel Landabaso, head of unit, Competence Centre for Smart and Sustainable Growth at DG Regio, who is overseeing the smart specialisation strategy shift. It’s an attempt to “break from bad planning” and an exercise in “opening minds,” Landabaso said.

Each region or country will have a different and distinctive smart specialisation strategy depending on its unique characteristics. And rather than being limited to new technologies, a region’s strategy could encompass, for example, a new marketing approach or manufacturing techniques that are important in improving competitiveness.

The big challenge in implementing the plan is that many low-income regions lack the administrative capacity and skills, education and experience to design innovation strategies. Acknowledging this, the Commission has set up in the Joint Research Centre in Seville the “Smart Specialisation Platform” to provide access to experts and help develop the strategies. To date, 146 of Europe’s 272 regions and 14 national governments have signed up. Up to now, 45 regions and 47 countries have benefitted from peer-review workshops to facilitate mutual learning on smart specialisation. And an OECD report *Innovation-driven Growth in Regions: The Role of Smart Specialisation*, contains case studies illustrating how some strategies have succeeded.

But regional policymakers are on their own to come up with a “process of entrepreneurial discovery,” adapted to their different local economies and industry. “What must be put in place is a decentralised dynamic process that should ensure the continuous transformation of productive structures,” says Foray.

3 [http://s3platform.jrc.ec.europa.eu/home](http://s3platform.jrc.ec.europa.eu/home)
III. Expert advice: 5 steps to make smart specialisation work

“The critical part is making sure the whole innovation system is involved – industry, entrepreneurial people, politicians – they all have to be hands-on involved in the process.”

Mats Williams, The Paper Province, Karlstad Cluster Initiative

Promoting innovation in prosperous regions is not rocket science. Bring together top researchers, savvy entrepreneurs and industry managers, and sparks start to fly. But the starting point for creating an innovation dynamic in lower-income regions is vastly different. And the speed and resources to address the missing elements vary widely. That’s why smart specialisation strategies matter. Much can be learned from the world’s most innovative regions, as long as the lessons are adapted to local realities and resources.

For example, despite their proximity to Silicon Valley, one of the world’s leading innovation ecosystems, many researchers at the University of California still disdained industrial collaboration in the late 1990s – an obstacle to innovation that currently exists in many low-income regions in Europe with tradition-bound universities. To help overcome that divide, the University of California in 1996 piloted a matching grant programme that brought top researchers and company scientists together to talk about what they were doing and spark collaborations. Over a 10-year period, the programme created an academic culture more open to innovation, forged strong industry-university ties, gave rise to technology start-ups and netted some $450 million in state and industry research funding for the nine-campus University of California.4

Low-income regions can’t replicate the University of California programme, but they can deploy many effective, low-cost measures to bridge the university-industry gap and encourage the flow of ideas from lab to market. The key, experts say, is to understand the core dynamics of an innovation ecosystem, and to keep them in mind while tailoring regional strategies. Whether in Boston or Brno, the following are key steps vital to fostering innovation:

1. Embrace experimentation

Stay limber: Avoid the “milestones” mindset in designing programmes or

4 For more on the “Industry-University Cooperative Research Program (IUCRP)”, see here: http://sunsite.berkeley.edu/uchistory/general_history/institutions/institutions_i.html#industry_university
strategies. Create a mechanism, instead, to capture lessons from the failures and frequently adjust course, if needed.

2. **Develop the most important skill set: Entrepreneurship**

Success will depend on seeding an entrepreneurial culture across the three corners of the innovation triangle – academia, industry and policy.

3. **Learn to walk before running:**
   **Process innovation is a stepping stone**

Help industry move up the value chain by supporting pilot manufacturing lines and training centers that can introduce process innovation and create a pool of skilled workers.

4. **Bridge the industry-university gap**

Help universities and company managers connect over coffee, lunch or lectures, and overcome rigid, inward-looking cultures. Personal relationships matter.

5. **Start where you are – and build bridges**

Connecting people doesn’t cost a fortune – and it can become a powerful engine for change.
Step 1. Embrace experimentation

“The key challenge is how to find a robust approach that doesn’t require a PhD in evolutionary economics to figure out the way forward.”

