



Solving contradictions by Connectivity

Reflections on Regional Innovation
and Research Policy

Jean Severijns and friends, a Limburg initiative



Jean Severijns

Projectmanager Internationalisation Province of Limburg
(NL)

Introduction

Dear reader,

A short while ago, I asked a number of friends and associates whether they would be willing to write down their thoughts on the past, present and future of regional innovation and research policy. This collection is the result, and I am extremely pleased that so many of those I asked responded to my request with a contribution to this collection.

My idea was to commemorate my reaching the age at which my official employment with the Province of Limburg is to end, and I embark upon my retirement. I have had the pleasure of working for this dynamic public sector organisation for over thirty years. Looking back on it all, it was a very instructive period, during which I was constantly engaged with the public and private sectors and the interface between them; with strategy and execution; and with the European and national framework on the one hand and the intermediary and implementation level on the other. Add to that the international, cross-border dimension of our province and you will have an idea of the breadth of the field I have worked in throughout my career: inspiring, challenging, and always focused on creating added value.

On my journey of innovation, I have encountered many wonderful and inspiring people, both in the Netherlands and abroad, with whom I have had

the privilege of working, and I look back on these collaborations with a great sense of gratitude. I can say without hesitation that I would do it all over again, and I think that is a good gauge to go by. Together we have tested and shared all our collective insights, concerns and solutions. And I can truly say there has never been a dull moment.

The Province of Limburg has been the perfect employer for me, always working proactively in partnership with others to develop and support activities designed to promote the common good of the people of Limburg. And I am happy to have made my own small contribution to that goal, alongside the many wonderful colleagues I have worked with over the years, both in and outside the organisation. I have participated in many discussions about the content and direction of the regional innovation and research policy in many places in Europe and beyond, in most cases representing the Province of Limburg, and I have developed a number of initiatives myself that have been successfully implemented in collaboration with others.

As I suppose happens to many people, at a certain point you reach a moment you feel is the right time to step back and reflect: on what has happened, what we have learned, and what are the best lessons to take with us into the future. So I have asked a number of the persons with whom I worked most closely over many years, mainly from outside the Netherlands, to do just that with me. The main reason is that I feel connected, a feeling that we all worked together to reach common goals in our regions and Europe and that based on our experiences, some input for future policies and approaches could be collected. Rather than prescribing a format, I only gave a few suggestions for the things that they might want to consider in such a retrospective.

These were questions like:

- How do you look back on (regional) research/innovation policy of the past years? (you might, for example, approach it from a European, national or regional perspective)
- What is your view of the effectiveness of this policy?
- What was the biggest challenge, and what was the biggest success?
- What is the most important piece of advice you can give for future policy: continue along the same path, or chart a new course instead?
- Can you say something about the international, cross-border dimension

of the policy as implemented and wished-for, and the associated implementation opportunities or problems?

- The Province of Limburg is a border province. In our contacts about this, you may have formed an impression about certain matters or noticed something that is worth mentioning.
- Finally, it might be interesting to say something about our personal working relationship, perhaps a small personal note.☺

Almost 70 people responded to my invitation, and their contributions are collected in this volume. I am struck by how varied the contributions are, in every sense, so that they combine to form a rich spectrum of opinions and perspectives on the subject. And that was precisely my intention.

The contribution are mainly presented in an alphabetic order, because there is no logical sequence from a content point of view.

To give a few examples of things that stand out:

- Broadly, the general opinion, which I endorse, is that a lot has been achieved with the RTP, RITTS, RIS and S3 programmes, but we still have a long way to go.
- Over time, the nature of the innovation and research policy has shifted from linear supply-driven research to mission-oriented research, and from an infrastructure-supporting regional policy to a much broader approach. Answers to questions in society and cohesive solutions are being given more attention, and the process is shifting to focus on an inclusive, triple helix and quadruple helix-oriented approach.
- This is still very much in the development phase, and ideally needs an entrepreneurial discovery process that has by no means been successfully carried out everywhere. This has a number of underlying causes, not least of which the fact that the quadruple helix takes many different forms, depending on the given regional potential, circumstances, commitment and past experiences.
- A great deal is expected from the European Commission, but at the same time many on the other side are wary of one-size-fits-all approaches.
- The cross-border dimension is still underrepresented in the policy, although the attention given to this aspect is growing.

- Implementing changes and improvements that are truly supported by all stakeholders generally involves more time than planned. At the end of the day the human factor counts most.

These are only a few general observations after reading the contributions. There are, of course, many more.

I chose to entitle this volume “Solving contradictions by connectivity”.

Essentially every contribution addresses contradictions in some way. I am firmly convinced that building connections with each other based on respect for each other’s position will be a part of resolving them. And I also feel that it is very much worth investigating whether contradictions might, in fact, be artificial. Rather than sweeping them away, new insights can add to and enrich old ones. Looking at this volume, one might well conclude that the attention to traditional research policy could only be followed by the Smart Specialization Strategy approach. Personally, I don’t see this as a contradiction, but rather an invitation to connectivity. This is something that all levels in Europe are hard at work on, from the local and regional to the European. Great progress can be made as long as we never assume that the new has to be the enemy of the old. And another useful tool is objective self-reflection on personal responsibility. Of course, each of the individual authors bears responsibility for their own contributions, as the disclaimer below points out.

I cannot conclude without once more expressing my deepest gratitude to the authors, who I consider my friends, for their selfless contributions to this volume, and I hope you enjoy reading them.

Finally, being active in an international setting automatically means being away from the family very frequently. Therefore I would like to thank my wife Wieka and both my sons Bart and Paul very much for accepting this as a kind of fact of their lives. I am very grateful for this attitude and their support.

Disclaimer: The information and views set out in the articles in this volume are those of the authors and do not necessarily reflect the official opinion of the organisations they work or worked for. Neither those organisations or the institutions and bodies of those organisations nor any person acting on their behalf may be held responsible for any use that may be made of the information contained therein.

Reflections by the Province of Limburg



Theo Bovens

King's Commissioner of the Province of Limburg

Are we progressing?

When you are working in the public sector, or to put it better: when you are serving the public good, the answer to the question of 'what am I doing this for' should be easier to give than when you are working for a profit-based organisation. Or am I mistaken? In any event, it is good to step back at regular intervals and assess the usefulness of your work. What has it yielded, what is it currently yielding and what is it likely to yield in the future? In a public-sector organisation like a province, we are now used to business terms such as measurable (SMART) targets, P&C cycle and output-driven thinking. We not only establish policy objectives, but also development goals, and those new objectives are usually more valued than the proper management and effective implementation of existing policy.

That focus on continuously developing society and ourselves may simply be a human trait: the desire to progress, the need for prospects, and the urge to discover new things, to innovate and to grow. That is, of course, an inspiring and optimistic characteristic. And is it not the serious intention of every public-sector organisation to guarantee its citizens room for development, to offer them prospects and to create the right circumstances in which this can be achieved?

While not losing sight of those splendid ideals, several concerns nevertheless remain. For instance, do all actions of public-sector organisations (or more rationally: all human actions) have to be so targeted and development-oriented? What is wrong with a moment of reflection, taking time to consider, a good discussion, maintaining effective relationships, without there having

to be an immediate measurable result? In our lobbying activities, we make a distinction between effective relationship management, representation and presence, on the one hand, and influence, conviction and results, on the other. The tendency is to attach greater importance to the latter.

And how do we deal with people, organisations and businesses that have reached a limit – temporary or otherwise – in their development? A traditional baker who asks for credit simply to replace his oven receives a less warm welcome from banks than a colleague who wants to use new ovens to increase output and to produce new types of bread.

And when you reach an age (or find yourself temporarily in a circumstance) in which you are no longer in touch with new developments, you more or less become the object of policy rather than being a player, and you are no longer an attractive proposition for commercial organisations. There is less credit to be gained from working with you.

This prompts the following question: can we achieve progress only by encouraging innovation-based policy? Or should we take time occasionally to consider the term ‘progress’? What is the purpose of that development? Wasn’t it intended to help us to care for people and organisations at the lower end of the spectrum when it comes to prospects and innovation?

Boosting growth, innovation and development is therefore really a task for government, including the intermediate (provincial) level. Because at intermediate level, in particular, skills such as relationship management, remaining detached and offering room for development are vital. The fact that Limburg has been one of the top three innovation provinces for several years now is the result of contributions by many parties, including the province. The economic growth figures are very impressive.

However, I would go so far as to say that this innovation is partly the result of the qualities referred to above: good relationship management, putting things into perspective and taking time. Those aspects were the drivers behind the rapid growth. And isn’t innovation the result of cooperation between parties with different characters?

Let us continue to encourage development and innovation in Limburg, with the welfare of society as a whole as our guiding principle. And let us therefore focus on achieving a healthy balance in the way in which we act as a province.



Twan Beurskens

Minister for Economics & Knowledge Infrastructure Province of Limburg

My dear Jean,

Regional development, innovation, and internationalisation. Those three concepts have formed the constant theme in your career with the Province of Limburg over the past 30 years. They are three concepts that are inseparably linked with one another – in the past, now, and in the future. That may seem perfectly obvious, but it isn’t. In my opinion, the point is that that obviousness needs to be recognised and put into practice in administrative circles. And that’s precisely what I believe you’ve done so very well during your working life.

As just one example – but an all the more striking one – of the creation of that connection between regional development and innovation in an international perspective, I would like to mention the Limburg Regional Technology Plan. With that plan, the Province of Limburg already put itself on the map back in 1996 as one of the first regions of Europe – and that was partly because of your efforts. And you’ve continued to pursue that theme.

That makes me more than happy. Indeed, it is my firm conviction that the future prosperity of Limburg will only be possible if we can succeed in permanently linking the incredibly fast global technological developments in the economy to regional awareness, identity, and regional strength. After all, Limburg is not an island but a region that – literally and figuratively – has many cross-border possibilities. That’s a conviction I’ve been able to reinforce in the past few years due to your contribution and – far more importantly – have been able to put into operation.

As administrators, we have a duty to continue to contribute to an innovation policy that extends beyond just the regional or national perspective. After all, our trade and industry operates – almost as a matter of course – on a playing field without borders.

Innovation capacity, knowledge infrastructure, and the educational level of the working population remain crucial factors, to which the regional government has always been able to contribute, but to achieve a strong competitive position that's precisely when it's vital to be distinctive. In the framework of that endeavour, it's unavoidable to seek the international dimension. But that doesn't happen all by itself. Relevant networks and partnerships are crucial. Those networks need to be discovered, or if necessary created. That demands specific qualities, and that brings me to a core quality that only a few people really possess. But it's a core quality that seems to be anchored right in Jean Severijns' genes.

With that quality, you've meant a great deal for our region and I'm prepared to bet that, according to the laws of genetics, it's not a quality that will change quickly.

I think back with great pleasure to the international working visits we have made together. Your approach has always been characterised by excellent preparation, administrative guidance, representation, and aftercare as regards substance and relationships.

In particular, it's your character that is valued not just by me but by all our external contacts. You are reliable, determined, and always a gentleman.

My dear Jean, allow me to wish you and your loved ones the very best in every possible way!

Kind regards,

Twan Beurskens



Serui Verstappen

Clustermanager Economics and Innovation Province of Limburg

Strategy and individual

When my colleague Jean Severijns suggested publishing a compendium of essays on the topic of regional innovation strategy for the occasion of his retirement, I was not in the least bit surprised. It was the type of idea that you could only expect from someone like Jean, who has spent his whole career seeking to establish interesting, innovative connections.

And I don't mind admitting that within this defined framework, it was a challenge for me to come up with new insights on the impact of our regional economic policy and its effects and results. This is why I have chosen to not start at the system level, but rather to begin with the role and position of the individual in relation to defining, executing and implementing a strategy.

The Province of Limburg has gone down in the annals of history as one of the first regions in Europe to establish a clearly defined regional innovation strategy, which it did in 1996: the Regional Technology Plan, which you might well describe as a regional innovation strategy predating the coining of that term as such. Ideally, this type of plan is the result of a thorough thinking process, intensive administrative coordination, and decision-making based on a sound evaluation of the pros and cons, SWOT analysis of the region and partners, and so on and so forth.

But what is more interesting to observe is that in practice, it is some small number of free thinkers with a strong personal network who usually pave the way for the actual development of a formal strategy – free thinkers who don't

believe in “can’t”, and are much more concerned with seeing new opportunities and potential, while understanding that as with all innovative movements, not all actions and efforts can or will lead to a positive result.

The analysis of the result of the provincial innovation policy takes enough consideration of the formal aspects, but still does not adequately recognise the importance and position of the underlying networks. Provan, Fish and Sydow (2007) make a distinction between networks designed to serve the interests of their partner organisations and networks serving the interests of the partner relationship, observing that the former is found primarily in the private sector (partnerships meant to make the partners themselves better) and the latter more in the public sector (partnerships meant to better serve social and societal goals). This is an interesting distinction, because it also touches on the reason why these networks arise: the former, seemingly from bottom-up due to the direct, individual interests of the participating organisations; the latter, seemingly not bottom-up by default, because the organisations do not have much to gain from the cooperation, at least not on the face of it. For these, a guiding hand from top-down nevertheless helps to make the network a reality. I would add here that on the basic level, networks can arise through a process of dual movement, that is, proactively building on the partnership within the network (with a feel for the administrative relationships) and, at the same time, a management layer sensitive to this that is willing to make the room in the everyday processes needed to grow the network.

This is why I advocate giving more attention to the human factor in the development, introduction and execution of a strategy than you normally would in the dry, technical assessments of success and failure. It is acting like a networker, a connector in the true sense of the word, like Jean Severijns, that highlights the importance of the individual.

Supervisors will recognize that having this type of free thinker on a team is both a blessing and a curse. A blessing, because they are able to anticipate, act intuitively, see new possibilities and new potential partnerships, and establish new and unexpected connections. If coupled with a well-developed sense of the political and administrative realities, they are without a doubt generators of added value within the civil service. The flip side is that they have little

willingness or desire to subordinate themselves to the official mores...

All in all, the free thinker is an enrichment to any team, and one worth investing in, because, as my colleague Jean Severijns has shown, they can make the difference.

Thank you, Jean, for your free thinking!



Staff of the Department of Economics 1986



Staff of the Department of Economics 2016

More European Reflections



Rolf Alter

Director for Public Governance, OECD, Paris

Karen Maguire

Head of the Regional Innovation Unit of the Regional Policy Division

Leadership Matters for Innovative Regions

Our fruitful collaboration with Jean Severijns has focused on opening “the black box of regional innovation”. What are the underlying factors determining why some regions seem to be more innovative than others? Economic geographers have noted the importance of access to large pools of qualified human capital, proximity to research centres, the attractiveness of urban environments and the presence of financial intermediaries. They have emphasised the importance of size, as in the case of large cities. We know that when a pool of competences is created at a local or regional level, whatever the source (large companies, high-quality public research, etc.), other innovation actors tend to locate in the same place. This process of attracting talented scientists and engineers, students, entrepreneurs, serves as the cement to bind the innovation system together.

At the same time, for many policymakers, the unit of analysis is generally a nation (or regions within a nation). The assumption was that innovation respected national borders (or if international, worked only between global centres such as London, New York, Boston, etc.). Little attention was paid to how people in neighbouring regions worked together, often informally. With Jean Severijns’ help, OECD was able to explore the notion of cross-border innovation systems by which neighbouring regions harness their collective assets and explore how such interactions could be supported by public policy.

The Top Technology Region Eindhoven-Leuven-Aachen, which was presented to OECD by Jean, was an extremely persuasive example of how such cross-border collaboration could work and could be the object of public policy support.

The region covers three countries, four science and technology policy regimes and six sub-regions. Despite the complex governance, the cross-border region shares a strong recognition of its technological strengths (in materials, health sciences and other advanced technologies). The initiative aimed to capitalise on a strong enterprise and skills base and excellent R&D centres while reducing administrative burdens and obstacles to collaboration. Working with Jean, OECD was able to give more visibility to this and other examples of cross-border collaboration and integrate this new, poorly-understood model into the OECD's more traditional models of innovation diffusion. In particular, this case study contributed to the OECD's broader Innovation Strategy, which was launched in 2012. In this Strategy, the issue of regional innovation was prominent for the first time, and the cross-border model was a key element of this new understanding of the importance of regional innovation systems to national and global prosperity.

Despite the clear 'logic' of regional innovation systems thinking, administrative borders, norms and regulations are resistant and can easily stifle new ideas and lose opportunities. New structures need champions. Cross border innovation systems found one such champion in Jean Severijns. His drive and ambition were spirited inputs for our collaborative projects. In inviting the OECD to review the results of regional innovation initiatives, he encouraged others to look beyond the region to explore the global potential of such an approach. In making his persuasive case for the importance of regional innovation, Jean also forged lasting friendships. We are privileged to call Jean a friend.



Andrea Di Anselmo

Engineer, Vice President of META Group, Italy

“Research/innovation policy – have we managed to be anyhow impact oriented after 25 years of regional interventions?”

- How do you look back on (regional) research/innovation policy of the past years? (you might, for example, approach it from a European, national or regional perspective)

Looking back to the last 24 years I must admit that, if we have a (regional) research/innovation policy, it is all because Europe. When in 1993 I was involved in the RITTS exercise, in my region, Umbria, research was part of the regional ministry for culture and sport. It was thanks to what we call today DG RTD if we all started to understand that there is a link in between exploitation of knowledge and economic growth.

Having said this, I am not sure at all that this regional focus was a good idea or that it was properly handled. We were not (and are still not) prepared in understanding the difference in between research and innovation. This lack of understanding, coupled with an ever-present technocratic top down approach, at any level, resulted in the flourishing of hundreds of Centres of Excellence with a localise view and very little potential of surviving ERDF support and in hundreds of thousands of “solutions” looking for problems. And building a smarter economy is still one of the key challenges of Europe.

- What is your view of the effectiveness of this policy?

The Smart Specialisation Strategy approach was an attempt to correct the mistakes from the 90s and early 2000s. I am looking forward to what the first mid-term review, that should take place in 2018 will tell us. How the Entrepreneurial Discovery Process worked out, if it helped to design need / challenge based policies or just technology driven ones. I am optimistic but reading some preliminary analysis, for example the one Christian Saublen left as its last contribution as EURADA director to regional development, it seems that there is still much to be done.

- What was the biggest challenge, and what was the biggest success?

After 25 years, we still face the challenge to turn knowledge into innovation, solutions with an economic and societal impact. Policy makers and key stakeholders still have to better manage the differences between Research and Innovation, we still have to understand that research cannot be local-focused, if it has to be excellent and attract talents, while innovation should be place-based (promoted and supported locally, at regional and even more urban level) to create impact.

The biggest success or surprise is when reading the newspapers or listening to the radio we learn about hundreds of young talented women and men that, despite regional policy, dare to take the risk to exploit their knowledge, start up a business and, sometimes, make it in the international markets.

- What is the most important piece of advice you can give for future policy: continue along the same path, or chart a new course instead?

Between doing things better or doing better things I think that we need to do better things. We should give up the “good practice” approach, which somebody bravely renamed “vintage practices” approach, and take the risk to stop listening to the usual suspects. We are too old, we graduated last century! The next winners will co-develop solutions, work on challenges, dis-intermediate businesses. They will need innovative ecosystems, a new generation of financial supports, better services for their families including better kindergartens. And what we do? We are still speaking about incubators,

accelerators, co-working spaces! Are we sure that IN 2020 containers WILL still matter more than content?

- Can you say something about the international, cross-border dimension of the policy as implemented and wished-for, and the associated implementation opportunities or problems?

Is anybody able to quantify how much of the cohesion policy went to support cross border business or activities, how much is earmarked for Art. 70 of the CPR? Apart from the Interreg like sort of programmes (which, by the way are policy learning / sharing exercises) I do not think that we can mention much. By the way what matters is not the international scope of the support but the international dimension of the vision! If we look at our belly button when designing a policy what will be the result?

- The Province of Limburg is a border province. In our contacts about this, you may have formed an impression about certain matters or noticed something that is worth mentioning.

The province of Limburg is very peculiar. Its position turned out to be an advantage that very few can claim. What will be next? I am very curious to learn about the new generations, if Limburg is successful in attracting millennials or if they are leaving.

- Finally, it might be interesting to say something about our personal working relationship, perhaps a small personal touch.

I learned about Limburg in the early 90s, through a very enthusiastic ambassador of the RTP / RIS exercise, Jean Severijns. Since then we met several times, always abroad. It was every time a very open interaction. Strange enough we never manage to have a beer in Limburg!



Michael F. Bayer

General Manager
Aachen Chamber of Industry and Commerce

“...always becoming and never just being.”

My dear Jean,

Our cooperation began back in 1996, when I joined the Aachen Chamber of Industry and Commerce. Ever since, our important concern has been to make the Euregional technology potential accessible and usable. A great deal has been achieved, involving INTERREG measures, a Euregional research manual, voucher systems, a “knowledge broker” project, and cross-border education programmes.

But as “Mr Euregio”, you’ve never been satisfied with all that. You have been personally involved in numerous cross-border networks, on the lookout for more true believers. And your amiable and engaging manner has made that a success: a conversation developed into an idea, which you promoted not only within your own organisation in the Province of Limburg but also very often among leading figures in the Aachen region or the regional government in Düsseldorf. You often opened doors which we didn’t even know existed! You really gave meaning to that term “bemiddelaar” – intermediary – which I learned in one of my first Dutch language classes.

But the collaboration project within the Meuse-Rhine Euregio has not been completed. It would be better to describe it as Timothy Garton Ash did when

receiving Aachen's Charlemagne Prize: not only Europe but especially the Meuse-Rhine Euregio "is condemned to be always becoming and never just being".

Kind regards,

Michael F. Bayer



Ann-Pascale Bijneus

Strategic advisor for (re) inventing organisations - Applied Business

Previously: Director Tech Transfer Office - Hasselt University

Local knowledge factories

During the past decade, there is growing awareness that universities and higher education institutions in general, can contribute to regional innovation through collaboration with business, local and regional governments. In addition, universities are increasingly encouraged to fulfil a role in the region's innovation system.

Also at a European level, attention has been focused on the need to strengthen the 'knowledge triangle' of research, innovation and education. The EU 2020 Strategy highlights regional development and reinforces the focus on the need for innovation: "Knowledge is the engine for sustainable growth. In a fast-changing world, what makes the difference is education and research, innovation and creativity".

In this context, universities are expected to act, beside their primary task of research and teaching, as local knowledge factories. However, presuming that proximity of universities has automatically and unconditionally a positive effect on their local environment over-simplifies reality. Indeed, spatial proximity alone does not trigger knowledge flows between academics and local companies.

Frankly, a cocktail of conditions must be met to promote transfer of knowledge and technology from universities to industry. Essential factors are (among others) i) a technological fit between both actors, ii) the capability of (R&D units of) companies to absorb and translate academic knowledge, and iii) whether the local academic centres perform applied or fundamental research.

Applied research (e.g. engineering) focusses on novel combinations of existing knowledge and takes place as an interactive trial and error process. This type of research benefits from a close collaboration and regular interactions between academic and industrial partners, and leads to incremental innovations.

Especially for SME's, the proximity of universities with a technological fit, matters and promotes their growth. Large firms tend to acquire the knowledge they need, wherever the geographical location.

Fundamental research (e.g. biotech), which is the basis for radical innovations, is typically performed in exclusive, rather academic and global networks.

Only firms that provide sufficient R&D resources are capable to collaborate with academia to exchange and interpret this knowledge and to translate it into innovative products. For these companies, local communities are of less importance.

If we reflect on the efforts of the local governments and Euregional initiatives in the past decades, we might wonder if we haven't been blinded by the – rather academic – model of the triple helix, and the success stories of Oxford and Stanford. Shouldn't we take more into account the specific characteristics of the universities and companies in our (Eu)region when developing novel initiatives? Does industry and academia sufficiently match in our region, both on technological fit as on absorptive capacity? How difficult is it for a government to judge this! Is it realistic to expect that universities with a strong emphasis on fundamental research develop an internal policy to stimulate researchers to interact with local SME's? Should they receive the means to perform, next to fundamental research, more applied studies? And if so, how can local government have an influence on this? Can we facilitate SME's to identify a match in local knowledge institutions to establish a mutual beneficial collaboration? Is it possible to create the appropriate conditions for locally embedded international companies to establish local collaborations next to international networks?

All these questions have passed the discussions in Euregional fora. Various approaches have been evaluated, some ideas have been addressed well, others remain challenges that need new initiatives. Not all efforts have led to the expected results, but that may not an excuse to stop trying.

Fervet opus. All be it with Jean in a less prominent role...



Patries Boekholt

Managing Director Technopolis Group

Progress in two decades of strategic policy planning for regional innovation and challenges ahead

In the 1990s, the European Commission, launched two programmes to support regional innovation and technology transfer. The RITTS initiative (Regional innovation and technology transfer strategies and infrastructures) was launched by means of a call for proposals by the Commission's SPRINT programme. Regions would receive a considerable co-funded grant to engage in a policy planning process to improve their Structural Funds implementation. A key element was that regions were obliged to involve expertise from outside their own region and even country, to have a more unbiased view on the strengths and weaknesses of the innovation system and to learn from good practices developed elsewhere. A second similar programme, the RTP initiative (Regional Technology Plans) was launched as a collaborative project between SPRINT and the Commission's Directorate for Regional Policies. Limburg was one of the RTP pilot regions and was therefore at the forefront of what would become a long history of inter-regional collaboration and strategy formulation exercises facilitated by the European Commission. The early RTP process and its results in Limburg are nicely described by Cobbenhagen and Severijns (1999), who conclude that the most important result of the RTP was the increased cooperation within the region and with other regions.¹

¹ Cobbenhagen, J. and J. Severijns, (1999) Towards a Knowledge-Intensive Regional Economy: The RTP process in Limburg.

My first involvement in this RTP process and the RTP Limburg was during the evaluation of these six RTP pilot regions in 1998.² The conclusions of our evaluation study were that RTPs had contributed significantly in each of the regions to establish a strategic planning culture. Innovation policy had gained in importance as a key element of regional development policy. The demand oriented approach also helped to widen the scope of policies. The RTP Strategy Plans linked research, technology and development issues with policy domains such as human resource development, finance for innovation, firm collaboration and supply chain management. At the time, that was quite new as most national and regional policy makers had a linear view that innovation would follow ‘automatically’ from research and development conducted at universities and research centres. There was a tendency to all follow the ‘high-tech’ route and copy local versions of Silicon Valley. The RTPs had managed to put the promotion of innovation, high on the regional development agendas of the regions concerned. Nevertheless, the evaluation concluded back then in 1998 that the link between RTPs and the use of the European Structural Funds needed to be more finely tuned, in terms both of timing and of the contents of the Operational Programmes. In other words, the link between policy strategy formulation and policy implementation was still weak.

The later RITTS programme built on the experiences of the pilot regions such as Limburg, Wales and Lorraine. The RTP/RITTS programmes encouraged regional authorities not only to look at the supply side (mostly its public research and technology institutions) but also at its demand side (what are needs of the companies in the region). This approach was quite new at the time, when regional strategies, if developed at all, were mostly drawn up from the desks of public authorities, with very little interaction with entrepreneurs and other stakeholders.

The Triple Helix model of working together in the region was only at its infancy. In addition, the rationale for the Commission was that fragmented Structural Funds programmes would become more joined up and that regions would integrate EU, national and regional programmes in one coherent strategy.

² Boekholt, P., L. Tsipouri, E. Arnold, (1998), The Evaluation of the Pre-Pilot Actions under Article 10: Innovative measures Regarding Regional Technology Plans, Technopolis report for the European Commission, DG XVI.

It was as far back as 1996, when a two year Regional Innovation and Technology Transfer (RITTS) project was launched by the German State of Berlin. It was during this RITTS exercise where I joined forces with Jean Severijns, who had come to support this process, following his experience one of the very first Regional Technology Plan in Limburg and other pilot regions such as Wales. For Berlin, still getting to grips with its recent history as an isolated island surrounded by the DDR, this was in many ways a very challenging exercise. Unlike Limburg that had its industrial history and linkages with neighbouring regions, Berlin had hardly any manufacturing left in the 1990s so the absorptive capacity for economic strategies was extremely low. New priority areas – ICT, biotech, service sector, logistics and sustainable construction - identified and developed in that early RITTS process are still part of Berlin’s key domains today. In the 1990s the region did not have a culture of involving stakeholders in the debate for future strategies. And because of its lack of an indigenous industrial base, the region had to focus on start-ups and attracting new businesses to the region. The 18 months RITTS project must somehow contributed to this start of a more demand led process in the German capital city, although this is difficult to measure in any way. Today Berlin is often labelled as one of Europe’s vibrant start-up ecosystems. It is good to note that this has taken almost two decades to evolve in a capital city that has managed to attract many talented and innovative people.

The RITTS programme where the European Commission financially supported the strategy processes in regions, continued until the early 2000s. Although small scale follow up initiatives carried on, there were no extensive programmes to follow the RTPs and RITTSs approaches in later years.

If we fast forward to a decade later, from the early 2010s came the call – initially from the European Commission - for more sophisticated innovation policy planning processes: smart specialisation strategies, or in short RIS3s. At that time regional planning capacity had improved throughout Europe, and particularly in the regions that were involved in the early RTPs and RITTS. Nevertheless, the RIS3 philosophy came from a frustration that was very similar to that in the 1990s.

One of the rationales for introducing smart specialisation is a recurrent tendency for regions to copy innovation strategies from global frontrunners, regardless of their indigenous capabilities. Their ambition to become the next Silicon Valley led to a proliferation of ‘me-too’ strategies, with a focus on public investments in university led research, typically in biotechnology, ICT and later nano-technology. These investments pay little attention to the absorptive capacity of the region and the local skills basis to exploit these investments in terms of economic opportunities. The connection with companies and clusters in the region is often absent.

One of the main goals of this RIS3 approach is a better use of public-private resources for economic renewal and innovation. Smart specialisation implies that a member state or region identifies and selects – on the basis of a bottom-up and top-down priority setting process – a limited number of priorities for knowledge-based investments focusing on regions’ strengths and comparative advantages (Landabaso, 2014).³ Smart specialisation is also seen as a way to pool public funds and increase the critical mass of a limited set of priorities that will receive support.

To summarise the key elements of the smart specialisation approach:

- A stronger focus on building regional growth strategies from existing capabilities and strengths while at the same time aiming for economic restructuring that benefits from smart growth. These are the capabilities already embedded people and organisations from the public and private sector in the region. They form the most important links to knowledge platforms and value chains outside the region or country. This does not imply that regions should stick to mature sectors and continue what they have been doing for decades.
- On the contrary, it means that the focus should be on those entrepreneurial companies and organisations that could support (technological) diversification and/or establish cross-sectoral linkages to rejuvenate these sectors. The policy challenge is to identify these (potential) strengths and facilitate their further development and exploitation

- The acknowledgement that much of the regional growth strategy will be driven by entrepreneurial people, institutions and companies and thus that they need to be a core player in the regional strategy process. This is often referred to as the entrepreneurial discovery process. While the smart specialisation literature often portrays this as a purely ‘bottom-up’ process, the need for critical mass and selectivity of (public) investments requires choices where policy makers provide additional support. These strategies need to be ‘place-based’ i.e. they need to be adapted to the local capabilities and contexts to be effective.
- Innovation policy-making is based on solid evidence and a set of competences which are more strategic and better informed, outward looking and more forward looking and ‘pro-active’.
- The realisation that in times of economic and financial pressures governments need to prioritise and be selective in their technology and innovation support in such a way that the most ‘smart’ growth strategies are boosted with government policies. In policy terms this means that support programmes should not only be generic and ‘horizontal’, but emphasize and favour some specific domains or groups of firms that have the potential to drive the diversification process and innovation. The right mix should be found between generic measures that support (smart) growth and measures that focus on growth in specific domains.
- Enhanced interaction and coordination between regional, national and international policies, (often dubbed as ‘multi-governance’ policies), are needed to make a step change. More impact can be achieved if support programmes and government policies are pooled together and aligned.
- The necessity to develop strategies and capabilities in an international perspective and where possible, to utilise cross-border linkages to exploit complementary expertise and access cross-border value chains. While not every region can harbour world-class clusters, all sectors are interconnected to international value chains. Improving the competitive position along these value chains and entering into higher value-added markets should be an important aim of any regional innovation strategy.

³ Landabaso, M. (2014). “Time for the Real Economy: the need for New Forms of Public Entrepreneurship”, *Scienze Regionali*, Italian Journal of Regional Science, Vol. 13 – n. 1, 2014, pp. 127-14.

Smart specialisation requires the collaboration of a complex set of actors who jointly develop ideas and implement actions to arrive at new economic development directions for the region. Hoping for one single entrepreneurial actor to come up with a disruptive innovation or a completely new business model that has significant spill-overs for the rest of the economy is a tactic that not many regions can afford to rely on. In practice, successful regions have facilitated the interplay between various actors to stimulate rejuvenation of economic activities.

Again, as with the RTPs and RITTS programmes in the 1990s, the European Commission has supported regions with expertise and guidance to develop smart specialisation strategy capabilities. It has stimulated regions to be peer reviewed by other regions, created an electronic platform for learning materials and supported experts to provide feedback to draft versions of the RIS3 document and help with the stakeholder consultations. An intriguing question – which can not be answered easily - would be whether the Commission’s top down approach of demanding RIS3s would have been necessary, if the Commission had continued with fully fledged RTP/RITTs in the previous decade, especially after the entrance of new EU member states since 2003. An Expert Group formed by the European Commission reviewed the state of play across all EU States up to early 2015 (Clar et al., 2015) when the RIS3 should have all been completed and integrated in their Operational Programmes.⁴ The review observed that:

- Not all countries and regions had managed to complete a full RIS3 process in the timeframe given to end 2014, and especially most of those countries with a high dependency on ESIF funding for their total R&I investments. This demonstrated that the RIS3 process takes time and asks for sufficient human resources to be truly implemented. It also needs high-level political support. A considerable number of regions were given a relaxed deadline by the European Commission and were in the process of finalising it in 2015 and 2016.
- “Openness” to other regions, countries and globally, is in general not well developed in the strategies.

⁴ Clar, G., P. Boekholt, C. Nauwelars, C. Saublens and M. Tiits (2015). Place-based Growth in a globalized Context, Perspectives for Research and Innovation Strategies for Smart Specialisation (RIS3), Expert Group report for European Commission, DG Research and Innovation (Brussels).

- Overall, regions already internationally well connected, devote more attention to external cooperation in their RIS3 than regions with poor international linkages.
- While some regions embraced a broad approach to innovation others neglected issues such as the human development and skill factors, organisational change, regulative improvements.
- Actions to improve synergy with similar European and national initiatives and policy programmes were sparse. The multi-governance concept is not yet put into practice.
- There is a relatively strong focus on supporting the creation and development of new knowledge and technologies and conversely a relatively weak focus on improving the absorptive capacity and the take up of existing knowledge and technologies.
- Although the expert group could not examine the evidence in detail there was a strong sense that many regions found it difficult to prioritise and continued to either provide generic support or maintained support to a broad set of the usual domains or clusters.

Of course, with over 300 regions in Europe there is no ‘average’ picture and many good examples could be found. It is clear that designing a smart specialisation strategy is not a one-off exercise that is finished the moment the glossy brochure is published. Smart specialisation strategies need both continuity, (a long term vision) and flexibility with room for experimentation and adaptation. The processes of fact-finding, stakeholder engagement and developing appropriate policy mixes need regular monitoring and possibly updating if actions prove ineffective. Developing a strategy is one step. Translating a strategy into appropriate policies and implementing them effectively require even bigger steps.

In the officially submitted RIS3 documents reviewed by the Expert Group, the elaboration of the implementation plans, describing the types of policy instruments and interventions that would be used to reach the targets set in the strategy, was poorly developed. This is partly due to timing; there was too little time between the RIS3 process (due for end of 2014) and the planning of the Operational Programmes, which lay down these programmes and policies (due to start in January 2015). Another explanation is that the policy makers

involved in the strategy development process, were not necessarily those that decide on and design the research and innovation policy programmes. The authorities and organisations responsible for strategy development seemed in many cases disconnected from the authorities that are responsible for the implementation of (EU co-funded) support programmes. A lack of high-level political commitment for the RIS3 did not ensure the connection between strategic planning and implementation. A third explanation is a lack of experience in many regions applying this different philosophy in policy making, with a larger engagement of stakeholders and policy mixes that need to be strategically aligned with the RIS3. In this context, the whole smart specialisation exercise can be considered as a first step in a long process of improving public management. And in many regions the degree of trust and (self-) organisation between private and public sector stakeholders is low and needs much more time and effort to flourish.

The Province of Limburg has been in the fortunate position to be at the forefront of smart regional planning processes. Jean Severijns' close connections with the Regional Innovation Unit in the European Commission and the other RTP pilot regions in those early years will certainly have played a positive role. Today Limburg is well connected with its neighbouring regions, within The Netherlands (Brainport Network) as in Belgium and Germany. It has developed its smart specialisation strategy in cooperation with the Provinces of Noord-Brabant and Zeeland. This RIS3 could build on underlying regional strategies that already had strong 'smart specialisation' elements. Operating in a Triple Helix mode is common practice in most of Limburg's regional initiatives and it is difficult to imagine that this was not obvious, even 10 years ago. Nevertheless, there are still challenges regarding the internationalisation of the private sector and the alignment between regional and national innovation policies.

The lessons for the **future** that we can learn from these two decades of regional innovation strategies are as follows

- The capacity to develop a demand led and at the same time visionary and 'smart' regional innovation strategy takes many years, maybe decades. It also needs dedicated human resources and high level policy support. European regions that have only started this type of policy planning with

the recent smart specialisation process, have the advantage of being able to learn from the forefront regions in terms of setting up policy planning processes, involving stakeholders, making use of the best evidence base as well as monitoring and evaluating progress. Forefront regions such as Limburg could build relationships with 'early stage' regions through mutual learning exercises. But even in well established regions, the art of strategic policy planning should not be taken for granted and be resourced and renewed continuously.

- There are still many more opportunities to be grasped in developing effective synergies between national and regional innovation strategies. In many EU countries, these are still separate policy communities that develop fragmented policy portfolio's rather than joined up initiatives. The lack of alignment between the Dutch national Top-Sector approach, with the regional smart specialisation strategies is one example of that.
- Once a 'solid' regional innovation strategy is developed the real challenge is to connect the strategy with policy implementation (e.g. programmes, initiatives) while at the same time taking a long-term perspective on expecting impacts of these policies. Monitoring progress is important while at the same time having realistic timeframes of expected impacts on the economy. Policy makers and politicians have a tendency to forget this.



Pierre Bourgoigne

Freelance French consultant for public policies of economic development through innovation
Bass player

Innovation policy

Return on experience

EU INNOVATION VISION FEEDS OPINION

EU Commission invested a lot of energy to elaborate new schemes and supported (imposed!) the implementation of Regional Innovation Strategy exercises, from RITTS/RIS to S3. This is a full success. But...

1. HALF-FULL GLASS Innovation is now a **universal** EU key word.
 - 1.1 Innovation is now considered as the challenge of the challenges in many political programmes and speeches.
 - 1.2 Entrepreneurs also declare Innovation as a solution for attracting people, improving competitiveness, preparing future.
 - 1.3 Innovative behavior evolves from purely technological innovation to all fields of economic activities: businesses organization, human resources, marketing and commerce, inter-businesses relations, etc. this is true for the economic sector and in a certain sense for administrative bodies.
 - 1.4 Innovation also addresses social and societal activities. E.g. Social and solidary economy.
 - 1.5 And the mixing of innovation in the business and economic fields and the social aspirations produces explosive changes: silver economy, Uberization, digital commerce...

1.6 In countries like France very centralized, all the debates about new ways of developing innovation modified the notion of territorial dimension and increased the role of Regions as natural leader of economic transformation.

2. HALF-EMPTY GLASS Is Innovation the **tree that hides the forest**?

2.1 Concepts on which the innovation speech is based did not really evolve for decades. I had the opportunity, 4/5 years ago, to be invited to speak at the conclusive seminar of a EU network dealing with the question of innovation spirit development. After looking through the production of this network, I chose to recycle a speech I had given more than 10 years earlier. I only update the figures. The rest was absolutely identical. Only one person discovered the trickery, she was a lady, a former Austrian colleague: Irma Priedl. We have been member of the IRE network board. The rest of the audience came at the end telling me how interesting my speech was... I think this is a problem. I had the opportunity to discuss about that with many friends and globally, we converge but do not have a convincing answer to propose... Maybe it does not exist.

2.2 Innovation is considered as the mother of all transformation may have hidden other crucial questions:

2.2.1 Should economic growth be considered as the condition sine qua non of improvement of the situation of EU peoples?

Innovators should have invented other indicators batteries than almost only purely economic ones.

2.2.2 Innovation did not demonstrate its capability to replace the jobs destroyed by the creation of new (better?) jobs. On the contrary, it seems that, in many countries, evolutions of working relationships created poor workers, atomized working class, increased richness for the wealthy people, increased role of money without real counterpart, etc.

Of course, many of these questions should ask politicians because they are normally in charge of improving the global situation of their territory, country or region of the world which includes the individual situation of every citizen.

Don't we need to invest in political innovation? in ethical innovation...?

2.2.3 The question of the role and the place of the work is central. For centuries, having a job is the ultimate indication you have a place in the society. The social role of the human being in the society has not been clearly questioned. Its realizations as an individual, as a person, had been forgotten. Its aspirations as a thinking being for joy, happiness, peace, etc. erased.

Why?

Innovation replaces human workers by robots and for many jobs it is a really good thing but the software of many deciders did not integrate in their mindset and still think workforce is an adjustment variable.

WE NEED TO FIND NEW LEVERS FOR NEW GENERATIONS: IT BEGINS BY EDUCATION AT EACH LEVEL OF THE SOCIETY.

Comments: John M. Keynes wrote in 1930: "We suffer of a new disease of which certain readers ignore the name, but of which they will hear a lot: technological unemployment." (Letter to our Grandchildren)

On my opinion, this is the key question and normally for the last 30 years we, at least I..., have tried to address it. And the situation is not really better. For sure there are differences between countries and regions but globally speaking, this dilemma is not solved. 9 million of poor people in Germany, 5 in France, 0 hour jobs in UK, incapability to propose hope to migrants, hunger crises in Africa...