Christian Ketels, Stockholm School of Economics

Can public authorities act as a catalyst to help low-income regions replicate the smart specialisation dynamic? It is a promising policy concept. A number of cities and regions, such as Karlstad in Sweden and Southern Moravia are using a combination of government support, industry commitment and entrepreneurial talent to boost industrial competitiveness (see case studies pg. 20). But many low-income regions will find it difficult or impossible to implement smart specialisation strategies successfully because they lack institutions and people who understand an innovation-driven industrial strategy. What’s needed is a flexible approach – and policy adjustments along the way.

For one thing, public authorities often have plenty to learn. “Regions without experience are totally lost,” said Michal Hrabi, startup programme manager at the South-Moravian Innovation Centre. For those regions with the least experience, building the knowledge and skills of local officials is vital. “One of biggest things you need is capable institutions,” agreed Adrian Healy, a research associate working on innovation and regional economic development at the Cardiff University School of Planning and Geography.

Indeed, Danuta Maria Hübner, member of the European Parliament and of the Committee on Regional Development, has called for a paradigm shift including improved administrative skills and capacities at all levels. “Otherwise, the promised results will not be achieved and discussions about the value of the policy will soon start once again,” Hübner said.

Smart specialisation strategies must also be designed to adapt over time to economic change. “The idea is very evolutionary and dynamic,” says Foray at Ecole Polytechnique Fédérale de Lausanne. “The most difficult part is to understand where to put the money,” said Foray, in a book due to be published later this year: Smart Specialisation – opportunities and challenges for regional innovation policy. “The process ideally should be self-sustaining, so an innovative industrial cluster is continually renewing itself.”

Even in the best of circumstances some strategies are sure to fail – creating a challenge for local and EU officials tasked with monitoring and evaluating
projects. “Smart specialisation is a great principle but it’s still evolving. So we may have to learn and adapt. We need a period of structured experimentation,” said Christian Ketels, a member of the Harvard Business School faculty and co-head of the Center for Strategy and Competitiveness at the Stockholm School of Economics.

If a strategy doesn’t work out, it doesn’t mean failure, he said. “It means we’ve learned something and we can adjust course. A lot of traditional EU-funded projects don’t do this. We need to find models where we have a portfolio of 10 efforts and if four or five fail, that’s OK.”

The knowledge gleaned from successes and failures can help policymakers define a more effective approach to regional innovation. “What the EU lacks are tools – concrete structures or institutional instruments for a given level of development,” Ketels said. A smart specialisation platform creates a huge potential for peer-to-peer learning about what works in given settings.”

As president of the TCI network of global cluster practitioners, Ketels is encouraging TCI members to talk about failure as well as success to pool knowledge about what works and what doesn’t. “The EC has a ‘milestones’ mindset. It would be better to have an experimental framework.”
Step 2. Entrepreneurs make it happen

“Policy tends to focus on systems of innovation but overlooks entrepreneurship.”

Erkko Autio, Imperial College London

Entrepreneurs and entrepreneurship skills should be at the core of the smart specialisation effort, experts say. Rethinking a local economy and forging a new industrial dynamic requires individuals who see change as opportunity, and can manage risk.

In designing the criteria for smart specialisation strategies, the Commission has recognised that reality, and has required that strategies emerge “bottom up” and not “top down.” Specifically, they should be developed through a process of “entrepreneurial discovery.”

What’s that? To start, local officials are supposed to convene the key players that drive innovation – industry managers, entrepreneurs and educators – and debate the region’s existing strengths and weaknesses. The strategy should emerge from a robust exchange of ideas. It should build on the region’s industry assets and tap new technologies to gain a foothold in innovative niches. And it should maximise the knowledge-based development potential of each region. Conveniently, the Commission’s web-based Smart Specialisation Platform offers some how-to support.

For many, however, the Commission’s definition of “entrepreneurial discovery” remains vague. The smart specialisation strategy web platform says it means “utilising entrepreneurial knowledge and taking an entrepreneurial approach to focus on market opportunities, taking risks and seeking alliances to optimise the use of resources.” What policy makers should do is involve all types of innovation actors in the debate. “Simple surveys among these actors are not sufficient,” the Commission says. “That means that the regional government no longer plays a role of “omniscient planner, but will empower those actors which are most capable of realising that potential.”

This is all easier said than done, innovation managers and experts warn. “Policy tends to focus on systems of innovation but overlooks entrepreneurship,” says Erkko Autio, Professor and Chair in Technology Transfer and Entrepreneurship at the Imperial College London Business School. “The whole understanding of entrepreneurial dynamics lags far behind approaches to promote innovation – it’s something people know very little about. That means understanding
system level issues: getting the right type of people to start new business. New businesses have to go for growth rather than simply existing.” Autio’s work on a Global Entrepreneurship and Development Index (GEDI) highlights the key role of entrepreneurs in innovation and can be used as a tool to understand the mechanisms behind bottlenecks to innovation.

The entrepreneurial process needs more attention, agrees Healy from Cardiff University. “If we are truly serious about a smart specialisation approach, governments have to put more faith in businesses to lead the discussion and inform the choices that are made. It’s about businesses and researchers coming together and exploring new possibilities and discoveries.”

But how? “The regions are shooting in the dark in the absence of guidance,” said Ketels of the Stockholm School of Economics. Though he supports the Commission’s move to require an “entrepreneurial process” for devising smart specialisation strategies, he said most regions are likely to be baffled by the requirement. “This is one or two levels of sophistication too high for regions receiving structural funds.”

But it is, nevertheless, possible – even if it takes years to succeed. The case of The Paper Province, a successful 15-year-old innovation cluster in central Sweden, highlights the role of entrepreneurial individuals in building a vibrant cluster dynamic. As director of the innovation cluster, Mats Williams set out from the beginning to create a more entrepreneurial mindset in Karlstad, which had been dominated by the staid paper and pulp industry for 150 years. “If I had been offered more structural funds, I would have spent it on research and innovation, and particularly on entrepreneurship,” said Williams, adding that low-performing regions tend to lack entrepreneurs.

After more than a decade of work, The Paper Province cluster initiative recently identified over 200 new small companies, out of which nine had the potential for fast growth. “It takes a long time and a lot of effort,” Williams said. The educational system should promote entrepreneurship but it’s also about giving local people “a dream about being in business,” he said.

In the Czech Republic, the lessons learned have been similar, says Hrabi, of the South Moravia Innovation Centre. Supporting entrepreneurship and teaching entrepreneurial skills to a new generation of children matters, he says. “What we lack is the entrepreneurial spirit. We need scientist-entrepreneurs. The biggest impact from structural funds will not come from accelerator programmes but from fostering entrepreneurial spirit and hands-on-experience for small kids. It also means getting technology into elementary schools and kindergartens,” he said. “The investment will pay back in 15-20 years – not five years.”
Step 3. Moving up the Value Chain

“The challenge is to enable lagging regions to become innovative and smarten up their economies through the adoption of existing technologies.”

Danuta Maria Hübner, Member of the European Parliament

Industry in low-income regions typically competes at the bottom of the value chain, relying on low-cost labour. As a result, these regions typically lag in implementing new technologies. Smart specialisation strategies can help bridge the gap by introducing process and design innovation, which in turn creates a pathway to new industrial niches. “The challenge is moving up the value chain and upgrading products and services,” said Autio. “That is the nature of innovation.”

Providing SMEs with access to cutting-edge manufacturing technologies has proven effective at making existing industry clusters more competitive in low-income regions, experts say. The best approach is to target small-scale projects in highly applied technology settings, experts added. “Demonstration and pilot manufacturing lines can be very important where there is an industry base to take advantage of them,” said Healy.

There are some success stories. Finland’s Technology Clinic Initiative helped spread manufacturing expertise across its less-developed regions by setting up centres that trained and introduced process innovation to SMEs. The clinics were funded by the government and embedded in local universities – one per university. But the money came with a requirement that the universities disseminate the industrial process expertise to a network of SMEs, by offering them small grants to test new ideas. In a similar fashion, Lithuania has developed a small cluster of manufacturing businesses that use laser technology for specialised manufacturing.

Smart specialisation is all about entering new niches based on existing capabilities. “That is something the Commission could push more,” agreed Ketels “Use existing skills and marry them with technology to get a foothold in a new area. The key challenge is how to find something robust that doesn’t require a PhD in evolutionary economics to figure out which way forward.”
Step 4. Connecting research and industry

“The main goal of a smart specialisation policy is to concentrate resources on the development of those activities that are likely to transform effectively the existing economic structures through R&D and innovation.”

Dominique Foray, École Polytechnique Fédérale de Lausanne

While moving up the value-chain is a vital first step for many low-income regions, the key to long-term growth is investment in research and development. And that requires stronger ties between industry and academia. They “are the two pillars that need to be connected,” says MEP van Nistelrooij.