*Dr. habil. Gunthard Bratzke
Andreas Fiedler, M.A.*

ISW Institute for Structural Policy and Economic
Development, Halle (Saale), Germany

Successful Energy Transition between Innovation Promotion and Structural Policy – The Example of the HYPOS Initiative – Hydrogen Power Storage and Solution East Germany

The energy transition is one of the biggest challenges for Germany. The closure of nuclear power plants until 2022 and the shutdown of the coal-fired power plants until 2030-2050 is putting a lot of pressure on the German energy system. An important framework is the imbalance between the production of regenerative energy mainly in Northern and Eastern Germany and the consumption in Southern Germany. Due to the insufficient possibilities of energy storage technologies the development of new power supply lines are necessary to distribute electricity all over Germany. The construction of these power supply lines is intensively debated at political level and there is strong resistance from the public opinion. An alternative to this situation is the transformation of regenerative energies in the regions with high production of wind and solar energy. Behind this background the project HYPOS has been developed with the focus on the transformation of regenerative energy to chemical energy – in this case hydrogen. Preconditions for this project were the existing hydrogen pipeline network, which is the second largest in Germany, as well as the large cavern systems for the storage of hydrogen. This allows the storage of regenerative energy in the regions, where it is produced.

The “Hydrogen Power Storage & Solutions East Germany“ project¹ initiated by the “Fraunhofer Institute for Mechanics of Materials IWM“, the “Industrial Initiative for Central Germany“ and the “Cluster Chemistry /Plastics in Central Germany“ intends to develop economic solutions for using wind and solar power to produce hydrogen via electrolysis on an industrial scale until 2020. It would be a revolution in the hydrogen industry, if turning the electricity out of wind and solar power systems, which is only available very inconsistently, into hydrogen through particular chemical processes was possible. Thereby, saving and transporting it for ongoing use is another essential condition being met. Then this “green“ hydrogen shall serve as raw material for the chemical industry being basis for an extensive electro mobility as well as energy source for electricity and heating supply. With the project HYPOS out of the initiative „Twenty20 – partnership for innovation“², which is supported by the Federal Ministry of Education and Research (BMBF), the electricity grid and material flow of chemistry in Schkopau and Leuna, the gas storage in Bad Lauchstädt and the electricity grid in East Germany should be connected by the green hydrogen in a model approach. The objective is to achieve system and network infrastructure innovations for the economic efficiency of safe and green hydrogen until 2022.

On August 7, 2014 Sigmar Gabriel, Federal Minister of Economics and Energy, visited the gas storage location of Bad Lauchstädt of VNG Gasspeicher GmbH and the Linde AG gas station for hydrogen at the Leuna chemical park in the framework of the hydrogen project “Hydrogen Power Storage & Solutions East Germany“ (HYPOS). Sigmar Gabriel emphasized the importance of a successful design of the energy transition for the future viability of Germany as a industry location: “Innovative approaches to storing electricity and gas, thus decoupling the generation of renewable energies from consumption will play a key role in the expansion of renewable energies.”

The German federal government supports the project HYPOS in the framework of their innovation programmes. Hereby important successes for the economic development of green hydrogen could be achieved. In parallel the federal government tries to support the development of demand side for hydrogen technologies in the framework of the H2 Mobility initiative for the development of hydrogen fuelling stations.

¹ <http://www.hypos-eastgermany.de/>

² <https://www.unternehmen-region.de/de/7647.php>

Problems occurred in the moment when it became obvious that regions with storage capacities such as Central Germany were not in the focus for the development of the fuelling station system. In result of intensive discussions with the federal government that active innovation promotion and structural policy must go hand in hand for the implementation regional research and innovation projects and the generation of demand and construction of infrastructure. In order to combine these aspects a regional initiative for the development of a hydrogen fuelling station has been established.

A consortium of companies and research institutes in the city of Halle (Saale), coordinated by the isw Institute for Structural Policy and Economic Development and the cooperation network Chemie+, has succeeded almost 30 competitors in the first national location call of the H2 MOBILITY³ initiative and is now building a hydrogen tank station in Halle. The hydrogen fuel station will be integrated into the already existing multi-energy refueling station (conventional petrol station with natural gas and electricity supply) of PS Union at the Selkestraße. By the year 2018, 100 hydrogen filling stations should be build all over Germany. The H2 MOBILITY initiative is the basis for the market introduction of environmentally-friendly electric vehicles with a hydrogen fuel cell drive. With the location call, H2 MOBILITY has expanded the primarily theoretical, study-based approach of the network by a variant, which asks regions to participate directly. Almost thirty applications have been submitted in this call: an impressive figure which shows that hydrogen is an important topic. Halle (Saale) convinced the jury in particular with the vision of the climate neutral, connected and integrated model city, the car-sharing and the high commitment of regional stakeholders. Until 2018 the H2 MOBILITY is now building the hydrogen fuelling station in Halle (Saale). It is already clear that more than 25 hydrogen-powered vehicles will be on the road in the region in the nearby future. Possibly hydrogen busses will also join this group.

At European level, the Fuel Cells and Hydrogen Joint Undertaking (FCH JU)⁴ is currently working as a unique public private partnership supporting research, technological development and demonstration (RTD) activities in fuel cell and hydrogen energy technologies.

³ <http://h2-mobility.de/>

⁴ <http://www.fch.europa.eu/>

Its aim is to accelerate the market introduction of these technologies, realising their potential as an instrument in achieving a carbon-lean energy system. The members of the FCH JU are the European Commission, fuel cell and hydrogen industries represented by Hydrogen Europe and the research community represented by the Research Grouping N.ERGHY.

In 2016, the FCH JU undertook significant efforts to reach out to all those European regions and cities having an interest in the potential use of fuel cell and hydrogen (FCH) based products to help them achieve their decarbonisation goals.

A Memorandum of understanding has been signed in the framework of the FCH JU Stakeholder Forum on 23 November 2016, in which representatives from 17 regions and cities, as well as the Committee of the Regions, participated, out of 45 confirmed participants. Since that time, interest in the initiative has increased substantially and, to date, participation through signature of the MoU has been confirmed by a total of 81 regional and local authorities representing 20 countries in Europe. The Hypos Initiative also participates in this cooperation, Saxony-Anhalt has signed the MoU and contributes actively to the exchange of experience at European level. Deeper cooperation in Central Europe could be developed in the framework of the 3rd Call of the Interreg Central Programme⁵ to be launched in September 2017. Interested regions, research institutes and companies could develop a common project to pursue their objectives for the promotion of fuel cell and hydrogen economy in the next years.

⁵ <http://www.interreg-central.eu/>



Prof. Helmut Breuer, Aachen

Attention: Good expert report

*„Und wenn man nicht mehr weiter weiß,
dann bildet man einen Arbeitskreis !
Bringt der jedoch nichts in der Zeit -
sind Gutachter dann nicht mehr weit!“*

There is a very frequently quoted saying in German to the effect that when people don't know what to do, they set up a task force. The much less well known part of it is that if this doesn't help, experts are called in, which is the experience of the people involved, whether as principals or contractors. The motives and objectives of expert reports do of course vary widely depending on the professional focus. In addition, different experts are not infrequently called in by the different parties when issues are in dispute. Each party then has its «own» expert, who – it is hoped – can and will agree with «its» version of events in the conclusion. It can be said that what each party wants in such cases is a «good» expert report and not a «bad» expert report. All in a completely «objective» way, of course.

Many changes to the initial conditions and the targets formulated present themselves on the way towards an acceptable compromise: after all, not every compromise is the proverbial «shaky compromise». If this does not lead to a conclusion, «time» is called – either it's time for an expert report or time to go to court.

Very often, it is economic and/or spatial conditions and development proposals that underlie these or similar processes: the spheres of action extend from a dispute about individual plots of land or building complexes and their use within a city or municipality, via competition between (usually neighbouring) municipalities, districts or provinces for desired (or even unacceptable!) sites for institutions and industrial operations (e.g. yes to universities, no to waste incinerators), via national or international conflicts of interest, e.g. arising from energy production and supply, transport infrastructure, employment and housing options, all the way to membership issues (admission, remaining, exit) in international associations (the EU says hello).

For a regional infrastructure researcher, which category includes the author as an economic and transport geographer, and looking back over many decades of professional involvement also and in particular with national border areas (such as Euregio Meuse-Rhine), this constitutes «only» four main groups of process factors, almost all of which underlie economic and/or spatial developments:

- natural features and potential
- economic needs and intentions
- technical possibilities and feasibility
- political intentions, responsibilities and funding.

As shown in the examples below, there are more or less close links between these groups, which must be considered in order to achieve as complete a solution as possible. But what is to be done if positive evaluations from one group result in adverse views in another? If the development of different groups is not equally favourable or they experience major changes at different speeds, what weight should be given to the individual factors – and, more importantly, who should do it? Should it be political majorities (which can change after elections), administrative hierarchies, experts or major funders. Because of their diversity and breadth, each of the above-mentioned groups provides its own professional assessment criteria (and appropriate specialists, suitable for writing expert reports). Depending on whether a representative from only one expert group is in charge, the overall results are sometimes divergent. The key issues in this regard are: ecological aspects, job creation, innovative technologies, elections, budgets and financial management.

However, the criteria to be considered quickly multiply again, even within a group of factors, when two or even, as in the case of Euregio Meuse-Rhine (EMR), three countries with different legal systems and several languages meet but cross-border projects and solutions are required. For over 60 years, by establishing and expanding the ECSC, EEC, EU and finally the EC, Europe has set itself the goal of reducing or completely eliminating the differences, at least those caused by national borders (or becoming particularly noticeable there). Originally, the intention was to follow the principle: «equalise where necessary and harmonise where possible». In addition, «large countries should not dominate small ones» but rather «the fast should dominate the slow». And this was always to be part of democratically legitimised processes, i.e. more «bottom up» than «top down».

At this juncture it is neither the aim nor the competence of an individual, nor the place to give an «evaluative» or «expert» opinion. Numerous successes were achieved and as many proposals and projects faltered at the early stages. Although many good (or at least well-intentioned) approaches failed to materialise for joint funding options, for example, few lasting measures were achieved either, «because the resources provided – according to politically determined allocation formulas – have to be used in a planned way». It was, and still is, certainly right to connect border areas at which, for example, national infrastructure networks (rail, road and waterway) usually terminate, and to extend the latter to European networks according to the same technical standards. Yet this – sensible on a large scale – only partly makes up for the cross-border improvements needed to improve regional cooperation. Nevertheless, the various Interreg programmes have in many cases managed, as intended, to lessen the perception widespread among residents of border areas that «although we are living in the centre of Europe, we are still at the periphery of our own country», but it has by no means disappeared. However, this is hardly helped by «memorable» maps and graphs, effective for advertising purposes, showing the home region (thanks to the scale used!) in the centre of a large area as a way of making Brussels, Amsterdam, the Ruhr region or Frankfurt appear to be «at the periphery».

As a test bed, the Belgian-Dutch-German border area is a suitable prototype for demonstrating the appropriateness and functionality of cross-border European measures (including failures). Currently, many people in the region make use

of the «four freedoms» available today: free choice of residence and place of employment with free movement of goods and money – usually without giving it much thought.

Fortunately, however, the neighbours across the border still have their own idiosyncratic and peculiar methods that people prefer to use and can still use today if they find it more advantageous to do so! Competition is good for business, diversity of landscape increases its leisure value and there are far more jobs, schools and places of study than people think. Crossing the border several times a day is no longer a transgression but part of everyday life. But what remains firmly etched on my memory is the parking ticket! I'll just have to pay even more (expert) attention!

P.S.

«Times change, and we change with them». The Ancient Romans knew what they were talking about («tempora mutantur et nos in illis»). That's why good expert reports will continue to be in demand in future!



Luc Broos

former director of ERAC

How European regional policy changed over time

As Jean Severijns asked me to write something about my experience with European regional policy, especially with regard to innovation, I knew immediately what my main message would be: European regional policy has to be innovative in itself in order to stimulate innovation in the regions. Let me try and explain this on the basis of my experience.

I have been involved in European funded regional policy in the Netherlands and abroad since the first programmes (non quota textile and steel programmes, 1982). At that time for the first time a programmatic approach was introduced instead of the transfer of money on the basis of individual projects submitted by the member states. This approach was new and innovative. We did not know if it would be successful, but for the first time we tried to develop the regional economy on the basis of a programmatic and integrated approach. The idea was quite new: develop new activities which can be an alternative for the declining traditional activities in the region involved, especially textile. This looks regular nowadays but it was revolutionary at that time. And successful because it gave a new impuls for the region.

Carrying out such a policy was also quite different from today's experience. We were not hunted by the auditors looking whether or not we broke the (financial) rules, but were more or less free to decide where to spend the money. This is not to say that we made misuse of this freedom, but the idea was that

we had to learn from our policy and not everything can become a success. Of course we accounted for all the activities and money spend. The bottom line however was that we could experiment and see which measures were more effective, without constantly having to be liable.

Was everything better then? No certainly not. In the years after the first programmes were implemented the policy became more professional. New concepts on innovation and regional development were developed and appeared to be (more) successful. On the other hand the introduction of more strict rules lead to more bureaucracy and, in my view, less value for money with regard to the results achieved. Nowadays substantially more money is needed to arrive at the same results, compared to the first programmes. Of course the concept of innovation is much more professional and effective than in the past as most of the stakeholders are aware of its importance and have invested in the development of such concepts.

At the same time however the approaches or policies are becoming more alike and in this respect innovation is lagging behind. I do think we need to experiment once again, as we did with the first non quota programmes, leaving the strict rules behind and really invest in effective and efficient policies for regional development based on innovative concepts as well as stimulation of innovation.

There are still challenges for European regional policies.



Brian Callanan

Previous Planning Officer with Shannon Development (a regional development agency in Ireland) and project manager for the Shannon Region Innovation Strategy

The partnership process

Regional development aims to mobilise our regions and exploit their potential, enlarging their capacity. Within such a big picture, research and innovation is a central ingredient. But for this, partnership is crucial.

My interest in partnership arose originally from my undergraduate years in the study of sociology, alerting me to the reality of social networks and social systems, and their importance in our lives. This transferred to an enthusiasm for public participation in planning during my post-graduate studies in urban & regional planning. So the role of partnership came to me as an obvious element in regional research and innovation strategies.

Partnership has been defined in several ways. The European Commission, in their reform of the Structural Funds in the late 1980s, pointed to the partnership of different levels – international, national and regional, each adding their own value to the development process. This thus is a partnership of different levels in a ‘vertical’ way, with appropriate and complementary inputs from each. Another way of thinking about partnership is to see it as a ‘horizontal’ force, integrating different partners across the sectoral divide, such as public, private, academic and others. This has been very much influenced by the ‘triple-helix’ concept, focusing on the creative renewal that comes from interaction between universities, private sector and government organisations, according to Stanford University.

I tried to grapple with this myself through PhD research, resulting in the publication Ireland’s Shannon Story (Irish Academic Press, 2000), a study of

the innovative development of Shannon in the 1960s, concluding that good partnership demanded three key elements: creative leadership, imaginative visions and effective networking.

So when we started the Shannon RIS (Regional Innovation Strategy) in 1997, we set partnership as our central operating principle. We established eight working groups across sectors and themes: electronics, engineering, tourism, business services, food, information, finance and training. Each working group comprised representatives of the three interests– industry, academia and government. Technical support was provided by external experts from national and international sources. This generated useful debates around some very basic issues. What exactly is innovation? How can we do it? What should we do now? I recall the challenging talk by Jean Severijns to our steering group, helping to transfer some of the lessons from the earlier Limburg exercises. Indeed, Jean’s work led to the adoption here of the ‘Innovation Voucher’ scheme, still a prominent part of the Irish innovation support framework. The partnership process worked well for us, generating significant new innovation supports.

Subsequent to our own RIS, I enjoyed making inputs to regional innovation strategies through the RIS-NAC programme (Regional Innovation Strategies in the Newly Associated Countries) in Hungary, Estonia and Slovenia who were then preparing for entry to the European Union. They seemed to embrace the partnership process very readily, possibly because they did not have the inherited traditional institutional structures of the western countries, and had to transform themselves in their push to the market economy. So were they better at forging new partnerships than the western European regions?

The partnership process is a valuable ingredient in regional research and innovation. Partnership is an instrument which is multi-faceted, many-layered, rich and vibrant, but also complex and challenging, with traps and hazards. We therefore need to continuously re-invent our partnerships and experiment with new approaches, learning all the time. Over to you, next generation!



Ercole Cauti

Founder of METRON Group Abruzzo Italy, former Director of RIS Abruzzo and now also Director of CAPITANK, an Innovation Pole in the Chemical – Pharmaceutical field.

“A life searching for Innovation”

I have started dealing with regional development policies mid-1990s.

Europe made up of 15 Member States: Austria, Finland and Sweden had just entered the European Union.

Italian regions, particularly central and southern ones, started by organizing to study and dialogue with European States by opening a representative office in Brussels.

Before that, the development of Italian southern regions had been focused on facilitation mechanism as “Cassa per il Mezzogiorno”¹ which guaranteed to those territories a competitive advantage based on decreased fiscal contributions.

It was a considerably exciting period, with reasonable optimism: Abruzzo was the first European region which went out from Objective 1 because of reaching and getting over the limit of 75 % European GDP.

It was during those years that I had the privilege to be the managing director of **Abruzzo RIS project** (Regional Innovation Strategies); an extraordinary experience which allowed me to share ideas and knowledge with the main actors of local development and to compare myself with profound European personalities who did the same roles in their territories.

¹ A special fund dedicated to southern regions of Italy with very low economic development

I knew and worked with Carmelo Messina and Mikel Landabaso, I shared ideas and discussed with Jacques De Chilly, Alberto Silvani, Jaime Del Castillo, Jean Severijns, and many others...

In that phase above all, a sharing and confronting process was started with people who dealt with “innovation” at 360°, everyone in his own area, with personal point of view, with their own laws and available resources but with one common denominator: maximize the impact of development policies and facilitate the spread of the best ideas.

With many people of that group we are now friends, with some others we have written and managed interregional cooperation projects and, after nearly 20 years, I am very glad to embrace the invitation of a former friend like Jean Severijns, to do an analysis on how things have changed and how positive there were in what we had imagined and how unfortunately, we have not been able to achieve.

RIS Abruzzo project – that we have replicated in other European regions too (North East, North West and Ilfov in Romania, Presov and BanskaBystrica in Slovakia, North East Bulgaria, Central Switzerland) – tried to give impulse to all local development actors’ by creating a mechanism that stimulated and fed from down in a virtuous process, involved in a wide emulating competition for the improvement of the whole productive system, all the relevant stakeholders: public institutions as well as entrepreneurs, trade unions, research and innovation institutes, universities and professionals.

Attempts were made to develop an innovative environment, to activate potential development energies inherent particularly in SMEs, not to replace actors but to put them into a network trying to become the innovation engine of the regional system.

I would like to report below what we wrote in the final report presentation of RIS Abruzzo project, of 1999.

“In our region, it is outmoded the development model focused on mechanisms of facilitation (on fiscal reduction, in other words); it is necessary to experiment new paths and new development models, otherwise, the risk is that a growth process which is still uncompleted, will be interrupted.

We need to modify and not to interrupt the flow of communitarian financial assistance which, till today arrived, so to say, without precise targets; in the future financial channels should be activated for targeted projects which could support with efficacy the

economic development to grant relevant saving in public resources.

In a phase when the balancing action is largely based on the rationalisation of public expenditure, it is essential to combine the exigency of granting the needs of a productive system which is still not self-sufficient, with the exigency of reducing the total expense of the Country.

The new cycle of development should be founded on competitiveness, on innovation, on quality and capability to stay on national and international markets with sufficient authority. This does not mean to protect local enterprises from competition, on the contrary, it means to increase their capability to compete, to sail off shore.

In order to do this, the planning and initiative capacity of the entire system should be strengthened. It is necessary to embark on actions aimed at the rationalisation, strengthening and integration of infrastructural and information networks, at the development of synergies between Universities and Research Centres, in order to create a new policy of innovation and human resources. This new policy, along with a more modern view of the labour market, should grant proper results in high training area. All this should be seen as it is realized in a logic of cooperation and coalition among actors, not only institutional ones, but also economic, social and cultural actors, who determine and build appropriate connecting solutions”.

All above-mentioned show two conditions: we were right but, unfortunately, in nearly 20 years many things have not yet been done.

I want now briefly recall how the innovation issue has been approached over the years.

During RIS Abruzzo period, second half of 90s, it thought in terms of “*industrial district*” so as they were imagined by Giacomo Becattini “*a socio-territorial entity characterized by the presence of both a community of people & a population of firms in one naturally and historically bound region*”² and it used to be stimulated the possibility of using research infrastructures, sufficiently numerous and well arranged on regional territory.

Everyone thought that universities of Abruzzo, the Scientific and Technological Park of Abruzzo, the CNR laboratories (National Research Council), the CRAB (a biotechnology centre at Avezzano), the Mario Negri Sud Institute and the Gran Sasso National Laboratory (LNGS) - INFN (National Institute for Nuclear Physics) could conduct a strong propulsive action stimulating SMEs to higher levels that, at a time of economic growth, seemed close.

² Giacomo Becattini, 1990 “The Marshallian District as a Socio-Economic Notion”

It was the period in which Public Administration decided to invest on “business incubators” that soon revealed what they actually were: simple containers rather than virtuous environments where the most innovative start-ups could find fertile ground to grow, develop and reach new markets.

RIS Abruzzo was – together with the experience of “Territorial Pacts” – an *exercise, a new methodology* of revitalising the system region with a “bottom up” involvement of the local development actors that had positive effects, contributing to a closer relationship of the different persons as well as facilitating the new investments attraction.

Very useful was also our participation in National and international networks such as “Innovating Regions in Europe” or the very first experiences in some transnational or cross-border projects where we had the possibility to work out new pathways and to measure our experiences.

A new generation of development operators was born with a wider vision than the previous one.

Our personal stories were dissimilar, there were managers of National and local Institutions, professors and entrepreneurs like me.

However, the driving force of system Abruzzo in the 80s and 90s was diminishing progressively and in the first decade of the 2000s, productivity of Abruzzo Region started growing less than the national average. Such level of criticality was due to both the lack factors of growing, external to enterprises, and to businesses investments innovation features.

Abruzzo, therefore, lived a period of stagnation, a difficult growth linked to the stop imposed to the development process by the lack of innovation capacity and delays in the infrastructures.

In 2009, I had been working on a document, along with others, and we photographed the situation of Abruzzo Region about those years: *“Abruzzo productive system was, and still is, characterized by high number of SMEs (95% of companies in Abruzzo are micro, small and medium-sized enterprises) mainly active in traditional fields, and by some medium-sized and large companies active in strongly globalised medium- high technology fields”.*

“The competitiveness level will be decisive to the recovery, since the excess of global

production capacity compared to demand, will bring in globalised sectors, from electronics to automotive, to tourism, a very hard competition. Only the efficient systems will survive, able to a strategic integration between large enterprises – in a logic of supply chain, with the necessary involvement of universities and research centres”.

“In order to restore the regional economy, productivity needs to be increased to extend the competitiveness of businesses on domestic and international markets, increasing the technological content of productions and promoting the knowledge economy.

In Abruzzo, the main strategic sectors of the territorial system are those operating in the automotive and related industries, food industry, ICT, pharmaceuticals and chemistry as well as initiatives for sustainable development in the field of construction and tourism”.

It was in 2012-2013 that we started testing a new way to do innovation: it has been much invested in “Innovation Poles”.

A quite new experience in Italy that see the launch of steady but light groupings (often consortia companies) made of large enterprises, SMEs, Universities and Research centres working together to favour the knowledge, to encourage the involvement of small and micro enterprises of the territory into projects carried on by large enterprises and, particularly, to maximise the impact of European funds which are becoming smaller and smaller.

In Abruzzo, however, there have been numerous experiences and some of them have been relevant. In fact, the OECD recognized the validity and then, the same regional government adopted this policy as strategic within the ROP (Regional Operational Program) for the use of ERDF funds 2014-2020.

I have been working on the creation of 3 innovation poles and now I am the Director of the “Life Sciences” pole, identified in the region as Smart Specialization Strategy.

Hereinafter, I would like to briefly report the successful key factors of such an experience in which I am strongly engaged and that I am carrying out full of enthusiasm, but I would also point out some crucial elements which, in my opinion, without them, Innovation poles would lose their effectiveness. As far as I am concerned, its most successful factors are represented by the leading role, I would say dominant, of large companies.

This fact has not to appear as opposed to “bottom up” approach, that we have always followed in dealing with innovation issues, it is a simple question of identifying, thanks to large companies’ vision, activities immediately useful and usable; to have a shorter way to enter the market.

Sector “Life Sciences” is represented, in Abruzzo, by very few but high-profile enterprises both in terms of turnover and innovative capacity; a sector that, in difficult years for European, Italian and regional economy, has gone in countertendency showing an increase numbers in turnover and employees. The Innovation pole – CAPITANK, Chemical and Pharmaceutical Innovation Tank – today a group of 56 associates, among which there are the large companies of the sector, the three universities of Abruzzo Region, some important research centres and many SMEs.

Results achieved during the first period of activity have outperformed expectations.

The goal we set, besides creating a chemical-pharmaceutical network of Abruzzo region, was to increase the competitiveness of the enterprises belonging to the Pole in the technological domain, through focused actions on:

- fostering processes of aggregation and fruitful work among enterprises,
- facilitating the access to the innovation technology of process, product and organization and make more efficient processes of technological development,
- closing and making easier services access useful to elaborate innovation (laboratories, research centres, etc.),
- stimulating the introduction of organizational and managerial innovation in the SME’s pattern,
- improving, through training sessions, competences and skills of entrepreneurs, workers and professionals, with a focus on youth and people working in the field.
-

Results have been widely satisfying if it is true - and it is - that the Pole named “Life Sciences” is acknowledged by all institutional, regional and economic actors, as a reference point among the domains of Smart Specialization Strategy European Union identified for Abruzzo region in the 2014-2020 programming period.

In four years we have funded, with associates and European funds of Abruzzo Region, services and pilot projects in the following fields:

- industrial research and protection of intellectual property,
- special waste management, energy and water treatment,
- environmental sustainability,
- logistics and reengineering of manufacturing processes,
- management systems and certifications,
- reengineering business processes & risk management,
- funded training,
- access to credit, management control and taxation,
- administration and HR management,
- marketing, communication and ICT,
- automation.

Almost all associates were involved in various ways beginning with the three Universities.

The methodology that we have set and the results achieved have convinced Abruzzo Region to appoint our project for the RegioStars Awards 2017.

We participated in European, national and regional call for proposals, contributing significantly by attracting in the Abruzzo territory the resources for R&D.

We have developed a significant networking activities involving economic, financial, institutional organizations of the research both through public events and meetings with individual actors.

A quote is worthy for a project named “Future medicine”, that is an IPA Adriatic 2007-2014 project already successfully completed in 2015, in which 11 partners from 6 countries were involved.

Particularly important is “INTRA” project that Capitank designed, proposed and won in the field of a European call for proposals for the interregional cooperation projects: Interreg Europe Programme.

“INTRA” is very significant both the topic and for the reason that allow us to deal with development agencies and University of Slovenia, Bulgaria, United Kingdom, Spain and Portugal.

It concerns, within the next years to develop innovative methods – according to the theory of “quadruple helix”, with the involvement of the four areas:

Government, Industry, Academia, End Users, for the internationalization of SMEs.

We have spent considerable time in defining, together with stakeholders, Abruzzo Region and representatives of the European Commission, the operational aspects of the Smart Specialization Regional Strategy.

In this context, the result we have achieved is remarkable since we have contributed to define the issues (directions) of development:

- a. Personalized medicine;
- b. Processes, pharmaceuticals and personal care products, with high efficiency.

I wanted to describe in detail the main issues identified by us and included in the regional programming of EU funds in 2014 - 2020, to emphasize the strong change compared with what was done a few years ago.

In accordance with the EU's guidelines it is understood that each territory must have its specializations, its strongest sectors and all must invest both culturally and financially to develop these sectors.

We had already discussed it in the late '90s but now, it is absolutely priority not to scatter resources.

The synthesis of this working way, which brings together the cultural approach of our early works more than twenty years ago, together with the most modern methods of Innovation Poles, networks of enterprises, is represented by a project that we are starting now, after a long incubation period and that represents the flagship of our activity.

This is a project of R&D that involves collaboration between a large pharmaceutical companies, a university, the Innovation Pole Capitank and Abruzzo Region.

The project consists in the realization of an Excellence for Research and Innovation Center, in the ophthalmology field called "Abruzzo Regione della Vista", located in abruzzo territory.

In details, the project foresees a mixed intervention public/private aid for research in the ophthalmology field. The research is carried out by private entities in collaboration with universities within the territory of Abruzzo. This research activity, is appropriate for encouraging the creation of an attractor pole of development in the sector at international level.

In this regard, the large pharmaceutical companies, with its headquarters in L' Aquila, is placed strategically as a core of advanced pharmaceutical experimentation, concentrating these activities in the abruzzo territory. We believe that the Project " Abruzzo Regione della Vista", will be able to make an important contribution to increase the competitiveness of the health system of the Abruzzo Region, since it will be able to satisfy the patient's care needs coming from other Italian and European regions.

We also expect to have the possibility to create new businesses companies with high technological content and new jobs in this sector: the Innovation Pole Capitank aims to harmonize the research and development activities and high education, in order to attract highly skilled professional experts, able to contribute to the activities and to facilitate and draw new high-tech companies that could serve to develop and enhance the research in the pharmacological field.

I wanted to retrace a long period of work that saw me involved for over twenty years, always in the sector of innovation and applied research, to review mentally how much has been done and to provide a comprehensive image of how, although radically changing the reference scenario, the themes and the approach have always been the same.

The strong point, I would say the guiding star is the international view, the global vision that has directed us.

The production system has been more receptive and able to adapt to the changes, otherwise main difficulties have had the system of public research and the Universities.

A different matter, should be made for the institutional system; Public Administration has the same delays, the same approaches of twenty years ago. Policy makers and, above all, the bureaucratic system of government seem that they have not noticed that in these twenty years, everything has changed: Europe expanded more and more, it must deal with countries seeking to get out, public resources decrease, the international competitors are growing, and the central decisions are not taken only in some areas of the world. However, some sectors, some areas, as I tried to say in the preceding pages, continue to be competitive, to be able to increase turnover.

The territories, the local operators, those who have been most successful have had the ability to anticipate changes and have tried to overcome the difficulties due to the small size of some areas in southern Europe, creating aggregative structures totally different from those years of the last century.

The current aggregative structures that succeed and can overcome the globalization challenges and global markets, are those that do not take a chance on superstructures that would increase only costs but that systematize knowledge and skills.

Our territories, which are less and less attractive both since they are marginalised, and because labour and facilities costs are superior to other parts of the world, they have only one chance to beat the competition: to provide a growth-facilitating environment for start-ups and spin-offs.

What we are doing in this sector, we believe it could be the key to make them more convenient to come and work with us.

We do not provide, for those who decide to come and invest in Abruzzo, resources to set up a company; we propose a way to be taken together and provide a contract to jointly develop the research activities.

Under the Public Administration direction, with the support of an influential University department and with the sustain of a big enterprise which protects us and helps us “sailing the open sea”.

This is what we learned in many years of working with some failures and with many motivations.



Dimitri Corpakis

Former EU official (Head of Unit, DG Research)

How do you look back on (regional) research/innovation policy of the past years? (You might, for example, approach it from a European, national or regional perspective)

Having started the journey of working on and co-shaping the Union’s regional policy in the early ‘80s, I can say with confidence, we came a long way: we started with quite simple and straightforward views on capacity building and we evolved in recent years to more integrated approaches on innovation ecosystems. This is by far how I would epitomise the trajectory of regional research and innovation policies that evolved substantially under the constant development of a globalised competitive economy (I would even say a ruthless globalised economy).

Starting from the early and timid initiatives in the ‘90s (like STRIDE), where for the first time we were able to support research and education infrastructure together with research and innovation projects we learned a lot about the limits and the barriers of absorptive capacity of those regions and institutions supported. Gradually we launched more integrated and sophisticated initiatives that looked specifically on how to ‘connect’ the players of the Triple Helix in the (mostly) disconnected regions of the so-called less favoured regions of the Union (Cohesion regions). And that was one of the major challenges that we still face today.

The process was and still is utterly complex, as regional planners have to make sure they coordinate well with the national and European levels, often a difficult exercise. Planning authorities have to cope on the one hand with the established ‘politically correct’ views on regional innovation and on the other, face the reality of their own constituencies, frequently a puzzle to solve. On

top of that, funding depends on the European Structural and Investment Funds that have to certify compliance with European policies on the subject matter. Making the best of all worlds is indeed possible, but this depends on the ability and the competence of the regional administration as well as on how best it can integrate and assimilate domestic and external expertise. The recent example of Research and Innovation Strategies for Smart Specialisation illustrates this process at its best.

What is your view of the effectiveness of this policy?

I am afraid we were not as successful as we could have been, or at least at a degree we could make things significantly change. There are a number of reasons for this: first, the changing globalised economy did not help; while it offers enormous possibilities for development, it also carries significant barriers for local players that cannot easily grasp all its dimensions. Second, regional innovation policy wasted too much time and efforts insisting on the potential of endogenous development: while this is indeed true, regional economies seem to have missed the boat of internationalisation, openness and therefore they developed much more like closed shops than open interactive systems. This dimension, not so well understood until now, could be the single most important message for a renewed RTD Innovation policy at European level; Fortunately this is now changing: I could give the example of the revamped European Territorial Cooperation (ETC), largely inspired by former 'Regions of Knowledge': strong focus on learning regions, priority to platforms and larger openness to interregional cooperation.

What was the biggest challenge, and what was the biggest success?

While it is difficult to prioritise among challenges on regional research and innovation policies in the EU context, I could argue that one of the most difficult problems to solve is what I would call "deep peripherality, i.e. overcoming the structural problems and deficiencies of the most peripheral regions in the EU. By "most peripheral regions" I don't mean only (or necessarily) those regions at the fringes of the EU space (it could well be that some of these regions are really more "central" than others). I mean those regions that do not share or nurture functional exchange links with other more advanced regions and thus see their chances of development being substantially reduced. This can actually happen essentially for the following reasons:

- A weak financial environment, with low prospects of overall investment and economic development;
- Failure to integrate or position themselves on the relevant global value chains, thus gradually becoming redundant in the global market place, losing momentum, relevance and attractiveness;
- Failure to develop strong, frank and durable exchange links between their knowledge institutions (universities, research centres, technological institutions, competence centres), the local business communities and government structures (failing Triple Helix);
- Failure to identify a coherent vision for the future and a strategy to make it happen.

When one or more of these factors are at play, the respective regions risk to fall into the trap of deep peripherality. This leads to 'shadow' areas around the EU that can become persistent.

On the bright side, I would say that the biggest success is the gradual but sure progress of successful regional innovation strategies: a great number of regions have grasped the real issues around innovation ecosystems and built progressively resilient strategies. There is a growing number of regional development professionals within the planning authorities that are of outstanding quality; in addition, clever administrations have invested in the so-called 'boundary spanners', people that can bridge together several levels and types of government services including building links with the private sector. These developments were the result (among other factors) of long-term coherent policies of the European Commission services that have managed to provide significant strategic input to national and regional innovation policies, without which, the effects of Cohesion policy as we know it would not be the same.

What is the most important piece of advice you can give for future policy: continue along the same path, or chart a new course instead?

Future regional research and innovation policies should continue on the recent strategic path drawn by the concept of Smart Specialisation; however several adjustments would surely be needed, essentially at local level. Current policy results should be carefully evaluated and programmes modified to make sure they remain close to reality, avoiding any dangerous hype. In particular

regions should be given more time to think and re-assess their strategies, without the pressing factor of – unavoidable – deadlines under the rules of the European Structural and Investment Funds. A more relaxed strategic approach (in terms of timing) would allow a better understanding of priorities and potential growth drivers, to draw a new course. However, the basic premise of identifying the activities that would (re)position the regions in the context of global value chains, in order to gain any additional competitive advantage, remains valid.

Can you say something about the international, cross-border dimension of the policy as implemented and wished-for, and the associated implementation opportunities or problems?

Cross-border interregional cooperation, remains a strong component of the revamped European Territorial Cooperation. It will continue providing the necessary exchanges that make the glue, across borders, in an enlarged European Union. Its strongest component will definitely be the growing learning platforms that provide involved regions with the policy patterns they need to know to get inspiration for their own strategies, identify pitfalls and be more creative in their solutions. Growing globalisation finds here a possible remedy, since these kind of exchanges help ease tensions and open new paths. However implementing these learning opportunities is not always easy, as often administrative cultures and practices clash. Appropriate mediation and an intelligent feedback mechanism could help minimise problems.

Finally, it might be interesting to say something about our personal working relationship, perhaps a small personal touch

A long journey is always better with friends: I was lucky enough to have among those Jean Severijns, from Limburg. I was always struck by the pertinence of his remarks in joint meetings and workshops and his great realism that apparently benefitted his region enormously. Limburg has always been a front-runner in the regional innovation universe and we had all been inspired by their achievements and used it as an example countless times. But beyond Limburg, I greatly admired Jean for his calm and balanced approach and his human qualities: in such an environment like ours where planning is constant challenge and the unknown looms at every corner, building trust among partners is essential: it is actually the foundation of every successful

collaboration. Jean has this enormous capacity of trust-building which made our collaboration a privilege and ultimately an honour. I can only wish we continue to cultivate this creative link for several decades, as we go along. The show must go on.



Prof. Koenraad Debackere,

Professor Innovation and managing Director KU Leuven R&D

Regional hotspots: developing ecosystems through smart specialisation strategies

A tribute to Jean Severijns,

The best way to transfer technology is to transfer a human carrier. In his 1977 book, *Managing the Flow of Technology* (The MIT Press), Thomas Allen came to this critical insight that still underpins the multitude of instruments and actions of modern technology transfer policy and organization. His was the first consistent work to study and demonstrate the critical relevance and importance of communication and information exchange to innovation and its successful implementation. His work highlighted the relevance of combining informal and formal transfer mechanisms to stimulate the flow of technology within and between organizations. The proximity between technologists, business developers and investors has proved to be a critical success factor in technology and knowledge transfer. Tom Allen's notion of gatekeeping underlines the importance of direct, multiple and informal contacts between specialists in organizations in fostering technology and knowledge transfer.

Those concepts have inspired Jean Severijns for many decades. They have been at the root of the design and implementation of cluster policies in support of regional innovation. Those cluster policies aim at the genesis of regional innovation hotspots. Those hotspots are an important focus of smart specialisation policies.

Smart specialisation is a new economic concept that creates opportunities to support regional economic growth and employment through improvements in the methods used to analyse and to intervene in support of entrepreneurial and innovative business development. It is not a planning doctrine that would require a region to specialise in a particular set of industries. Instead, it seeks robust and transparent means for nominating those activities, at regional level, that are already strong or that show promise of benefiting from sustained R&D and innovation activity. For a detailed description and analysis on smart specialisation strategies, reference is made to the *OECD Report on Smart Specialisation for Innovation-driven Growth*, OECD 2012.

Thus, rather than offering a method for determining if a hypothetical region has a “strength” in a particular set of activities, e.g., tourism and food, the crucial question is whether that region would benefit from and should specialise in R&D and innovation in certain lead activities such as tourism or food. This means that smart specialisation must address the missing or weak connections that exist between R&D and innovation resources and activities on the one hand and the sector-based structure of the economy on the other hand. Building and fostering such connections are at the heart of successful regional innovation hotspots.

A key rationale for smart specialisation is to provide a means for policy makers to articulate a credible innovation and industrial policy and thereby a positive response to the problems of regions that are experiencing adverse medium-term and long-term threats to growth and employment. The smart specialisation framework thus is also concerned with regions that are less advanced. A reversal of adverse trends in these regions would not only be locally desirable, it would also lead to greater efficiency in resource allocation at a system level (e.g. as far as Europe is concerned, both at member state level and at EU level).

The concept provides strategies and roles for any region. Indeed, the concept is built around the fact that there is not only one game in town in terms of R&D and innovation, i.e. there are many other kinds of productive and potentially beneficial activities apart from the invention of fundamental knowledge needed for the development of general purpose technologies and tools (GPTs) such as information and communication technology (ICT) or biotechnology.

There are in fact different logics or orders of innovation¹.

Some regions can indeed specialise in the invention of GPTs while others will invest in the co-invention of applications to address particular problems of quality and productivity in one or a few important sectors of their economies. Co-invention is an important notion because it means that the very act of adopting some ICT technologies (or any other generic technology) to improve operational efficiency or product quality in a given sector of industry or service is by no means a simple task. ICT applications are rarely ready and waiting on the shelf for new users. The co-invention of applications actually involves a great deal of R&D, design and redesign, i.e. a collection of knowledge-driven activities. In other words, innovation often involves processes of adaptation, recombination, and synthesis at the interstices between organisations rather than the more obvious model of the R&D laboratory delivering a new invention to be commercialised. Smart specialisation therefore implies rejecting the principle of a sharp division of labour between knowledge producers and knowledge users. All regions face challenges in terms of improving the operational efficiency and product quality in their business and industry. Making these improvements is often a matter of R&D, capabilities development and innovation, which necessitates and generates a certain kind of structural change (e.g. “modernisation” or “capabilities upgrading”).

The political salience of smart specialisation is also due to its potential contributions to greater efficiencies in resource allocation (human capital, research infrastructures, specialised services for innovation) at the system level. Smart specialisation as an onset to local strategies for identifying and developing original, distinctive and fertile areas of specialisation for the future is likely to promote greater diversity of areas of knowledge and expertise within the system, thereby rendering the entire economy more able to enjoy the benefits of distinct local agglomeration economies. On the other hand, cluster policies *per se* – if not driven by a smart specialisation process – cannot be expected to generate equally substantial efficiency gains in system level resource allocation because of the absence of localized spill-overs and linkages.

¹ T. Bresnahan and M. Trajtenberg, General purpose technologies: engines of growth, *Journal of Econometrics*, 1995, Vol. 65.

Of course, generating a vibrant innovation hotspot is a classic, expected outcome of a smart specialisation strategy; one might say an “emergent property” of a smart specialisation policy applied to a particular region for purely local economic interests.

But, cluster policies at regional level, not driven by a process of smart specialisation, are likely even to accentuate strongly mimetic programs of local and national industrial development – resulting in fostering knowledge base standardisation, wasteful duplication and the dissipation of the potential agglomeration economies at system level – as a multiplicity of imitative local government authorities compete to attract the small finite pool of mobile capital, management and knowledge resources. The resulting duplication, unproductive uniformity and lack of imagination and vision in setting R&D and cluster priorities can be expected to produce poor results, e.g. at the EU level; with many regions remaining unattractive and unable to compete with other territories to attract high value resources and to retain their best resources.

Why would companies locate their R&D activities in a region with more or less the same, subcritical and ineffective knowledge base, as other similar regions? Smart specialisation, on the other hand, involves the discovery of what makes a local knowledge base original and distinctive and, thereby, exhibits “efficiency properties” at the system level – i.e. for an integrated regional system as a whole, such as the EU.

The outcome of the process is much more than the production of “simple” technological innovations. It rather is a structural evolution of the whole regional economy. Indeed, the entrepreneurial discovery that drives the process of smart specialisation is not about a simple innovation but generates knowledge about the future economic value of a possible structural change. A key role for entrepreneurs is to discover what a country or region is good at producing. Countries or regions need to engage in a search process, involving entrepreneurial trial and error as well as public policy to create more incentives for those entrepreneurs who are taking the risk of experimenting with new activities. It may be that the most important innovations are not purely technical but in fact reside in this “discovery process” of what the country or

region should do in terms of specialisation in industry and services. As we experience today in the (emerging) area of business model innovation.

Entrepreneurial knowledge involves much more than knowledge about science & technology. Rather, it combines and relates such knowledge about science, technology & engineering with knowledge of market growth potential, competitors as well as the whole set of inputs and services required for launching a new market activity. The synthesis and integration of all this knowledge which is initially dispersed and fragmented, create a vision and drive the decision «to go». It is this type of knowledge that needs to be activated, mobilized and supported as the main ingredient of a process of smart specialisation. Entrepreneurs, defined in a broader sense (i.e. firms, higher education institutions, independent inventors and innovators), are in the best position to discover the domains of R&D and innovation in which a region is likely to excel given its existing capabilities and productive assets.

Structural changes are main outcomes of a smart specialisation process and always involve some kind of related diversification². Four different patterns of related diversification can be identified. They lead to four distinct models to characterise a smart specialisation strategy:

- **Transition** is one pattern of structural changes that a smart specialisation strategy is likely to generate. Transition occurs when a new economic domain emerges from existing industrial commons (a collection of R&D, engineering, and manufacturing capabilities that sustain innovation).
- **Modernisation** is another pattern. It is manifest when the development of specific applications of a general-purpose technology produces a significant impact on the efficiency and quality of an existing (often traditional) sector. For example, entrepreneurs in the Finnish pulp and paper industry considered nanotechnology to be a promising source of valuable application innovations, and firms in this industry began taking steps to assess this potentiality.

² See K. Frenken, F. Van Oort, T. Verburg, Related Variety, Unrelated Variety and Regional Economic Growth, *Regional Studies*, 2007, Vol. 41, No. 5: 685-697.

Collectively, pulp and paper companies responded to this perceived opportunity by increasing their overall internal R&D investments, aiming not only at implementing available technologies but also by exploring recent advances in the areas of nanotechnology and biotechnology for more fundamental transformative opportunities.³

- *Diversification* in a narrow sense is a third pattern. In such cases the discovery concerns potential synergies (economies of scope, spill-overs) that are likely to materialise between an existing activity and a new one. Such synergies make the move towards the new activity attractive and profitable.
- Another pattern involves the *radical foundation* of a domain. In this case, the discovery is that R&D and innovation in a certain field have the potential to make some activities progressive and attractive that had not been previously. Research and innovation have the potential to transform an existing non-progressive service, making it profitable and beneficial for the regional economy, thus becoming a source of additional growth opportunity.

The set of arguments listed above makes smart specialisation a very appealing policy concept. However, once embarked upon the implementation of a smart specialisation strategy one confronts two key challenges: (1) discovering the right domains of future specialisation, making a sound analysis of potential; and, (2) defining a process which will empower those actors most capable of realising the potential, fixing the many coordination failures that can prevent emerging trends from becoming real and solid drivers for regional economic growth.

Discovering the right domains is by no means trivial and technology foresight exercises or critical technology surveys ordered by administrations often produce the same ranking of priorities, without any consideration of the context and specific conditions of the “client” for whom the exercise is carried out. Too many regions have selected the same technology mix – a little bit of ICT, a little bit of nano and a little bit of bio – showing a lack of imagination, creativity and strategic vision. The discovery process is thus an issue in its own right.

Fixing coordination failures is another difficult policy challenge. The emergence and growth of a new activity are processes that can be blocked by many types of coordination failures as well as by the opportunistic behaviours of economic agents (suppliers, users, specialised services, banks, basic research and training institutions, etc.). Hence the emerging notion of the m-helix of multiple helix rather than the well engrained concept of the triple helix.

To meet these challenges, a smart specialisation strategy needs to be both “flexible” with regard to taking into account the specificities of technologies, of the businesses in a region, of the relevant markets and also “rigid” in its capacity to filter out initiatives that do not have the cumulative and externality properties of smart specialisation and that are vulnerable to “rent seeking” behaviour.

“Flexibility” will require policy makers to have a broad view of the notion of entrepreneurial discovery (the needed entrepreneurial knowledge or vision is perhaps held by other organisations than firms). “Rigidity” will require strong methods of measuring and ex ante evaluation of potential, based on a better specification of the granularity (degree of specialisation) and relatedness (degree of complementarity) of existing specialisations.

Smart specialisation, as a concept and instrument, can provide and become the nexus linking industrial policy to science and innovation policy, thus becoming a core ingredient of regional innovation hotspots that are emerging around the globe.

The four aforementioned structural strategies are supported by: (1) entrepreneurial discovery processes, (2) continuous cycles of policy learning and (3) the knowledge base of a region including extra-regional knowledge resources. Universities and research institutes are at the heart of the regional knowledge base. It is therefore imperative that universities and research institutes can and should play their transformational role, turning scientific insight and knowledge into valuable innovations.

³ T. Nikulaen, Open innovation and nanotechnology – an opportunity for traditional industries, Vision ERA.NET, 11 April 2008.

To this end, they should adopt and adapt appropriate mechanisms for technology and knowledge transfer, while at the same time --- as part of a joint policymaking and learning cycle --- proper conditions should be created so as to support their transformational role (supporting excellence and critical mass of the science base, attracting entrepreneurial talent, sustaining fair and open markets, securing access to venture capital).

Acting this way, smart specialisation and regional hotspot development become the strong transformational glue, tying innovation policy and industrial policy into a symbiotic relationship both at a conceptual and at an operational level. Add to this the critical role of policy learning, rather than mere policymaking, and it becomes easy to grasp why smart specialisation may fill the often still missing link in many policies aimed at growing regional innovation hotspots.

This deep understanding of regional innovation and specialisation dynamics has always been high on Jean Severijns' intellectual and operational agenda. The {smart specialisation – regional hotspot} nexus as it has been articulated recently in and of itself serves as an homage to Jean's professional vision and drive.



James Dick

International Consultant
Trade, Innovation, Business Development, London

RITTS and the Wandle Valley – Creating the Hub of London Innovation

Looking Back

I first became fully aware of the EU's commitment to and support for promoting and embedding innovation strategies in MS regions in 1998 when I was retained by the London Borough of Wandsworth to develop their bid for funding under the third round of the EU RIS- RITTS¹ programme. The bid was successful. I became the project manager.

The RITTS London project comprised a partnership of four south London boroughs: Wandsworth, Sutton, Merton and Croydon. The London Wandle Valley Partnership (LWVP) encompassed the main industrial and regeneration corridor of south London. The project ran from July 1999 to January 2001. Coincidentally, it was during this period that the Greater London Council (GLC) was abolished and replaced by the London Development Agency (LDA) in 2000.

¹ Regional Innovation and Technology Transfer Strategies. RITTS was launched in 1999 and was a further expansion of the EU RIS programme which had been actively supporting regional innovation since 1992. RIS-RITTS was funded through the EU framework budget. The programme ended in 2007 by which time 165 EU regions had participated.

As the only London-based EU innovation project funded under the third-round, RITTS London provided the LDA with a timely test-bed for developing innovation and technology transfer strategy for the capital as a whole and was recognised in their published London Innovation & Knowledge Transfer Strategy (LIKTS).

Stakeholder participation in the region was both comprehensive and in depth, representing central government, local government, regional development bodies, training & enterprise councils, manufacturing industry and services, higher and further education, research institutes, business support and intermediary institutes, civil society organisations with wide ranging interests²

Entering the RIS-RITTS international community brought LWVP into contact with regions throughout the EU and beyond at events, workshops, seminars etc. organised by the IRE Secretariat. Exposure such as this to other approaches to innovation policy was invaluable. In 2001/2 LWVP joined the RDAs of Rotterdam and Aachen in partnering the cities of Prague and Pilsen in a successful bid for a RIS Project (BRIS)³ which was open to newly associated countries (NAC).

Wandsworth continued to retain me as their representative on the BRIS management committee. I went on to be associated with other RIS projects in the new member states and Switzerland until 2007. I served as chairman of the IRE steering group for a number of years. All of this was to have unforeseen consequences for me. I was on the path towards becoming the international consultant that I am today, specializing in trade policy and business development. Innovation plays an important part in both of these fields. My experience with the RIS-RITTS methodologies has given me a distinct edge in creating the stakeholder consensus and analytical framework necessary for achieving relevant, effective innovative strategies and implementations.

Today, the boroughs of the London Wandle Valley Partnership all have thriving economies. The London Borough of Wandsworth is a leader among the 32 boroughs of Greater London in its support for innovative enterprise.

² Please refer to Annex 1 RITTS London Actors

³ Bohemian Regional Innovation Strategy

Although RITTS London took place 16 years ago I believe it played a part in both identifying the borough's innovation potential and consolidating and implementing policies to harness its power as well as creating a competitive environment for business, attractive to enterprise and entrepreneurs alike. The United States of America is now building a new embassy in the Borough in the Nine Elms redevelopment area on the South Bank of the Thames.

The Policy

RIS-RITTS is surely one of the most effective programmes implemented by the EC. It was well-designed and the three pillars of the methodology – Consensus, Analysis, Implementation – created a logical and durable framework for formulating and delivering innovation policy that could be adopted by regional development authorities no matter what the economic capacity and capability of their regions might be. This was because, possibly for the first time by the EC4, innovation was not being regarded solely as a process of material invention i.e. improving or inventing a new product for example. RIS-RITTS worked equally well for process and so could be applied to public sector and services situations with good effect.

Most of all however two elements stood out.

- RIS-RITTS is a bottom-up methodology. In the consensus phase of the project, there is wide-spread involvement of and consultation with stakeholders and key actors from all sectors of the economy and the community who could have an interest in the capacity of innovation for improving and adding value to manufacturing, business, services and administrative activities. The outcomes are always directly relevant to local need and opportunity.
- Ownership. RIS-RITTS actions and implementation engage with employees and/or members of an organisation, leading to the creation and embedding of a culture of innovation at all levels of management and throughout workforce. Such an organisation will become more competitive, more efficient, more responsive and more sustainable whether as an initiator of change or in the face of external challenges.

⁴ The Framework Programmes focus on research and technology favours technology-related industry rather than the public sector or non-technology-related activity.

I was surprised when the EC terminated the programme. It had lost none of its relevance and was supported by the experienced and dedicated Innovating Regions in Europe Network Secretariat. Was this change for the sake of change? At the time, it seemed to me to be yet another case of *if it ain't broke don't fix it*. The EU Executive Training Programme (ETP) had been running since 1972 and was still going strong, so why not RIS-RITTS! I was too pessimistic. The Smart Specialisation strategy within the framework of the S3 programme which followed, built on the solid foundation of experience of 15 years of promoting innovation policy and implementation in the regions. It became a conditionality within Structural Funds programmes and arguably represents the ultimate success of the RIS-RITTS policy and approach to creating sustainable national economic competitiveness from the bottom up.

Lessons Learnt

RIS-RITTS ended in 2007 since when I have moved more and more into the fields of trade and comprehensive trade policy. Furthermore, I am writing this piece at a time when my country appears to be headed for the economic wilderness, driven by what is possibly the most vacuous policy statement of the modern epoch: Brexit means Brexit.

The global marketplace has never been more competitive, every nation large or small wants a piece of it. Even the Pitcairn Islands, population 54, is preparing a comprehensive trade policy. Formulae for success abound from identifying Comparative Advantage to acquiring international Negotiating Skills.

The changes created by the transition to a CTP Framework for pursuing international trade are profound. The EU funds technical assistance to developing economies for formulating and implementing comprehensive trade policy. The terms of reference for trade-related projects such as these generally make no specific reference to innovation as a component of the technical assistance or as an element of the policy formulation and implementation processes. Nevertheless, stakeholder consultation and analysis feature strongly in the approach but would benefit from being carried out in the context of innovation – because the adoption of CTP is in itself an economic policy-changing innovation. The need for trade-related innovation is paramount.

Cross-border Dimension

Thinking about international cross-border dimensions of innovation, the IRE network with the Secretariat at its hub provided an efficient and effective bridge between regions that facilitated the benchmarking and sharing of knowledge at the practitioner level. This was lost when RIS=RITTS ended and I am not aware that anything as effective has replaced it.

A case can be made for supporting cross-border innovation via alternative channels. Transnational cross-border cooperation between clusters has the capacity for transferring knowledge and know-how internationally. Knowledge transfer between regions with large concentrations of clusters to relevant clusters in smaller countries or less-favoured regions would be of benefit to the latter. But this would not necessarily be a one-way flow of transference: Denmark and Switzerland for example.

Our Co-operation

My association with Jean began in 1999 when I attended my first IRE meetings. It extended over the next 8 years, working together at many events in many regions within the EU. As a colleague, he was cooperative and supportive but always honest and forthright in stating his views or position. As a mentor, his wide and in depth knowledge of the EC, its officers and its systems helped me navigate in unfamiliar waters during my early days both with my project and the network. As a friend, he was and still is a pleasure to share a beer with or a dinner and always amusing and interesting in conversation. Jean succeeded me as chairman of the IRE Steering Group. His command of spoken and written English is formidable. His management skills are outstanding. I wish him well in his retirement. But I have no doubt whatsoever that we have not heard the last of Jean Severijns.

ANNEX 1 The RITTS London Actors

The Contractors

- The London Borough of Wandsworth (Contract/Project Co-ordinator)
- The London Borough of Croydon
- The London Borough of Merton
- The London Borough of Sutton
- AZTEC Training & Enterprise Council
- SOLOTEC Training & Enterprise Council

The Steering Group

Chairman: Chris Yapp, ICL Fellow, Lifelong Learning

Vice Chairman: Jerry Jackson, H W Wallace & Co Ltd

From Industry and Business

- Muriel Kelly-Redding, Regional Development Manager, British Telecom (BT)
- David Gill, Head of Innovation & Growth Unit, HSBC Bank
- Bryan Treherne, Managing Director, Paar Scientific Ltd
- Roger Avis, Managing Director, Canon Business Services UK
- Bob Hinks, Managing Director, Asylum Models
- Neil Kelsall, Managing Director, Point Digital

From Higher & Further Education and Research

- Professor Andrew Self, Head of Mechanical, Aeronautical & Production Eng., Kingston University
- Professor Mansoor Sarhadi, Pro Vice Chancellor, Brunel University
- Professor Adrian Woods, Dean of Faculty of Social Sciences, Brunel University
- Professor Mike Gibson, Professor of Urban Planning, South Bank University
- Dr Jamie McAskill, Assistant Director, Roehampton Institute
- Vic Seddon, Principal, Croydon College
- Richard Beales, Business Development Manager, Merton College
- Dr S E Jagers, Director, BIBRA International

From Business Support & Intermediary Groups

- Dave Wallace Innovation & Technology Counsellor, Business Link London South West
- Trevor Phillips, Director, Wandsworth Business Advice Services

- Vanessa Graham, Chief Executive, Wandsworth Chamber of Commerce (for all regional chambers)
- Simeon Grosset, Director, SLEMBA (South London Ethnic Minority Business Association)

From Central Government & London Regional Development Bodies

- Peter Whittington, Head of Business Competitiveness, Government Office for London (GOL)
- Michele Bailleux, Projects Director, London Development Partnership / Agency (RDA)
- Alan Croney, Executive Director, London First (London First Centre)

From London Wandle Valley Partnership

- Christine Seaman, Director, LWVP
- Paul Hildreth, Head of Economic & Strategic Development Unit, Croydon Borough Council
- Gurmel Bansal, Head of IT Services, Merton Borough Council
- Brian Pote-Hunt, Head of Strategic Regeneration & Community Dev. Sutton Borough Council
- Mike Brook, Economic Development Officer, Wandsworth Borough Council
- Nicola Relf, Head of AZTEC Superhighways Unit
- Fred Dabbs, Commercial Manager, Commercial Directorate, SOLOTEC

The Project Management Unit

Chairman: Mike Brook, Economic Development Office, Wandsworth BC

- James Dick, RITTS London Project Manager
- Christine Seaman, Director, London Wandle Valley Partnership
- Margarite Lipscomb, Manager, TCS Unit Kingston University
- Sue Jenkins, ADAPT Co-ordinator, SOLOTEC
- Dave Wallace, Innovation & Technology Counsellor, Business Link London South West
- John Whittington, Business Development Manager, Croydon BC

The International Consultants

- Technopolis BV (Supply and Economic Infrastructure Analysis)
- RITE Partnership UK Ltd (Demand and Business Sector Analysis)

Addendum to Steering Group

During the life of the project the following joined or replaced other members of the Steering Group:

Angelina Purcell, Manager, Economic & Social Development Unit, Croydon Borough Council
Tim Rayner, Economic Development Manager, Sutton Regeneration Partnership
Sue Tanton, Head of Business Enterprise & Partnerships Unit, Merton Borough Council
John Edmundson, Executive Director, London First (London First Centre)
Sue Jenkins, SOLOTEC

Support from Intermediary and Civil Society Organisations

Asian Business Initiative
ASP Communications Ltd
BAA Gatwick
Business Link London
Business Link London South
Cane Hill Science Park
Carshalton College
CM International UK Ltd
Company Guides Ltd
Croydon & South London Chamber of Commerce & Industry
DTI Office of Science & Technology
E4Manufacturing
Enterprise House
Federation of Small Businesses
GLE Invoice Finance Ltd
Greater London Enterprise
IBA
Institute of Directors
Kent Technology Transfer Centre
Kingston Chamber of Commerce
LCCI
The Learning & Business Link Company
Learning Skills Council

London BIC
Made in London
Merton Chamber of Commerce
Merton Enterprise Agency
National Physics Laboratory
PACEC
SEIRC
SOLOMAN (South London Manufacturers Association)
South Side Chamber of Commerce
Sutton Business Federation
Thames Valley Technology Centre
Urban Development International
Women Moving On



Claus Eppe

Director District Development Project Group, Ministry of Building, Housing, Urban Development and Transport of the State of North Rhine-Westphalia

Agendasetting in Europe by regional cooperation. The example of “Silver Economy”

Dear Jean,

First I would like to thank you sincerely for the many years we worked together, always inspiring and always based on trust, driven by a shared desire to improve the lives of people in our regions and beyond.

Looking back, it was occasionally a challenge to remain loyal to one's own region while at the same time making it clear that cooperation with other regions in Europe would be even more beneficial for one's own country than acting on a purely regional basis. This is true because regional cooperation has to repeatedly redefine the common denominator, the shared win-win situation for the participating regions. And we have learned the shared understanding that common concerns have to be reaffirmed each time new regions want to be part of the common agenda for a European network. However, regional cooperation is a special challenge because it has to find answers to questions today that will not be asked until tomorrow.

Change needs time. Cooperation between regions needs structures and, in – non-federal – nation-states, an understanding of regional subsidiarity. This can change in the course of elections, with the consequence that, for example, regional development offices, which promoted European cooperation, are closed. Elections in the home regions, the duration of EU programmes, elections at European level – all of these are processes that affect regional cooperation

and require not just knowledge of the background situation and the influencing factors, but foresight for the shared goals.

We have successfully achieved this as part of the Silver Economy Network of European Regions – together with other fellow campaigners, such as Doede Sijtsma from Gelderland, John Byrne from Ireland, David Carmona from Extremadura and Werner Korte from Empirica, Bonn. It was also a success in the follow-up project «Active Ageing of Elder Migrants across Europe». This cooperation has been recognised by the EU institutions – including the Committee of the Regions, the European Parliament, the European Commission and a number of European umbrella organisations. The fact that we have been hosting conferences, first in North-Rhine Westphalia, then in Limburg, Seville and Limousin, since 2005 and holding competitions for innovative products and projects for ageing European communities, has resulted in the «Silver Economy» now forming part of the EU's funding programmes and having its importance highlighted in EU documents. The fact that ageing is becoming more diverse and society will have to deal with it economically, socially and culturally is mostly common knowledge.

Regional cooperation is tangible. It affects the implementation of EU funding policy and its application as part of the regional fund or regional development programmes. Conversely, the funding policy is intended to encompass the needs of the region and its specific everyday life, if it is not yet on the European Union's agenda – assuming that it is competent.

It was this European bottom-up approach to learning in the agenda-setting process that we have succeeded in shaping. And during our dialogue with the EU institutions we learned that it was more desired and used than we had envisaged at the beginning of our cooperation. We certainly could not have imagined at the beginning that as a regional cooperation network we would be able to organise events jointly with Directorates-General, with the Committee of the Regions or under the auspices of the European Parliament.

Our success as a network of regions was not only due to the fact that all the participants in the network – containing, after all, up to 17 regions – were not only willing to benefit from the cooperation in their own region, they were also prepared to learn from the experience of others.

This cooperation was certainly based on our personal experiences since the 1970s, when the process of European convergence began with resistance to and the dissolution of dictatorships, the accession of new countries to the

European Communities, growing democratisation through the establishment and increasing importance of the European Parliament and then the peaceful removal of the Iron Curtain. All of this was accompanied and driven by the curiosity of young people towards other countries and the increasing possibility of travelling across Europe, often still with many different currencies and often after long, frustrating waits at borders.

Many of the freedoms and much of what today appears as a matter of course were hard fought for. Just looking inside many «young» member countries and the experience and challenge of prolonged change processes should be enough to make us aware of the similarities and the benefits of cooperation in the interests of everyone.

The more this cooperation is driven from the bottom up, by the people and the institutions in the cities and municipalities and in the regions, the more successful this process is likely to be. It is worth the effort to find committed and experienced advocates for this.

It certainly requires ambassadors like you, who are familiar with the risks of failure to cooperate, who have shown how to create a quite specific gain for the local communities in the regions and who will continue to engage with their experiences in future to achieve a successful bottom-up strategy for issues which are better resolved jointly than alone. In many ways, this is also the case for the regions in a globalised world.

Maastricht is the city most closely associated with the European Single Market. It was agreed because a report highlighted «The Cost of Non-Cooperation». Perhaps we were comparatively successful, dear Jean, in light of this background, your background. At any rate, Limburg has in you an outstanding ambassador for cross-border cooperation!



Dr Sandor Erdei

Founder & Chief Executive Officer, DBH Group Budapest

Innovation and research policy of the EU in the last decade – The Hungarian aspects –

In the last decade, innovation has been seen at the EU level as a key process in order to create a competitive and sustainable European economy with high quality jobs, transforming Europe into a knowledge-based Innovation Union. But to stay globally competitive there is still much to be done both at the European and at the national level. In this essay I would like to share my view on innovation policy of the past years, specifically looking at it from the national Hungarian perspective.

In my opinion in the past years only moderate improvements can be experienced on R&I governance, funding and policy-making level in Hungary and in general the national innovation policy unfortunately failed. Only a very small fragment of the businesses is innovating and these companies are mainly larger international corporations. In Hungary a very few multinational companies take the majority of the innovation budget and the SMEs are showing extremely low level of innovation activity, bringing no tangible breakthrough.

In Hungary the funding for public science is very low by international comparison, with very low institutional funding and too little competitive project funding. Also the access in particular to early stage financing is limited. Innovation intensive companies are facing difficulties in finding

sources of finance for their innovative projects and there is a weak rate of commercialization of inventions.

The first capital program of JEREMIE: Joint European Resources for Micro to medium Enterprises Program in 2010 was a good initiative of the European Commission, developed together with the European Investment Fund. It has improved access to finance for SMEs via Structural Funds interventions. DBH Investment Fund was one of the successful participants of this tender. We see the benefits, and I am sure that there will be good number of success stories, projects able to scale globally but I think it will not bring the expected level of benefits related to research and development, technology transfer, innovation and entrepreneurship.

The other problem in Hungary that there are very limited number of effective policies which offer solution against the most important barriers of internationalization for small and medium sized enterprises. These barriers are for example lack of financial assets, lack of proper foreign partner(s) and weak access to knowledge. The companies with international ambition need hands-on local support to overcome these barriers and grow globally. We experience that the motivation of companies multiplies when funding is available for building business over the borders. But usually these grants only support trade fair participation or development of marketing materials, which aspects are not the key of success in international business development. Companies need targeted support to find potential clients, strategic partners by professional local assistance and expertise to build proper international strategy. Latter activities should be supported more intensively in the future.

The establishment of the European Institute of Innovation and Technology (EIT) in Budapest might have had a positive impact on Hungarian innovation policy as well. I assume our country has not explored the existence of the institute to a sufficient extent.

A breakthrough for Hungarian companies, clusters and stakeholders of innovation Quadruple Helix model might be “hard” Horizon 2020 as well as “soft” Interreg projects. Our experience shows that although getting access to finance is still the main motivation for participants in each form of international cooperation, being part of networks have a real added value as well.

In comparison when I look at the results of Limburg of the last decades, I see a frontrunner, taking the risk of investing in international relations, where politicians are dare to back up these initiatives, like in the 90’s the province as

first has built ‘bridges’ towards Eastern Europe or nowadays when excellent links are made to Azerbaijan. Limburg also brought great results with its strategic cross-border thinking, improving the international competitiveness of the region and the country. We evidence that also when we look at the high number of supported companies motivated to participate in cross-border movements within the South Limburg - Aachen - Liège - Hasselt Euroregion (the Meuse-Rhine Euregio).

The biggest remaining question in my opinion: Can the EU face with its limitations, reinvent itself and create (innovation) policies bringing stability and predictability? I am doubting, but I believe that there are many good practices that can be exchanged and reproduced. So if we can identify these best solutions and to exchange them between European regions supporting a quickly adapting innovation system, and in the same time increase investment both on public and private level, it has to be possible.



Prof. Dominique Foray

Professor at the Ecole Polytechnique Fédérale de Lausanne
Chair of Economics and Management of Innovation

Smart specialisation, Edmund Phelps and the Palazzo Lombardia

How to fit a regional economy with the right mechanisms to boost both vitality and inclusion?

This short essay has been written for Jean Severijns

It is not easy for regional policy to promote both vitality and inclusion. Policies aimed at promoting rocket science and high-tech entrepreneurship will possibly have an inclusive effect in the long term thanks to the somewhat usual macroeconomic sequences¹ - as described by Ned Phelps in his Nobel Prize Lecture – or because of the potential effects of innovation on social mobility so well described by Aghion and colleagues². However, generally speaking, such positive effects on inclusion will only realize in the long term while in the short term such policies are essentially discriminating and exclusive and will to a great extent benefit talented students from a few best campuses – assisted and supervised by very selective financial actors.

¹ - E. Phelps, 2006, *Macroeconomics for a modern economy*, Prize Lecture

² - P. Aghion and U. Akcigit, 2015, *Innovation and Growth: the Schumpeterian perspective*

However a region needs to promote both vitality and inclusion *also in the short term*. This is possible by equipping its economy with the right mechanisms. We believe that smart specialisation strategies (below RIS3) belongs to this class of precious mechanisms.

Let's continue with a short story which is happening in Palazzo Lombardia³. At the head-quarter of the Lombardy Region, innovation policy makers are facing such a problem (that I think any Region is facing to some extent). Do we want just focusing on dynamism (a start-up policy which hopefully will generate some long term effects on inclusion) or do we want to design a policy that could generate in the same time – that is today - dynamism and inclusion? Finlombarda SpA, Lombardy financial and innovation agency, supports a bunch of great start ups – inventing new high tech products and services with strong application potentials in the agrifood sector. Based on a high tech policy *only*, the entrepreneurial activities is going to be stimulated and this will be beneficial to a small part of the Lombardy economy – a few indicators will improve and these are not the worst ones (patent, VC attractions, highly skilled jobs) – but the inclusion effect will be negligible. Everything is going to be fine on the start-up planet but not in the rest of the galaxy.

The point here is to involve the agrifood sector as a huge reservoir of potential adopters of these new technologies. The challenges are multiple: addressing human capital and capabilities problems, fixing the adoption externalities⁴, addressing coordination failures and providing some specific public goods. The whole policy is probably much more difficult to design and implement – it will involve different kind of actors (such as vocational education institutions; specialised services and platforms, clusters) and will have to address many barriers and obstacles of innovation diffusion in traditional sectors. The choice is, therefore, between helping a few nice guys with brilliant ideas or undertaking the proper actions to support a real transformation of some structures of the economy. And this is what the idea of smart specialisation tries to suggest: shifting from 'just' a high tech policy to a policy aiming at supporting the development of a *real transformative activity* which would likely to drive structural changes – not only in the high tech but in the huge agrifood sector.

³ - I would like to thanks the whole innovation *squadra* of the Lombardy Region (Enza Cristofaro, Marco Baccan, Alessio Castelli, Alina Candu) for their insights and experiences that they have kindly shared with me.

⁴ - A.Jaffe, R.Newell and R.Stavins, 2004, *A tale of two market failures*, Discussion Paper, Resources for the Future

The goal is twofold: encouraging the young innovative firms by equipping their eco-system with all complementary capabilities needed AND addressing the innovational complementarities between the high tech and the traditional sectors.

The theory of smart specialisation encourages the identification of a few strategic domains where unique combinations between existing capacities, potentials and opportunities can be identified and translated into future competitive advantages. The development of new tech in the agrifood sector (sector of the first pilot action) in the case of the Lombardy Region does represent typically such strategic domain in which opportunities for collective actions (both on supply and demand sides) are huge. A policy designed to support such transformative activities would entail the provision of innovation services and infrastructures, the formation of new human capital, the subsidization of technology adoption on top of helping and cherishing the start ups and their ecosystem. Such a policy is itself specific to this domain – this is haute couture - and a regional government whose governance capacities are by definition limited will not be able to achieve this for all domains. **Choices must be made.**

The story from Palazzo Lombardia provides a wonderful illustration of the insightful ideas developed by Ned Phelps in his Prize lecture: a policy to promote both dynamism and inclusion is not a policy that would support **pushing** more resources into the economy (more research infrastructure, more human capital), because these resources will ultimately be largely captured by the top science/high tech ecosystem but instead it aims at **pulling** some existing resources (of the traditional sectors) into innovation activities. In this sense smart specialisation has an inclusive component because the strategic domains and transformative activities which are identified and selected are not limited a priori to a certain (high tech) part of the economy. Indeed, in many cases they will be parts of “old” industries in a declining structural change, or they belong to the category of industries that are already successfully growing and competitive but with potential for even more advances. This is the *raison d'être* of smart specialisation: new combinations between existing capacities and new opportunities can emerge everywhere in the regional economy. But *Jean Severijns* has known this all along!



Dr. Kastytis Gečas

Freelance Consultant (2010 – present), Director at Lithuanian Innovation Centre (1995-2014)

The Innovator

A lot of people already started to forget how so called innovation policies appeared and were developed in European Union and across all member states and regions. At EU level, the movement started in mid-nineties with two initiatives launched – Regional Technology Plans (RTPs) and Regional innovation and technology transfer strategies and infrastructures (RITTs), followed by the third initiative – Regional Innovation Strategies (RIS). During the following decade such actions were implemented in more than 150 European regions, including candidate countries – the countries that moved to market economy only in nineties and had no experience in any public support of market economy development.

I am coming from Lithuania, the country which had the full economy transformation in nineties after regaining independence from Soviet Union and collapse of planned economy in 1990. Though being rather developed country, famous for academic knowledge production and strong manufacturing industries, Lithuania suffered a lot during these years of transformation: academia shrank, productive industrial sectors collapsed and struggled for low investment, the surviving enterprises felt that they are just “start-ups” in market conditions despite that they had possibly thousands of workers.

In 1995, I became the first CEO of Lithuanian Innovation Centre, newly established organization with a mission of innovation development across

the country. Being mandated by shareholders – the Ministry of Education and Science, the Ministry of Economy and private business umbrella association – Lithuanian Confederation of Industrialists, we started to look for novel economy development initiatives in Europe– innovation policy development practices – somewhere in 1997-1998.

Baltic countries in Soviet Union were quite privileged– they developed very high level of R&D potential to provide knowledge supply to all-union innovation “market”. This market collapsed and novel approaches of economy development became in demand that would consider explicitly such emerging phenomenon as business innovation where exploitation of productive knowledge becomes the driving force behind the economy.

Lithuania is a small country, that is why we realized that rather more attractive for us were not national, but regional attempts in Europe to tackle innovation in smaller geographical entities. The typical size of European regions matched the needs of my native country with its 3 million of inhabitants. First RTP/RITTS/ RIS actions became good examples for us. These pilot practices in European Union really impressed our economy policy makers. It was decided that our country needs innovation policy development exercise that would use RIS/ RITTS approach. This is when I heard about very successful RTP initiative in Limburg and its leader Dr Jean Severijns.

However, it took some time while we could launch similar exercise in our country. In 2002, there was a call for Western partners in two-year Lithuania/ EU twinning project “Innovation Capacity” for building grounds of institutional innovation support system at state and local levels.

The “Innovation capacity” project encapsulated entire spectrum of various aspects in the development of national innovation system, in particular, the very experience of RIS/ RITTS in European regions. In addition, specialised innovation support advisory services were planned to be developed across this country, with a focus on innovation in business.

The German/British team of experts with Dutch presence was selected. The Netherlands were represented by Dr Jean Severijns that had a wide experience

of RIS implementation in his native Limburg region in the Netherlands and also across the EU member states.

As Director of the Lithuanian Innovation Centre I was mandated to co-lead the EU-funded project. Started with joint creation of work program, step-by-step we developed the international team with our partnering twinning experts from Germany and Scotland as well as our key expert Mr Severijns – innovation guru, put it simply. Lithuania was lucky to get such policy innovators to assist in its innovation system development. The culture of collaboration and competence in most modern European practices was a driving force behind, and during two-year period of project teams coming from different countries acted jointly and worked as one team.

What is most important to understand here? First of all, novelty of the exercise for the country that started to live in real market conditions, including technology and innovation market, only five-ten years ago. Secondly, the economy growth in speed and size was tremendous then. Therefore, in this project, we agreed that speed of change in Lithuania is five times faster than in typical RIS/ RITTS regions in the EU. Lithuania “had no time” to behave slowly and achieve required results in building its national innovation system.

All our Western counterparts in the joint team took the challenge. We – the beneficiary country - were lucky. Flexibility and quick adherence to the changing situation was our motto initiated and promoted by our team. Meetings, workshops, consensus building roundtables, advisory sessions, etc. were organized across Lithuania where representatives of public administrations, businesses, and academia even in small towns had a chance to meet Western experts and discuss their innovation matters. Dr Severijns was a leader in mentoring public administrations. Some of them, especially local ones, maybe for first time heard about possibilities of innovation support at municipal level.

The project lasted until the exact day Lithuania became a full-fledged member of the European Union on 1 May 2004. It was completed successfully laying grounds for the “innovation-friendly” environment: knowledge economy development, national innovation programs, financial innovation support to be

funded publicly, in particular using EU Structural Funds and other European instruments. In addition, I am proud that special innovation advisory service started to be provided by the Lithuanian Innovation Centre across the country, with up to 1500 clients annually. Formally, the project achieved five times more results than were planned in project documents. We can state that all processes initiated by “innovation Capacity” project, of course followed by implementation of other initiatives served as a foundation for long-lasting, innovative economy development in Lithuania.

I am confident that the main driver of this success is people. Here we come to very important point as a lesson for the future: “who should be leaders of innovation policy development, not being innovators themselves”. Such policies and their development require very special mindset: inclusive point of view, horizontal and overarching dimensions, creative capacity, and very understanding of innovation market – the market of exploitation of knowledge where public and private sectors act together and in collaboration in favour of higher added value production in enterprises. In addition, these people should be excellent mentors on innovation processes, that is, very good process consultants.

We can state we had such innovators in our project team. First of all, I would appreciate Dr Severijns who became the friend and partner for other initiatives. He is coming to Lithuania regularly to share his expertise for further national innovation system development already for 15 years.

After almost twenty years of my involvement in innovation policy development I can make one conclusion: innovation policy development should be innovative itself. Instead of going step-by-step – continuation – approach, form a team of innovators who can think out-of-box, be free in identifying and mapping ever changing innovation factors and actors, and be creative in designing new content and formats of higher added value driven public intervention. Only such a team can create novel ways in the global economy development. Otherwise, it can become a routine and the process driven by restrictions. I wish everybody who deal with smart specialization now to note my conclusion.

Personally, I am also very grateful to Dr Severijns, his outstanding – innovator’s – personality. His competence and charisma encouraged myself to become an international consultant to share the innovation development expertise in third countries. I hope I will have my own followers. Thus, this hand-over process will become “sustainable”.

Dr Kastytis Gečas,

Freelance Consultant (2010 – present) - Key Expert in EU TA projects in Croatia, Bosnia and Herzegovina and Ethiopia

Director at Lithuanian Innovation Centre (1995-2014) – Project Portfolio Manager of more than 50 development-and operational-type (services) international projects with approx. 300 partners in EU and third countries

System Integration Director at Lithuanian-French JV „Nerisena“ (1993-1995) – contribution to National Information Infrastructure Strategy Plan

Research Fellow at Institute of Mathematics and Informatics (1978-1993) – research in Theoretical Computer Science



Ad van Ginneken

Senior Consultant
Netherlands Chamber of Commerce

“The American way”

Dear Jean,

I think we met about 15 years ago when I was a regional manager at Syntens, Innovation Network for Entrepreneurs. During those 15 years our paths crossed several times and I keep good memories of those encounters in Maastricht, Skopje, Tirana, etcetera.

For your ‘pièce de resistance’ I want to go back in time and give a summary of my visit to the USA with the IPF Council in 2012. With people of different organizations from The Netherlands, UK, Sweden and France we visited the USA to see how they were doing on the subject of stimulating innovation. There were two programs/organizations that I think were impressive. Those were the Oklahoma Innovation Program (especially i2E within this program) and DARPA

Oklahoma Innovation Program

Oklahoma is a so called ‘fly-over State’. Most enterprises settle at the east coast or the west coast. To stimulate entrepreneurship in Oklahoma, the state developed the Oklahoma Innovation Program. Because of this program the state of Oklahoma has made great strides over the past two decades to boost economic growth by supporting technology, innovation, and entrepreneurial development. Much of this progress is the result of community-based initiatives and public-private partnerships that foster collaboration and information-

sharing. The program consists of several subprograms and organizations. The one I want to mention is the i2E.

i2E (Innovation to Enterprise)

i2E is a private not-for-profit corporation focused on growing high-impact companies in Oklahoma and making a positive impact on the state's economy. This public-private partnership venture, created in 1997, helps new start-ups, entrepreneurs, companies, and researchers gain access to capital and entrepreneurial development. The organization uses a 1:1 mentoring model, using advisors with a strong business or entrepreneurial background. Client companies are supported over 1 to 5 years, developing strong relationships with their i2E advisors. The organization also promotes entrepreneurialism amongst the Oklahoman youth through college venture capital business competitions, such as the Reynold's Cup.

i2E commercializes technology through its Technology Business Finance Program, Technology Commerce Center. Funding comes from a combination of government allocations and private and industry funding. The organization supports about 100 companies annually and (in 2011) job growth in supported companies was at 22% compared with the state average of 1.2%.

This organization goes 'deep into the company' it supports and this pays off. Maybe the involvement is too much, but entrepreneurs who can accept that, have good results. This deep involvement also means that they can only help a limited number of companies, but if they help the right ones, this isn't a problem.

DARPA

The other organization I definitely want to mention is DARPA, the Defense Advanced Research Projects Agency in Arlington (near Washington DC). For more than fifty years, DARPA has held to a singular and enduring mission: to make pivotal investments in breakthrough technologies for national security. The genesis of that mission and of DARPA itself dates to the launch of Sputnik in 1957, and a commitment by the United States that, from that time forward, it would be the initiator and not the victim of strategic technological surprises. This text is on their website. In conversation with DARPA-people we heard the phrase "never again"! This refers to the fact that 'the Russians were 'in space' before the Americans' and that can never happen again! This

is a strong motivation for the people who work there and this has led to amazing results. The ultimate results have included not only game-changing military capabilities such as precision weapons and stealth technology, but also such icons of modern civilian society such as the Internet, automated voice recognition and language translation, and Global Positioning System (GPS) receivers small enough to embed in myriad consumer devices. DARPA comprises approximately 220 government employees in six technical offices, including nearly 100 program managers, who together oversee about 250 research and development programs.

What impressed me was the competence and the intrinsic motivation of the employees. They work there for 3 to 5 years and get the chance to make a difference on their expertise. They write a proposal for a project and every week there is a meeting with a go-nogo moment. Management uses an expert model for reviewing these proposals. When there is a go, they can start (usually with a big budget, overall budget is almost 3 billion dollar) and assemble other expertise (from all over the world) for their project team and work on new breakthroughs. This is a scientists' dream! They also accept that not every project is a success, because they work with new technologies.

I think this organization is a success because of the intrinsic motivation of the people, the lack of hierarchy ('flat' organization) and of course their almost unlimited budget.

I think those two are a bit 'on-American' because of the large governmental involvement at i2E and the 'flat hierarchy, quick decisions' at DARPA. Europe can learn from that!



Hubert Grooten

Senior Advisor

A “cycling tour” of Innovation in Limburg!

Valued Friend,

Dear Jean, it is not that easy for me to fill one or more sheets of paper with memories of our more than thirty years of shared experiences in the innovation circus that we all inhabit and that plays a very important role for humankind. I will confine myself to the vital role that you played with so much passion, persistence and skill.

Together, we had the chance to learn a lot and to share and disseminate knowledge and skills.

Since we first got to know each other in 1987, almost thirty years ago, we have ridden many different “Innovation races”, from the hellish cobblestones of Paris-Roubaix to the blossom-strewn trip down “Limburg” avenues.