The 10-year-old JIC innovation agency in South Moravia used a strategy based on investment in research and industry-university collaboration to shift away from an economy based on cheap labour, laying the foundation for a more knowledge-driven economy. Thanks to a combination of investment in research and innovation vouchers that funded technology transfer, the region is now attracting investments in R&D.

Goran Lindqvist, director of research at the Stockholm School of Economics and author of the 2013 Cluster Initiative Greenbook 2.0, underscores the importance of connecting all the actors in the innovation triangle – including the policymakers as well. “It’s the match-making – getting actors talking to each other. If you want people to innovate, they can’t do it by themselves. It’s about bridge building and contact-making. It’s cheap – but that’s where you have a market failure. People need to talk. Not only do they not know each other, they don’t want to know each other.”

Improving industry-university collaboration also means getting policy officials in different ministries to work together, says Katia Reppel, deputy head of the Competence Centre for Smart and Sustainable Growth at the EC’s Directorate-General for Regional and Urban Policy. “The big political question is how can economics and enterprise ministries really cooperate with science and research ministries? In some cases, policy analysts get the impression that the different ministries share out the funding and then never talk to each other again. That almost guarantees failure of any meaningful innovation policy, Reppel said. “Organic interaction between science and business needs to take place at all levels and throughout the implementation of projects, programmes and policy strategies to be affected.”
Step 5. Start from where you are – and build bridges

“It’s a matter of making change happen from wherever you are today.”

Örjan Sölvell, Stockholm School of Economics

When regional officials sit down to pen their smart specialisation strategies, they will each have a different starting point. And being realistic about that is key to success. “You have to transform old industries. Parts will die; parts can survive,” says Örjan Sölvell professor and director, Centre for Strategy and Competitiveness at the Stockholm School of Economics. “It’s tough medicine but it’s the only alternative for poorer regions.”

Sölvell’s research has shown the medicine works. A 2013 study of four clusters across the Baltic region showed convergence between rich and poorer regions – with the poorer regions closing the gap. The bottom five ICT clusters in the region doubled their degree of specialisation over the past decade, for example, while the top clusters remained flat. “It’s the poor regions that have become richer,” said Sölvell, co-author of the 2013 Cluster Initiative Greenbook 2.0.

More important than drafting the smart specialisation strategy itself, experts say, is the process of regions learning how to support an innovation ecosystem. “It forces everyone to engage,” said Healy.

“If we think success is the publication of the strategies, that alone won’t achieve much. What will achieve results is implementation of policies and initiatives in the future. It’s a learning process. Regions should be able to modify their strategies.”

One of the most vital and effective tools for low-income regions is bridge-building, or linking the disparate players in the innovation ecosystem. The good news is that it doesn’t require big budgets or venture capital funds. “It’s about match-making, rather than direct support to innovation projects or subsidies to SMEs,” said Sölvell. His recent report, Organising Clusters for Innovation: Lessons from City Regions In Europe, identifies seven gaps in the innovation ecosystem that need to be bridged: in research, education, capital, policy, firms, clusters and global connections.

Even programmes targeted at helping small and medium-sized enterprises should be geared to bridge-building, as opposed to funding specific innovations, Sölvell argues. “Often those leading small companies don’t have the self-confidence to speak with university
faculty,” he said. “It takes someone to broker those contacts and help them meet someone.” Large companies typically scan the global market for innovation partners – overlooking a small company in their own back yard that may be equally innovative. By connecting large and small companies, local officials can help prime the innovation pump.

Linking clusters that operate in different sectors – such as the maritime industry and information technology – is another bridge-building strategy that can pay big dividends.

This is, clearly, work that needs a long-term perspective. Seeding structural change takes five to 10 years; and producing quantifiable economic gains can take 20 years. Indeed, Sweden’s innovation agency, VINNOVA, assures 10 years of support for those it agrees to start funding.

“It’s not about big money. It’s about initiatives. It’s about starting the bottom-up process,” said Sölvell. “It’s about making different stakeholders get involved – and thinking about how to collaborate or create demonstrators. It’s not pushing in big money. It’s pushing in small money, but preferably for a longer period – the longer the better.”

Värmland’s Paper Province – from pulp to green technology

The pulp and paper industry in the region of Värmland in central Sweden went into a tailspin in the late 1990s, hit hard by globalisation. Large companies that were the mainstay of the local economy shut down or moved production elsewhere, in order to boost efficiency and find skilled information technology workers.

Panicking, local government officials in Karlstad, the capital of Värmland, began meeting with companies to forge a strategic response. They funded a new university to improve education and training and created a so-called “cluster initiative,” called The Paper Province – a cluster of pulp and paper technology – to help local industry become more competitive. “We were in the middle of a crisis, but we had good people who said we have to change some things,” says Mats Williams, former director of The Paper Province.

The turnaround took a decade, but the region is now an example of a highly successful regional innovation policy. It’s also a case study in smart specialisation – before the term was coined. Big companies are returning to Karlstad, creating

4 The region’s positive results have been commented on in Olsson and Spjuth., (2012) Regional Collaboration in Värmland, Nordregio.
new jobs. Entrepreneurs are founding technology start-ups where there once were none. Above all, a decade-long process of investing in education, training and a skilled workforce is prompting a structural transition toward green industries and IT-driven services.

“Now pulp and paper companies ...are coming back as producers of energy, car fuel or advanced materials, biochemistry and medicine,” said Williams. “It’s the last step in the transformation.”

Williams, now a cluster consultant, insists there is no set of rules that would help replicate the success of The Paper Province cluster initiative in other regions. “It depends very much on the local circumstances. There is no easy way to transplant success factors from one region to another. The big losers are the ones who try to copy and paste ideas somewhere else.”

That said, the case of The Paper Province does highlight an important lesson on the ability of local government to unleash innovation and change in a region. In 1999, Karlstad lacked the critical mass of people needed to create and drive a smart specialisation strategy forward. So the first order of business was investing in its people. “It’s not about companies, universities or government. It’s about people,” says Williams. “Support systems are more about helping people understand their own situation, instead of finding the golden egg that is the solution. There is no one solution. That is one of the main findings in our experience.”

It also underscores the importance of a flexible and experimental approach to building an innovation ecosystem. “Paper province was not an initiative to start something totally new,” says Sölvell. “They had a cluster of paper companies and worked with consultants and building up research capacity. Then they addressed human resources and skills, making the region more attractive for investors. Now, suddenly, they are becoming a hub for eco-innovation in Sweden. No one could have imagined that.”
South Moravia: building a knowledge-driven economy

When global giant Flextronics decided to close its Brno assembly line in the Czech Republic in 2002, the region suddenly lost 3,000 jobs. Regional officials decided there was no stable or prosperous future in attracting companies on the basis of low wages. Instead they boldly went in a new direction, choosing to channel investment to research and technology start-ups, and to build up a base of knowledge workers. Now, a decade later, Flextronics is coming back to establish a new R&D and design centre that will serve all of Europe.

“Their departure forced the region to change. It forced politicians to act,” said Michal Hrabi, startup programme manager at the South-Moravian Innovation Centre. The region developed a much stronger knowledge base.”

Doing that meant forging links between research and industry where there were few. The JIC used innovation vouchers as an incentive for companies to establish cooperation with research teams at universities or research institutes. Prompted by the voucher scheme, which paid 75% of the first research cooperation, some companies embarked on a small trial cooperation.

A growing number of collaborations bridged the divide and helped industry managers connect to researchers in their field. Encouraged by the results, many continued using the vouchers to fund research, which progressively required industry to pay a larger share of the costs. “It’s always about the people and not about the policy,” says the JIC’s Hrabi. Now that the researchers and industry managers know each other, they talk to each other when there is a new development. Over a decade, the strategy bolstered South Moravia’s skill base and competitiveness in key technology niches, including electron microscopes and antivirus software.

“Through cooperation, we’ve learned we are all in the same boat – even if it’s really hard at times to get agreement,” says Hrabi.
Finland’s Technology Clinic Initiative – smartening up industry

Finland’s Technology Clinic Initiative (TCI), a programme of the National Technology Agency (TEKES), helped spread manufacturing expertise across its less-developed regions by setting up centres that trained and introduced process innovation to small and medium-sized companies. The rationale: small companies needed help overcoming impediments to adopting new innovations, including lack of time, money and human resources.