I will confine myself to the human aspects, the most important drivers for innovation in the broadest sense of the word. Technology is a tool for creating a better quality of life.

What I have learned is that the features of successful innovation often depend on human traits, for example pioneering and innovative thinking, persistence, and being both passionate and realistic about goals. And in each “innovation race”, accepting people for what they are. Every person does things in his or her own way.

Dear friend, you are someone who has these traits, and it was my privilege to share them with you.

It was certainly not easy for you in the various political cultures in which you moved, and you have had to endure the Paris-Roubaix cobblestones many times ...

But I will limit myself here to the results of those races. The most important one was the Innovation Vouchers, an idea that you came up with and initiated. They have been of unique value for regional innovation policy and for its conversion into practical innovation, especially among small and medium-sized industrial enterprises in Europe and beyond.

In 1990, acting on behalf of the Province, you were the initiator and driving force behind the Database for Economic Projects or DEP. The aim was to promote cooperation in innovation between businesses and knowledge institutions in Belgian and Dutch Limburg and North-Rhine Westphalia. The DEP project was then chosen by the EU's Directorate for Innovation, headed by Director-General Dr Albert Strub, as an example pilot project for the SPRINT Programme, the Strategic Programme for Research and Development in Information Technology.

The Race STARTS NOW! A report on the race by one who was there.

On 18 December 1990, the Province organised a special day for the Limburg business community. There was a series of workshops at the municipal theatre entitled "Prospects beyond borders".

On that same day, Dr Albert Strub visited a number of industrial firms in Limburg (it was unique back then for an EU director-general to visit small and medium-sized enterprises in the region). Dr Strub was the keynote speaker at a number of the workshops, shared his thoughts, and explained his vision of how to tackle innovation in the EU. Dr Strub was very pleased about what he had seen and the practical approach being taken in Limburg, as well as the Province's role.

You attended and offered to travel to Luxembourg to talk about how innovation could offer the region more practical opportunities. Jean, you were passionate about boosting the Limburg region socially, culturally and economically, and you had fixed your gaze across the borders, towards the Euroregion.

After several joint visits to Dr Strub and his team of innovation experts, the conclusion was complex: to have the EU regions take charge of innovation. There was no specific regional innovation policy at that time. But Dr Strub and his team were convinced and he promised his full cooperation. That was no easy matter in the EU "circus".

DG 16 was responsible for regional policy, but it did not have a regional innovation policy yet. You, Jean, wrote a concept document for Relay centres and we discussed it with Dr Strub and with Mr Mikel Landabaso, Senior Adviser and his team at the Directorate-General for Regional Policy, DG 16, in Brussels. During this meeting, a "joint team" emerged to continue the "race". Jean then launched the proposal to develop innovation vouchers and use them as a low-threshold tool in the EU regions. Those attending asked a lot of questions and gave us homework to do. It was during these work meetings that the first designs were produced, and that Mikel Landabaso and Guy Durand developed the strategy for EU regions, the Regional Technology Plans or RTPs. In my experience, this was the first time that technology and regional policy teams in Brussels and Luxembourg had joined forces in close, practical cooperation on Regional Innovation Policy.

But the most gruelling and longest stretch of cobblestones in the "race" was yet to come. DG 12, the much bigger brother for Research, focused mainly on large corporations and national research institutes, whereas the "Race team" with the biggest Technology Research Budgets (now the Sky team) was meant mainly to develop long-term research strategies. With all these different political cultures and nationalities at play, it was not easy to quickly win a race in the "circus" in Brussels.

In the corridors of that "circus" in Brussels, the news had circulated that there was a concept being developed to enhance SME innovation tools regionally. A senior staff member at DG 23, Mr Dominique Ristori (who is now Director-General for Energy), invited the Limburg "race team" to give a presentation to Mr Hans Von Molkte, Director-General for Small and Medium-sized Enterprises.

We were given full support there, and Mr Von Molkte promised to promote Jean's proposal in upcoming meetings with his colleagues.

Fair and strong riders sometimes get lucky, and they always have fans out there rooting for them.

The President of the European Parliamentary SME intergroup, Ms Karla Peijs, organised a meeting for the European Parliament on 22 September 1993, with MEPs, the European Commission and delegates from the national organisations representing SMEs in Brussels also attending.

Subject: Improving SME participation in the EU's Innovation and Technology Programmes and coordination with the national organisations. Subject: Participation in technology and innovation by SMEs.

Presentations by:

- Dr Fassela, Director-General of DG12 Research and the EU research institutes.
- Prof. Godelieve Quistgoudt-Rowohl, MEP, Chair of the SME innovation participation workgroup.
- A guy from Limburg, support mechanic for the Limburg race team.

After discussing and evaluating the day, the Limburg team was asked to participate in multiple races. The team was “approved” as a fully-fledged team to take part in the “EU circus”. It was an enormous PR coup for Limburg; its long-term policy, persistence and cooperative approach had inspired great confidence in the Province.

Jean, we enjoyed riding the final stretch in the Roubaix velodrome together to the end of the race.

Jean, the Innovation Vouchers that you initiated in 1990 and also developed as a strategic tool remain a huge success even today. Before 1990, there was no such thing as an Innovation Voucher.

Now, they exist at Delft and at Twente University of Technology, at the RWTH in Aachen and at TNO, at the Danish Technology Institute and at the VTT in Finland, at Fraunhofer in Germany, and, on a larger scale, in the EU and in many other places like the USA and India.

Since 2004, the Dutch Ministry of Economic Affairs has run an Innovation Voucher Funding Scheme for innovation development.

Even the OECD in Paris and the World Bank started working with Innovation Vouchers a few years ago.

Jean, your knowledge and skill, your unstinting dedication and your persistence have allowed you to make unique contributions to Limburg and the Euroregion in particular, but also and especially in Europe and beyond. You always said that it was your duty to give your employer, the Province, your very best as a public servant. You were always modest, but very few people could have ridden this difficult race and made such a tremendous success of it. You more than deserve this laurel wreath. There are many others who take the credit for it, but without Jean there would be no Innovation Vouchers. Let's give credit where credit is due!

Hubert Grooten



Catrin Gutowsky

Head of Unit for Foreign Economic Affairs, European Affairs,
Development Cooperation
Ministry of Economy, Science and Digitalisation Saxony-Anhalt

“The outstanding role of interregional cooperation for innovation policy such as the collaboration between Saxony-Anhalt (Germany) and Province of Limburg (the Netherlands)”

Dear Jean,

It is my great pleasure and privilege to participate in your “farewell project” and to support this outstanding book idea with a small contribution.

Having said this, I do not view myself as an expert in the field of research and innovation policy. Innovation policy and its development in Saxony-Anhalt and in Europe run thematically like a common thread through the diverse joint projects and are the connecting element of our interregional collaboration.

What were the most significant focal points of our collaboration within the scope of innovation policy?

Our collaboration began around the turn of the millennium: After a process of 10 years of transformation Saxony-Anhalt entered a new development phase. The first years following German reunification were primarily characterized by extensive infrastructure and building projects that defined economic growth in the state. But by the end of the 1990s the harmonization of economic strength between the old and the new federal states which had been striven for had

scarcely progressed and Saxony-Anhalt's gross state product remained at approx. 60% of that of the old federal states. During the catching-up process productivity expansion came to a standstill too and it became more and more obvious that the state's process of further economic adjustment can only succeed by strengthening the innovation base and developing efficient regional innovation systems. Consequently, qualitative aspects of the restructuring, which are strongly linked to the ability of the economy to innovate and to efficacy in the research and development fields, gained increasing significance for the state's capacity to compete.

But this development did not only apply to the new federal states in Germany. In varying degrees, every region in Europe faced the challenge of ensuring its competitive capacity by more strongly encouraging and supporting regional innovation systems and strategically modifying its own regional policy accordingly. Manifestations to this effect were the innovation-oriented regional development approach pursued by the European Commission and the exemplary encouragement of the formulation of Regional Innovation Strategies (RIS). With the development of the two innovation strategies in the state (RIS Halle-Leipzig-Dessau and RIS Region of Altmark-Harz-Magdeburg (RAHM) Saxony-Anhalt had embraced this approach across the board and laid the appropriate strategic foundations. The planning of the 2000-2006 ERDF Operational Program was coordinated to significantly strengthen the activities within the scope of innovation promotion vis-à-vis the prior Structural Funds period as well. So-called Innovative Measures of the ERDF were codified substantially in the OP as early as with the drafting of the OP. Based on the two RIS a program was submitted to the European Commission and approved, which focused on three model projects that were to develop and implement new approaches in the connection between innovation and foreign economic policy and cluster development. Innovation clusters serving as models were to be developed further in the chemical industry / plastics technology and plant engineering and construction sectors as well as in the waste and recycling management industries. This process was to be accompanied by an international exchange of experiences and in perspective to lead a system of viable international collaborations.

The RIS Limburg and the RIS Halle-Leipzig-Dessau were selected by the European Commission as exemplary and therefore it was logical that both regions would cooperate actively within the framework of the 2000-2006 ERDF Innovative Measures as well. With this cooperation and the implementation of the model project in the chemical industry sector the foundation was laid for the common development of a European Chemical Regions Network (ECRN) in 2003, which then led to a joint INTERREG III C project in 2004.

The common experiences gleaned by Limburg and Saxony-Anhalt within the scope of the ERDF Innovative Measures then too formed the basis for a three-year EU project within the framework of the ECOS-OUVERTURE program including two other regions in Hungary and the Czech Republic under the name of "InterPRISe". The objective of this multilateral collaborative project in terms of content was the support of the development of Regional Innovation Strategies in the two Eastern European regions and the development of business contacts between companies of the four partner regions for the longer term.

Today – two Structural Funds period later – European innovation policy plays a preeminent role in the regional and economic policy of the state. Regional Innovation Strategies that focus primarily on specialization ("smart specialization") constitute the basis of the 2014-2020 ERDF-OP in every European region.

Here, the regions usually take the regional innovation strategies into account and indicate how they want to develop their specialization profile further and what contribution they will make to the achievement of the higher-level goals of the Europe 2020 strategy - "intelligent", "sustainable" and "socially integrative" growth. Stimuli for more growth and employment are expected to be provided with the appropriations from the Structural Funds.

Based on the core competencies present in the state in the fields of science and economics and with a view to future global challenges Saxony-Anhalt has thus identified five important growth and key markets (1. energy, plant engineering and construction, resource efficiency; 2. health and medicine; 3. mobility and logistics; 4. chemistry and bio economy; 5. food and agriculture). In the coming

years, the state wants to generate intelligent and socially integrative growth in these future markets to create competitive and high-value jobs.

Also in this context, Saxony-Anhalt and Limburg are continuing their long-standing cooperation and together with six other partners are implementing INTERREG Europe project “S3 Chem”. The focal point of this project is the key market for chemistry and bio economy.

The aim is to improve the partners’ Regional Innovation Strategies (RIS) through the exchange of experiences and reciprocal learning.

Through intensive collaboration the partners can modify the strategic alignment of their own regional policy instruments or develop new instruments for an innovative, ever-growing and future-oriented chemical industry.

While implementing the project each region develops an action plan in which concrete measures and implementation steps are defined. Not only are the regional administrations closely involved in this cooperation, but also chemistry and bio economy clusters, colleges/universities, non-university research institutes and companies from the regions concerned.

Considerably more examples of the cooperation between our two regions could still be listed and here I am pointing to the contribution of my colleague Thomas Steinmetz in particular.

What were the particular challenges?

Unlike border regions – like the Limburg region – which already have to some extent decades of mature relations with the neighboring regions and have implemented extensive INTERREG A programs – Saxony-Anhalt could and can realize its cooperation interests and emphases only within the scope of European competition programs like INTERREG Europe (formerly III or IV C) or INTERREG B (transnational Central cooperation area). Relatively few resources are available for these program orientations and there are high gateway hurdles and a relatively high bureaucratic effort as well as low success rates. In view of these underlying circumstances appropriate competencies and advisory structures had to be built up in the state first. Even today the need for the exchanges of experiences or the measurable added value of European cooperation in the face of pressures to save in government budgets and personnel shortages repeatedly must be worked out anew and actors

in the state must be moved to cooperate. What is essential here is that such cooperation projects yield concrete and reliable results and not just a lot of paper written on.

But it is also a fact that even innovation has need of internationalization!

What have we achieved together?

A key issue was the establishment of a European Chemical Regions Network (ECRN) in 2003, of which founding members Limburg and Saxony-Anhalt (presidency for over 11 years) were a part. Today this network is an important regional stakeholder recognized by the various European institutions and in this connection provides significant input into their work. For example, this network was, among other things, a member of the “High Level Group on the Competitive Capacity of the Chemical Industry in Europe” (HLG) in the period from September 2007 to February 2009 and in this context examined key issues and challenges for the competitive capacity of the chemical industry and submitted a total of 39 recommendations in the most important fields of action for strengthening the European chemical industry. For the first time a network of regions affected was involved in a sectoral strategy dialog within the European Union. Strengthening the chemical industry’s innovation policy was among the ECRN’s continual focal points within the HLG. In addition to the involvement in this HLG many Common Position Papers were generated, comparative regional analyses (e.g. examination of 25 European chemical industry regions, among them all ECRN members, on behalf of the European Commission) were prepared, but new initiatives and projects were developed as well.

Today there is a multi-layered and broad European base of cooperation where cluster actors, companies, colleges/universities and administrations collaborate. With it an excellent platform for new joint application submissions within the framework of European competition programs, like H2020, has emerged.

But a series of very concrete suggestions for one’s own work has also emerged from the collaboration with Limburg and new instruments like the innovation voucher developed by Limburg, for example, were incorporated in one’s own promotional landscape.

Which perspectives are emerging for our cooperation?

At the same time, European/interregional cooperation is playing an outstanding role in innovation policy, stronger than ever. For example, other European networks (ERRIN) or initiatives (e.g. Vanguard) have formed, which support cooperation within the framework of H2020 or INTERREG projects. Saxony-Anhalt and Limburg are also part of these activities and are still close cooperation partners in this regard.

Together, the regions should aim to ensure that interregional collaboration is supported perspectively as well and remains a fixed component in European structural policy.

Jean Severijns was always an important and dependable partner in all the years of our collaboration. He will definitely leave behind a major void in the regional administration. But having said that, he tilled his “field” well too and ensured that new colleagues can move up and continue this work successfully.

Many thanks for the outstanding collaboration! I wish you only the best for your further journey through life!



Eddy Hartog

Head of Unit Smart Mobility and Living, DG Connect at European Commission

Looking Back on Innovation Policy

How do I look back on innovation policy over the last 30 years? What is its future? Why would the international or European ecosystem play a role? This is not the first time Jean asked me these questions? It has been part of earlier conversations. It remains nevertheless a challenge to say something coherent and sensible. I would almost say: of course we were successful; of course we need to continue.

Digging a bit deeper I think of the various ways I have been involved in innovation policy over my career in the European Commission. Where we in the beginning emphasised the technological aspects we gradually saw that also organisations need to innovate. We moved from closed research to open innovation. For a long time we thought that the triple helix model (government, industry and education sector) was the panacea, I recently learned that we now also include the citizen in a quadruple helix model. In a way innovation keeps innovating itself.

I have admired many big companies and small companies that took risks, developed new products and services, failed and succeeded. Innovation was never a linear process. Innovations did not only have winners either. I would never have thought when I started in the European Commission in 1989 that I would see self-driving cars or smart applications in cities. Now it is (almost) a reality.

How have policy makers contributed? Speaking for the European Union we have two main instruments we can use: policy and law making and money.

I have seen both being used actively through innovation policy documents, the small business act and standards setting regulation. There has also been plenty of funding through research programmes and regional funds. One of the most undervalued instruments has in my view however been the power of the European Commission to bring people together from different countries, regions and cultures to exploit Europe's innovation potential to the fullest. This convening power broke silos and facilitated innovation to take a quicker pace. This solidified in various research and innovation organisations, in cross-border collaborative projects and a faster pace to maintain European leadership. I have been and am a strong believer in joining and sharing. This is obvious in the world on Internet developers. It is not yet in government organisations. This is where we can make the next step. A real pooling of resources and efforts, at a much larger scale; celebrating each other's successes rather going for own glory. This is the mental innovation we still require.



Peter van der Hijden

Independent higher education expert, former Head of Sector Higher Education Policy at the European Commission

Limburg in Brussels

Limburg and Brussels are two notions that go together well. In my years at the European Commission, Limburg was always present. I will illustrate this with a few examples and I will make one concrete proposal to underpin our future positioning.

When I arrived in Brussels in 1991, a report of MERIT lay on the table and 26 years later this is still the case. Different cover, different content, but similarly convincing messages on the economy, employment, education, training, research and innovation.

I was lucky to join the Commission team that was building a new educational exchange programme called Erasmus. There was no DG to run it. We were part of a small 'Task Force' (in French 'La Task Force', in German 'Die Task Force'). A full swing Directorate-General (DG22) was created only after the adoption of the Maastricht Treaty, which formally codified education as a (soft) EU competence.

The Province of Limburg and the City of Maastricht (sorry for that) do ring a bell in the Capital of Europe. Associations that come to mind immediately are: Maastricht Treaty, Maastricht University, EIPA, TEFAF, André Rieu and Thermae 2000 (roughly in that order). Of more recent fame are the very promising campus developments, both in Brussels and Limburg itself. The coordinating and stimulating role of the Regional Government is less eye-catching, but well-known among insiders. All in all, not a bad record for a medium-sized Dutch region!

A hidden treasure are the language competences of the Limburger. Most of our fellow citizens are by nature at least bilingual, thanks to their knowledge of both Dutch and one of its regional language versions. The locals switch effortlessly between the two and they have thus developed a particular linguistic sensitivity, which is lacking among monolingualists. We should cherish this competence. The wide availability of Dutch TV stations has, in the last few decades, unfortunately, diminished the knowledge of German language, German culture and German society in the east of the Netherlands, as viewers no longer look for alternative channels in other languages than their own (which we did when we were young). The same phenomenon of 'mediatic nationalism' occurs, for example, in Hungary where tv-antennas are no longer pointed to the West as they used to do in the days of the Iron Curtain.

We could follow the example of Saarland. Saarland is a small border region as is Limburg. The population there still has a certain affinity with the French language and the French culture. Regional Prime Minister (Landesminister) Annegret Kramp-Karrenbauer, who was recently re-elected, has therefore proposed that all inhabitants of her Land should acquire, what is called 'Frankreichkompetenz': Knowledge of the language, culture and society of the big neighbour as an asset on the labour market and as a personal enrichment.

A similar initiative, promoting 'Deutschlandkompetenz', would fit well the Limburg situation, especially in view of the growing economic and political weight of Germany in Europe. In Brussels, German speaking policy makers form the largest contingent. They all speak English with great ease, but if someone makes a point to you in your own language, the point sticks. English is a basic requirement, but knowledge of German (and French) is certainly no luxury. Initiatives launched already in this direction deserve to be extended.

A true Ambassador of the Limburg cause in Brussels and beyond is our friend Jean Severijns. Jean puts you at ease immediately and then starts to challenge your conventional wisdom in his pleasant and constructive manner. I am sure we will continue to benefit a lot from his energy and his insights!



Dr. Martin Hinoul

Business Development Manager KU Leuven R&D.

Jean: Limburger and world citizen

As a native of Belgian Limburg, I always enjoy visiting the Dutch Province of Limburg, and I especially enjoy spending time in the lovely town of Maastricht. It became famous for the "Maastricht Treaty", signed on 7 February 1992 – 25 years ago now. It is renowned for master violinist André Rieu, for its carnival celebrations, for its excellent restaurants and delicious pastry, and more recently for its cycling star Tom Dumoulin.

Some twelve years ago, I got to know a man in Maastricht who has become a dear friend of mine. That man is Jean Severijns, the "internationalisation project manager" for the Dutch Province of Limburg.

Jean is a true son of Limburg, a good Dutch citizen, a European, and a citizen of the world. Above all, he is a "no nonsense guy".

Jean knows better than anyone the limits of his region, and knows better than anyone the added value of regional cooperation.

Jean was one of the driving forces behind the ELAt TTR. His professional contacts with Bak Basel Economy A.G. (a respected Swiss economic research centre) taught him that a small province such as Limburg needed strong international partners in selected economic domains. He understood the power of clustering. He went to his Province with this message and they listened to him.

Today, the Dutch Province of Limburg is prospering and has put itself on the European map as a knowledge economy region. Jean has certainly contributed to this, and that is greatly to his credit.

I will miss my good friend Jean at our regional meetings, but I know will enjoy an occasional glass of wine or slice of pastry with him in a pleasant outdoor café in Maastricht or Leuven.

Jean, I wish you all the best.



Theo Hommels

Former Senior Expert LIOF, Limburg Development and Investment Company

Open cooperation in Europe

Research/innovation policy

Research and innovation policy has different embodiments. To simulate a technology and valorise knowledge (technology push) or to stimulate companies (especially SME's) to innovate and to use external knowledge aiming to introduce new products, services or production methods (market push).

For the first type policy (technology push) are mainly universities, research centres and big companies involved. This innovation concerns mainly basic and industrial research. The innovation level is high and the innovation projects are often structural funded. It is not easy to valorise the new knowledge and the chance is real that truly high-quality knowledge land outside the region.

The second type of policy (market pull) is mainly related to experimental development. The level of innovation is less (companies try to reduce risks by innovating in small steps) and companies should be stimulate to use external knowledge for the development of real new products.

Effectiveness

In recent years, both policy types have been practiced both in Limburg and in Europe Large amounts of money have been spent. The effectiveness of all these spending can only be judged if all projects are evaluated finally (external and independent).

Bottlenecks

Bottlenecks in European projects, especially at Interreg, are diverse and vary from regulatory requirements, slow pay-outs, cultural and fiscal differences, and finding the right partners across the border.

- European regulatory pressure is often raised as a major bottleneck at Interreg, but this bottleneck is also due to the regional translation of European requirements. The regional authorities pass on the financial risks to the end users. This is relatively easy to tackle by increasing the risk of regional authorities, for example by making the Interreg-projects “procurement proof”.
- The slow payment of the declared costs at Interreg is caused by regulations (payment can only be made if reporting meets all requirements) and on the fact that the regions can only claim money from Brussels if there are spending in the previous quarters. This problem can be partly solved by using co-finance funds from regional authorities for pre-financing of the submitted declarations (when serious problems for the SME arise). The regional authorities then take more risk.
- With regard to the partner search, an appropriate partner must be sufficiently open for collaboration (open innovation) and not only acts self-interested.

Future policy

In future, the current innovation policy should be continued, with much more emphasis being placed on:

- A joint alignment of innovation policies in the regions (such as TTR-ELAt), prior to drafting an Operational Program for European and Interreg Programs;
- In that joint cross-border research and innovation policy themes should be defined (for example: SMEs, certain technological developments) that can be stimulated. These theme’s should linked with separated funds. After a tendering procedure, project applications can be selected by an independent external expert committee. (looking for the best quality projects);
- The allocation of resources should be region-independent (no fixed budgets for the individual regions);

- For the implementation of certain themes, it should also be possible able to select potential partners beforehand;
- Interreg must be seen less as funding source for purely regional initiatives.

Important for European cooperation is:

- The individual regions have all developed their own specific “strengths”, which can enlarge the total strength of the regions by working together across borders;
- Cross-border cooperation not only gives new insights and new experiences, but also works as a mirror for its own activities.
- European cooperation requires specific characteristics and qualities of those who establish and maintain contacts (bridge builders) and those who develop and implement the projects. The support from the “home office” should be bigger.

Working experiences with Jean Severijns

From the day he started to work for the Province of Limburg, I did work together with Jean in many projects and programmes. Together we travelled to many European cities.

Some of the activities in which I was involved:

Limburg (NL) have a long tradition of stimulation innovations within the SME. At the end of the 90’s Limburg was one of the pilot regions in Europa for the Regional Technology Programme (RTP¹). Within the framework of the RTP a large numbers of companies (SME’s) have been stimulated.

At the beginning of 2005 the Technology Top region (TTR) was launched. The aim was to set up a region based on an innovative knowledge-based economy in cooperation with our surrounding regions.

In 2008 TTR passed into TTR-ELAt.



¹ The overall objective of the RTP is to improve the level of knowledge within companies to help them build competitive advantages which are not based on cost-price only. The RTP partnership has therefore focused on ways to improve the value added of products and processes in regional firms. This key goal has not changed over the duration of the RTP process but the consensus regarding this priority, between the various partners involved has been growing steadily.

From this TTR ELAt and its objectives the following cross-border projects were initiated and implemented in the Meuse Rhine Region during the Interreg period 2007-2013:

- towards Top Technology Clusters (TTC) and
- Cross-Border Cluster Stimulation Fund (GCS).



The Top Technology Clusters (TTC) project aimed to stimulate innovation-oriented co-operation of companies by creating cross-border, SME-based co-operation consortia in the following fields: ICT, energy, advanced materials, and life science.

The TTC project was led by the AGIT (Aachen regional development agency) with a budget of EUR 5 million. The TTC has run by 19 partners (regional development agencies, innovation agencies, cluster organisations, universities) across the regions of the EMR.

TTC did use three instruments with cross-border characteristics:

1. networking events (socialising, B2B, brokerage) across the EMR.
2. business development support managers and activities.
3. innovation vouchers for studying the feasibility of joint cross-border innovation projects: free research/advice from a knowledge provider within the Greater Euregio Meuse-Rhine (EMR) area up to an amount of EUR 5 000 to stimulate cross-border SME-based co-operation consortia. In total, 22 vouchers with 72 partners had been awarded.



The Cross-Border Cluster Stimulation Fund (GCS) was a joint fund stimulating cross-border co-operation in the EMR area in the same fields as TTC. GCS was

managed by the LIOF, the regional development agency of Dutch province of Limburg. The GCS did provide an innovation funds to complement the TTC project which operates at an earlier stage of collaboration.

The GCS fund did support cross-border SME-based R&D projects, with individual funding between EUR 100 000 and EUR 250 000 per business case, for up to 18 months. The main principle was that at least two SMEs from two different countries should participate within a cross border innovation project. Large companies and universities could participate.

An external expert committee did rank the innovation applications, based on the following selection criteria: technological and scientific strengths (10%); innovation level (20%); potential market success (40%); European co-operation (maximum 15%); and personal contribution of funding (maximum 15%). The Interreg Steering Committee did give a formal commitment to the best-ranked proposals.

The budget of GCS was about € 6,2 million and 90 companies (78) and research institutes (12) from Germany (19), Belgium (29) and the Netherlands (30) did participate. Most of the companies were SME's (73).



With GCS the Euregio Maas Rijn won the prestigious "Sail of Papenberg 2014" as a good example of Public-Private Partnership. For the first time a cross-border innovation fund for mainly SME's was created.



OECD

In the Regional Development Working Papers 2013/22 about regional innovation regions and Innovation collaborating across borders the OECD did make an benchmark between six cross-border areas and TTC and GCS are mentioned as most interesting initiatives.

Hommels.meerssen@kpnmail.nl



Dr. Günther Horzetzky

State Secretary at the Ministry of Economic Affairs, Energy and Industry of the State of North Rhine-Westphalia, Germany

Research and innovation policy from a North Rhine-Westphalian perspective

As far as North Rhine-Westphalia is concerned, digitization, Industry 4.0, energy transition and new approaches to mobility are the main drivers of innovative products and services today.

The innovative capacity of our industrial sector is decisive in order to foster growth and employment in our region on the one hand and to keep North Rhine Westphalia's strong industrial sector competitive on an international scale on the other hand.

Therefore, we aim at enlarging research and development activities in each industrial sector as well as cross-sectorally, we aim at intensifying transfer of knowledge and technology and the take-up of innovations. An integral approach is needed interlinking the business models of "classic" industry, of our so-called "Mittelstand", of universities and innovative start-ups. This will lead to synergies and allows making use of complementary expertise.

To begin with, let me tell you something about the background of our funding instruments for research and innovation currently applied.

For several years now, North Rhine-Westphalia has been promoting research and development in the framework of our regional innovation strategy

for smart specialisation. In this context, we identified eight “lead markets” (“Leitmärkte”), which are of high priority to our region:

- Machinery and plant engineering/ production engineering
- New materials
- Mobility and logistics
- Information and communications industry
- Energy and environmental industry
- Media and creative sector
- Health
- Lifesciences

In these areas, our performing and innovative industrial sector in cooperation with our universities and research institutes is encouraged to find solutions to societal, economic and ecological challenges of our time in fields such as energy supply, demographic change, mobility, health and climate change. In the framework of our regional ERDF programme for Investment for Growth and Jobs 2014-2020, we regularly open specific calls for proposals for each of these “lead markets”.

When it comes to defining strategies for smart specialisation on a cross-border scale, it is of course important to have an in-depth understanding of the assets and potentials of the different bordering regions. North Rhine-Westphalia and the Southern Netherlands follow similar priority sectors in their respective smart specialisation strategies, for instance High Tech Systems and Materials, Health & Life Sciences or Logistics.

This is also reflected in the cross-border cooperation with our Belgian and Dutch neighbours, where we focus on these innovation factors. In particular in our INTERREG V A Germany-Netherlands programme, together with our partners from the Dutch border provinces (besides the Province of Limburg the provinces of Gelderland, Overijssel, Noord-Brabant, Flevoland, Friesland, Groningen and Drenthe), the Dutch Ministry of Economic Affairs and the German State of Lower Saxony, the identification of five “strategic initiatives” on the basis of the national and regional smart specialisation strategies and following a strategic analysis of the programme area has been of outermost importance. In addition to the above-mentioned common priority sectors, there

are two more “strategic initiatives”:

- Agrobusiness & Food
- Energy & low-carbon Economy

Within these “strategic initiatives”, cooperation projects that focus on innovative products and technology transfer may apply for funding. If we take a look at the number of projects and their envisaged results, this approach has been a success story! For instance there is a cooperation project that develops battery-trolley buses which will be able to use the existing overhead network as charging infrastructure. Another project explores the civil use of drones and the respective sensor technology for remote monitoring, for example in an agricultural context.

How do we look to the future? Once the “lead markets” and “strategic initiatives” are identified and innovative products have been designed through cooperation between academic partners and enterprises, you need to look beyond research and development and think about the transfer of its results. And by doing this together with North Rhine Westphalia’s close neighbours, we can bring transfer and cooperation to the next level, ready for a joint future.

Transfer of knowledge and technology is key to success – and needs to be adapted to an ever-changing society and thus a changing research environment. It starts with the way you define “innovation”. In North Rhine-Westphalia, we consider “innovation” not only from a technological perspective. Our concept of innovation is broader, including societal and social innovation. Social sciences and Humanities need to be explicitly included, as findings from these disciplines are often indispensable to the success of technological innovations.

Transfer of knowledge and technology is not a one-way street, but, as we see it, a busy motorway with lanes going in both directions. It is essential to regard it as an interactive process: there is “demand pull” at the same time as “technology push”. In order to strategically accompany the transfer process from the very beginning, universities and research institutes need to integrate the idea of transfer into their strategic profile. Transfer is always to be considered when planning research and development activities. Scientists are to be encouraged to have the target group of small and medium-sized enterprises

or craftsmen in mind when editing their research findings for a later transfer. In the future, North Rhine-Westphalia wants to further evaluate the technological transfer needs of regional SMEs and implement matching-mechanisms to facilitate a transfer adapted to the needs of both players from academia and business.

Last but not least, incentives for spin-offs from North Rhine-Westphalian universities are very important for a sustainable culture of transfer and valorisation. Through initiatives such as “Technology Centers” and funding programmes for start-ups, we highlight the advantages and chances offered by spin-off-activities and accompany scientist in the process of setting up business.

In the future, North Rhine-Westphalia wants to continue this successful approach to innovation and transfer. At the same time, we hope to carry on with the fruitful cooperation with our Dutch and Belgian neighbours, amongst which the cooperation with the Province of Limburg has always been very inspiring for us.



Dr. Herbert Jakoby

Head International Economic Relations, Ministry of Economics, Innovation, digitalization and Energy of Nordrhein Westfalen, Germany

Dutch and German attitudes towards innovation and internationalization in the 21st century

The Dutch Province of Limburg and the German State of North Rhine – Westphalia (NRW) are neighbour regions in the industrial core of Europe. In spite of their different sizes – NRW with a population of 17.8 million and a GDP of 670 billion Euro being as large as the Netherlands in total, compared with a population of 1.1 million in Limburg – they face very similar challenges in industrial, innovation and internationalization policies.

Both regions share a coal mining history, although the last colliery in Limburg closed more than forty years ago, while still two hard coal mines are in operation in NRW, determined to be closed in 2018. In both regions manufacturing industries had emerged around the coal mining and - in the case of NRW - also the steel industry, particularly in metal processing, in mechanical engineering and in the chemical industry.

Until now these industries dominate the manufacturing sector of both regions, creating a similar environment for innovation and competitiveness. Of particular interest for a comparison is Aachen region, the south western part of NRW immediately adjacent to Limburg, with an own coal mining history and with its renowned Technical University RWTH Aachen. RWTH traditionally educated and up to now still educates many of the scientists and

engineers needed in the NRW manufacturing industries and provides basic research and innovation stimuli for new products and process technologies. RWTH Aachen has a strong cross-border orientation and stimulates innovation in NRW, but also in its neighbour region to the West.

Having been responsible for foreign trade and investment and for international relations of the NRW state government for many years, I am more an expert on internationalization and less so on innovation policy. But while working with partners in European and non-European regions, I learnt to understand that innovation and internationalization (or should I better use the term globalization?) are closely related. Both are key drivers for growth. They help to create and explore new markets, raise productivity and increase competition. But more importantly, innovation and internationalization mutually reinforce each other. One can say that doing business at an international scale in itself often generates innovation because new ideas and technologies are transferred with foreign direct investments and with the goods and services traded internationally. Innovations on the other hand in general also foster internationalization because new products or production processes often only unfold their potential at an international scale.

In the last three decades international trade has grown at a faster rate than worldwide GDP which has led to a rising share of internationally traded goods and services in total GDP. In the second decade of the 21st century, the share of goods and services traded internationally in the world's GDP has reached 30 %. Bi- and multi-lateral trade agreements, the reduction of tariffs and non-tariff trade barriers, and regional integration processes have contributed to this rise, which now seems to be under threat by a new wave of protectionism and by disintegration processes such as Brexit.

But even more important for this rise of cross-border trade than trade agreements were technical innovations, especially the widespread diffusion of information and communication technologies and the digitization that emerged with the internet in particular. In his recent book 'The Great Convergence. Information Technology and the New Globalization' the American economist Richard Baldwin speaks of a global value chain revolution which started about 1990 and resulted in a totally new organization of production processes at an international or even global scale. Before 1990 international trade

consisted mostly of shipping final goods entirely produced in one place of the world to another place where they were consumed. Dramatically reduced communication costs made it possible to shift certain stages of manufacturing to foreign countries and maximize the opportunities of divergences in labour or energy costs between different locations. This process is also called offshoring of production. The trade relationships which emerged since 1990 between the 'old' and the 'new' EU members, between the US and Mexico and within the East Asian hemisphere can be interpreted in this sense.

In the traditional model of international trade which existed until 1990, innovation and internationalization could have been regarded as separate areas of economic activity. Innovations were commercially used in the same place where they were generated. But offshoring of production which then set on, entailed shifting new ideas to new locations. Countries and regions selected as locations for offshoring not only benefited from the additional jobs, but also from innovations brought to them by foreign investors.

In the 21st century innovation and internationalization are closely intertwined. Innovations developed and used in one place can easily be shifted to other places by trade and investments. A region which generates many innovations is not the only, perhaps even not their primary beneficiary. By its spill-overs to other regions through offshoring innovation in a certain way becomes a public good at a global scale.

But from this insight one should not draw the conclusion that generating innovation is useless for a region. The main motivation for offshoring continue to be the advantages that low wages, taxes and energy costs offer for certain stages of the manufacturing process which demand low or moderate skills. The whole business activities are still controlled by the original headquarters, they keep product development and design, and they pay their higher wages than at the offshoring locations.

An intelligent partitioning of the whole value chain between different locations helps a company to improve its competitiveness and to secure high paid jobs also at the headquarter location. But the geographical diffusion of innovation in the digital economy of the 21st century requires a new way of thinking which combines innovation and internationalization from the outset.

This argument can also be explained in the context of what is meant by 'Industrie 4.0' in Germany or by the 'internet of things'. Manufacturing is completely re-defined as a process that helps to meet consumer demands in a very broad sense by integrating design, processing of raw and semi-finished materials, ICT and maintenance. 'Industrie 4.0' at the same time creates a totally new environment for innovation and revolutionizes the spatial division of labour and the internationalization of production.

According to my experience, the Netherlands are well prepared for this new perspective of innovation, and they may be better prepared for the changes this will bring to international trade and investments than Germany. The Netherlands are one of the most open and internationalized economies of the world. The limited size of their domestic market forces their companies to think globally from the beginning, whereas many German companies are tempted to limit their attention to the huge home market. This is also an important distinction I have observed between NRW and Limburg over the years. SMEs and startups from Limburg more easily make their initial step to foreign markets than their counterparts from NRW.

Jean Severijns, having been responsible for innovation policy in the Dutch Province of Limburg for many years, personifies this distinct approach of Dutch innovation policy, which combines it with a clear and purposeful international orientation.



Prof. Nicos Komninos

Professor and Director of URENIO Research
Aristotle University, Faculty of Technology

Innovation under the 'smart paradigm': Smart specialisation and smart cities setting the innovation policy agenda

Challenges

The entry to the 21st century has been marked by new challenges and problems, increasing the expectations and role of research, innovation, and efficient government to address them. Grand challenges for cities and regions of the developed world are those of growth, sustainability, and safety. This is clearly reflected in the EU Urban Agenda, which was agreed on May 2016 in Amsterdam. The UA defines twelve priority areas for action, dealing with urban poverty and the inclusion of migrants and refugees; the circular economy and the creation of jobs and skills; the sustainable use of land and nature-based solutions, air quality, climate adaptation, energy transition, and urban mobility; and the digital transition and public procurement (European Commission, 2016).

Growth, employment, poverty form a complex nexus that changes with geography and scale. One size does not fit all, and growth challenges are not the same across countries and regions. Within a country, all cities and regions do not follow the same development path and do not exhibit the same growth rates. While growth in most developed regions is linked to increase of productivity, in the less favoured regions growth comes with

industry diversification from traditional to higher value products and services (Hausmann, 2015).

Sustainability forms another nexus of challenges connecting a wide range of topics, such as the preservation of natural habitat and ecosystems, sustainable use of land and nature-based solutions, management of sea and ocean ecosystems, air quality, CO2 emissions, climate adaptation, energy saving and transition to renewable energy, sanitation, water management and reuse, recycling of materials, and the circular economy. Sustainable urbanisation requires competent, responsive and accountable governments charged with the management of cities and urban expansion, as well as appropriate use of information and communication technologies for more efficient management and delivery of city services and infrastructures. Together with smart technology, urban sustainability requires institutional capacity and integrated approaches so as to attain its objectives.

Cities and regions face also new safety challenges, emerging from man-made or natural threats, such as crime, terrorism, attacks on infrastructure, vandalism, natural catastrophes, urban accidents and other types of emergencies. The geographical distribution of these hazards is heterogeneous across EU countries and regions. Although the general trend in the total number of crimes recorded in the EU28 steadily decreases since 2003 (about 12%), in the period 2007-2012 violent crimes have risen by 38% in Luxembourg, by 26% in Hungary, and by 23% in Denmark (European Commission, 2012). It is estimated that the economic cost of crime in most EU states ranges between 3-7% of their GDP, and the real impact goes far beyond monetary values. Urban safety and security are also vital assets in the global competition of cities for investors and citizens who value the quality of life.

These challenges of growth, sustainability and safety have many features of wicked problems (Rittel and Webber, 1973): no definitive formulation but continuous transformation of the problem; no idealized end state to arrive; no template to follow; more than one explanation; interconnected with other processes; no mitigation strategy; uniqueness of each case; need for continuous problem-solving effort. Most important is that usual problem-solving approaches and market-led innovations are not sufficient to address them. New forms of innovation, such as eco-innovation and social innovation, user-driven and data-driven innovation, have to complement the innovation and problem-solving approach driven by research and market collaboration.

The smart paradigm

Together with the above challenges new concepts have appeared that capture the current development dynamics and policies in Europe, the US, and elsewhere: smart growth, as core component of the EU 2020 strategy; smart specialisation, as new development path and place-based policy; smart communities, as European Innovation Partnership that brings together cities, industry and citizens; and smart cities, a term used widely in numerous places around the world for new solutions in urban environments. These concepts gather a lot of attention in urban and regional development and planning agendas and denote the rise of a new paradigm created by the convergence of knowledge-based development, learning regions, smart technologies, and future Internet research.

This ‘smart’ paradigm is fuelled and gains momentum from the most important technology stack of our era, the combined technologies of Internet and World Wide Web. These collaborative technologies pave the way to a wider array of technologies, such as cloud computing, big data processing and analytics, cyber-physical systems, artificial intelligence, augmented reality, and the Internet of Things. Altogether, they push human collaboration and user-driven innovation to higher levels of efficiency and volume. The ‘smart’ attribute advocates innovativeness, participation, collaboration and coordination within a rationale of network-based and spatially defined policies (Antonelli and Cappiello, 2016).

The new paradigm is characterised also by features that take flesh and become feasible thanks to multiple forms of digital disruption and innovation. These include, among others, global information flows and easiness of collaboration across continents and time zones; large-scale user engagement in various domains of activity over crowdsourcing platforms; data creation, big datasets and analytics; global innovation supply chains; the rise of a sharing economy; few forms of production, such as demand-driven production, distributed collaborative production, customer co-production, and various other forms of network-based work and exchange.

Smart growth, a key dimension of this paradigm, is not sustained only by the usual production factors of labour, capital, and technology, but through the variety and co-existence of different economic activities and externalities in a region. Productive differentiation is a key factor for new knowledge creation and innovation.

The discovery of ‘variety’ as factor of knowledge-based growth led to an advancement in the theory of urban and regional development, namely the formation of the related /unrelated variety approach. There is evidence that knowledge spillovers, a core driver of knowledge-based development, are not due to spatial proximity and agglomeration only, but to technological or cognitive proximity as well. Bochma (2005) described other forms of proximity also, such as organizational, social, and institutional proximity that affect knowledge sharing and spillovers. Antonelli and Leoncini (2016) argue that the new technological trajectory focusing on smart development should recognize the role of cities as fly-wheels of development, and define regional specialisations by contiguous industrial sectors for the development of local systems. These might be industrial sectors having complementary characteristics and cognitive proximity, thus exhibiting related than unrelated variety.

Smart specialisation

At large, these ideas feed the smart specialisation agenda, a central pillar of the EU smart growth strategy for the period 2014-2020. “Smart specialisation, initially developed by Foray et al. (2009) and subsequently elaborated by Paul David, Bronwyn Hall, Phil McCan and others, is a process of priority-setting in national and regional research and innovation strategies in order to build “place-based” competitive advantages and help regions and countries develop an innovation-driven economic transformation agenda” (Landabaso 2014b, p. 378).

Smart specialisation strategies (S3) reject the ‘one-size fits all’ approach as a common growth trajectory for all regions (Tödtling and Trippl, 2005). Contrary to a common development path, S3 focuses on assets, strengths and weaknesses specific to each region that guide the policy mix and interventions creating regional competitive advantages.

The elaboration of S3 follows a methodological model composed of 6 stages and 18 steps, presented by the S3 Platform on the basis of an original contribution by Christian Saublens (<http://s3platform.jrc.ec.europa.eu/ris3-assessment-wheel>). Fundamental pillars of the model are participatory governance, business leadership, entrepreneurial discovery, trans-industry specialisation, critical mass, public-private partnership, R&D and technology actions for industry diversification, evidence based assessment and feed-back

(Landabaso, 2014a). S3 should follow a process of discovery and innovation, “choosing races and placing bets” rather than “picking the winners” (McCann, 2015). Consequently, strategy interventions should be informed and precise as possible, guided by data and evidence appropriate to context, and outcomes that are monitored and evaluated by metrics and data.

Participatory decision-making, entrepreneurial leadership, and datasets, are essential features of the RIS3 place-based approach. Business leadership and a process of entrepreneurial discovery have to define options for diversification and niche markets for innovation. Related variety can be used as a proxy of technological and cognitive proximity between industries and branching of new industries is expected from related industries, as firms in related activities profit more from mutual spillovers than firms in unrelated activities (Frenken and Boschma, 2007).

As a strategic planning approach, S3 has to define a policy mix composed of research and innovation actions for industry modernisation and diversification and offer an innovation-friendly business environment. This presuppose a better understanding of two critical dimensions of innovation support environments: first, recognize the collective nature of individual productivity, which does not depend on individual talent and effort only, but is the result of collective endeavours and efficient systems of innovation (Kakderi, 2014); second, realise that innovation-friendly business environments are place-specific, shaped by path-dependent trajectories of countries and regions. Therefore, innovation actions within S3 face a double challenge: to develop research and innovation infrastructure and key-enabling technologies as drivers of industry diversification and to make these technologies available to the entire productive fabric of an area (Komninos et al., 2014).

Smart cities

Business leadership and entrepreneurial discovery are important processes of the smart specialisation agenda, but define also the limitations and boundaries of this approach. Growth based on technological innovation, industrial modernisation, branching and diversification, is a high priority in the business community. But, this is not true for social innovation having collective objectives and for eco-innovation that demands new infrastructures for renewable energy and efficient energy, water and waste systems. Therefore, while S3 seems suitable to address challenges of growth, it seems less efficient

in challenges related to environmental and quality of life objectives. Here comes the agenda of smart cities and their promise to address challenges of sustainability, climate change, safety and quality of life in cities, with more efficient use of resources and more intelligent systems of decision-making and innovation. Smart cities offer hundreds of solutions that enable human communities to improve their economy, infrastructures and utilities, the environment, and living conditions. Yigitcanlar (2016) presented ten cases studies of cities in Asia, Europe, Middle East, USA, and Oceania that have implemented smart city strategies, and key characteristics of solutions that have been adopted. In many cases the major concern of smart cities is growth, the creation of knowledge and innovation districts, clusters, and business support environments. But equally strong is the concern for sustainable city infrastructures, energy efficiency, use of renewable energy, water and waste management and green transportation. These orientations are coupled with projects for better living, e-health, education, safety and security, and e-government.

In the field of growth, smart cities introduce digital disruptions to business practices and business models. They provide digital platforms and commons, which other businesses can use as externalities to define their own value propositions. Such platform-based business models enable the association of smaller service providers and disrupt one sector of the economy after another. In the field of environment, smart city solutions contribute to environmental sustainability through energy optimisation and use of green energy. For instance, sensor-based solutions and smart grid can reduce energy consumption and optimize supply and demand. Dematerialization is another route to environmental sustainability, as smart cities enable the substitution of material space by digital space. Urban activities taking place over digital environments reduce the need for space, infrastructure and mobility. Most disruptive, however, is the contribution of smart cities to sustainability through the rise of the 'zero culture'. Zero-carbon cities and zero-waste cities are visions for complex cyber, physical and institutional environments that enable radical and effective solutions for sustainable places.

In the field of safety, **zero vision** initiatives bring to end fatal traffic accidents by using road safety plans and solutions that prevent traffic crashes through city redesign, digital technology, real-time alert, education, and law enforcement. Crime monitoring is practiced in many smart cities and local

authorities worldwide adopt strategies for reducing crime and violence through mechanisms of effective monitoring, awareness, and collective action.

Cyber-physical systems of innovation: An innovation policy agenda for the coming years

There is a common ground to all these dimensions of growth, specialisation and city change, which justifies their placement under the same 'smart development paradigm'. It concerns the way new solutions are produced by the convergence of digital technologies, user engagement, and global collaboration networks. Smart growth fuelled by digital disruptions and global networks, smart specialisation strategies driven by entrepreneurial discovery and evidence-based datasets, and smart cities introducing social innovations and eco-innovations, all rely on cyber-physical systems of innovation (CPSI). In such environments, innovation takes place over physical, social, institutional and digital spaces. The general form of a cyber-physical system is an innovation supply chain, a network connecting nodes of R&D, funding, markets, producers, technology intermediaries, suppliers, clusters, and policy makers. Each node of the network is also a network with physical, institutional, digital elements, and e-services (for a representation, see Komninos, 2016, fig.2). Cyber-physical systems of innovation (CPSI) appear because innovation networks merge with Internet networks and information flows of the World-Wide-Web. Due to these technologies innovation becomes more open and inclusive, available to all and attainable by all. Such innovation systems are characterised by:

- *Multiplication of innovation actors and nodes* with the involvement of remote actors and virtual nodes from around the globe. The number of 'actants' in the system rises geometrically as many suppliers and users can connect virtually and undertake innovation tasks.
- *Spread of digital identities* due to augmented reality and the Internet of Things, which makes all objects (new products and services) hybrid, combining a physical and a digital identity.
- *Co-creation* in product or service design, and consumers turning to mediators of concept-development and co-producers of innovation.
- *Rapid new product launch*, creation of prototypes as early as possible; releasing early and often; gathering usage data and giving feedback into product design as often as possible; outsourcing whatever can be found elsewhere.

- *Open intellectual property* (IP) or innovation without IP, via free and open licenses. Commons-oriented licenses creating goods that can be used universally, sharing licenses, and allowing the use of whatever is placed on commons and open platforms.

To our view, cyber-physical systems of innovation are setting the innovation agenda for the coming years, both in terms of innovation processes and innovation policy. In the supply side CPSI offer cost-saving technologies, online testing environments, and digital assistants for informed decision making; in the demand side, they enable the engagement of users and consumers that provide real time feed-back and data; and in the entire cycle of innovation they offer partners and access to markets from around the world. All these features place CPSI at the core of the emerging smart paradigm.

References

- Antonelli, G. and Leoncini, R. (2016). Smart development, local production systems and related variety. Antonelli, G., & Cappiello, G. (eds.) (2016). *Smart Development in Smart Communities*. Routledge, 189-202.
- Antonelli, G., & Cappiello, G. (eds.) (2016). *Smart Development in Smart Communities*. Routledge.
- Boschma, R. (2005). Proximity and innovation: a critical assessment. *Regional studies*, 39(1), 61-74.
- European Commission (2012). *Evaluation report on the European Union Crime Prevention Network*. Brussels, 30.11.2012, 717 final.
- European Commission (2016). *Urban Agenda for the EU. Pact of Amsterdam*.
- Frenken, K., & Boschma, R. A. (2007). A theoretical framework for evolutionary economic geography: industrial dynamics and urban growth as a branching process. *Journal of Economic Geography*, 7(5), 635-649.
- Hausmann, R. (2015). What are the Challenges of Economic Growth? *Growth Policy*.
- Kakderi, C. (2014). *Regional Organisation of Innovation in Europe Through the Geographical Analysis of Patents*. PhD dissertation, Faculty of Technology, Aristotle University of Thessaloniki.
- Komninos, N. (2016). Smart environments and smart growth: Connecting innovation strategies and digital growth strategies. *International Journal of Knowledge-Based Development*, 7(3), 240 - 263.
- Komninos, N., Musyck, B., and Reid, A. (2014). Smart specialisation strategies in south Europe during crisis. *European Journal of Innovation Management*, 17(4), 448-471.
- Landabaso, M. (2014a). Time for the real economy: the need for new forms of public entrepreneurship. *Scienze Regionali*, 13(1), 127-140.

- Landabaso, M. (2014b). Guest editorial on research and innovation strategies for smart specialisation in Europe: Theory and practice of new innovation policy approaches. *European Journal of Innovation Management*, 17(4), 378-389.
- McCann, P. (2015). *The regional and urban policy of the European Union: Cohesion, results-orientation and smart specialisation*. Edward Elgar Publishing.
- Rittel, H. W., & Webber, M. M. (1973). Dilemmas in a general theory of planning. *Policy Sciences*, 4(2), 155-169.
- Tödtling, F., & Trippel, M. (2005). 'One size fits all? Towards a differentiated regional innovation policy approach. *Research Policy*, 34(8), 1203-1219.
- Yigitcanlar, T. (2016). *Technology and the City. Systems, applications and implications*. Routledge.

Nicos Komninos

54636 Thessaloniki GR

Email: komninos@urenio.org



Elżbieta Książek

Poznan Science and Technology Park Poland

ZigZags but progressing

From the perspective of more than 15 year experience in regional innovation policy I am moderately, but still, optimistic for the future. There is a bit of frustration in observing the a big fuss every now and then when every several years a policy game changer is announces. The public relation approach is important everywhere nowadays, also in innovation policy. We hear about a new era, new approach, name it with a nice label: (put here the up-to-date buzz word or initiative). It will change the world (or at least Europe). There was a number of mistakes previously, that is why new approach is being taken. But I have never witnessed this (whatever label) being summed up at the end: this is what we had promised and this is what we have done. This PR spectacle is used not only by politicians but also practitioners even in such serious and respectable institutions as European Commission

On the other hand there is also evident of progress in efficiency, and maturing concepts in practices of why to do innovation support and how to do it. 15 years ago we were happy to have an activity for innovation and SME up and running, and being able to show the happy clients of the policy. Now we are aware that happy clients providing testimony for you are always to be found, whatever you do. Now the questions are asked on: how efficient the policy has been, what and how big impact have it made. And there are better and better concepts and practices. Even though it is difficult to describe the progress path. For sure it does not look as a straight line, like a zig zag.

From Regional innovation strategies to where?

I got involved in the innovation policy issues about the year 2000 when the European Commission decided to finance regional innovation strategy (RIS) projects in the associated countries at that time, now all being EU. Poland had just gone administrative reform, which gave some policy making competences to the regions. That meant that Polish regions started from scratch without any previous knowledge and experience on running any kind of policy. And at the same time people the regional authorities in Wielkopolska decided to ask Poznan Science and Technology Park – then the only operating innovation intermediary to help in preparation and running the RIS project. This way we have started memorable journey, applying the participative approach gaining true involvement of many people. All wanted to do something meaningful for their region. Lack of knowledge and experience was compensated by both enthusiasm and with the exchange with the regions who have already gone through the process. It was the time I met people like Jean Severijns from Limburg, Christian Saublens from Eurada, Dieter Meyer from Germany and Meirion Thomas from Wales. When the strategy was already elaborated it turned out that only some of the ideas had a chance to get implemented. We did not complain, knowing the beginnings do not have to be glamorous. We believed that the future would bring more opportunities. Unfortunately it did not. The only opportunities were related to structural funds, and the programme turned out to be result of a best compromise of multiple rules and regulations, matrices, plans, division of competences between the EU, national and regional level. Strategic approach was not such a priority. Later on there were 2 similar processes made: RIS 2 and RIS3. With similar result. Engagement of stakeholders, mobilisation of energy and problems with implementation. I am not sure if in a few years a new era of strategies (whatever name will be given) people may not be so keen to get involved.

Part of the problem lies in lack of knowledge and experience in designing and managing the public intervention oriented in change. Additionally at the transformation from the planned economy to free market, Poles lost their trust in the role of public administration intervention. This is not helpful in effective policy if most people don't see rationale. Still 15 years later my science park is not the only but one of many intermediaries and people in the public administration reveal much more knowledge and competence in innovation policy design. There is some hope of progress.

Trap of international “copy-paste” approach or lack of real learning?

Finalising RIS I got an opportunity to work with Innovating Regions in Europe Network (IRE), connecting the practitioners of regional innovation policies all over Europe. The first lesson of IRE was that in the diverse Europe of more and less developed regions, different culture contexts, level of region's autonomy, different level of available resources and context of the regional economy fabrics, all cope with very similar problems and a solution developed a one place can work in another. In many papers you can read that the common mistake is a copy-paste of good practices from elsewhere and implementation in different context without proper adaptation. That is why is called “copy-paste” approach. In reality I have never witnessed this infamous copy-paste. But in my memory there is a clear example of lack of understanding on what is the good practice when propagating it in another country.

The Limburg “research vouchers” invented in the 90ies of previous century is still being propagated in other countries. But from Jean's presentation and a bit of research I understood it as a brilliant: effective and efficient idea on how to motivate potentially innovative companies, or as Christian Saublens call them: first-time innovator, to use external knowledge providers and start their own innovation projects. Simple, low cost and low paper work grant was offered to such companies together with advice and expert match to make as easy and convenient as possible opportunity for a company to try and see what they can gain from external knowledge providers. This way those who never thought about such collaboration and, even if they got such an idea, did not know to whom to turn to, could start their new innovation adventure, often with their own money.

The vouchers propagated now have different rationale: to bridge the finance gap for companies who cannot afford to pay for contract research and to emulate a demand approach. The company using a voucher should behave as a market player: choosing the right provider and pressing them to provide highest quality research and innovation services. That means often much more generous than the original grant for the company. But it is a company who needs to bring their research provider and do much larger paper work. The companies who apply are rarely the “first-time innovators”. They know they partner, probably have been already pursuing innovation projects together. And one may doubt if it is really true that the project would not be pursued any way, without the voucher.

The two vouchers work completely differently and reach completely different target groups.

Learning and advancing innovation policies seem to be more dependent on the internal competences and orientation of the policy makers, who know their region needs, have clear vision and ideas and can use the ideas and lessons from elsewhere to achieve this.

New initiatives and buzz words will appear every few years. Not only politicians but also civil servants need to show that they do new things. They will promise that from now on it will be different and successful. The new ideas that they will bring may be interesting but will be not able to keep their promise. Still they provide opportunity to try something new, mobilise new people to get involved.



Mikel Landabaso

Director Strategy and Communication, DG COMM,
European Commission

Regional Innovation in perspective

Beyond standard recipes exclusively calling for austerity, sound macro-economic policies and accelerating structural reforms, serious thought should be given to new ways of engaging directly with the real economy through smart public investments, particularly in innovation promotion.

In terms of public policies, on the one hand, there is the growing realization that an overdose of macroeconomic policies cannot solve problems linked to the factors that underpin microeconomic competitiveness.

As Christian Ketels (2013) has recently put it drawing on recent research results: *“Microeconomic factors are important on their own right, with an impact quantitatively comparable to that of institutional factors. Monetary and fiscal policies have an impact as well but matter less...Current policies on areas such as physical infrastructure, skills, innovation and SMEs, then, matter and the quality of these policies is not given by a location’s institutional legacy”*. In other words, competitive advantage can be influenced positively by proactive policy action.

On the other hand, increasing long-term productivity – the real key to successful economic development efforts - requires an innovation-friendly business environment *“carried out by states and regions, where many of the key drivers of competitiveness reside”* (M. Porter and J. Rivkin, 2012). Moreover,

recognizing “*the collective nature of individual productivity (...) and not just individual talents and efforts*” (H. Chang 2010) is essential for understand the need for public action, notably in the field of innovation-friendly business environments and the development of efficient national/regional innovation systems.

Thus smart public investments on innovation coupled with targeted structural reforms, in particular regarding good governance and enhancing institutional capacities, are the main pillars in the establishment and development of innovation ecosystems that hold the key to sustained productivity growth in the real economy.

As innovation processes are increasingly recognised as being the fruit of collective endeavours (K. Morgan 2012) and complex systemic interactions – at the “intersection” - (F. Johansson, 2006), rather than as heroic individual ventures through linear R&D processes (often in American garages in sunny places), the public sector’s role in partnering with the private sector, academia, the R&TD world and civil society becomes the key to a successful crisis exit strategy. Thus, acknowledging that “*innovation cannot be dictated, but it can be cultivated*” (J. Sallet et al, 2009) is critically important for policy-making.

Innovation policy as a crisis exit strategy

There is growing recognition that the public sector can and should play a catalytic role in innovation-driven growth. Inspired by recent successes in a number of rapidly growing Asian developing countries, new structural economics, for example, clearly states that “*government needs to play a facilitating role to help the private sector to overcome issues regarding coordination, externalities or public (semi-public) goods that the market will not automatically resolve in its own to achieve dynamic growth*” (Lin et al, 2012).

As nicely put by Anne-Lise Prigent (OECD, 2013), “*Industrial policies are highly specific to country and time. Like a well-adjusted bow, they should match each country’s development level and aim at the right targets – neither too high nor too low in the value chain, building on comparative advantage without being a slave to it*”. In this sense, it is important to note that countries often need to build on existing comparative advantage in order to develop new competitive advantage

through innovation and human capital enhancement thanks to technological absorption, rooting of FDI, specialized diversification, etc.

Happily, there is also growing consensus in Europe on the need to rely on the promotion of innovation to reach higher value added market segments which will allow advanced European economies to further specialise and differentiate themselves (M. Aglietta and T. Brand, 2013).

So how to set about designing and funding an innovation policy as a crisis exit strategy?

Since “*the attempt to improve the fiscal prospect by cutting spending in a depressed economy – where budget deficits don’t compete for private sector for funds - can end up being counterproductive even in narrow fiscal terms*” (P.Krugman, 2012), the issue is how to find the public funds and where to invest them while reducing the long-term debt burden.

Hence the real question boils down to how to square the circle of reducing deficits while increasing public expenditures where they are most needed to exit from the crisis. That is, how to preserve/increase growth-enhancing expenditure during fiscal consolidation processes. This is precisely what the EU Commission has called for during the semester process. In other words, can we increase aggregate demand for long-term growth while in the liquidity-constrained context and in such a way that it does not add further to the debt burden?

I would argue that a positive answer to the above question lies in the elaboration of an efficient public innovation policy capable of catalyzing private investments very much along the lines of the Juncker’s Plan design. A virtuous -crisis exit- cycle can be sparked by such a policy, and it could work as follows: by increasing targeted government expenditure G (on innovation eco-systems and human capital skills) that leverages private co-funding I (on innovation: often intangible, long-term, risky investments) which enhances their capacity to compete in global markets (raising exports X), output grows (Y) supported by sustainable jobs. Thus, in actual fact, the public sector is only “advancing” money that could be (partially) clawed back later through increased tax

revenue and savings on unemployment benefits, without generating further public deficit in the long term... if this innovation policy is effectively planned and delivered!

$$Y = C + I + G + (X - M)$$

In this sense, I fully subscribe to the notion that the public sector's role in this context of financial starvation and overburdened public deficits is not so much to stimulate demand through massive indiscriminate public investment – defined as “crude Keynesianism” below, as to target those catalytic actions that can leverage a maximum of private investment in Research and Innovation:

“I have argued against short term stimulus packages...believing that instead we need a consistent, planned, decade long boost in public investments in people, technology and infrastructure...it requires careful government programs, working alongside the private sector, and good coordination with state and local government...(J. Sachs, 2013).

An illustrative example of how this can work in practice is provided by recent investments of European Regional Policy into Science and Technology Parks (STPs). During 2000 – 2012 alone, there has been an ERDF capital expenditure on STPs throughout the EU of between €1500 million and €2000 million. This expenditure has leveraged between €2750 and €3250 million of other public expenditure and €3250 to €3750 million of private sector investment. That is, expenditure by the ERDF of €1500 to 2000 million has triggered a total STP capital investment (including the ERDF) of €7500 to €8000 with nearly half of it deriving from private sources (EU Commission 2013). Most of these investments have been made by and for manufacturing firms in STPs with above average propensity to innovate and export.

A similar case can be argued for firms in clusters or those closely connected to technology centers since both clusters and technology centres are traditionally key public policy targets¹ and are directly linked to firms with a well above-average tendencies to innovate² and export, as demonstrated by several recent evaluations, in the cluster literature in particular (D.N.E. Rowe, 2013, H. Berrer et al, 2011).

Moreover, and in order to emphasize that these types of investments and leverage are not anecdotal or marginal from a macroeconomic point of view, it is worth mentioning that it has been estimated that Research and Technology organizations in Europe³ have revenues of 18,5-23 billion euros with a wider economic impact of up to 40 billion (Technopolis, 2010).

If public investment is focused through a place-based innovation policy on a number of STPs, clusters and technology centers there may ensue a substantial private investment leverage effect⁴ which, in time, strengthens the innovative capacity of firms and their ability to export, particularly in higher value-added market niches, away from price-based competition, within a highly competitive global economy. In this way, an initial public investment push can leverage private investment that enhances the competitive position of firms in international markets, thus increasing aggregate demand and crowding in private investments with positive spill overs in public accounts.

Research and Innovation Strategies for Smart Specialisation

Hence, the question is whether we can do something else besides standard macro-economic recipes through public investment to develop a crisis exit strategy. That is, can we do something practical in the form of public investment that affects the real economy?

1 “Government has a crucial role to play...no cluster has succeeded without at least some input from government” (The Economist Intelligence Unit, 2011). “The majority of cluster management organizations (of the 143 European clusters reviewed) depend to more than 60% on public funding » (T. Lämmer-Gamp, G. Meier and T. Alslev, 2011).

2 “Industries participating in a strong cluster register higher employment growth as well as higher growth of wages, number of establishments and patenting...new regional industries emerge where there is a strong cluster environment...overall these findings highlight the important role of cluster-based agglomeration in regional economic performance” (M. Delgado, M.E. Porter and S. Stern, 2012)

3 RTOS are defined as “regional or national actors whose core mission is to harness science and technology in the services of innovation or public bodies and industry, to improve the quality of life and build economic competitiveness in Europe. RTOs are generally non-profit organisations and their revenues are re-employed to fund new innovation cycles”.

4 The most recent evaluation of the Basque network of technology centres, possibly the largest in the EU at regional level, show that private investment leveraged account for 43% of the total R&I investments made by the Centres (Orkestra 2013).

European Regional Policy has been one of the few public investment programmes on a massive scale (nearly 30 billion per year for the whole Union) which somehow defied the Washington Consensus during the 90s and 2000s. This Policy has developed a silent (r)evolution over the last two decades by significantly increasing innovation investments within the policy mix which it stimulated in the beneficiary countries and regions (see below).

A silent (R)evolution: innovation Promotion in European Regional Policy

1989 -1993: approximately 4% for innovation (2 billion out of 50)
(L. Tsipouri, IPTS Report N° 40, 2004)
Community initiatives: Science and Technology for Regional Development - STRIDE, TELEMATIQUE, ENVIREG, VALOREN.

1994-1999: approximately 7% for innovation (7,6 billion out of 110)
(L. Tsipouri, IPTS Report N° 40, 2004)
Pilot Projects: RIS, RIS+, RTTs, RISI, RISI2, IRISI, EBN, BICs

2000-2006: approximately 11% for innovation (out of 195 billion)
“Regions in the new Economy”: PRAIS – Regional Programs of Innovative Actions 400 million

2007-2013: approximately 25% for innovation (86 billion out of 345)
Article 5 of the ERDF: innovation as a priority for the “Competitiveness” objective -31.000 R&TD projects identified in only 95 ERDF Programs (40% of total budget) (Nordregio 2009)
“Regions for Economic Change”

2013 – 2020: (estimated 80 to 100 b€ - one third of the total budget)
80% (50%) of the total budget earmarked or R&I, SMEs Competitiveness, the Digital Economy and Energy Efficiency and Renewables.
RIS3 conditionality

Since 2009, and in the aftermath of the global financial and economic crisis, the concept of smart specialisation has found echoes in OECD discussions on “New Industrial Policy”, “New Sources of Growth” and “New Approaches to Economic Challenges”. In this sense “*smart specialisation is a regional policy framework for innovation driven growth*” (OECD 2012).

Smart specialisation implies that a member state or region identifies and selects- on the basis of a bottom-up and top-down priority setting process- a limited number of priorities for knowledge-based investments, focusing on regions’ strengths and comparative advantages. This approach will hopefully help regions realise their innovation potential and refocus their industrial and knowledge assets in the direction of emerging industries and services and international markets. The development of research and innovation strategies for smart specialisation will become mandatory for member states and regions that plan to invest structural funds into research, innovation and ICT take-up measures as of 2014.

Research and Innovation Strategies for Smart Specialisation -RIS3- can be defined as a planning process guided by an economic transformation agenda based on 4Cs:

- (Tough) Choices: limited number of priorities on the basis of own strengths and international specialization – avoiding duplication and fragmentation in the European R&D Area taken as a whole.
- Competitive Advantage: mobilize talent by matching R&I capacities and business needs through an entrepreneurial discovery process.
- (Critical Mass) Clusters and Connectivity (P. McCann et al, 2013): aim at developing world-class clusters and provide arenas for related variety and cross-sectorial links, which can drive specialized technological diversification.
- Collaborative Leadership: efficient innovation systems as a collective endeavour based on public-private partnerships (quadruple helix) – allowing for experimentation and giving voice to un-usual suspects (with good ideas).

...and last but not least, a C in the best political economy tradition: Common sense.

It is important to underline that the 4Cs which form the core of this economic transformation agenda are context-specific (place-based). They should match the characteristics of already-established innovation patterns in each region, in line with what some authors have called “smart innovation policies” (R. Camagni et al, 2013), if they are to be effective.

In this context, what “specialization” actually means requires further explanation to prevent misunderstanding: it is definitely not about specialization in a narrow sense in a sort of “neo-Ricardian” world-*not a planning doctrine that requires a region to specialize in a particular set of industries or sectors* (D. Foray et al, 2013).

Specialization in the RIS3 sense means avoiding duplication and fragmentation of effort with scarce public resources within the European Union, thus helping to deepen the single market through “open” RIS³ and inter-regional connections across the EU in order to create critical mass. In this sense, to be stressed is that *“specialization and resource concentration is a way of obtaining scale economies in R&D investment; at the same time, recent literature has emphasized the role of variety at local level when the aim is that of promoting radical innovations”* (D. Iacobucci, 2013). Thus, local context – in a place-based approach - will determine the policy balance and mix between broader innovation policy (of a more horizontal character) and support pure R&D (of a more vertical character).

Specialization also means being selective and supporting R&I activities that are relevant and match existing conditions and assets (e.g. based on evidence-based policy evaluation, sound SWOT analysis, etc. within the process of entrepreneurial discovery) and which break away from established lobbies and rent-seekers. Such R&I activities are relevant in that they can help transform the existing economic structure in order to face globalization, so that selection should be made of R&I activities with the highest potential for knowledge spill-overs to irrigate large sections of the economy, thus promoting related-variety and avoiding the risk of “lock-in” effects. In other words, *“the essence*

of entrepreneurial discoveries is the generation of informational spillovers (effects of demonstration and emulation) that in themselves represent a rationale for public funding” (M. Coffano et al, 2013).

In short RIS3 is neither “coffee for all” nor “picking winners from above”. It is not about selecting firms or sectors but the research and (broad) Innovation activities and/or generic technology(ies) that can help a regional economy diversify into higher value-added markets – understood as *“specialized diversification”* (P. McCann, 2012) - modernize/rejuvenate traditional sectors or exploit new/emerging economic activities (e.g. radical innovation through technology start-ups).

Conclusions

This paper has argued that it is necessary to develop new forms of public entrepreneurship capable of developing more selective policy approaches that deal with the microeconomic foundations of competitiveness in the real economy.

Microeconomic and mesoeconomic competitiveness problems cannot be efficiently tackled by overdoses of macroeconomic or sector- based policies but by integrated, place- based regional policies which focus on the promotion of innovation.

Place- based regional policies should not mean parochial or inward looking. Place based means understanding institutions, history and business culture, which are precisely the key features that define a region. Regions are neither artificial administrative constructs nor independent institutional frameworks, but links in a governance chain where public policy can sometimes be more effectively developed, because of its closeness, to understand economic needs and mobilize capabilities. The objectives of these policies, with their feet solidly rooted in their territories should be to have regional heads above the clouds or nearby valleys and into the global economy, where they should aspire to become competitive players in their own terms.

In this regard, the paper has maintained that a successful crisis exit requires a public investment agenda complementary to sound macroeconomic policies in

the form of research and innovation strategies for smart specialization. These should aim at economic transformation and be tailor-made to specific local conditions, thus following a place-based approach. It follows that a EU regional policy agenda aiming at catalyzing private investments in the real economy for the future, in line with President Juncker's Plan, should be built on these foundations. This policy should aim at generating effective Eco-innovation systems and European wide cooperation in higher value chains anchored on innovation and research capacities

Necessary for this to happen is a different and better public sector able to develop good governance structures for the design and implementation of complex innovation policies. In other words, public or semi-public institutions filled with economic development professionals working hand in hand with the private sector and other key players of the quadruple helix, which pursue public goals in the form of economic transformation through innovation towards higher value-added markets and sustainable quality jobs. This is something that today is hard to find except in a few development or innovation agencies, technology centres, technology parks and the like in a limited number of regions/ countries in the EU.

Regional innovation capacities are much more about personal engagements, institutions, networks, cooperation (social capital) than it is about narrowly focused science and technology efforts. We need to acknowledge the difference between R&D excellence – the only R&D worth supporting – and R&D relevance. R&D relevance refers to the need to integrate from the beginning market demand pull factors in any strategic R&D effort which is publicly funded. Moreover it underlines the need for broad innovation considerations beyond narrow R&D efforts in public investment strategies aimed at economic development, in particular for a sustainable crisis exit strategy today in the Union.

In this sense, good governance and reinforcing quadruple helix dynamics, including the financial sector – knowledge triangle, clusters, university-enterprise and civil society – through “entrepreneurial discovery” is key. The latter is particularly true for most regions in the EU where the economic effects of innovation are basically driven by knowledge absorption (education and

training, advanced business services) and diffusion (technology transfer, ICT, entrepreneurship) in SMEs, than by knowledge generation (science efforts). In this sense it is important to recognize that R&D “excellence” and regional innovation are complementary and we need both: exploiting agglomeration and economies of scale is important (e.g. European Research Area) but also the diffusion and absorption mechanisms based on regional potential. Moreover, it is important to look at SME innovation as a performance indicator, recent studies (EU Commission, 2013) suggest that support measures for start-ups and venture capital that are provided through financing instruments other than grants are more effective than direct subsidies to raise business innovation performance.

Place-based regional innovation strategies and action plans integrating multilevel governance (national-regional) and horizontal (inter-ministerial) cooperation are a necessary first step. Thus multi-level governance, both horizontal across traditional institutional boundaries amongst ministries, as well as vertical through intelligent subsidiarity amongst local, regional, national and – in the EU – European authorities, together with making good use of professional intermediaries (e.g. regional development agencies), addressing “functional” regions, becomes of paramount strategic importance as we move forward in the developmental path. That is institutions and the way in which regional key players learn to interact among themselves matter. (Ahner et al, 2011).

The single most important factor for the success of such policies is an entrepreneurial public sector able to take risks and experiment, one which is professional, accountable and works with the right system of incentives for public good (delivery); a public entrepreneur that avoids some of the mistakes of the past related to old industrial policies (Ahner et al, 2011, Landabaso 2012), including both state “dependency” inertia (K. Morgan 2012) and capture by rent-seeking established bodies and interest groups.

In terms of the public sector's role, it should provide leadership and vision, rather than control, and it should catalyse economic development by promoting new ideas and partnerships with the private sector: not “for them but without them”. Support schemes must be long-lasting, understandable and readily

So far the closest we have gotten to that are few semi-public development agencies (be it regional or national innovation ones, including some technology centers and Technology Parks, with local finance and private sector in the management board) which rely on true economic development professionals, not just “generalist” / compliance-prone civil servants with indiscriminate arms-length, off the shelf policy approaches.

My friend Jean Severijns has been one of those few, pioneering in the mid-nineties the Regional Technology Plan for Limburg, one of the early pilot experiments that pave the way to the current regional innovation strategies for smart specialisation. He is a good example of how a few committed individuals, insisting, convincing and resilient can translate new policy ideas and theory into tangible results for his region to the benefit of fellow citizens.



Prof. Jerzy Langer

Polish Academy of Science, Inst Phys, Warsaw, Poland*
Former CEO of the Wroclaw Research Centre EIT+ and advisor
on science and innovation to the Wroclaw Municipality

Employability. How the S³ may help: the Wroclaw metropolitan attempt to attack this European grand problem¹

Employability - a general EU problem

We observe dramatic growth of unemployment among the young Europeans, especially in the Southern Europe. Many of them run for the higher education hoping to find good job at the market. At the same time, we observe very large emigration of talents - mainly to the USA. Also the intra Europe brain drain (mostly from the East /NMS/ to more advanced West).

It is paradoxical as a simple demographic comparison of the USA and Europe tells, that our deficit of researchers amounts to about 1 mln and all the deficit is not in the academic world, but in the business oriented research. Clearly, this fact is among the biggest challenges Europe faces today.

Universities are naturally slow in adjusting curricula to match supply and demand and unfortunately, there is much too much pure talking about the linkage of universities to business world or better to say exit working places. However, there are bright spots and working solutions.

¹ The paper is based upon the invited presentation at the **University-Business Forum 2017**, Brussels

* Prof. Jerzy M. Langer, Institute of Physics, Polish Academy of Sciences, Al. Lotnikow 32/46, 02-668 WARSAW, POLAND, email: langer@ifpan.edu.pl; URL: http://www.ae-info.org/ae/Member/Langer_Jerzy/CV

An attempt to deal with it employability in EU-13. The Wroclaw case

Wroclaw, known as Breslau before IIWW, is a metropolis in the Western Poland of about 1 mln inhabitants. It is an academic city (every sixth inhabitant is a student). It has been the fastest growing metropolitan economy in Poland to the current position of being the second wealthiest city after the capital Warsaw. The unemployment practically does not exist there and salaries are among highest.

Wroclaw, a capital of Lower Silesia region, is generally perceived as a most friendly environment for business and considered as among top friendly places in the CEE to live by offering not only jobs but also high culture, pleasant natural environment and just good living conditions.

The policy of the Municipality run for more than a decade by a City Mayor Dr Rafal Dutkiewicz, a former mathematician and entrepreneur, has been focused on the increase of the job value by linkage of academia to business and the real job market, also by increasing sensitivity to societal aspects in the city and outside through the community participation.

Currently, Wroclaw is among top CEE places for high-tech companies, especially in the ICT sector and the go start-up becomes a City banner backing already quite recognised very high rank in the FDI in both technology and service sectors.

The triad – regional authorities, academia and business is based on an intensive dialogue and well thought of actions engaging the City during the implementation phase as an umbrella, co-financing authority but also an infrastructure creator and donator. The City is the owner of most properties and land and thus a painful post communist privatisation problem virtually does not exist there.

Interestingly, but it is not only the Municipality acting but also the Marshall office taking care of a whole Lower Silesia region. Thanks to very cooperative atmosphere, which is not quite common in a party dominated governmental central policy and actions, the selection of areas requesting highest attention and investment from all sides of the MAB triangle (Municipality, Academia, Business) took quite early the form much more known today as a Smart

Specialisation Strategy with a dialogue being a focal tool. The later has been recently named the entrepreneurial discovery.

It is interesting to note that the Smart Specialisation Strategy the Wroclaw way is by far not restricted to technological prioritisation. The wealth creation is not enough, even in the developing regions. So a lot of stimuli coming from the Municipality is in the social innovation area aiming at the creation of good and friendly space to live. The latter is generously supported in the City budget under the heading “civic participatory initiatives”. Among the outcomes of such policy was granting Wroclaw the European capital of culture last year. However, pure policy is not enough, specific instruments are needed. Among many three examples of such a development on a joint Municipality, Academia and Business action are worth more detailed description. All of them look many years ahead, so should bring stable profits, when the friendly assistance of the EU structural funds will come to an end.

1. Wroclaw Academic Hub²

It is a City funded office located just across the Mayor office at the beautifully restored lively Market. Its role is to bring together all university institutions in joint actions (not so a trivial task) but also financially bridging researchers and businesses.

The later is in a form of a so called **MOZART - business-science partnerships**.³ The “Mozart” is a city programme supporting partnerships between entrepreneurs and academics. The topics respond to the needs of the companies – either solving definite issues or improving specific products/services. The City of Wrocław finances 30 partnerships/year supporting salaries up to 32 hours per month, throughout 12 months. The funding is being granted to the company as public aid (de minimis).

2. The Wroclaw Technology Park (WTP)⁴

It was created on a City initiative with a collaboration with the Wroclaw Polytechnics some two decades ago. Today it is the no 1 in Poland, generating most of novel solutions originating from the academic community, but !!! outside a traditional academic environment.

² <http://wah.wroc.pl/>

³ <http://wah.wroc.pl/artykuly/1236/Mozart-business-science-partnerships/>

⁴ <http://www.technologypark.pl/en/>

It grew to a very large territory offering almost 70 thousand sqm of rental and technological space, with currently some 220 small and medium sized companies (mostly start-ups) working there. It is just a very live space located not far away of the city centre and in a friendly distance from the academic institutions. Several large international companies surround the WTP adding to a unique synergy.

3. Wrocław Research Centre EIT+⁵

However, most ambitious project is the Wrocław Research Centre EIT+. It is located in a dedicated 27 ha campus located outside the center, aiming solely at commercializable research, primarily in the nano and bio-tech. The detailed specialisation was based upon a very thorough foresight analysis and planning and the operation mode resembles an RTO.

The construction of the first phase (about 20+ thousand m² lab and office space built and equipped at the highest international standards) has been completed last year. The huge cost of about a quarter bln EUR was covered mostly from the structural funds following the pro-innovation policy of the ERDF with significant financial, material and specialists support by the City. The 27ha land and old buildings have been donated by the City.

It is a very young institution, but already is among the top patenting places in Poland, as well as offering characterisation and technological equipment not affordable even for medium sized established enterprises. The Campus will grow in the coming years, but the research centre shall go under the government financial umbrella and will become the hub of the National Technological Institute, hopefully following the best operational principles of the several top European large RTOs.

All these actions and activities are pillars of one large strategy, quiet resembling what we call now the S³. None would be possible without huge financial assistance from the EU via structural funds, but first of all the culture of constant dialogue among all principal actors.

⁵ <http://www.eitplus.pl/en/>

The most important common denominator of these three actions is the integration principle and a business orientation which is to bridge top technology oriented scientific ideas and business.

All these activities have already been scrutinised externally, eg. by the OECD group⁶. And the conclusion and advice has been constantly the same: keep going in this direction. **It is always better to shape the future than just following what future brings.**

⁶ <http://wah.wroc.pl/artykuly/1128/OECD-REVIEW/>



Johan Lavrysen

CEO of Terra Incognita, Lummen Belgium

A common passion – leaving a legacy for the future of our children

Our region has benefited from increasing welfare and wellbeing over the past decades. However, over the past years ... the going got tough. The old approaches are worn out. We are getting to the end of a period, the end of a cycle.

Jean has always been a companion along the same route. Sensing the need for something new, looking for new possibilities, imagineering how the future could look like.

At the end of last century, our market opened up to the east after the fall of the Berlin Wall. We got competition from low price countries. Our knowledge, being the backbone for our future, suddenly was freely available on the internet, or at least for 85 percent.

Two major changes implying that, doing only those things we were already doing before, will not be sufficient, it just won't be enough.

We are going through a fundamental transition and we should pay attention to those new opportunities that are emerging. Governments can only provide the right holding space, the right climate for new ecosystems to be born.

In a world, with burn- and bore outs we should move away from old management systems of 'management and control' and embrace 'trust and empowerment'. This will not only fundamentally change our salary costs and margins, it will also call people to use their full potential instead of the 5-10% they currently dare to show. So let's change our working culture.

Living in an area with the highest IQ per square km, companies should not only trust their employees, but also other companies and organisations around them. Imagine the opportunity we have if people and enterprises will cooperate across borders and sectors in our neighborhood. Let's embrace open innovation.

Caring about the world, caring about each other, caring about our common opportunities with full respect of planet and people, offers great new opportunities. Blending expertise, have the right discussions, learn from each other in an atmosphere of winning or learning, never losing. Let's move to the most sustainable region !

Jean, it was an honour to have worked with you, to have embarked on journeys looking for terra incognita. Thanks mate, for all the wonderful moments, the discussions we had but also how our individual networks merged over time. For the benefit – hopefully – of future generations.



Dr. Lothar Mahnke

Managing Director of AGIT (Aachener Gesellschaft für Innovation und Technologietransfer mbH)

A déjà-vù after 20 years

Many instruments and concepts in regional economic development and regional innovation policy have changed during the last 20 years. European programmes stimulated and supported many regions to become more effective in regional development approaches. Advanced tools from Western Europe were introduced in Eastern Europe during the 90ties and often the pragmatism of this new EU-Member-Countries turned them in a very productive way. Jean Severijns was one of the „movers“ in inventing new instruments in innovation policy as well as to introduce them in a new environments. And in general it will be allowed to summarize: this approach was very successfully.