Setting up a technology clinic – Finnish-style

**Preparation phase**
- Analysis of SME technology needs
- Review of technology and best practice in other regions
- Assessment of technological expertise available
- Technology Foresight

**Clinic phase**
- Contact established between SME and clinic
- Problem analysis in SME
- SME applies for support
- Application approved
- Assignment carried out (up to 1 year)
- Assignment ends. Possible follow-up

Source: Rhisiart et al. 2000

5 http://www.tekes.fi/en/
The average cost of a clinic was around €12,000 (2003 figures). The clinics were funded in part by public funds (50 per cent) with the remainder paid for by the commissioning company. They were embedded in local universities, with one per university. The money came with a requirement that the universities disseminate the industrial process expertise to a network of SMEs by offering them small grants to test new ideas. The delivery time for projects was approximately 10 days work over a period of 1-3 months.

The clinics tackled many topics: machine vision, rapid prototyping, food hygiene and wood-drying (apparently a big item in the Swedish forest). For a company, the benefit of going to a clinic included fast help applying for money, and exposure to an innovation culture. For the technology providers running the clinic, the benefits were new clients, an experience in packing and marketing services to more SMEs.

The surface-coating clinic, for instance, was a hit that benefitted 50 small companies. The TEKES grant was used to fund small-scale projects that eventually created an expert cluster specialised in the surface-coating technology. “The clinics had a good impact. They solved two challenges – the need to focus on highly applied activities and distribute innovation,” said Autio of Imperial College London.
IV. Summary

The smart specialisation strategy challenges EU regions to find their innovation niche and represents a new approach to structural funds. The choices made by local officials in developing innovation strategies will have a major impact on success, experts say. That makes the EU’s use of structural funds as a tool for innovation a complex endeavour.

Can this all work? “If no one takes the initiative, no one ignites the little fire. That’s why the EU can be very important – in saying this is the way to go forward. It can have a strong effect,” says Sölvell of the Stockholm School of Economics.

Regional officials who continue taking a watering-can approach to spending structural funds are likely to have limited impact. In Schleswig-Holstein, a low-income region of Germany that receives structural funds, the money has traditionally been divided equally across all local counties for political reasons – an inefficient practice, argues Dirk Dohse, head of knowledge management and growth research at the Kiel Institute for the World Economy. “If Schleswig-Holstein had concentrated spending on a few key projects for several years running, it would have had the chance to have impact,” said Dohse, who has written about interregional cluster competition in Germany.

Finding out what doesn’t work, experts say, is a healthy part of the process. A robust exchange of ideas at regional level can benefit all. Strengthening ties among researchers, entrepreneurs and industry managers can accelerate experimentation and innovation. And connecting people, over coffee, is cheap.

But it will be difficult. Pointing to the example of Greece, which has lost its manufacturing industry despite the fact that it received structural funds, MEP van Nistelrooij notes that Europe still has a long way to go. “The European Commission needs to assist and push people towards these new priorities.” The first operational problems will crop up in 2014 following the first round of calls, van Nistelrooij added.

Some regions already have shown that smart specialisation can work. Värmland invested in education, entrepreneurship and a more highly skilled workforce, which in turn spawned a new cluster
of competitive green technology companies. South Moravia and rural parts of Finland have used the tools of regional innovation policy to bolster economic development and smarten up industry.

Smart specialisation is not just “good regional innovation policy,” Foray of EPFL notes in his upcoming book, Smart Specialisation – opportunities and challenges for regional innovation policy. “It entails a different logic of resource allocation that creates both opportunities in terms of policy design, processes and institutions and challenges in terms of policy design, processes and institutions.”

The examples in this report also highlight, however, that economic decline and crisis are an important catalyst for change – as is leadership. Regional officials may be more diligent in developing a smart strategy when the local economy is in crisis. Will EU structural funds be sufficient to promote innovation in the absence of economic decline?

Only time will tell. A great policy experiment is underway that will take at least a decade to deliver results. And there will be failures along the way. But if regional innovation policy is smart, adaptive and persistent, it should help foster a new generation of companies, entrepreneurs and researchers that are catalysts for change.
Online video links

Animation EN
http://www.youtube.com/watch?v=hbTIVOBv8lU

SMART SPECIALISATION_CANARY ISLANDS
http://www.youtube.com/watch?v=sFDtSf0QSzM

SMART SPECIALISATION_FLANDERS
http://www.youtube.com/watch?v=_nFTdFlyEH0

SMART SPECIALISATION_ITALY
http://www.youtube.com/watch?v=2VruTo7Hv3c

SMART SPECIALISATION_POLAND
http://www.youtube.com/watch?v=vcaROEj-giY