Even more amazing is my personal déjà-vù that this success-story does not correspond with the cross-border development in the Euregio Meuse-Rhine. In 1985-1990 I worked close together with Jean Severijns in many cross-border projects, then I left the Euregio with my own business mainly in Asia and since about a year I am back to head the regional development agency of the Aachen Region. So again I meet Jean Severijns and others in cross-border approaches and I have to note that I have not missed so much during the last 20 years. Stakeholders in the Euregio Meuse-Rhine discuss cross-border innovation policy or economic development in the same way, with the same problems and the same arguments – and “sorry” - little progress.

On the other side the same national regions in the Euregio Meuse-Rhine have established during the same time remarkable progress e.g. with the campus-project around the Aachen University or with the Brightland approaches in

Dutch Limburg. Why cross-border development in this specific field is so much behind the possibilities?

In many other areas cross-border activities have become part of the daily life. Consumers use the opportunities for shopping without any language-barrier, cultural reserves or the need of facilitators. Germans know about Sunday-shopping at Albert Heijn on the Dutch side of the Euregio and the Dutch are well informed about bargain offers in the German electronic stores. The same in the area of leisure and sports – people use the cross-border opportunities as an obviousness. Only in the field of economic and technological cooperation it seems that we need special networks, facilitators, subsidies or specific events. Maybe exactly this is the mistake to overcome the borders also in this area. Cross-border cooperation should not be something “special” – it should become normal part of all activities in innovation and economic development activities. Why not to form an “experimental” region and allow up to 10%-participation of companies in all national programs from the other side of the border in the Euregio Meuse-Rhine? Then all institutions would keep in mind the entrepreneurs and scientists in their on-going activities even from the cross-border regions. To involve entrepreneurs and stakeholders from the other side of the border should become an ordinary approach and not something special!



Wim Martens

Head of Unit, Sectors and Industry 4.0
Agencia de Innovación, Financiación e Internacionalización
Empresarial de Castilla y León (ADE)

How 2 Limburgers started seeding innovation throughout Europe

Dear Jean,

As Limburger, but from the other side of the border, we learned to know each other in the late 1990's. I had already fallen in Spain, as a school example of what is, for me, the best European integration program: ERASMUS. Knowing cultures and habits of the population in other European countries is a must and studying in another country should actually be mandatory for every student.

In 1996 I joined the Regional Development Agency of Castilla y León (ADE) in the north west of Spain to develop a pilot project from the European Commission on Regional Technological Plans (RTP). And frankly, when we started, we did not have a lot of idea what all of this was about. Although the pilot project was already awarded in 1994, we needed 2 years to get it on track. The most important feature was the participation of the companies and the knowledge centers, who sat around the table together for the first time. A constraint was and still is the region's size, 95,000 km², three times Belgium. Together with Castilla y León, there were 7 other regions that had to make such a plan, including you in the far Limburg (from our perspective).

We are getting already a day older, at that time, for example, the DGs of the European Commission were labeled with Roman numerals: DG XIII and DG

XVI were our interlocutors, now DG Regional, DG Growth, DG Connect, DG RTD, etc... We also had to convert our national currency into Ecus through tables published on a regular basis ... How easy it is with the Euro nowadays we could then not imagine.

Mikel Landabaso and Michael Busch, among others, were our contacts and we met regularly at meetings and congresses, especially after Regional Technological Plans (RTP) were converted in the so called Regional Innovation Strategies (RIS) and Regional Innovation and Technology Transfer Strategies (RITTS). For example, more than 100 European regions were in the mainstream of innovation at that moment. Collaboration among DG XIII and XVI was pretty good at that time. Hopefully the new DG of nowadays will come to the same degree of collaboration and understanding.

The EC went even further and Transregional Innovation Projects (TRIP) were established. Several European regions worked together on a common topic that, with regard to Castilla y León, was about the supply chain of the automotive sector. These were the first steps towards what are now called European Value Chains.

Today, over 200 regions have a Research and Innovation Strategy for Smart Specialization (RIS3), which has become an ex-ante condition for the ERDF Operational Programs 2014-2020. There is a S3 Platform run by JRC in Seville (Spain), with methodologies, best practices, regional workshops, as well as thematic networks on Industrial Modernization, Energy or Agro-Food. Interreg Europe helps regions to improve their Operational Programs in order to overcome constraints and problems and better implement the measures by peer reviews, matchmaking and the exchange of best practices.

After losing sight of each other, it was a coincidence that we met again a few months ago in the heart of Europe, Brussels. Almost 20 years have elapsed since the last time we sat around the table in a meeting... Then we plant the first seeds of what is now almost evident: regional innovation policies for the benefit of a strong Europe. There is still a lot of work to do: improved coordination, better state aid regulation for transregional RTD projects, etc.

I wish you all the best in this new stage of your life! Please do not hesitate to contact me if you are near Castilla y León, but remember its more than 40 times bigger than Limburg!

Wim Martens

Tel: + 34 983 32 42 17

Mail: martenwi@jcyl.es



Sorin Maxim

CEO West Regional Development Agency Romania

Raluca Cibu-Buzac

Director for Innovation & Internationalization; West Regional Development Agency

To Jean Severijns - our true example of how to be always one step ahead !

- How do you look back on (regional) research/innovation policy of the past years? (you might, for example, approach it from a European, national or regional perspective)

We had the chance, in West Region Romania (www.westregion.ro), to be the pioneers in creating and delivering the first Regional Innovation Strategy in 2002, with funding from the European Commission. In the next years, we built our updated strategy with our own resources and, moreover, we setup a monitoring system at regional level, to follow the implementation of the strategy within our region, based on initiatives and projects both from the public and the private area.

In 2013, we were the first Romanian region to become a member of the Smart Specialisation Platform and consequently we designed the first S3 for 2015-2020 in Romania, with expertise support from the World Bank.

Throughout all these years, several clusters have been created in our region (automotive, ICT, renewable energies, food, packaging etc.), some of them facilitated by our organisation. Furthermore, the role of Tehimpuls – Regional Center for Innovation and TT (www.tehimpuls.ro) increased in the past 10 years, and reached a high level of innovation support services for companies. All in all, looking at the funding mechanism that we launched this year for public and private innovation and TT organisation (Structural Funds – Regional Operational Programme), which will support the expansion of existing services

for companies, we see a significant evolution at the level of the regional ecosystem.

- What is your view of the effectiveness of this policy?

The crucial aspect for actually showing effectiveness for all these policies lies in the decentralisation. Romania still has not created the premises for the administrative reform in order to allow the decision-making at regional level.

- What was the biggest challenge, and what was the biggest success?

The above mentioned centralised approach represented the biggest challenge, while the biggest success was that we did not wait for any “central command”, but we created and facilitated at regional level the necessary instruments and initiatives in order to allow us to function like an authentic regional “administration”. After 18 years of regional development (which we celebrated this year :)), we really created the “shared mindset” at the level of our region, and these goes beyond any policy.

- What is the most important piece of advice you can give for future policy: continue along the same path, or chart a new course instead?

We truly believe that the rhythm of economic growth will be dramatically influenced by decentralisation and by putting companies at the core of all public policies.

- Can you say something about the international, cross-border dimension of the policy as implemented and wished-for, and the associated implementation opportunities or problems?

In this case we built a very good example, as we have a very strong international outreach – most of EU countries, accession countries, as well as beyond – as well as a strong presence of leading international projects, like COSME – Enterprise Europe Network or Interreg Europe. Throughout time, we were and are part of significant networks like EURADA or ERNACT. We constantly based our international strategy on innovation priorities.

As managers of Romania-Serbia and Romania-Hungary cross border offices, we were engaged in supporting these type of projects, and we are also engaged in advising our Moldavian colleagues on the path of EU accession.

- The Province of Limburg is a border province. In our contacts about this, you may have formed an impression about certain matters or noticed something that is worth mentioning.

We have always seen Province of Limburg at the forefront of international co-operation within the European Union.

- Finally, it might be interesting to say something about our personal working relationship, perhaps a small personal touch

We remember our first meeting with you, Jean, during an international event, when we discussed the possibility that you would join us as a trainer. The project was about developing business support infrastructures in newly acceding countries, and indeed you participated as a trainer. Moreover, we were an adviser for us as well, because we were just at the beginning of the regional development journey, while you were already highly experienced. We always appreciated your nonconformist approach, the open-mindedness, your wide international experience and the capacity to share the essential parts of your journey.

We wish you beautiful years ahead, enjoyable moments and a lot of inspiration in doing what you like most !

West RDA Team :)



Tariyel Mirzoyev

Coordinator of AZNL Hub in Azerbaijan

Research and innovation experiences in Azerbaijan

Allow me to give practical examples of “research / innovation policy” in Republic of Azerbaijan. We are a very young state, but nation which has deep roots, rich history and strong traditions.

Era of innovations, and I truly believe we live in a period of E-Renaissance (internet, Iphone, Facebook, UBER etc), is absolutely fascinating when you use e-tools in public service solutions or even growing food supplies (primary human need).

First example of innovative policy is ASAN (www.asan.az) - a social innovation that revolutionized old-fashioned public services system. 10 years ago people had difficulties every time when they needed to renew passport, get birth certificate, change drivers’ license or register companies. People were frustrated with bureaucratic processes, artificially-created-ques, bribes demanded by civil servants and the facilities were either killing-hot and / or with depressing corridors and walls. ASAN was created by President’s order within 6 month without years of discussion that happens in most of European countries. Public services now are serviced by young generation, super modern-technology-attractive-no-que-one-stop-shop facility with even above standards conditions for disabled persons. ASAN has become a national trusted brand and started growing like a beautiful healthy tree bringing even agricultural support to certain social groups. After only 3 years since

establishment ASAN received UN Public Services Global Winner Award. This has resulted in several countries practically copying our model. ASAN became a perfect example of the innovations policy. To strengthen sustainability of this policy for innovations, ASAN needs to develop a very strongly positioned and planned forecast of e-government concept via developing proper research and concentrating on its main destiny – public services.

Second example in research/innovation policy has resulted from cooperation of Province of Limburg (Netherlands) and ADA University (Baku, Azerbaijan). Today, after 3 years of cooperation these two organizations have contributed to the establishment of an organization www.aznlhub.com to serve academic and business development between two countries – Azerbaijan and Netherlands.

Here are 3 projects to understand more:

First, AZNL Hub initiated projects to join Dutch agricultural knowledge with current needs of Azerbaijan. Online and publicly available “Synchronized Agribusiness Resources of Azerbaijan” is a result of innovative research when best academic-networking-internationally-highly-respected platform of Azerbaijan www.ada.edu.az and world’s best agriculture-knowledge- center (Wageningen University) joined resources and made it happen.

Second, AZNL Hub created concept of the food processing facility Balxurma (www.balxurma.az). Agribusiness advise came from Netherlands as a solution to nearly 50,000 non-harvested persimmons due to perishability and lack of processing knowledge. Technology came from Korea as well as processing concept was developed again with Dutch companies. That is also example of a start up that was born in ADA University due to academic connections to Maastricht School of Management, Province of Limburg and thus Dutch private-technology-companies, and, obviously perfect personal relations between people.

Third, cargo flight has been set between Baku and Maastricht with joint efforts of ADA University’s reputation and networking, support of the Province of Limburg and business concept of Maastricht/ Aachen Airport and Silk Way Airlines. Not only feasibility is successful but also a longer bridge connecting Asia with Europe via Azerbaijan is happening. Students from ADA University, powered by professionals from Maastricht airport staff, will be involved in think-tank events, developing feasibility and promotional tools such as online

booking tools (ADA School of IT and Engineering) to promote passenger flight and travel between Netherlands and Azerbaijan.

Jean, as mentioned above we are a young state with nation’s deep roots and strong traditions and for the Caucasus region it is a toast/legend that would be a perfect description of the personal touch of our sympathy to you:

There was a great Shah. Feeling to die soon Shah has called for his son and gave his last will: “Son, I want you to live a life where you have as much houses all over the world as stars on the skies” and there he died. His son raised in traditions of great love and respect to his Father’s will started gathering the greatest army ever and he was conquering city after city winning and capturing thousands of houses. After years he returned home proud but not happy. He found his Father’s old Vezir and asked him: “Look Vezir, something is wrong. Though I delivered the will of my Father and my houses are all over the world”. Vezir replied: “You Father was a great Shah and what he meant is that you should have as much friends all over the world as stars on the skies. Thus, your friend’s house will be your house.”

Dear Jean, you gave me a feeling that I am at home in Netherlands not when you perfectly supported abovementioned projects but when you took care of my family in Maastricht, when you organized master class of piano for my daughter and opportunity to visit Andrea Rieu’s concert, and these are just 3 examples how you also “conquered a house” in Azerbaijan. This planet needs people like you because you make this world better.

tariyel@me.com



Prof. Dr. Urs Müller

professor at the University of Basel, consultant, and former director of BAKBASEL

On the success of cross-border regional economic policy

How successful was cross-border regional economic policy in Europe over the last decades? This short essay concerning the aforementioned question should be amended by a subtitle: “Impressions from the trinational region around Basel”; although the geographic dimension of this region is up for debate. We may talk about a narrow definition like the agglomeration of Basel, covering besides the city of Basel its suburbs in Switzerland, Germany and France (with a population of some 600'000) or the much wider Euroregion RegioTriRhena covering the five cantons of the northwest of Switzerland, the four southwestern districts of the “Regierungsbezirk Freiburg” and the whole “département du Haut-Rhin” (with a total population of 2.3 million). Thus, several definitions for this region exist including numerous institutions caring for it in whatever definition. This makes cooperation and policy in this region rather difficult, aggravated by the fact that these institutions have different scopes, and sometimes even compete against each other.

Looking at economic performance, this region is very strong. Particularly the Swiss part is one of the leading regions in Europe regarding productivity. The reason for this success story is a very prosperous pharmaceutical cluster. There are a lot of research activities in both public and private institutions. And – looking at the outstanding level and growth of productivity – there must be a lot of innovation. Perfect! But I do not believe, that this success is primarily

due to economic policy. It happened by chance. Path dependency matters (from textiles to dyes to chemicals to pharmaceuticals to life sciences). Economic policy at least allowed the industry to evolve along this path. I believe, this is economic policy at its best. Economic policy will never be able to produce successful clusters. Thus, in Basel we should be happy and enjoy our “lottery winnings”.

It is interesting to analyse the EU part of the trinational region of Basel. Productivity is lower in the German part and even more so in the French part indicating substantial differences in competitiveness. National borders seem to be relevant and seem to slow the geographical diffusion of innovation. In order to evaluate the relevance of these still existing political borders for economic activities in the trinational region of Basel, a brief historical overview might be helpful. In the late nineteenth century and up to the beginning of World War I, political borders were less relevant in the then binational region of Basel than today (the Alsace was part of the German Empire from 1871 – 1918). Three tramlines were built between 1900 and 1911 from the city of Basel to Alsatian territories. And many entrepreneurs from Basel built their factories in the near Alsace or Black Forest. Immigrating was relatively easy, for both wealthy and poor people. Basel was the centre and the surrounding regions (binational, as from 1918 trinational) were more or less focusing on this centre. World War II changed the situation dramatically when borders were closed for many years (also disrupting all cross-border tramlines). After World War II politicians in all three parts of this region have tried to open the borders and make them less relevant, although with modest success as I concluded in a public lecture at the University of Basel in 1993, i.e. before the effects of the Schengen Agreement and the European Single Market were perceptible. My main message back then was: The labour markets of the three national subregions were rather integrated, all other markets were not.

How integrated are the three national subregions today from an economic point of view? The common market has become effective in 1993, the Schengen Agreement in 1995. What has changed over the last more than twenty years? Let us have a look at the “four freedoms” of the EU, the free movement of goods, services, capital and people. Note that Switzerland entered into these structures between 1999 and 2004.

- Free movement of goods: The price level of transportable goods in Lörrach or St.Louis (less than ten kilometres from Basel) is close to that in Frankfurt or Dijon respectively, but much lower than in Basel. Obviously, the goods markets are hardly integrated. Although customs duties have been banned, there still remains a series of non-tariff-barriers and physical obstacles at the border points.
- Freedom to establish and provide services: This is wishful thinking rather than a fact. When it comes to banks or insurances (which are the most relevant export services from Switzerland), the national hindrances are still insurmountable. A common market for services is far from being reality. Should the new International VAT Guidelines of the OECD, focusing in particular on the collection of VAT on cross-border sales of services, be adopted by the EU, they will set a factual end to this freedom (due to additional costs for the producing exporters).
- Free movement of capital: The capital markets function quite well, as long as it is not connected to cross-border financial services (such as wealth management or mortgage lending).
- Free movements of persons, particularly of workers: When comparing wage levels between the Swiss part and the EU part of the trinational region, there are substantial differences. As a consequence, more than 60'000 commuters cross the borders to Basel every day from the French and the German parts of the region. In the opposite direction, there are only a few hundreds. Thus, the market for labour is quite integrated. And usually, crossing national borders is easy, as systematic border controls have been eliminated.

The conclusion from this list is rather disillusioning. In an economic sense, the trinational region of Basel is only partly integrated. Many national obstacles remain. The situation has not really improved over the last twenty years. Should we blame regional politicians for making a bad job? That would be very unfair, as the restrictions come primarily from the national or even supranational level. Regional politicians may fight for cross-border bicycle routes and they have succeeded in improving cross-border public transport substantially over the last two decades, e.g. with two new projects for tramlines (one from Basel to Germany, one to France). However, when it comes to educational or hospital facilities, national borders are still high barriers.

The European Home Market still does not work as it should according to its probably visionary architects.

Nonetheless, my perception of cross-border cooperation is not so bad.

However, there is one considerable restriction: When asking people in Basel about the extent or frontiers of this region, we get a rather narrow definition, including the suburbs in all three countries, but excluding Freiburg or Mulhouse and Colmar. These cities – although within RegioTriRhena – are perceived as “far away”. Examining this “narrow” region from Basel, we may identify the success factors for a highly integrated high productivity region: There is a common and strong city in the centre of the region (Basel). And there is a common leading industry cluster (life sciences industry, very strong in the Swiss parts, less in the EU parts, but also important for all kind of supplying industries). A common culture (including a common language) would ease many talks and processes. However, the homo sapiens romanus differs from the homo sapiens germanicus. And skills of the respective foreign language (French or German) tend to deteriorate. In addition, the different degree of decision competences is a severe obstacle for effective cooperation. Oversimplified, Swiss cantons are sovereign states, German districts have to ask in Freiburg or Stuttgart, and in France everything is decided in Paris.

A few years ago, I carried out a study on the economic consequences of political decentralisation (on behalf of the Assembly of European Regions). The main outcome was, that decentralisation has a positive effect on both the level of GDP per capita and of GDP growth. Thereby we were able to identify an interesting transmission channel: decentralisation in the fields of education yields in a higher density of applied research (measured by the number of patents per employee). The subsequent steps from successful applied research are new products and rising productivity. Needless to mention that the main focus of the University of Basel is in natural sciences and medicine. Decentralisation results in research and education for the respective region.

Remains the question of how to render cross-border economic policy and cooperation more successful. In my judgement, there are a number of aspects on two different levels:

On the regional level, it is important to have:

- The willingness of the politicians of the subregions to cooperate;
- The ability to agree on a common masterplan for the development of the region and its subregions;
- An efficient spatial distribution of “tasks” within the region (housing, education, research, industrial production, business, services, logistics, etc.) and the respective transport infrastructures.

On the national / supranational level:

- complete the four freedoms of the European Single Market (with special emphasis on services);
- revive the principle of subsidiarity: decisions should always be taken at the lowest possible level (which is for many issues the local / regional level);
- in particular: delegate the competence for education and research policy (including all kind of universities) to the regions.

Adding a liberal mindset and a touch of entrepreneurship, such an “innovation-oriented cross-border regional economic policy program” should help foster innovation, productivity and welfare of bi- and trinational regions.



Manfred Nettekoven

Chancellor RWTH University Aachen Germany

Aachen Way to 2.0

When Europe was in the process of dealing with the wake of the Lehman-crisis, one of the most outspoken critics of the German austerity policy toward Greece was Paul Krugman. “Europe is too old and lacks vision!” was one of his key remarks when talking about the state of the union on the other side of the Atlantic. There are responses to that sort of criticism when it comes to research and innovation. One of the central elements of that response is the Juncker-Plan, another one is formulating criteria of research implementation and transfer when the European Union announces the possibility of financing or cofinancing a research project.

At the same time the German policy of higher education came of age: the excellence initiative led to a major differentiation of institutions of research and higher education in Germany. This went beyond profile-building, it encompassed new formats of university leadership and templates for co-operation with extramural research institutions. The Jülich-Aachen research alliance (JARA) was born in such a context and is the only platform of such an activity which is still subsidized by the German excellence initiative in the moment I write this little article.

In a reference to the size of their gross domestic product, the Netherlands have the deepest bibliometric imprint. Why is that? In combination with a knack for new public management one of the central aspects is the fact that they don’t have such a wide range of different institutions, they rather join forces and put

all eggs in one basket. This is one of the elements that explain the University of Wageningen. I mean the success of this institution.

We have to relearn how to dwell on the wealth of approaches, different ways of solving problems in higher education, research and transfer. And we have to realize that on a global scale the only chance for Europe to weigh in is exactly there and in the fact that the combine our heterogeneous strengths. I realize that Great Britain has decided to leave the European Union. But I am also aware of what scholars at for example University of Cambridge think about that. Science is universal, heterogeneity or diversity, for that matter, is a blessing and not a curse.

What are criteria for a successful research policy? This is a question that is difficult to answer free from context. The “State of the European Union” in combination with the above mentioned coming of age situation in some of their member countries and disruptive accidents like Brexit are forming a mixtum compositum that unavoidably will have to alter any given policy.

Maybe most of the advancements have been made in a realm which is more or less immune to any given policy. The necessity of solving scholarly or scientific problems has led to a more and more interdisciplinary approach; hence institutions that strive for visibility on an international scale are automatically interdisciplinary organizations. In a policy paper published by MIT in the year 2011 they found out that there is a major convergence between science, life science and engineering. Most promising, impacting and relevant discoveries will be made in exactly that triangle. Teaming up with industry, working in joint research groups that are financed and coordinated by both industry and scientific organizations is a positive outcome of this coming-of-age aspect that I described earlier. Aachen develops the so-called Campus project that gives additional space to this kind of research and by the same token is reframing the narrative of interdisciplinarity at my institution.

Yet I don’t want to dodge the successful research policy question. There needs to be enough time between putting the seeds in the ground and harvesting. Whatever you do in that field has longer periods of growth. Change management in research is different from change management in any other field. Usually politicians are elected for four years so they want to see

results of whatever they initiated during these four years within that cycle as an unspoken deadline. This is merely impossible. Altering legislation and a four-year cycle is not always the best idea. Giving a perspective, a long-lasting perspective to a successful institution, is a wonderful idea. You might say finally, there he goes, just as expected, the financial guy from RWTH Aachen, asking for more money. No, would be my response, my focus is on perspective, which does imply money, sure. But not necessarily asking for more money. And, most of all, we are willing to deliver, if you give us enough time. We’re not talking geological phases, but sometimes delivery exceeds a legislative period.

Another thought: There has to be room for competition not just within research but also for research management. For many aspects, like integrating entrepreneurship into the transfer policy of an institution like mine, the best way of getting work done is creating competition between the best institutions on the planet. In this framework, we have learned how to integrate off balance sheet aspects into what we do as a public institution. Many of these things will lead to an incubator format which has a public and the private side to it.

Which leads me to the question of the biggest success: most probably it is the campus-project. Not only because it solves at least a part of a €33 billion challenge (nationwide there is a necessity of financing buildings for scientific purposes with that sort of price tag) but also because campus provides us with another component of a more or less unique research infrastructure. The project orchestrates a general building infrastructure and it serves as a much-needed platform with research partners in industry and extramural research institutions.

The fact that we are maybe one of the most affluent places for co-operation with non-university research institutions is maybe the other really great success. Helmholtz takes the cake, but the other institutions aren’t lagging behind so much.

The advice for a future policy: disruption is a word that you hear quite often in the latter years. Not just from me, a few paragraphs earlier. Of course you can also overestimate buzzwords like this. But I would recommend taking it with a grain of salt. It is not just the fact that digitalization will impact all scholarly

disciplines. It is also relevant that no macro-economy on this planet can afford any longer to exclusively invest in earnings. Part of the magic sauce in the Bay Area resides in the fact that Americans are more inclined to invest in potential. Also, they are more relaxed when it comes to dealing with failure. You win some, you lose some. Strangely enough there is no analog proverb describing the very phenomenon in German. And yet our lives depend on it. Not on the nonexistent proverb, but on the availability of private equity for innovative spinoffs and on a more mature “Fehlerkultur”.

Europe is not just too old, to come back to the old Krugman statement, we also are a shrinking population. Yes, we need vision. But we also need innovation like the air that we breathe. There’s an ongoing discussion in Germany about whether scholarly activity are or should be purpose driven. Fact is, it shouldn’t be, but without a functioning infrastructure to implement our discoveries we will soon be in very dire straits.

I am aware of the fact that I’m only creating a sense of urgency, not a concrete direction where to go. We will have to emphasize that transfer and innovation aren’t just byproducts of an institution like mine, but part of the reasons why we exist.

Limburg: probably the most European part of the Netherlands. Bucolic and smart. Not just open borders, but with an active approach to creating networks that last. I couldn’t wish for a better neighbor, because-although we are very similar - you guys are different, in good way.

I realized that when I had my colleagues from the whole of Germany over to look at the co-operation between Aachen and Maastricht in the field of medicine. It was striking how much the atmosphere changed for the better as soon as folks from Maastricht turned up. As I said, wonderful neighbors, but also tension releasers, incarnated.



Tomas Olofsson

RITTS manager Southern Sweden and former Manager for researchers external funding Malmö University

Some Southern Sweden experiences

“My” RITTS Southern Sweden project was a success as a project, but the region and its authority is something else. The project was not an “indoor idea” why they did not pay any attention to the outcome of the RITTS project and even not the following TRIPS projects. I know this and it was later confirmed when Inno from Germany contacted me for a new “indoor Region Skåne”-project 2014.

In a very limited version they wanted to do exactly what we had done in the RITTS project, 20 years ago! It was so limited that we were not allowed to do interviews with companies!? Only stakeholders partly financed by the regional authority!

We almost copied parts of the results of the earlier RITTS project as much as we could and presented to them and they were very happy with that! But you cannot see any result in the society!

The gold become to sand!



Prof. dr. Martin Paul

President Maastricht University

Bright future for Limburg

Maastricht and Limburg have a very special location in Europe. They are on the one hand peripheral in their country, but very central in Europe. This has two implications. It is probably a disadvantage if you are looking for collaborations within the Netherlands, where the so called Randstad is far away.. But on the other hand, it's also a chance. A chance to ignore borders and look for partners over the border: partners in the public and private sector, but also within local and regional governments.

I believe that it is very important that the province of Limburg has a focus on innovation that is indeed crossing borders. Not only between different sectors within Limburg, but also particularly to North Rhine-Westphalia and the Belgian provinces just behind our border. Why is that? Because you can build up a critical mass that is almost equivalent to the one we see in the Randstad. And when I talk about critical mass I don't only mean the comparable numbers of inhabitants in this Meuse-Rhine Euregion; I also look at the power we have in terms of universities, economical structures, but also a focus on Europe. We should not forget that Limburg and Maastricht are also very close to Brussels, so I think the European element as a particular branding for our initiatives is very important.

In this context it has been very helpful that the province has a strategy that looks particularly for the exploration of collaborations with partners over the borders. This is exemplified in not only many strategic nota's, for example

in the development of the so called Brightlands concept (which has in its programme the notion of knowledge crossing borders) but also by organising high level meetings like the so called Spitzengespräche with the partners in the Aachen region.

I think that this strategy has a long tradition and in the beginning it was difficult to find rapid progress. But I think, particularly in the last three to five years, when structures have been developed such as Kennis-As and Brightlands on the Limburg side, we have shown that with the build-up of critical mass around some central topics, such as health, materials, agro food and data sciences, we are also very attractive as partners for our foreign colleagues. The Brightlands concept is really catching on. Whenever we present the achievements that have been reached so far we get extremely positive feedback, in Berlin, Brussels, The Hague, Washington and even in Australia. It appears that we are really at the forefront of triple helix developments and that we have created also a blueprint for other countries.

If you ask me what the biggest inhibitors of success are, two main problems come to mind. The first is the difference in social and pension systems in the countries in our region, which makes mobility of knowledge workers extremely difficult. The second is the existence of old borders in the public transport and the reachability between the different regions. If I see that it takes 1,5 hours to go from Maastricht to Aachen by public transport, or that the connection to Brussels is much more difficult than it used to be, it is clear that we need to improve this to make this Euregional story really happening.

For the future I believe that solutions in these areas are very important and that we need to stay on the course. Choose focus areas which are important for institutions on all sides of the borders, and really build further and strong alliances (and connectivity) between the different partners.

In the end I would like to say: good networks also need good support. In the past we have felt very much supported by our provincial government at all levels, not only through our regional ministers, but also by the people on the 'work floor' who have ensured continuity in these contacts. We all know it's very important that we have day to day interactions, that we need to find the optimal partners at all levels and I, therefore, strongly believe that people such as Jean Severijns and his colleagues have been quite instrumental in guaranteeing this success.



Jean Peyrony

Director General of MOT, mission opérationnelle transfrontalière, Paris

Economic development and innovation in cross border regions

In the cross-border context, levels of taxation, wages, unemployment, prices, but also languages, legislation and culture differ across borders. This diversity is both constraint and opportunity, depending on how one considers it.

Households and businesses take advantage of these differentials in their choosing where to settle and through their use of the labour market. Mastering two languages, two cultures, two administrative environments, gives them an asset to broaden their horizons, not only on the scale of the cross-border territory, but also to the 2 countries separated by the border, and even to the European or global level.

Companies, as well as territories, are competing within national spaces, and even more so in the cross-border context. Public authorities, in their effort to support economic development and innovation, often limit their action to the domestic context. But by participating in the European Union, States have chosen to cooperate. In cross-border territories, the challenge is to make the most of the common territorial capital. Public and private actors play a complex game between competition and cooperation across the border. «Co-opetition» consists in combining competition and cooperation. Two rationales underlie cooperation in the cross border context, complementarity and economy of scale. If two or three States with different systems meet on a border, there is the possibility for companies to «pick and choose» what is best in each system. What seems at first sight to be a difficulty is also an opportunity: businesses

can take advantage of the differences by choosing the system best adapted to their needs (a company locates its tertiary functions on one side of the border and its logistical functions on the other side), or by exploiting the multicultural or multilingual potential from the territory. In such a case, they play on complementarity.

Cross-border cooperation also «enlarges» the territory, allowing it to achieve critical mass in terms of facilities and public services. It is the same for SMEs. One of the greatest benefits is the division of the investment costs between partners regarding infrastructure, laboratories, etc. which are often very expensive in innovative sectors. One can then create a common stepping stone to conquer the local, European and global markets. Joint marketing, a common presence in international fairs allows businesses to be more visible and to share the costs. In that case it is about economy of scale.

By going beyond the local context, a «win-win» situation can be achieved in cross-border territories, benefitting both their businesses and their inhabitants. When the Mission opérationnelle transfrontalière, whose work is mainly focused on French borders, celebrated its 10th birthday in 2007, we organized a large conference in Lille, which was prepared by 12 working groups, involving several borders in different parts of Europe, including one focused on cross border economic development. We really felt that this topic might prove to be difficult, as at that time, many people saw the border mostly as a place of competition. But the working group, which included Jean Severinjs, proved to be a success: even if we came from various backgrounds, we quickly started sharing positive experiences of cross border cooperation. Limburg became a member of MOT- the only one not located on a French border, and we are very proud of it! Thank you Jean for this fruitful exchanges, and let us wish that cooperation across borders, and at the European scale, will go on, not only for economic benefits, but also for the pleasure of friendship between nations and persons!



Marinus Puyenbroek

Senior Advisor European Affairs
Province of Noord Brabant

Regional Economic Development: To be or not to be

During my studies in the sixties and seventies of last century I was more a socialist than a liberal. More in favor of controlled market economy than (neo) liberal capital and market driven economy. More Keynes than Milton Friedman. But during the development of my career, becoming older, sadder and wiser these ideas changed gradually and I found out that the world isn't black or white and in many cases situations have many varieties in grey. I became more a liberal social democrat believing that all societal actors have a role and responsibility in the development of regional economy.

Now I recognize that some state influence and the role of political authorities are necessary to maintain a balance between pure market economy and state controlled economy.

Through my work in the private sector as well in the public sector in the past 39 years I experienced that there are good reasons to give active direction to (regional) economic development. Regional economies distinct themselves on the basis of differences and this situation creates an invitation to development specific policies. Traditionally policy to combat or support weak aspects as market conditions or employment, but the last decades luckily more and more to invest and support specifically strong sides of the regional economy.

If you look for example at the regional economy in the province of Limburg or the area around Eindhoven in the province of Noord Brabant, we see that since the closing of the Dutch state mines in the seventies or the dependency on manufacturers like Philips or DAF, which moved away or restructured heavily, many restructuring efforts were made to create new employment and perspectives for the local and regional labour market.

First by the national government, by a forced moving of – among others - national service organizations like tax offices or a pension fund to the region, but a few years later we saw more and more regionally initiatives take over to attract and create new economic activities.

Many different political authorities have contributed actively in this development, especially the last decades in the South East of the Netherlands in the province Limburg and the South East of Noord Brabant.

In the actual political coalition agreement in Limburg, the “Knowledge-Ax Agenda is the most important pillar under the Limburg economy, with focus on the four Brightlands Campuses: Chemelot, Greenport Venlo, Maastricht Health and the Smart Services Campus. The same approach as you see around the High Tech Campus in Eindhoven, with a focus on high tech systems and materials, what started about 25 years ago. Around Eindhoven this resulted in a booming development and is now called one of the smartest regions in Europe. A more recent similar approach we see around the automotive campus in Helmond, Pivot park near ‘s Hertogenbosch and maintenance aerospace valley in Mid and West Brabant.

In Limburg and Noord Brabant the provincial government is acting as policy director, in partnership with regional triple helix actors, companies, local government and research/education institutes. Choices have been made to stimulate – with the available means – one major theme within each of one of the different campuses. This approach is based on the conviction that this strategy will have the most impact on the regional economy. A stimulating policy based on focused governance and the creation of optimal prerequisites on the one side, and financial support of projects aimed on strengthening the innovation system and the validation empowerment of small and medium sized enterprises.

Looking from a distance to this Southern Netherlands approach and examples, this looks like government controlled and directed economy, as the national government tried after closing the mines and failed. But now it’s a regional government that actively develops policies to develop and stimulates the regional economy in close cooperation with regional partners and stakeholders. A Keynes theoretical approach and policy combined with (neo) liberal hands on practical execution, which seems to work to develop the regional economy. Especially in the spectrum where the market fails or simply doesn’t have the organizational powers to make progress, there is space for stimulating initiatives and support innovative perspectives. This approach creates a solid basis for regional impact and afterwards it up to the market to pick it up and develop further.

Within this context saying goodbye to Jean Severijns, who worked all those years as an entrepreneurial civil servant for the province of Limburg is not easy. Was he a factor of success, did he show the way, did he convince his politicians on the right time in the right way? Did he optimize the availability of EU programs and cross border cooperation?

It will always be difficult to say, as success has many fathers and failure in most cases one scapegoat.

The province of Limburg knows them all, success stories as well as failures, a border region which is not 100 percent Dutch, not Flemish, not German, but a mix of cultures, languages and fundamentally international orientated. This description fits Jean as well, and therefore he has all the ingredients to contribute to the further economic development of his region, as he contributed during his career.

Although I remain constructive critical on how to spend public money and facilities to develop regional economy and I don’t believe anymore in a solely politically made and shaped society or economy, I do believe in cooperation within the quadruple helix; governments, companies, research/education and citizens/consumers. When all stakeholders equally work together and join forces, it may take a bit more time but in the end you have reached consensus, broad support and combined forces and energy to achieve the objectives. A professional like Jean Severijns will maintain to contribute to these developments.

Even now when he will retire as a civil servant, he will come back as a private person to do what he has always done the best: connecting people and trying to add up 1 +1 to make 3!!!

All the best Jean and we will see each other.

Marinus Puyenbroek

Senior Advisor European Affairs

Province of Noord Brabant



Kees Planqué

Previously: Ministry of Economic Affairs, the Netherlands

25 years in innovation policy: from national networks to regional clusters

Innovation has crossed my career path in many different manifestations: as a researcher taking part in an innovative research programme with Unilever at Leiden University (1983-1986); as biotechnology project manager at the Ministry of Economic Affairs (1989-1994); as a member of the management committee for the biotech programmes that formed part of the Fourth and Fifth Framework Programmes; as the Technical and Scientific Attaché to our Embassies in Bonn and Washington (1994-2002); as co-author and implementer of the regional programme 'Peaks in the Delta' (2002-2008); and as driver/developer of an industry-oriented competitive innovation programme in the Meuse-Rhine Euregio. In the final year before my retirement, I was seconded to the Innovation Club in Amsterdam to explore closer cooperation between the service sector and the two universities there.

All the work involved in innovation takes place at many different levels of abstraction. In essence, it is always about bringing knowledge suppliers together with knowledge demanders. Sometimes the knowledge suppliers have to be enticed out of their ivory towers. Sometimes the knowledge demanders have to be made aware of other aspects of innovation: the need to amend legislation, the ethical consequences, consumer acceptance, to mention just a few. Sometimes the idea was to develop a concept, such as in my own project with Unilever, but other times the work only involved very basic research, such

as my introduction to genomics at Stanford in 2000 or the coup that we staged with the British and the Germans to start up Arabidopsis sequencing within the existing Framework Programme.

In each case, there was unfamiliarity with the competition problem, with the General Administrative Law Act, but the project applicants were enthusiastic about their idea. In retrospect, many ideas did not survive and many innovation projects stopped prematurely.

More important than direct products is the notion that “small” themes, such as biotechnology, produce a robust network by having the right measures programmed in the right sequence: basic research to solve essential problems, applied research to build a relationship between academia and business.

Critical mass and patience are essential. The success of Bioscience Park Leiden is a good example. Centocor and Mogen began there in the 1980s. The park now has more than a hundred companies and 18,000 employees. It’s a good example of long-term triple helix cooperation.

As time went on, breaking path dependences turned out to be the most difficult problem. How do you build innovative networks in innovation-poor regions? A low density of knowledge suppliers and knowledge demanders, or linking networks that have little common ground. Administrative or political alliances are not enough: there has to be real meat on the bones, and not only good intentions.

Kees Planqué



Irina Priedl

Head of area innovation and technology in Regional Government of Niederösterreich, until December 2016, since then retired.

Some personal thoughts:

Although Austria has a long tradition in regional policy, it got a new dimension through the European incentive in the year 1995. We were awarded some hundred thousand Euros, not a large amount but it enabled to develop a Regional Innovation Strategy.

This was the first time that we got together a team from different departments, associations and organizations and started to seriously analyze, screen and develop a common strategic basis.

This was one of the biggest challenges, I had to handle in my job.

It was the first time we asked our clients about their needs, claims and future perspectives and it was the starting point for investments into innovation and technology in Niederösterreich.

At the beginning I met you, Jean in Mikel Landabaso’s office and I was able to recruit you as external experts for our newly formed steering committee.

I can’t thank you enough for all the expertise, guidance, time and friendship you supported me and my team with.

You also watched that we followed our new path and did not fall back into old habits.

Based on our strategy, I think that we developed our innovation system in a very effective and efficient way. Some European awards and nominations

underlines our successful way, like being winner of the Regional Innovation Award 2007 or EER, European Enterprise Region Award 2017. Being involved in many European projects I had the chance to observe other regions. I learned from problems and solutions of others and could adapt what I saw and learned into my region. Also the exchange of ideas with others helped and was very important and useful for our development as well as established long lasting friendship. Every time, when our paths crossed again, we were able to discuss new approaches, ideas and possible solutions, like the field of Internationalization which is very important for us, especially with the opening of Eastern European Countries.

Having participated in several projects I saw often engaged people took part in projects with good ideas or started the development of a regional strategy. But they haven't any possibility to implement what they had developed before, because decisions were taken on a totally different level as well as the money is spent, frequently wasted. At the beginning the financial European input was little but very efficient; the rules were straightforward and clear, the involved people very engaged, content oriented and flexible. What looked promising at the beginning was replaced by standard solutions and unfortunately the bureaucracy grew and is – from my point of view – now overwhelming the content; rules and regulations seem to have higher priority than topics – so reflected in the results.

I saw so different regions, incomparable in terms of size, autonomy, systems and opportunities which leads me to the conclusion that's impossible to fit all with one solution – a single mainstream program. I think that the outcome of this “one fits all” is an alignment, but in the wrong direction. Nations and regions as well as are varying a lot, one should learn from it, it should not be seen as a challenge but also an asset. Regions should build on tailor made strategies and different solutions and the European Union should not govern all issues in all details; more preferable are common solutions in few but real important topics. I would like to thank you for your friendship and wish you the best for the future.

Irma



Marius Ramanauskas

IT Project Manager, Network and Cybersecurity at JSC Avedus

Developments in Lithuania

Looking from the perspective, I found that EU research and innovation policy measures were (and are) the key for our national and European agenda. Through various activities we all learned so much from each other – knowledge, the way we, as persons, regions or nations think, our unique cultural and economic issues. Lithuania as a country (and EU region as well) advanced so rapidly over the last decade. It became a world class lovely and friendly place for cutting edge technologies as well as brightest minds of our planet. Here everyone can feel the passion for new ideas, innovative businesses and can find thriving start-up community. This is our biggest success, where I should point a significant footprint from our international co-operation. Currently, my city, Vilnius, is a happiest capital in Europe – green, vibrant, friendly for everybody, unique and international at the same time. This is a merit of Jean as well. A person, which I consider one of great innovation thinkers and one of my teachers. This legacy is coming like from M. Young-Stone novel “Above Us Only Sky” about a Lithuanian girl. We born with wings, but sometimes we forget how to fly. And someone should remind us.



Vanja Rangus

Independent consultant on innovation, Slovenia

How to work and live better in the future?

Jean,

it has been a long time since we met and work together in Innovating Regions in Europe Network (IRE) Steering Group. I admired you've been so enthusiastic about innovation policy development and dedicative to improve that in your region and to share your knowledge with all the group. It was a pleasure working with you and I really hope that we still have the opportunities to meet each other somewhere. There is still room for us as elderly and maybe we can find an idea how to transfer our accumulated knowledge to younger generation.

I wish you all the best in your new period of life, enjoy it with "the full spoon" as we said and please stay ACTIVE and INNOVATIVE as always! ☺

Looking back with more than 36 years' experiences in the field of regional development and innovation strategy I can say that innovation process is not something that comes over the night. When Slovenia entering the European Union there was quite a lot of opportunities to obtain some support from different EC programmes. Slovenia as well as other new members were not prepared enough in order to be more effective in acquiring all financial supports. EC did a good step organizing IRE Network where old and new regions got the opportunity in working together, transferring the knowledge,

and having the possibility influencing EU policy. In the City of Ljubljana also with this help we developed the whole entrepreneurial environment. The biggest success was in setting up the Technology Park Ljubljana (TPL) in which implementation we mobilized all Slovenians' innovation actors. Nowadays TPL mainly supports SMEs with premises that can be rented under not so favourable price. The only positive is the place where SMEs can meet each other, work together and exchange their experiences and knowledge. The EC should have paid more attention to the non-infrastructural elements while supporting Technology Parks all over Europe instead of mainly supporting "empty boxes" The content really matters as well as the sustainability. There is an argument existing. In Slovenia many entrepreneurial accelerators have not been supported by government or EC programs. In spite of that, their results are visible.

In the new financial perspective 2020 the positive shift is that EC enlarge the support directly to SMEs.

Coordinating the RIS of Slovenia from the local level was the biggest challenge ever. What was the reason for that? We identified that innovation is not only in hi tech but that the future is also in the service sector. Three main projects were identified under the so called umbrella; Tourism, Culture and Health care based on Technology. Many projects got started without any national support. In 2004 it was impossible to get national attention for such kind of business ideas as well as the EC was not so much in favour of that initiative. Having the opportunity to be an expert in different EC expert groups I might have contributed slightly to change that. Since 2010/11 a lot of support from EU/ regional/ national level has been given to services innovation.

It is clear that the innovation process is a long life learning process that requires all actors working together closely. After that period we recognized that the support coming from all levels especially from European level should be focused on actions based on learning by doing. Regions got their Regional Development plans and Innovation strategies both contributing to a good base for new companies development, and jobs creation. It is time to focus on companies and to provide as much as possible supports coming from different levels on a coordinative way.

The question is how to help new ideas to effectively pass the all life cycle stages of SME development. It obviously requires different financial instruments to be well developed. Working in H2020 Access to Risk Finance Advisory group and in Mutual learning Exercise (MLE) group for EU regional policy makers we proposed some new instruments and actions to be developed in order to minimize the financial barriers. All the support should be given in a very practical way. In the future much intention should be put to the role of TTOs, mobilization of private capital, angels, supporting co investment early stage venture capital funds, development of cross boarder VC funds, PPP. It seems that everything is already there. There are still a lot of discrepancies among old and new members states (lacking of culture on business angels, knowledge on investment readiness, legal issues, taxes...) The positive thing is that EC has already taken some steps within SME financial instrument where coaching is available for SMEs, there are also some EC support to TTOs, awareness raising on business angels and on investment readiness.

MLE methodology with more hands-on "learning by doing" approach supported by external expert showed a good step forward in helping countries. A select number of member States, typically three to four, that are faced with similar or closely related policy challenges get together to explore the best ways to tackle them. EC should find money and the way to proceed with this action where a small group of regions interested in particular problem work together. All kind of financial instruments are crucial for SMEs development and should be discussed more in depth as well as designed, implemented, evaluated within interested group of countries/ regions.

Talking with my daughter who has PhD in open innovation and the following article <http://www.inc.com/erica-berger/the-way-we-ll-live-and-work-in-the-future.html> brings me to a conclusion that the best innovation policy will be that tackle "the way we'll live and work in the future", will include the whole society in the innovation process as well as design.
vanja.rangus@gmail.com; <https://www.linkedin.com/in/vanja-rangus-113b2611/>



Katja Reppel

Deputy Head of the Unit in charge of the competence centre for smart and sustainable growth of the European Commission's Directorate General for Regional Policy

From research policy for an elite to harnessing the innovation potential of all regions: personal reflections on 20 years of development of EU innovation policy

Dear Jean,

It was inspiring to listen to you and your insights, stories of the “real world” of innovation support by regions and pragmatic solutions and advice that you shared at the many events, expert groups, the smart specialisation mirror group, etc. where I had the pleasure to meet you.

Thank you so much for inviting me to write a contribution to a booklet at the occasion of your retirement. It made me reflect on how time has passed and how EI innovation policy has evolved over the past 20 years.

The importance of innovation for the future of Europe is evident

Innovation is the only feasible way for Europe to maintain its living standards, social systems, environmental and climate ambitions and remain competitive in an ever faster, ever more digitised, and ever more globalised world.

However, the questions of **HOW** to innovate, **WHO** should innovate, **WHERE** should innovation take place, **WHAT** type of innovation, **WHICH** challenges should be addressed with innovation, etc. need new answers. The recipes developed 20 years ago that basically assumed that funding research will

inevitably lead to innovation have visibly not delivered as much as expected and is not delivering evenly across all EU regions on their competitiveness and growth potential.

The last European Innovation Scoreboard¹ suggests that the innovation gap between the leading regions and the lagging regions risks widening again and people, companies and regions, that are less adaptable to change and competition than others fall behind.

As the recent Commission reflection paper on globalisation² noted, the benefits of globalisation are widely spread, but the costs are often localised but fundamental economic transformation happens at the local level, where industry and people interact. EU Member States and their regions must move up the value chain and exploit their comparative advantages. Start-ups and innovators in EU regions should collaborate with leading players so that they can enter global value chains. The productivity benefits of innovative technologies should be spread to broader categories of the economy, also into traditional sectors.

In other words, the EU needs a research and innovation policy that benefits ALL of the EU's citizens and companies, instead of being concentrated on a few top companies and researchers. This means that the future EU support for innovation cannot be designed in the "business as usual" style with the usual support measures addressed to "the usual clients".

... but there are a number of innovation (support) concepts around

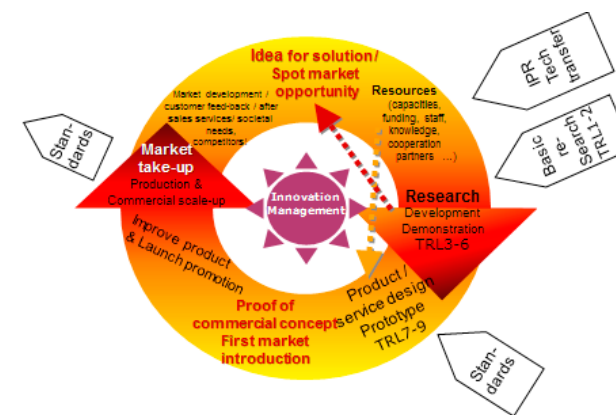
In the past two decades the European Commission's approach to innovation has evolved significantly – often in parallel with the experiences and policy learning-by-doing in the Member States and regions.

Thank you, Jean, for having shared your insights and experiences that helped the Commission services to identify new approaches and understand the mechanisms and contexts in which they worked.

From my perspective there are five main approaches that the EU defined in its successive innovation and research policy papers:

- **Linear technology / science-push approach**, which largely dominated the EU innovation policy as set out in the 1995 "Green Paper on Innovation"³ and was still very much the basic concept for the 2002 Communication on "More Research for Europe: Towards 3% of GDP"⁴. This linear approach called for more university-enterprise cooperation, better education for innovation, and more investments in R&D capacities. This approach remains very popular among policy makers, as it is easy to explain, but unfortunately it failed to deliver everywhere. Hence the "European paradox", and hence industry is using R&D funding and technology push merely as one among many other tools to get to the competitive edge. In subsequent Commission papers, this linear approach evolved into the concept of an "innovation cycle" based on the observation of reiterative processes of incremental innovation where fundamental research and ground-breaking ideas are not necessarily the source of every innovation, but innovation processes feed into each other and are inter-linked spinning in and out ideas from/to other product development cycles / value chains.⁵

Figure 1: Innovation cycle



¹ http://ec.europa.eu/growth/industry/innovation/facts-figures/scoreboards_en

² https://ec.europa.eu/commission/publications/reflection-paper-harnessing-globalisation_en

³ COM(1995)688final: http://eur-lex.europa.eu/resource.html?uri=cellar:eb5dae41-104d-4724-ac99-d7cbc-fa11b86.0006.01/DOC_1&format=PDF

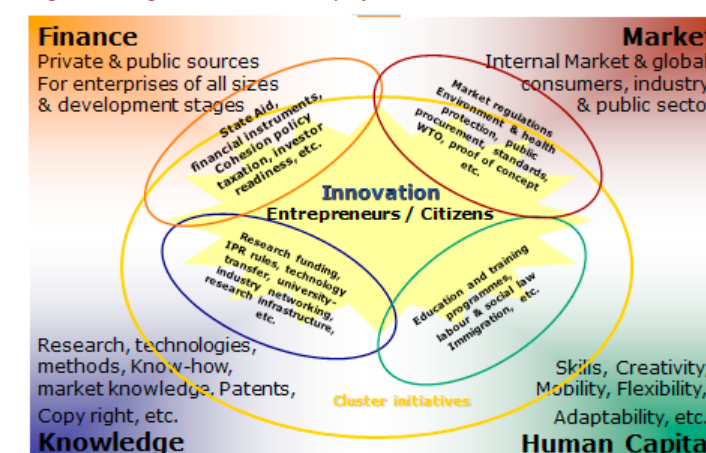
⁴ COM(2002) 499 final: http://ec.europa.eu/research/era/pdf/com3percent_en.pdf

⁵ Europe 2020 Flagship Initiative "Innovation Union" COM(2010) 546 (https://ec.europa.eu/research/innovation-union/pdf/innovation-union-communication_en.pdf)

- Industrial innovation policy as set out in the 2002 Communication “Industrial Policy in an Enlarged Europe”⁶ marks a gradual shift and merger of innovation and industry policy by stressing the role of regional governments, place-based (cluster) and sector-specific innovation approaches as better tools for promoting innovation than just the science-driven, one-size-fits-all R&D push. It stresses that not only scientific skills, but entrepreneurial skills are needed for innovation and notes the importance of service and process innovation and of non-tech activities to succeed with innovation, e.g. design, marketing and user-driven innovation.
- Lead Market approach described in the 2007 Communication on “A lead market initiative for Europe”⁷ sets out firstly the focus on specific “markets” and value chains (bio-based industries, renewable energies, protective textiles, sustainable construction, recycling,...) and stresses the need to combine not only innovation-drivers, but to remove regulatory barriers, and create incentives for the early adoption of innovations (higher performance standards in terms of environment, energy consumption, health etc; public procurement ; standardisation).
- Systemic innovation approach described in the Communication “Innovation policy: updating the Union’s approach in the context of the Lisbon strategy”⁸. In the 2016 European Political Strategy Centre strategic note on “Opportunity Now: Europe’s Mission to Innovate”⁹ that notes “*our innovation economy is not a Roman aqueduct but a “muddy pond”. Rich but obscure. Innovation requires of all actors, corporate, academic, civic and political, the instinct of the hunter-gatherer, not the farmer; a longer and broader view of needs and opportunities; an enterprising portfolio of risk-taking in place of fixed plans; a culture encouraging the rebellious over the blindly loyal*”. Also the renewed EU agenda for higher education¹⁰ adheres to a systemic innovation concept, possibly inspired by earlier work of the OECD Innovation Policy Platform.¹¹

This concept based on putting all the ingredients and nutrients for innovation in a certain territory and foster creativity and serendipity is close to the Smart specialisation approach, but without any focus and prioritisation via an entrepreneurial discovery process.

Figure 2: Ingredients & tools of systemic innovation



- Smart specialisation is the most recent concept for EU innovation policy. It was set out in 2010 as the part of the “Innovation Union”¹² describing “Regional Policy contributing to smart growth in Europe 2020”.¹³ Smart Specialisation combines all of the above approaches, but expressly takes the regional level as starting point, with a bottom-up “entrepreneurial discovery process” as governance principle and priority setting to better target the investments. Smart Specialisation focuses on tailoring innovation support to the regional needs and potentials.

... and discussions are on-going which concept should prevail.

The described policy approaches have not only succeeded each other, they also co-exist in parallel, as it seems that all of them have valid elements and suit different stakeholder groups (academia, enterprises, civil society, the public sector, etc.). The issue seems thus to be at which governance level, in which order and with how much financial support and in which part of the EU are these approaches implemented and how are the right elements combined.

6 COM(2002) 714 final: http://ec.europa.eu/invest-in-research/pdf/download_en/industrial_policy_enlarged_europe.pdf

7 COM(2007) 860 final: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2007:0860:FIN:en:PDF>

8 COM(2003)112 final: http://ec.europa.eu/invest-in-research/pdf/download_en/innovation_policy_updating_union.pdf

9 https://ec.europa.eu/epsc/publications/strategic-notes/opportunity-now-europe%E2%80%99s-mission-innovate_en

10 COM(2017)247 final: https://ec.europa.eu/education/sites/education/files/he-com-2017-247_en.pdf

11 <http://www.oecd.org/innovation/policyplatform/48136016.pdf>

12 COM(2010) 546 : https://ec.europa.eu/research/innovation-union/pdf/innovation-union-communication_en.pdf

13 COM(2010) 553: http://ec.europa.eu/regional_policy/sources/docoffic/official/communic/smart_growth/comm2010_553_en.pdf

New approaches and design principles for EU innovation support are currently in discussion, mainly around “mission-oriented” research (as opposite to the “curiosity-driven” research) that focuses on developing solutions for societal challenges, often going so far as to award funding only ex post, based on the delivery of the result (innovation prizes). Also the concept of “market creating” innovation is in discussion, trying to focus ex ante funding on projects that could bring radical changes, inspired by the success stories of venture capital-driven start-ups (but this would not address the incremental innovation needs and potentials that still present the major share of innovation-driven economic growth).

Smart Specialisation can be the answer for regional policy-makers ...

On the side of Cohesion Policy a first step towards a renewal of innovation support was made by introducing the described “smart specialisation” approach. For many Member States and regions this was a paradigm shift from a top-down, one-size-fits-all, science-driven innovation policy, to a bottom-up, participatory, tailored, and industry-oriented innovation policy. It aimed to make the best of the very different strengths, opportunities and challenges in all EU regions.

Smart specialisation has given up on the “spray gun approach” to research and development funding and moved to a **prioritisation of promising fields** specific for a region, an **eco-system approach** with spill-overs of projects into wider economy and society and a participatory process involving businesses, research and the public sector.

Smart specialisation strategies help **ALL regions move up on value chains**, stimulate the private sector and target investments on key priorities and challenges, while preventing brain drain and rural depopulation.

Many Smart Specialisation Strategies aim at **disruptive and high-tech** transformation, but many more aim primarily at **incremental innovation** ensuring also a future for more traditional industries.

The over 120 national and regional strategies provide a stable investment framework mobilising important public and private investments and offer support that is **tailored to the regions**, combining as relevant:

- Funding for research and innovation activities, mainly for business innovation, including seeking synergies with Horizon 2020 funding,
- Build and improve research and innovation infrastructures and develop human capital,
- Foster innovation eco-systems, bringing together and valorising the creative and innovative potentials of each EU region and its specific strengths and competitive advantages,
- Demonstration and deployment of innovative solutions including via public procurement of innovative energy efficiency, transport, health, environment, etc. solutions.

Of course not all is perfect with the over 120 smart specialisation strategies. There is room for improvement and for a number of countries smart specialisation was and is challenging. And of course: only if smart specialisation strategies are implemented as energetically and creatively as they were designed, they will deliver on their growth and industrial transition ambitions. And of course regions have still challenges ahead to find optimal cooperation partners in other regions to make the best out of their place in the different value chains and link-up new value chains for knowledge-intensive products and services.

... and regional, national and EU level must complement each other.

The current set-up of EU funding programmes for innovation is based on the agreement that Europe needs **both the excellence-based research** supported by Horizon 2020, and the **broad-based, industry-focused innovation** supported by the over EUR 40 billion Cohesion Policy investments via the ESI Funds for which Smart Specialisation Strategies provide the policy framework.

The reflection paper on globalisation also noted that all levels of governance – EU, national and regional levels – need to be involved to deliver on the growth and jobs potential of innovation and harvest the benefits of digitisation and globalisation. This means also that all EU policies need to work together for innovation, with a strong role for Cohesion Policy and its capacity to involve less advantaged regions and give them a chance to valorise their specific assets and potentials. The different roles and complementarities of ESI Funds and Horizon 2020 could be summarised as follows:

ESIF	H2020
<ul style="list-style-type: none"> ESIF aims at socio-economic development, reducing disparities, promoting structural adjustments and industrial conversion 	<ul style="list-style-type: none"> H2020 aims mainly at scientific excellence and top-level innovation Participation from newer Member States to Horizon 2020 is still weak overall and the spreading excellence and widening part is only 1% of the overall budget The number of Newcomers to H2020 is small, i.e. the top-beneficiaries often the same as in FP7.
<ul style="list-style-type: none"> Lasting impacts on industrial structures and innovation eco-systems (5 years durability requirement for larger projects) Focus on business R&I with local relevance 	<ul style="list-style-type: none"> H2020 considers only the excellence of the individual project and not its links to the surrounding eco-system or succession of projects building on each other No requirement of project durability, only appeal to disseminate the results of the projects. The transfer of research results from Horizon2020 to industrial research and innovation leaves scope for improvement and seems not to fully reach less advanced regions. Only 23.9% of Horizon 2020 went so far to SMEs
<ul style="list-style-type: none"> Tailored support for regions' needs and potentials (Smart Specialisation) 	<ul style="list-style-type: none"> Horizon2020 applies the same criteria, time-line and thematic requirements to all applicants Multi-country projects are dominant without any ambition for territorial impact or relevance
<ul style="list-style-type: none"> Entrepreneurial discovery process with industry, research and public sector 	<ul style="list-style-type: none"> Links between business and industry are not a general requirement for Horizon2020 projects (with the exception of the EIT and Joint Undertakings) The definition of the H2020 call themes and specific requirements is still largely dominated by academia, not industry or public / civil society interests
<ul style="list-style-type: none"> Technology-push & Demand-pull (public procurement of solutions for societal challenges) 	<ul style="list-style-type: none"> Horizon2020 focuses on the development of new technologies, while their take-up or even their ripening from fundamental research to deployable technologies is much less in the focus Horizon2020 hardly used the «procurement of innovative solutions» grant format, i.e. the support to public procurers to really deploy innovative solutions.

The purpose of fostering synergies between different EU funding programmes and policies is to attain the Europe 2020 objectives of smart, sustainable and inclusive growth, i.e. to ensure that the ESIF innovation investments and investments in related fields under other EU funds jointly lead to more, better and durable impacts on innovation, competitiveness, jobs and growth. Synergies are not intended to simply help a MS or region to maximising the acquisition of additional EU funding. That approach might actually worsen the grant-dependency of a region and beneficiaries therein. Synergies seek to maximise impact through complementarity and joined-up planning.

Therefore, the “Common Strategic Framework”¹⁴ does not argue in favour of an alignment or overlapping of them, but stresses that the different EU programmes are complementary.

On the side of Cohesion Policy, the anchor points for innovation related synergies are the Smart Specialisation Strategies. Authorities directly concerned by Horizon2020 had to be closely associated with that process. The strategies were expected to include “up-stream actions” to prepare regional R&I players to participate in Horizon2020 and “down-stream actions” to provide the means to exploit and diffuse R&I results, stemming from Horizon2020 and preceding programmes, into the market with particular emphasis on creating an innovation-friendly environment for business and industry.

To conclude:

Smart Specialisation means that no region is left behind in the quest for new growth opportunities. The recent Commission reflection paper on globalisation therefore stressed the role of Smart Specialisation as a response to globalisation and an approach to make the best of existing assets and industries in ALL regions of Europe.

Thank you, Jean, for having helped to develop and shape the Smart Specialisation concept as active member of the Mirror Group and as active policy-designer and implementer in your home region!

¹⁴ annex 1 to the Common Provisions Regulation for ESIF: http://ec.europa.eu/regional_policy/en/information/legislation/regulations/



Christian Saublens

CEO of EURADA between July 1992 and November 2015

To Identify A Problem Is An Issue, To Find The Solution To It Is Another Story!

I had the privilege to closely observe for more than 30 years the evolution of regional policies at EU, national and regional level. Besides sometimes dogmatic decisions taken by national authorities after a change in the political party coming into power, there has been a change in the sophistication of the regional innovation policy over the years. In the early days, the focus was on business infrastructures such as industrial estates and attraction of Foreign Direct Investment, then on entrepreneurship, followed by an attention to financial engineering forms, clusters, to end up with the recognition of the importance of R&D+I strategies.

To me, the pioneers of the formulation and promotion of regional R&D+I strategies were people such as Jean SEVERIJNS, Mikel LANDABASSO, Merion THOMAS, Nicolas KANDEL, Robin MIEGE, Martin HINOUL, Dimitri CORPAKIS, Kevin MORGAN, Valeria BANDINI, Jean-Marie ROUSSEAU, Pierre BOURGOGNE and Alasdair REID, just to cite a few of the many experts with whom I had the chance to work and exchange views from the early days. The greatest success of those people was that in less than twenty years, it has been possible to move from a pilot project involving less than twelve regions to the RIS³ ex ante conditionality of the ERDF 2014-2020 programming period. But success is not enough. Given that continuous improvement needs to be a

priority for each and every policy maker, below is a set of issues which have to be addressed in a search for excellence in regional R&D+I policy.

Strategy is not an end in itself, the way its implementation will be driven is the real efficiency test. Too many times, the strategy's diagnoses are right, but the implementation fails. In the EU, the strategies are often missing an action plan explaining which financial and human resources are available, will be mobilised or acquired / attracted to reach the goals set up in the strategy.

The silos in which many of the stakeholders lock themselves in the European multi-governance system are not really helpful to maximise the benefits of any R&D+I strategy. Indeed, the public support to a regional innovation ecosystem is still too fragmented between the policy makers having in their portfolio the responsibility for Research and Innovation activities, Higher Education, Economy and Entrepreneurship, Risk capital, Taxation, Regional Development or State aid control.

Some policy makers have still a too big appetite for high technologies, even if their region has not all the ingredients to participate in the race to become the next Silicon Valley. Many of them should concentrate their efforts to help regional firms absorb innovation and knowledge in order to modernise their production process or to upscale their product and service range. Regional technology centres should adapt the new knowledge to those firms. This is critical to help local firms understand the change needed to remain competitive.

Policy makers have also to realise that non technology innovation, frugal innovation and social innovation are more accessible for a lot of regional enterprises than innovation flowing from high technology. They also too often believe that if more budget is dedicated to research infrastructure or activities, more innovation will be created. It is good to remember that stories about innovation which has recently impacted our everyday life were not the consequence of targeted public investment in high tech nor of the initiative a large firm spending big amounts in R&D+I. PayPal was indeed not invented by a well-known bank (at that time, their great invention was named subprime!), Amazon was not introduced to the market by a leading supermarket chain and the digital photo was not put on the market by Kodak or Polaroid. Those

examples and many others such as TOMTOM or Skype to mention two European ones are showing that it is just not possible to plan innovation, but rather to provide the best possible administrative environment for clever entrepreneurs to make innovation happen.

At provincial level, looking at the 2017 list of Gazelles published in a Walloon economic magazine, it appears that no enterprise acting in the high tech sector is ranked in the TOP 5 neither of the list of medium-size enterprises nor in the one of small-size enterprises.

There is not yet a clear sign of solutions to the EU paradox by which Europeans are able to invent new products and services, but are not able to commercialise them worldwide. This can be explained mainly because the EU financial community is not fully part of the regional ecosystem.

The biggest weakness of the current EU regional R&D+I policy is that the RIS³ strategy is not well translated in the OPs. No action plan is attached to the OPs. The gap between rhetoric and practice is wide. Many ERDF managing authorities have still preferences for supporting public stakeholders rather than for private ones, for infrastructures rather than for soft support and for hypothetical introduction of innovation into markets rather than for facilitating innovation and knowledge absorption. Are such OP choices really resulting from the views expressed by the private stakeholders during the RIS³ consultation process?

Moreover, they only seldom use their purchase power for buying innovative products and services through public procurements. We have to point out that innovation in public administration is not a sexy topic for EU-wide conferences. How many times have you been invited to an event on that topic over the last four years?

Another annoying observation is that, despite the awareness of the importance of R&D+I as key factor for regional development, the bottlenecks are stable for long time now:

- difficulty to commercialise research results and to generate a critical number of gazelles using those results to generate regional economic growth,
- weak offer of risk capital,
- aversion of failure, even if everybody acknowledges that innovation is

made of trials and failures, coupled with the stigmatisation of entrepreneurs having failed,

- lack of qualified staff and mobility between public services,
- fragmentation of the EU internal market,
- too little offer of public support services to help start-ups to be born global or to find their first clients,
- fashion addiction for classic support schemes (clusters, incubation, science parks,...) and mechanisms (grants, call for proposals with fixed deadline,...),
- weak professionalization of the innovation services of regions (in some regions, the head of the R&D+I department does not speak English!) which too often rely on consultants to formulate their strategies. What has been done with the ERDF budget for technical assistance and all the findings of INTERREG projects?
- poor search for the benefits of transregional cooperation,
- over importance of patent statistics to measure the innovation performance of the R&D policy. Patents only provide an idea of the creation of knowledge in a region, but not its acceptance by markets,
- low interest for collecting data on licence fees generated by public research centres and start-ups created by those structures, although they are real indicators of a R&D+I strategy.

I was always fascinated hearing Jean explaining two interesting initiatives launched in the Limburg Province: the first one is named CHEMELOT, an open innovation ecosystem built around the enterprise DSM. The second is the cross-border ELAT partnership. I always wonder why no more similar initiatives were put in place by many regions.

Last but not least, I would like to recommend that all professionals in regional economic development should give to Jean a place in their own “Hall of Fame” for his vision when he designed the Limburg VOUCHER scheme.

Jean, thank you for all the intellectual and friendship exchanges we had during many years!



Frank Schaap

Director Business Development
Brightlands Chemelot Campus

“Organize and behave as if it is a business”

Dear Jean,

With great pleasure I contribute to your farewell project. I feel honored that you invite me to do so.

2005 was the year we met for the first time. I remember very well our first meeting in my office. Do you remember why we had to laugh so much? Earlier that year I got involved in the regional development of our province Limburg. DSM just finished a fairly large reorganisation project called Copernicus (you know the guy who became famous because of his heliocentric model of the universe) leading to several hundreds job losses. As a reaction to these losses DSM, Province of Limburg, Municipality Sittard-Geleen and the Labor Unions agreed upon a 3 year covenant with the objective to develop the regional economy by creating new jobs at Chemelot, the large chemical industrial park and its research and business campus in Limburg. Together with two other colleagues we were responsible to create 250 new jobs by the end of 2007. Nobody really believed that this was possible including myself. Skepticism was surrounding us all over the place.

Looking in the review mirror I believe the best decision we took at that time was to approach the development of Chemelot as a business in itself. As DSM professionals we were trained to set up business plans starting with very fundamental questions like: What business are we in? Who is our competition? What is our value proposition etc etc. Going through this businessplanning process we came to the conclusion that there was a chance of success. Despite the fact that developing a chemical park turned out to be a highly competitive business (in Germany allone there were 58 chemical parks who wanted to do more or less the same thing) we found some segments where we could differentiate ourselves from most competitors. Chemelot was (and still is) one of the largest chemical and material communities in Europe with distinctive unique strengths in the areas of performance materials and advanced chemistry. After an extensive benchmark we could make up a plan focussing on the identified unique strengths and also on reparation of some of the weaknesses.

Acquisition of new companies was one of the most important contributions to new job creation. Companies which could benefit from the unique strengths at Chemelot in such a way that they could accelerate their business growth. In our first meeting in 2005 you were asking about our acquisition strategy. You really wanted to understand our approach. I started to explain that it is quite easy to screen and select companies which fit with Chemelot strengths. However it is much more difficult to identify the companies which are in the position to relocate to Chemelot. In order to make the acquisition challenge clear I made the comparison with a boy looking for a girlfriend. You know quite well which girls are attractive to you but how do you find out which girls are available?..... I will never forget your spontaneous smile. It was clear that you understood our challenge immediately and that you were highly motivated to help us finding those girls. Our collaboration had started and would never be terminated again.

By the end of 2007 we created more than 300 new jobs. Mainly by acquisitions but also by creating brand new companies out of corporate projects which were stopped. These projects were typically stopped because there were simply better projects to invest in. Many of those projects however are still interesting from a regional development perspective as long as you can create a healthy company out of it. By recruiting an experienced entrepreneur who is

willing to lead a startup created out of such a project and by helping him/her with collecting the capital out of the market we were also able to create new sustainable jobs. This model would evolve later to a new model for corporates enabling to manage their new business portfolio in a different way, e.g. giving less attractive or more risky projects a chance in the Chemelot ecosystem on a no cure no pay basis (instead of just stopping it and writing off the created value).

In the period 2005 – 2007 the skepticism slowly changed into confidence based on the results achieved. More and more individuals were convinced that the continuation of Chemelot development would give a great impuls to the region. Regional stakeholders started to work on the formation of a dedicated development organisation with focus on further development of the Chemelot Campus, the knowledge intensive part of the Chemelot community where corporates, SME's and startups work on innovations and new businesses. It took almost 5 years to form the development organisation. Oktober 2012 Chemelot Campus B.V. was founded by the following 3 shareholders: DSM, the Province of Limburg and Maastricht University. A socalled triple helix company was born with the formation of new jobs as most important key performance indicator. One of the most important guiding principles introduced at the start in 2005 was strongly endorsed and built in the Chemelot Campus B.V, governance structure. Chemelot Campus B.V. should be organized and managed as a company according to the normal rules applicable to the (international) business world.

From 2012 onwards the development of the campus (now called Brightlands Chemelot Campus) accelerated. By the end of 2016 more than 1900 knowledge workers were working on the campus (900 in 2005) and approximately 650 students were following their curriculum in the state of the art business environment for chemistry and materials professionals (0 in 2005).

The Province of Limburg together with Maastricht University and corporate companies/institutions active in the region decided to multiply the triple helix campus model based under the Brightlands brandname (introduced september 2014). Based on unique strengths the following 4 campus organisations are being created and are leading the regional economic development nowadays:

- Brightlands Chemelot Campus focussing on Smart and Sustainable Materials and Smart and Sustainable Chemical Processes
- Brightlands Maastricht Health Campus focussing on Precision Medicine & Innovative Diagnostics and Regenerative Medicine
- Brightlands Smart Services Campus focussing on Datascience and Smart Services
- Brightlands Campus Greenport Venlo focussing on Healthy Food and Nutrition

The overall conclusion I want to make looking in the review mirror is that regional development, research & innovation policies, internalisation programs should be organized and managed as if it is an independent company. By following the rules of the game applicable for international businesses you become more effective and efficient and overall more successful. Unfortunately I see everywhere in Europe, Netherlands and also still in our own region many initiatives which would not survive very long if they were an independent company which has to find customers who are willing to pay for the value offered.

I believe that organisation and leadership according to the rules of the business will have significant positive effects on regional development, research & innovation policies, internalisation programs. Effects such as:

- More ownership in development organisation
- More continuity in leadership and probably also higher quality
- More focus on clear choices made in a well prepared business plan based on opportunities, threats, strengths and weaknesses.
- Longer term strategic orientation
- Less (political) double agenda's focussing on suboptimal personal short term wins
- Management by key performance indicators
- Higher external orientation (e.g. monitoring competition, relevant developments, disruptive technologies etc)
- Building of trust based on performance and track record leading to other relevant stakeholders who become confident enough to participate and invest (banks, knowledge institutes, governments, companies etc)

Dear Jean, being a well respected professional responsible for internalisation at the Province of Limburg you continuously approached us proactively with new interesting ideas and plans, new valuable contacts, new detailed informative reports and new methods developed somewhere else in the world. You connected us many times to your impressive and unique personal international network. It is unbelievable how many doors you opened for us on all possible levels in governmental organisations, universities, development agencies and companies. Doors very close by accross the border in Germany and Belgium but also in completely unexpected countries. Doors connecting to partners involved in programs supported by the European Committee etc etc. Striking to me was (and still is) the high quality of the relationships you developed with all those people in your network. I consider that as a real unique gift you have. A gift which pays off everywhere you go, even in the business world ☺.

Any way. During all those years you significantly supported us in many different ways to become more and more effective in finding and attracting the right “girls”. It has been a great pleasure to work with you and I hope we are able to continue to work together despite your retirement June this year.

See you soon my friend.

Warm regards,

Frank Schaap



Dr. Sven Schade

Directorate General for the Environment of the European Commission

To the father of a good idea that spread - Innovation vouchers conquering Europe

It was in 2009 when the SME-Innovation unit in the Directorate general Enterprise (now DG GROW) of the European Commission started to search for models how *‘innovation support to small enterprises could be made more flexible and responsive to their diverse needs’*. We were primarily looking for schemes that could be recommended to the regions or that could be integrated into larger, EU-funded projects in order to reach out to even more small enterprises. Evidently such schemes existed already. The Dutch innovation voucher in place at the time was the most prominent of that kind – and we were trying to understand the origins of the concept.

That’s how I met Jean for the first time. While I was still a newbie to the topic, Jean had already undergone several iterations of the concept, including the expansion from a regional scheme to a national one and first trials with cross border cooperation.

One of the often forgotten powers of the European Commission is the ability to convene the right people and engage them in sharing their experiences and in thinking further – without any ambition to legislate anything in the context. With this in mind, a short but intensive cooperation arose: Based on a mapping of similar support schemes across Europe, which was easily realised with the help of innovation experts in the local partners in the Enterprise Europe Network, we could identify the managers of the relevant schemes.

The organisers of the Baltic Dynamics conference in Riga 2010 wanted to give their conference a more international profile and provided room in the programme to sit together and discuss common principles of the voucher schemes and recommendations to the European Commission for eventual European level action. The Riga-Declaration was formulated jointly, and born following a phone-call at half past one in the morning with a Latvian State secretary indicating that he would be happy to bring the document to the attention of the working group in the European Council.

What started out of curiosity and as a knowledge generation exercise in the EU-Commission had suddenly gained momentum and renewed innovation support to SMEs. Many regions felt motivated to introduce voucher schemes with different motivations.

Unfortunately, still many regions preferred to restrict the eligible service providers for the vouchers to academic entities in the region arguing that this would be the only efficient way for quality assurance of services. But can anyone really assure that only the locals provide a better and more reliable service responding to the local needs? Wouldn't that in the long run not result in in-breeding and counter innovation that derives from new combinations of knowledge?

This by the way is the only concern expressed by the EU-Commission looking into the original schemes: SMEs should benefit from the best competence they can identify and not from the one that is geographically closest to them – and furthermore, strictly speaking, such a geographic restriction of origin contradicts the principle idea of the internal market.

But we also saw that many regions went with their voucher programmes significantly beyond the original concept from Limburg. Just some examples:

- A Romanian partner in the Enterprise Europe Network brought the voucher idea to the Ministry of Science that so far struggled to design a support scheme for small enterprises. Not only did the Ministry launch the programme with exceptionally short delay, it was opening the scheme immediately to European R&D institutes to be selected as service providers.

- The most ambitious, and still today uncontested model of a user oriented voucher, was launched in the region of Baden-Wuerttemberg (Germany). Small enterprises have to describe briefly the planned project but can choose whatever organisation – public, private, academic or supplier worldwide (!) – as service provider. Later, the innovation vouchers were complemented by “internationalisation vouchers” that allowed SMEs to explore with the help of a service provider a new international market.
- Since 2011 DG Enterprise encouraged experimentation with the innovation voucher concept for first transnational projects between SMEs in collaborating sectoral industrial [cluster] initiatives. These experiments uncovered a major bottleneck most notably for cooperation in emerging markets: the diverse and ill-documented requirements for ‘bankability’ of projects in the international development banks.
- As supported by the Riga Declaration the European Commission never launched a European voucher itself – the administrative costs would be out of proportion. But a significant amount of ‘voucher thinking’ entered into the design of phase 1 of the Horizon2020 SME instrument. Instead of formulating a precise list of services and eventually even service providers the SME is asked to present which challenges to feasibility need to be assessed and instead of being compensated with a certain percentage of reported amount on invoices the support is given as a predefined lump-sum against the presentation of a convincing project outcome (‘feasibility assessment’).

Three approaches develop the voucher concepts significantly further, innovated it and opened new opportunities:

- The Czech region of Southern Moravia had the ambition to highlight their RD&I capacities and to put itself on the map of knowledge regions. To that end they awarded innovation vouchers to foreign companies to be used with local institutes. Giving cash to a foreign company is a courageous approach for a regional innovation agency that is rarely seen; and the approach is very honest in the message that it shall support the regional R&D base and most notably those that open to the international competition.
- ACTPHAST, a networking project among leading European R&I Institutes in the photonics sector, brought this concept to an international level and

changed the underlying logic of technology transfer from research to the market: Enterprises may contact a central node in the ACTPHAST-network and describe their particular interest in photonics. The central node is in position to pinpoint to the most competent institute for this particular interest, based on the network members' latest scientific activities. Beyond this traditional matchmaking function – which was already an element in the Limburg's first schemes – the ACTPHAST project is in a position to award grants to the SME to verify the technology's potential in a real life setting. However, unlike in the traditional voucher support is not provided primarily to the SME to pay the R&I provider, but as compensation to the enterprises to take the risk and to invest time and budgets to bring the institute's still immature technologies forward.

- NESTA, a British public innovation foundation, and Manchester region wanted to explore how diverse cultural and design services could support small enterprise innovation. To that end they invited, prior to the launch of the voucher programme, local designers and freelancers from the creative industries to publish service packages to be offered at the vouchers' face value. Small enterprises from traditional industries picked packages from the catalogue thus providing feedback to the 'creatives' on the market potential and competitiveness of their offers.

The idea of inciting the formulation of new innovation services from 'hidden', so far non-commercialised knowledge, touched the nerve of European Commission Directorate general 'Information Society' (now DG CNECT) that recognised that in many region enterprises cannot make full use of modern communication and internet technologies due to the absence of a sufficient consulting services in the region. At the same time 'geeks' are used to help our voluntarily on computer issues among relatives and friends. Establishing programmes for 'digitisation of traditional industries' in the spirit of the Manchester experiment has a great potential to develop supply and demand of services simultaneously. Therefore DG CNECT still promotes this approach to 'ICT innovation vouchers', but unfortunately uptake by the regions remains slow.

Addressing the big challenges

The digitalisation of the industries and the needs to increase material efficiency of production and consumption ('the circular economy') pose unprecedented challenges to the competitiveness of our industries and of individual enterprises.

Effectively, for the sake of environmental sustainability innovation cannot wait. But digitisation will likely result in a growing number of markets – perhaps niche markets – that are created and exploited by a quasi-monopolistic service platform. One such example is UBER: While it is known that their ultimate objective is market leadership in an era of self-driving vehicles, they faced significant barriers to enter the market for taxi-like transport in many countries. At the same time they engage in markets for goods delivery, from local restaurant orders (UBER EATS) to freight forwarding (UBER Freight).

Many of these services are location based, and existing enterprises would be in a good starting position to establish local platforms eventually relying on blockchain ('distributed ledger') technologies, eventually cooperating across regions or covering a range of similar services. Catalysing such developments would require reaching out to a large number of enterprises to explore and exploit the power of advanced web-based markets. Instead of aiming at finding a new niche for a new big centralised platform, that would ultimately compete with the established ones that would simply add the niche to their existing core, targeted innovation voucher schemes for the digitisation of existing and new value chains could create critical mass in regional actors' networks and spark fast evolutionary processes from competing approaches.

Closing the loops of a circular economy will be a task at least as challenging. There is potential – and need – for many new business models in the circular economy most notably in collection, repair, reuse and 'industrial symbioses' (i.e. the use of wastes and by-products in process of another enterprise). Still the discussion and the publically supported innovation activities for the circular economy focus on 'efficiency gains in production', on 'waste management' and on technologies for material recycling; while business models including social aspects and the public good as well as inciting industrial symbiosis remain rarely addressed.

As an example, out of 34 large projects in Horizon2020 addressing the circular economy (but not related to more efficient manufacturing technologies) 25 develop or demonstrate new technologies in large majority for raw material recycling and material recovery; 7 focus on decision support systems and strategy development mainly for municipalities; only 4 develop support to circular economy business models (1 specific, 3 as major element alongside another). All these projects want to change the world by providing a generic solution that could eventually be applied anywhere.

But how will the local uptake look like, if only one out of 34 project mentions citizen and consumer involvement prominently; 1 project aims at realising locally an industrial symbiosis and again only 1 looks into social effects? The power of innovation vouchers to quickly verify an arising idea and to spark initial cooperation among actors is well documented. The vouchers have shown value for igniting innovation activities among networks like regional industrial cluster initiatives. This makes them a powerful tool for the development of new business models in the circular economy, most notably if the administration managing the scheme would actively engage in helping to measure or monetise the positive effects on the public goods and public services. There is still a long way to go for a circular economy and the engagement of far more entrepreneurial minds is needed. It should be a fair bet that innovation vouchers will play an important role on the journey.

Jean was describing at several occasions that the voucher idea grew in 1996 out of his personal frustration with top-down approaches to small enterprise innovation. His frustration didn't result in retreat but in creativity, risk-taking and innovation. Others, including myself, benefitted from it – and Jean was always willing to openly share his experience and his ideas. Yes, your idea spread and made impact far beyond Limburg. With all the frustration we have to live with every day – isn't there anything better than looking back and recognising: Yes, it made a difference.

Dr. Sven Schade has been working from 2006 to 2016 in the Directorate General Enterprise and Industry (now DG GROWTH) of the European Commission on 'support to SME innovation' and regional innovation systems. In late 2016 he joined the Directorate General for the Environment with – amongst others – the task to explore new ways of cooperation with the business sector to achieve environmental policy objectives, like the systemic change towards a circular economy.

Disclaimer: The information and views set out in this article are those of the author and do not necessarily reflect the official opinion of the European Union. Neither the European Union institutions and bodies nor any person acting on their behalf may be held responsible for the use which may be made of the information contained therein.



Vitali Sergejev

Chief executive Narva BAS Foundation, Estonia

RDI: a view from Estonian periphery corner

For the first time I met Jean Severijns more than 15 years ago at EURADA annual meeting. Jean moderated a very smart workshop on innovation and regional development. His high proficiency and depth of knowledge in this field impressed greatly me and my RDA colleagues from new member states. His presentation as well as other panellists' experiences were very appealing, challenging and motivating.

Concrete outputs and results the Province of Limburg had achieved in RDI including cross border cooperation with neighbouring German region made most of us enthusiastic about opportunities that RDI can bring to our regions. I am happy that in the years to follow I and Jean have developed a strong professional and personal relationship resulting in several common EU and CBC projects, exchange of experiences, study visits by Estonian businesspersons to Limburg. Meeting him to me was always a brain burst, a confidence transfer and also a great fun! Even if only recalling tasting vodka in Saint-Petersburg or engorging his beloved herring in Estonia or discussing hot issues in late hours – that was really cool interpersonal relationship.

And Jean's vision as a strong advocate on how research and innovation can change regions for the better was also cool and convincing. Actually Estonia, since it joined the EU in 2004 has already its third strategy on research, development and innovation called "Knowledge Based Estonia 2014-2020". This latest strategy takes as basis the methodology of smart specialization.

The new strategy aims to apply the created potential for Estonia's development and economic growth while the previous strategies focused primarily on developing our capability in research, development and innovation.

The new strategy identifies four key objectives:

- 1) *Research in Estonia is of a high level and diverse.* It is internationally competitive and visible, and covers the main fields of higher education and culture. The network of research institutions operates efficiently. The infrastructure is modern. A new generation of researchers and innovators is ensured. Estonia is an attractive place for research and development, and a researcher career is popular.
- 2) *Research and development (RD) functions in the interests of the Estonian society and economy.* It proceeds from the needs of society and the economy, and prioritizes research applications. Research institutions are motivated to undertake applied research and for productive cooperation with enterprises and government authorities. The state is smart in commissioning applied research and development. The organization of research carried out for socio-economic objectives is efficient.
- 3) *RD makes the structure of the economy more knowledge-intensive.* RDI investments selected and managed by the smart specialization method encourage the development of growth fields at a faster than expected pace. The share of knowledge-intensive entrepreneurship in the economy and the added value of exports will increase significantly. The selected fields of growth are:
 1. Information and communication technology (ICT), horizontally through other sectors
 2. Health technologies and services
 3. More effective use of resources
- 4) Estonia is active and visible in international RDI cooperation. Cross-border cooperation helps solve the tasks that Estonia, and the world as a whole, is facing. Estonia participates as a partner in the initiatives of the European Research Area, (incl. in the joint programming of research), European innovation partnerships, initiatives by the Baltic and Nordic common area,

international research infrastructures. Enterprises have access to the world's newest RDI results, and cooperation opportunities and infrastructures are open to them.

Implementation Plan 2016-2019 for achieving these objectives was approved by the Government in 2016.

Despite how attractive both documents may look nevertheless one can hardly find in them a word "regional" or something directly related to regional concerns or challenges. Of course, Estonia as a whole is one NUTS 2 region and administratively has 15 counties which are not considered as regions. At the same time these counties differ a lot as everywhere in EU. For example, our Ida-Viru county the most eastern area bordering Russia, is the second to Tallinn traditional industrial area in Estonia with a lot of energy, chemical and real sector manufacturing and exporting companies. That clearly shows the Ida-Viru sub-region's (I will use here this term) specialization and specifics.

But where is answer or toolbox how the "smart specialization" mentioned in the new RDI strategy and already legally shared between profile ministries on the principle of inter-ministerial cooperation will be translated to sub-regions? Really "Lost in translation" scenario. One may argue that the supporting system encompassing HE and RD institutions, centres of excellence and etc. has been already in place and enhance for changing the economic structure. Yes, but on horizontal national level. Maybe I am wrong but none of our sub-regions has their regional smart specialization clearly defined and persuaded. Read – no RIS yet in force for specific sub-regions. For example, a strategic document created in 2016 "IDA-VIRUMAA. Situation and strategic objectives" does not mention at all RDI among the selected objectives. Of course, for shale oil and energy sector or large companies innovation is not a strange word. They introduce or are forced to develop new innovative solutions to be competitive on the market. But this is not yet a finger in a coherent regional strategy's pie. As for traditional SMEs, innovation in most cases is really a strange word and much to be done to educate and introduce innovation into SMEs vocabulary.

To summarize the above said observations the research and innovation strategy in Estonia to my mind is disconnected from the grassroots in sub-regions. Now,

when due to administrative reform underway and county governments to be abolished already this April 2017, concerns regarding research and innovation in Estonian regional development aggravate and need more attention and action. As for SMEs, the new tools and incentives have to be integrated into national strategy to trigger the interest and unavoidability for SMEs to start speaking innovation with regional accent.



Rimantas Serwa

Senior Expert Lithuanian innovation centre (LIC)

Lithuanian Innovation Centre (LIC) participation in European Innovation projects

I am working in Lithuanian innovation center (LIC) for a 14 years. We are providing innovation support services to enterprises, research institutions, industry associations and business support organizations.

First time I met Jean Severijns was more than 10 years ago. At this time we implemented EU PHARE Twinning project “Innovation capacity”. The purpose of the project was to develop a concrete national framework for supporting innovation activity in all areas of Lithuania as part of national innovation system. In particular, to strengthen the institutional capacity across Lithuania for innovation development, and to establish under the control of the Ministry of Economy a national framework to support the technical co-ordination and facilitation of regional innovation support activities to ensure improved competitiveness and business development. Our roles at this time – he was as a trainer, me as a trainee. From a very beginning I was impressed by Jean’s high professionalism. He transferred his experience in a very effectively way.

Later we met as a colleagues in a few different projects. One of them was very important and should have strategical influence - RIS Lithuania.

The overall goal of RIS Lithuania is to elaborate innovation strategy

development mechanisms, which enable to build Lithuania as one of most innovative regions in Europe. Specific objectives of the project are to develop a competitive innovation strategy for Lithuania as a key element of EU Structural Funds programs; to establish a sustainable, national partnership on innovation; to stimulate development of innovation support infrastructure; to increase quality of innovation in Lithuania by establishing mechanisms for sustainable cooperation with other European countries. The main expected achievements:

- developed and agreed a competitive innovation strategy and key actions for Lithuania as a key element of EU Structural Funds programs;
- established a sustainable, national partnership on innovation;
- stronger innovation support infrastructure;
- established mechanisms for sustainable cooperation with other European countries.

It should be noted that the among project partners were Privincia di Milano and Strathclyde European Partnership Ltd. Jean as an expert was attracted from the side of Strathclyde European Partnership Ltd and made a great input to a results of the project.

One more case of Jean's contribution was during the project LTInnoconnectBY. The main result of the project was to established network of Lithuanian and Belorussian innovation intermediaries with shared vision, common goals and mutual trust. During the project we had a lot of meetings with the colleagues from Belarus. 37 innovation support practitioners increased their business consulting competences through participation in 6 good practice workshops and 3 study visits. 22 persons completed the full innovation learning module and were awarded certificates recognizing their qualification as cooperation coaches. Jean as high level expert shared his experience during workshops. Belorussian colleagues very much appreciated for his adviser Jean professionalism.

So Jean appreciate as a great colleague, with whom you can exchange experiences or ask to make a presentation in the conference, immediately knowing that it will enrich the experience of all the listeners.



Jean Severijns

Project Manager Internationalization Province of Limburg

Reflections on Regional Innovation and Research policy from a Limburg perspective

Connectivity

Like most of us, I have seen a great deal of change happening all around us in recent years. Through it all, the province of Limburg has maintained a significant initiatory, coordinating and financial role with regard to economic policy, with that role taking on various forms and different levels of intensity. Looking back at the provincial administration periods of the past decades, we can identify a number of milestones, from the strong initiative-taking role side-by-side with the Dutch government in the wake of the mine closures at the end of the 1960s and early 1970s, through what we call our period of restructuring policy, right up to today's Brightlands Campus Policy. This policy focuses on bundling the thematic strengths of Limburg, in partnership with the players that alongside our direct stakeholders in the narrowest sense can add value, like national ministries, other Dutch provinces (particularly those in the south), our neighbours in Belgium and Germany, the European Commission, other European regions, and areas outside Europe, like China and Azerbaijan. Where once our biggest concern was establishing modern infrastructure in the broad sense, our focus has now expanded to not only continue to upgrade and expand that infrastructure, but to connect all assets in a bundled strategic partnership of relevant partners in the triple helix of government, industry and

knowledge institutions by collectively taking responsibility for the substance, strategy, implementation, and funding. In my humble opinion, this approach is what makes us measure up to Europe's strongest regions. Dutch Limburg has gone from being an underdeveloped region in our own country to the top 10% of most competitive regions in Europe.

I believe our biggest challenges for the future lie in effectively capitalising on selected strengths for the creation of added value (products, services, processes, growth, competitiveness, attractiveness, employment, knowledge, research and innovation), and creating connections between them in crossovers, as well as continuing, redesigning and implementing connectivity in combination with a philosophy built on a creative framework of thought and action with a capacity for fast and flexible implementation. There are also the challenges of creating ecosystems and establishing decisive success factors for a regional innovation policy.

For the triple helix approach to continue to generate success, the partners will have to be willing to invest even more in each other. This means not only financial participation, but even more importantly participation in knowledge and experience, along with respect for the uniqueness of each other's systems, value chains, fundamentals, starting points, action frameworks and objectives. Preserving and protecting each party's individual goals, identity and responsibility in no way impedes knowledge sharing on these aspects. On the contrary, it is an essential part of consciously evaluating each other's value chains from different perspectives and internalising this awareness. With ongoing personal dialogue, the commonalities can be identified and analysed, to then be used as the foundation for future collective impact. Invest in knowledge of each other's ecosystems, objectives, and sub-objectives in order to be aware of them, understand them and take advantage of them. Without this, the triple helix remains nothing more than a buzz expression. It is important not only to identify the opportunities for cooperation, but also to experience the limits of cooperation and learn to deal with them within the framework of the individual elements in the individual value chains. Approaching each other's worlds this way reveals a broader context and broader intersection of interests, and makes regional innovation and research policy more than simply a sum of individual projects in isolation. The current Provincial Brightlands Campus Policy including its relations to small and

medium sized companies, is a good example of this kind of movement, and is producing demonstrably impressive results.

Today, meeting occasionally in steering groups and working committees, as was promoted at the European level in the 1990s is no longer sufficient. I am happy to say that the Netherlands offers fertile soil for this kind of joint reflection and searching for intersections and patterns of cooperation. Our native culture of consensus and cooperation provides an ideal institutional framework.

The conceptual principles behind the inclusive society, as well as the circular economy, and cross-cultural and cross-sectoral approaches with their focus on the future, sustainability, diversity and cross-connections, are extremely compatible with such a framework. This will become even more important as the open innovation ecosystem and learning lab principle, in which creativity and connectivity are key, expand into more product and service-oriented domains, where the dividing line between the two (products and services) continues to blur in a process that has been underway for quite some time. If we look at today's automobile as a computer on wheels, a product of an Industry 4.0 approach (perhaps in combination with artificial intelligence-driven production systems), powered by an electric or hydrogen engine, and with its use tied to a plethora of environments (both physical and virtual) through tech applications, we are looking at the product of a drastically changed automotive industry, and a drastically changed sphere of action and experience. Old professions are disappearing, as new professions and disciplines emerge. Learning curves and product life cycles are becoming shorter and steeper.

Resting on our laurels is not an option for regional economic policy. Rather, we need to be permanently on the lookout for new knowledge, advancements and possibilities both within the region and outside it. Given that in many cases 99.9 per cent of all new knowledge and development happens outside of your own organisation (even a big organisation) is extremely advisable to keep your radar tuned as broadly as possible. Secondly, it's important to pick up on your radar's signals and do something with them – deliberately and selectively. That's not something that happens by itself. As a next step to this awareness, the process has to be organised and structured.

That requires new disciplines and a new active approach. Universities and multinationals have a head start here over the public sector, including regional authorities. Luckily, we are catching up, thanks in no small part to the initiative and support of the European Commission in the past decades. The Commission's research, innovation and cohesion policies have made international partnerships accessible and attractive for all parties, including governmental bodies. Each of the triple helix partners will be influenced by new information in its own way, so a constant fine-tuning of the relational and material positions by the triple helix partners in cooperative relationships seems to be extremely important for retaining the added value of the connectivity.

Contradictions

One of the most important challenges we face is resolving or drastically reducing contradictions: globalization versus rising protectionism and nationalism, central versus autonomous in regional innovation policy, embedding rigid strategic frameworks versus maximum flexibility with alternating goals and dots on the horizon. Whatever choices are made, certain components may have a relatively limited shelf life. I am of the opinion that setting things in stone is becoming less and less of an option, and former certainties are now much more readily open to discussion than they were in the past, because of the emergence of new contradictions that, when solved, present enticing perspectives on the other side. We will have to get used to flexible strategies, even if this sounds like a "contradictio in terminis".

One-size-fits-all solutions, positions and attitudes increasingly raise questions. The support offered, particularly by the European Commission, offers a lot of potential at the policy and process level. All too often, this is seen as a one-size-fits-all straitjacket, particularly as you move east (but not only) within the European Union. This is understandable; we have to keep sight of the cultural, economic, financial and institutional diversity of the Member States and regions. It is true that the S3 policy model contains a kind of implicit institutional and cultural dimension, easier to adapt on one region than in another. On the other hand, it is the responsibility of these stakeholders to analyse the facilities offered in the context of their own territories and take the appropriate action. The principle of subsidiarity, I believe, offers sufficient flexibility to adapt to specific situations.

Europe, and accordingly the Member States (and by extension the regions and cities) face enormous challenges. The parties that can internalise something of a multi-track policy the fastest and most effectively have the best chances of success economically. I don't agree with the pessimists who say that nothing substantial can ever emerge from a limited basis. There are certainly counter-examples. Cannes became an icon of the cinema world after the decision to create artificial beaches, and Las Vegas arose from the empty desert to become the world gambling capital. I concede that the stronger the foundation, the better the chances of success. And more to the point, success attracts success, and that gives rise to strong acceleration mechanisms. That is likely one of the causes that makes it difficult to reduce regional differences. Here, the comparative advantage reduction theory seems to hold up. In this context, it means that financially supporting an economically strong region often has a greater impact than supporting a weaker region, because a stronger region generally has more assets as well as more experience with optimising processes than a weaker one. After all, there must be a reason why a strong region is strong. Obviously the strong region will advance faster, ultimately increasing the gap between the stronger and the weaker region. Over time, this effect can be mitigated or partially reversed by counter-effects, such as saturation, congestion (as in Antwerp in Belgium, or the Randstad urban conglomeration in the Netherlands), or the law of the "handicap of the head start". So there is still hope for many regions. In many if not most cases, the weaker has no need to play the victim. It does happen, however, certainly on sub-aspects like mining damage in Limburg or subsistence caused by natural gas extraction in Groningen.

To sum up, I am very sure that the endogenous development potential of regions can be influenced to a large degree by choices made and choices to be made, the capacity to capitalise on opportunities, the decision to combine strengths, and the will to go beyond borders of all kinds, including geographic. All this demands learning about the actual elements of each other's value chains and establishing realistic, demand-based partnerships. Seeming contradictions can be surmounted by making serious attempts to redefine the relevant aspects in a different context and/or by using the appropriate tools available to the triple helix partners, such as TRIZ in industry, which are designed to reduce and resolve conflicts and friction. Of course, TRIZ was

developed for a tech environment, but it is a tool that has been adapted for applications in a process and management environment as well.

Limburg

Beyond the success factors described above, the most important aspect of success may well be the economic and cultural-historical foundation. Building on the essential elements of this foundation by adjusting to changing circumstances and times with a healthy inclination towards innovation is the ideal environment in which to ensure a successful future. This is true everywhere, and Limburg has never been an exception. After a severe crisis caused by the closure of 13 coal mines between 1966 and 1974, with the loss of nearly 100,000 jobs (direct and indirect), Limburg under the provincial government's direction bundled its strengths together into something of a forerunner of the Smart Specialization Strategy. It is not much of an exaggeration to say that this, entrepreneurial discovery process (as they now call it) was the birth of regional economic policy in the Netherlands, in which the stakeholders, including most particularly the national and regional governments and industry, came together. With the creation of what would ultimately become Maastricht University, the picture of the triple helix, including the government and industry partners joined by the knowledge institution, was complete. The establishment of the university was an enormous boost to not only Limburg as a society, but also to the province's R&D potential, a welcome addition to the industrial research underway in the province. In early 1994, working alongside the regions Halle-Dessau-Leipzig, Lorraine and Wales, the province of Limburg developed the first Regional Technology Plan (RTP) in Europe, at the request of the European commission. Limburg was the first of the regions to produce this plan, delivering it in mid-1996. At the time, I had the privilege of being the project manager, and was given the opportunity to make a longtime dream come true by building a research voucher system into the plan and initiating a pilot study for it with DSM Research. Together with development company LIOF and DSM Research, both of which played a major role in this, we successfully conducted this pilot study and developed it into an example for many regions, which continues to be used even today, both in this country and in many countries abroad. This pilot study also marked the starting point of the innovation partnership between multinational DSM and the Province of Limburg focusing on the SME segment, and that partnership

only increased in intensity. Since then, developments within the European Commission and the Province of Limburg have been running in parallel. There is now intensive communication with the Research, Innovation, and Regional Policy DGs in Brussels. The opportunities presented by the EU Research Framework Programmes and the Innovation and Cohesion Programmes are being effectively utilized. The development of the original Regional Technology Plans via RIS, RITTS and, ultimately, the Smart Specialisation Strategies (S3) was, in Limburg, developed by the present members of the Provincial Executive and implemented several years ago in the form of the Regional Technology Plan and the strategic plans that followed, up to the current implementation of the Brightlands strategy. The most intensive form of partnership between the triple helix partners with a joint financial participation of more than one billion Euro's and a 10-year strategic and operational commitment and organisational structure. An entrepreneurial discovery philosophy is a high priority, and the focus on a limited number of strengths through a professional Campus approach is a fundamental element of this philosophy. This refers primarily to the themes of Materials, Health, Food and Smart Services, as well as crossovers between them and directed interfacing with SMEs within this development, strongly supported by Maastricht University and the HEI's in Limburg. These themes are also a component of the Operational Plan for the Southern Netherlands within the framework of the cohesion policy, which plan connects up with the Europe 2020 objectives. This is a guarantee that the regional-national and European policies will follow the same lines. The Brightlands and S3 philosophies are also extremely compatible. A number of other contributions in this volume address the specific elements of these two strategies in more detail elsewhere.

The stronger and more innovative a region becomes, the more possibilities it offers for European Research Programmes. Limburg has promoted taking advantage of the options under the 2nd Framework Programme for SMEs, starting with the external agency MHP of 1991/92. Looking at the growth in the present use of the Horizon 2020 programme, we see steady growth. This reinforces the hypothesis that the cohesion policy can strengthen a region, putting it in a better position to take advantage of the opportunities of the European Research Programme. Having said that, I still feel that looking at the various underlying assumptions of the regional policy and the research and

innovation policy, we should be striving for greater synergy between these EU facilities. They are still being seen and used far too much in isolation. This is something of a shared responsibility of all involved, certainly not one of just the EU.

Cross-border experiences

The Province of Limburg is a border province. This has its advantages and its disadvantages. The advantages should be clear, issues like economies of scale, complementary possibilities, attractiveness etc. However, it presents just as many difficulties.

These are mainly to do with legislation and regulations, peripheral location within our own Member State, cultural differences with the neighbours in Germany and Belgium, and a plethora of other factors. None of them can be solved simply by putting out a brochure on “Doing business with the neighbours: do’s and don’ts”. The visible differences are just the tip of the iceberg. The invisible part, below the waterline as it were, has taken shape over a very long time, centuries even. It is how people think and act, what they pay attention to, and perhaps more than anything else, the experiences they have amassed in their own countries and regions over a lifetime of being themselves. We know from experience that building the trust of partners on the other side of the border is critical, and that this is a process that takes a lot of time. Trust is something you have to earn. Sitting down at the table and figuring out a lowest common denominator might work now and then, particularly if the need for cooperation is a matter of urgency and necessity, but in general this is a difficult approach or at least not naturally. The European Commission has long been making efforts to boost cross-border cooperation with facilities and programmes like the Interreg programmes. Limburg participates in many of these; they are cross-border programmes with a content side and a financial side. With our years of Interreg experience, Limburg can say that in general the results are extremely positive; we have achieved many cross-border successes with them in recent years although the aggregated results are not always visible enough. The lack of a robust collective memory is also not very helpful. The availability of financial facilities from the EU has been and remains one of the most important, if not the most important, drivers of cooperation.

Several years ago, the question arose of whether we might be able to build on the Interreg strategy in the Euroregions and create a functional region – a region broadly corresponding to the relevant Interreg regions including adjacent (20%) areas. This functional region was dubbed TTR-ELAt: the Technological Top Region Eindhoven-Leuven-Aachen triangle. Our underlying goal was to strengthen the economic cooperation in a border region that administratively does not exist as such, but nonetheless has boundless potential for productive partnerships based on the endogenous development opportunities and the strength of the local stakeholders. The idea was to first define policy and activities with our partners (on both sides of the border) and then look for ways to finance them instead of the other way around (look for projects because of the availability of money) In that sense, Euroregions/ Interreg and TTR-ELAt were two sides of the same coin, pursuing added value creation from two different angles. The results of this strategy were analysed in detail and described by the OECD in Paris (Regions and Innovation, collaborating across borders, OECD 2013). The bottom line was: The TTR-ELAt is one of the strongest border regions in Europe. For further conclusions, I refer to that publication.

Because the experiences may be interesting for other border regions, however, I will share a number of personal findings from the process here.

- The TTR-ELAt region was not previously considered as a homogeneous entity.
We refer to it as a functional region. It consists of 6 sub-regions in three Member States with completely separate administrative, political and legal systems, both at the national and sub-regional levels within TTR-ELAt. Of course, we knew this from the beginning and a lot of effort was made to achieve consensus among the stakeholders. This was not easy, for a variety of reasons. Risk avoidance is an issue inherent to the natural position of many stakeholders. Normally, in cross-border discussions on project implementation while spending Interreg money (or any funding package) this issue is less important because the project is the focus of attention and the money is available already in many cases. Building a functional region based on the willingness to cooperate, a medium to long-term goal, starting neither from the available money side nor from a project side, i.e. the opposite of the standard Interreg approach, is completely different

and has more risks. Here, representatives of the sub-regions had to take responsibility for joint political actions and policies with results that were not visible immediately.

The Province of Limburg took the lead in this process and managed to organise political consensus both in general and for a jointly produced action plan for 2011-2013.

The important lesson to take away from all this is not to underestimate the responsibilities of stakeholders:

- From the beginning, in all discussions there was a basic imbalance between the sub regions because the sector structures are different, as are the strengths of decision making power of the administrative and political levels, the research and other capacities, and the financial possibilities. In practice this meant that a lot of balancing efforts had to be made to reach a common understanding, and also led to the realisation that not every sub-region had to play the same role. An important lesson was that differentiation within a common approach is extremely important for the whole to survive and reach common goals. An interesting question is how to deal with the most extreme components of the cooperation system: the strongest and the weakest partner. In practice both sides have to compromise a bit, the weaker needs to swallow some bitter pills and try to improve, while the stronger partner should not play this card at every opportunity.
- Managing expectations is another issue that should not be underestimated. Process versus project-related orientations proved to be a relevant issue. It took quite some effort to reach the consensus that both elements are correlated and do not compete with each other. For instance, at the end of the day reaching political agreement is needed to steer financial flows in order to finance projects. This process took some time, and project-oriented stakeholders got impatient. Lesson: different stakeholders with different backgrounds should internalise the background of their partners, in order to understand their frameworks of thinking, based on different value chains. This is especially important while working with stakeholders coming from different parts of the triple helix.
- Defining goal and mission, and particularly making sure that these are shared, including in operational terms, is one of the most important actions to take. An LOI is easily produced and terms of reference are easy enough

to put down on paper, but the meaning and impact of expressions can and will be different for all actors involved. This should be monitored on a permanent basis. Triple helix partners have their own interpretation regarding cooperation. Within a cross-border dimension the cultural differences contribute to this point of attention. In this respect, it is highly advisable to study authors like Hofstede or Trompenaars in this respect, who deal with the topic of cultural differences. Cultural differences is not a simple issue. It sets barriers and opens windows of expectations on surprisingly and/or not expected moments during the whole process. It makes sense to run a cultural differences workshop, preferably at the beginning of a cooperation process but also during the process.

- Beyond cultural differences, differences in approaches and experiences are equally important, especially at the implementation level. It makes sense not to expect from people/organisations to change successful approaches they are practicing in their sub regions. Lesson: accept those differences and diversities, and be selective with projects and approaches that are uniform for all stakeholders in sub-regions (the one-size-fits-all approach already discussed).

Be aware of the fact that pushing projects and schemes in a uniform model based on consensus of all sub-regions in reality means that you give everyone a veto. In my experience it is easier to create a shell or umbrella based on consensus and use the various successful approaches of sub regions to fill the system.

We had a lot of discussions regarding the issue of the scope of cooperation. What should be the end result? Concrete activities, yes, but what kind of activities? Network activities. New research centres, SME partnerships? Should one choose, or should there be consensus moving in one direction? We opted for a differentiated approach.

- One of the biggest decisions was the fact that we used a kind of parallel system. A number of activities are carried out with all partners but a number of activities are only supported by a limited number of partners (2 or 3) according to specific topics. We now believe that a powerful TTR-ELAt can grow fastest by launching as many bilateral and trilateral projects as possible. This streamlines the decision-making process as compared to a process taking all partners into account.

- Cooperating does not mean giving up independence. We made the agreement that every sub-region would maintain its own policy. At the end of the day, they are part of their own regional and national systems, each with its own priorities. European national and regional priorities should be in line with each other to be most effective. This goes for every sub-region involved, meaning that every sub-region an individual strategy linked to the national one. This has to be taken into consideration.
- The cross-border cooperation is an extra dimension. It has to earn its place between different policy lines. The European Commission's Smart Specialisation Strategy (S3) approach, a prerequisite for receiving Structural Funds financial support as from 2014, opens the door for this discussion, the cross-border dimension in regional policy. Cooperating as such and especially cross-border cooperation puts stakeholders on a learning curve that delivers exactly the experiences that form the basis of an S3 approach.
- One critical decision early on in the TTR-ELAt was hiring BAK Basel Economics in Switzerland as a professional and impartial partner to provide the necessary background information on statistics and statistical interpretation. They produced a kind of visualised evidence based technology picture as input for discussion. This is a non-political picture that was very helpful in the discussions, especially in helping the stronger and weaker sub-regions with their profiling. The strongest is not the strongest in every respect, and the weaker is stronger than expected in some areas. The images helped to present a balanced picture.
- Starting a process not from the money side but from a common goal automatically requires a look back exercise.

One of my most important observations is that behind every successful project one can identify a person / problem owner / project champion. You need initiators, but you also need persons to bridge the gap between policy definition and the start of the implementation level. For this task we started to work with business developers. They provide support in the initial project idea stage and bring it to a stage where problem owners can start to implement. This is an essential task, not just in general but particularly in cross-border situations. Not having them is, for example, a big reason why the output of network activities remains limited. While it may be true that the existing intermediary structure plays this role, it requires an in-depth

analysis of the concrete activities and qualifications of the co-operators of the intermediaries. The same goes for private consultants. Besides, governments need business developers too. They play an important role in the acquisition of cooperation opportunities (both at home and in cross-border situations), manage networks, collect information and communicate with other triple helix representatives with awareness of different positions and value chains. They chase opportunities and deal contradictions.

People refer to the "valley of death" between research and valorisation and implementation, but I think there is also a valley of death between policymaking and implementation. Filling this gap is another thing that business developers are excellently suited for.

The basic philosophy underlying the TTR-ELAt, namely that a bundling of strengths in this part of Western Europe with the object of competing on the world stage, is still a valid one. It has resulted in multiple projects in which all partners participated. We have also learned some lessons, like mentioned before; effectiveness increases the more you strive not only for unanimous participation in projects, but when you achieve a sort of "coalition of the willing" on individual proposals and projects. Bilateral and trilateral partnerships in specific areas that may be less interesting to other partners proved to be an extremely effective mechanism. Many of these types of projects have, in the end, added up to create a tremendous impetus within the TTR-ELAt area.

An additional experience gained is that drawing new, strict borders for cross-border functional regions is not very effective. More interesting is defining dynamic borders, to bring focus while not excluding potentially serious partners just outside the area that may wish to participate; it is certainly counterproductive to exclude such partners, even if they present a risk of financing or co-financing issues.

In my opinion, Limburg and its neighbour regions should be striving as much as possible for an economic and innovative ecosystem pursuing open innovation in a living lab model and the right attitude in a functional context. This means giving at least as much attention to the results of this strategy as to the geographic boundaries of the cooperation area. When I look at the progress

in recent years, I see that we are well on the way to getting there together. I see more and more projects emerging not by design but from frequent, intensive personal exchanges of ideas with direct project partners and potential partners. Combining complementary elements creates added value at activity and project levels. A cross-border functional region is never complete. It's like a living organism.

Looking at the subject areas, we see participation in networks and action programmes with partners outside the defined area of the cross-border region, for example in Health (the Heidelberg-Maastricht-Leuven-Cambridge-Copenhagen axis) and in Chemistry (at European level, with 16 European regions). For several years now, we have also been partnering on projects with China and Azerbaijan. In these projects, the cross-border experiences we have gained at home are proving extremely useful. We as a regional government are also actively engaged with learning curves, and our partnerships with countries outside the European union gives us enormous experience here. With our partners in China and Azerbaijan, we have been able to turn projects into successes in fields like health, agro-food, tourism, education, chemistry and the material sciences, and aviation in a very short amount of time. In order to increase the level of professionalism in our partnerships, we have set up the Netherlands Azerbaijan Business Hub and a Brightlands China Center. To put it mildly, there is a lot going on, but there is a "method to the madness". There is less and less of a place for innovation tourism. Considering that with the low-cost carriers, you can already travel and gain experience all over Europe for under a hundred euros, and soon intercontinental flights may be available for hardly more than that, we would be shooting ourselves in the foot if we defined our Euroregion borders all too rigidly and deemed everything outside it a no-go zone. Here once again, it is the European Commission supporting this movement, but whether the triple helix partners in the region take advantage of this will depend on awareness. Fortunately, I can say that this awareness is there in my region.

My hope is that in a new S3 period after 2020, we can highlight the international dimension in the policy, which could use a serious boost. The S3 does combine insights at the Member State level, but that doesn't automatically intensify the cooperation within the Member States – although it definitely has

for Limburg, the Sub S3 section for the South of the Netherlands. Cooperation with the three other S3 subregions in the Netherlands is not, however, an explicit part of the programme. If you consider the S3 programmes at Member State level to be the sum of the sub-S3 exercises, then you see a Europe made up of many S3 islands. What Europe is promoting within the S3 programmes – cooperation on selected strengths – it should also be promoting at the European level by promoting connections between these islands. While it's great that there is a European Regional Competitiveness Index to give us the picture at island level, what would really provide tremendous added value would be on the one hand a push for aggregate results and on the other facilitating concrete forms of inter-S3 cooperation to tap into the potential strength of Europe and our associated partners. This could lead to more Airbus-type European projects and products, to give just one example of the potential benefits. By its nature, European research policy has a head start on regional policy in this area, but more intensive cooperation between the two would produce exciting synergy without detracting from the diversity in underlying assumptions and objectives. That's why I advocate a fully defined connectivity that goes beyond dissemination and awareness-raising platform activities. Europe's competitiveness must be much greater than the sum of that of its regions.

Bak Basel in Switzerland diagrams this as follows:



To me, it would seem to make sense to develop new tools and implementation mechanisms to be above all simple, flexible, and non-bureaucratic, comparable with the underlying voucher philosophy. If two or three regions wish to investigate and implement partnership modalities, this should be supported

with a tailor-made facility. Interreg Europe-like programmes are too platform-based for this purpose, because of their (process) learning objective with a relatively high number of partners. The TTR-ELAt experiments have taught us that establishing many bilateral and trilateral partnerships devoted to specific projects and products is much more effective than getting all partners together into something that often proves to be an long lasting development process. I'm convinced that this holds true at the European level as well, at least within the specific objectives of the desired output, although arguably not for all European focus areas.

I would like to conclude with the following observations.

- Limburg has seen extremely robust development in recent years. This has been the result of the contributions of many, and in no small part that of the Province as a proponent of the triple helix partnership. And that contribution has been decades in the making, from the Restructuring Policy, which I referred to as the original entrepreneurial discovery process, through the RTP, up to today's S3 approach. This and other contributions have laid the foundation for robust participation in research programmes via KP2 to Horizon 2020.
- Limburg lies in the heart of a tremendously strong and competitive area central in the Northwestern Europe Pentagon. This potential can be further enhanced by expansion into, for example, our neighbouring regions (under strict conditions). This means keeping a number of things in mind, such as: don't be too rigid about geographic boundaries in supplementing the Interreg/Euroregion, work closely with relevant commercial, knowledge-based and political partners within and outside the functional area, structure the cooperation living lab style as an organic mechanism, actively seek out opportunities and recognize the uniqueness of partners in other regions, including the fact that in addition to Limburg our partners have and must be able to choose other partners. We do not have exclusivity; in the best case we can say we have a preferred position, if the subject matter and a shared view to the future makes that logical and natural.
- Keep an eye out for opportunities in Europe and elsewhere. Imaginary boundaries are just that – imaginary; in the implementation one can run into obstacles (both known and unknown). These are valuable moments on the learning curve. Not trying is not learning. Don't forget that others are

on the same learning curve. The trick is finding the right moments to learn from each other.

- Always put enough emphasis on organising the implementation, alongside policy and strategy-making. Without a good implementation structure, policy will never be converted into end users/beneficiaries/initiators. The role of business developers, including those within government, is vital here. Avoid policy for library. A perfect policy or strategy without implementation will die a beautiful death.
- Be realistic. Think along the Simon Sinek Golden Circle: "Why-what-how". Also use the "want-can-dare" triangle and finally, remember: "think it through, but don't forget to do!" I believe that a well-thought-out answer to the "why" question is the most important first step.
- Understand what drives your partners, and be aware of the different backgrounds, value chains and expectations under which they operate. This presents opportunities, but also reveals limitations.
- Think in terms of connectivity and openness as the opposite of navel-staring. Even with an advanced S3 structure, there can be a risk of the sum of all S3s becoming nothing more than a collection of islands. Connectivity within and between S3s must be the goal, with S3 representing a philosophy and approach rather than simply being the European model example.
- Addressing contradictions quickly, and either eliminating them or making them manageable in seeking and defining added value will, to a large degree, determine the success of development projects. Identifying contradictions at the start of the cooperation process can save a lot of time at later stages.
- New tools must be developed and offered to support these processes. Ideally, the experiences of all triple helix partners should serve as input in the development of these tools.
- Look for mechanisms to optimize connectivity; bring worlds together: innovation and research policy; regional, national and European policy; knowledge, industry and education plus research policy; etc. The fact that protectionism is not the dominant paradigm represents an enormous challenge. Whether we like it or not, regions compete with each other, just like companies, and in the end the best and the fastest win. This is not the goal in itself, but it serves the prosperity and welfare of the inhabitants of

a region. As these inhabitants continue the trend of moving increasingly into cities, the importance of urbanization will increase. While throughout this article I have referred to regions, I am of course aware of the powerful dynamics that cities develop, and like everywhere else in Limburg this dynamic is essential for bringing the developments around initiatives like the Brightlands Campuses to fruition. Cities and the regions are strategic partners, each with their own responsibilities and facilities.

- I will finish with what I believe should be our motto: “connectivity on all levels”. It’s time for a kind of a virtual reality tool for mapping out and implementing future policy with a sort of new and innovative” 4D policy implementation printing-like” capability.



Prof. dr. Luc Soete

Former Rector Magnificus Maastricht University

Glocal integration in Limburg and the Euregion

Since arriving in Maastricht and Limburg in August 1986, I have been struck – I nearly wrote imprinted –by the significance of borders. The physical borders around my new working place and home with this unique possibility to go for a walk, a run or a bike ride, crossing national borders. The natural borders of this beautiful region and city where I had landed, with the river Maas cutting across the city in an opposite left and right bank fashion (at least to the locals) and cutting further north two similar named provinces with a common culture and identity but belonging to two different nations. The language borders with the frustrations and need to be multi-lingual so as to be able to communicate not just with people around me but also in the close surrounding neighbourhood. And of course, the complexity of day-to-day life with different regional, national and cross-border public transport systems; cross-border barriers to the access to local “foreign” media; the high roaming communication costs being now and then high jacked by foreign telecom operators; etc.

From the intellectual, globalised environment I had experienced, having lived and worked most of my working life in an English speaking environment with “global” friends and colleagues, the children going to English speaking schools, the move to Maastricht presented, certainly viewed in retrospect, quite a challenging adjustment. But, certainly viewed in retrospect I, and I would be tempted to argue, also the rest of my family benefited from this “glocalization”:

from the complex adjustment to new, sometimes radically different local conditions, we had been used to.

Such a process of “glocal” adjustment depends crucially on the openness and inclusiveness of the locals and in particular, apart from those colleagues at work, civil servants and administrators at both local city and provincial level. Jean Severijns was one of those administrators with whom I could exchange many views on how cross-border integration was a fascinating challenge not just for individual citizens but also for foreign employers and employees, students, expats and their families. We got to know each other well over all those years and I can only say that Jean greatly contributed to my successful integration in Limburg. I benefited greatly from his knowledge on the Euregion Maas-Rhine and in particular his extended network in both the Dutch Limburg area and the Aachen German part of the Euregion. There were many opportunities for exchanging views, for discussing local, cross-border regional growth opportunities, and for designing and debating outcomes of research proposals for amongst others the European Union, for submitting funding proposals to EFRO and Interreg programs. Many of these projects were carried out within the research institute MERIT which had been set up with the financial support and help of the provincial authorities, and which I directed from its birth in 1988 till 2012, and which is now a well established research institute, part of the United Nations University: UNU-MERIT.

With Jean’s help, Limburg as Dutch region, and more broadly the Euregion Maas-Rhine, became one of those examples, one could even say best-practice example for the development of regional research and innovation policy in Europe and implementing a “smart specialisation” strategy. The latest development in which I could fortunately participate directly as member of the Executive Board of Maastricht University was the so-called “knowledge axis” initiative, in a certain way the putting into practice of Limburg’s leading regional research and innovation development role, whereby the provincial authorities agreed to fund with the Maastricht university and the academic medical hospital as matching partners, four local research and innovation campuses across Limburg, providing a sound financial basis for new, local so-called “triple helix” interactions between academic, business research and innovation activities covering the full range of TRLs (the so-called “technology

readiness levels”). These initiatives while still very much based on local regional triple helix networks, have been in some specific areas broadened to include also other sides of the Euregion, such as in the case of the Aachen Maastricht Institute of Biobased Materials (AMIBM) set up on the Chemelot campus, and the collaboration with the OU and the RWTH in the case of the Smart Services campus in Heerlen.

Personally, I think much more could be done. Little e.g. has been done so far in bringing together initiatives taken in the Belgian Limburg province (such as the SALK and LIRES initiatives with amongst others the creation of the Corda Campus, EnergyVille and a number of other regional innovation incubator initiatives) with those in Dutch Limburg. And of course, the collaboration between the universities in the Euregion has made little progress over the last thirty years.

Maybe it would be time to switch regional development policy away from further attempts at creating new local research hotspots – there is now the risk of too much fragmentation – to a broader, more “open” notion of regional development more based on inclusiveness. Geographical inclusiveness, including for instance more systematically surrounding regions, similar to what has been done within the framework of Brainport Network in relation to include within Brainport Eindhoven, the border regions of north, middle and south Limburg, but as yet not broadened yet to include both Belgian Limburg and the German border area. The definition of a region should in other words no longer be just confined to an administrative region but should become more based on nearby proximity and intensity in research, trade and mobility interactions. Content inclusiveness in terms of what Ron Boschma calls related variety in his critique of smart specialisation strategies turning into “closed” regional development patterns. So far the interaction e.g. between the Health and Chemelot Brightland campuses works well because it leads to a clear pattern of “related variety” research specialisation. And finally and too much ignored so far social inclusiveness. How to translate the advantages of international trade, exchange and mobility into local advantages for all citizens. It is the main current “globalization challenge”¹.

¹ See e.g. Alexander Betts’ TED lecture on Why Brexit happened – and what to do next. See <https://www.youtube.com/watch?v=dcwuBo4PvE0>

Within the context of Europe, the costs of “non-Europe” can be estimated as being relatively high for a region such as Dutch Limburg surrounded by borders. In this area, Limburg could be considered as the ideal European region to experiment with in designing policies for social inclusiveness at regional level. It is what has been missing from the European debate so far and possibly also the main reason why populist, anti-European political parties appear to be so popular in Limburg.

In short regional policy for a border region such as Limburg, should now become formulated in those terms in the future: the development of policies which squarely focus on the translation of the advantages of European or global integration, in local inclusive growth and development advantages. It is something Maastricht University has carried out as its strategy over the last 40 years: both in quantity (the growth of students beyond the national country) and quality (international reputation, research specialisation, international staff). And it is something I witnessed at the personal level in my own globalisation process in Limburg over the last 30 years.

Thanks Jean for having contributed to this.



Prof. Dr. Taco C.R. van Someren

CEO Ynnovate

From Radical Innovation Policy (RIP) to Value Innovation Policy (VIP)

Recent history: Revolution Innovation Policy (RIP) in the Old Globalized World

Innovation policies in the past decades are generally defined by hype driven cycles of cascading policies with limited bottom line results. Examples are clusters, key (enabling) technologies, open innovation, start-ups and eco-innovations. The motivation of policy makers was to repeat revolutionary high tech successes on country level (Finland model; Nokia), regional level (Silicon Valley) and individual firm level (Apple). Much less attention has been paid to equal successes of non-technological revolutions like IKEA or McDonald's. The unspoken secret desire is to create the next radical innovation or blockbuster. These are the Revolutionary or Radical Innovation Policies (RIP) hoping to create disruption. In search of the holy grail of radical or revolutionary high tech innovation, policy makers mainly tried to support the R&D and invention process itself (open innovation) or the directly linked areas such as financing (bridging the death valley issue), entrepreneurship (start-ups) and cooperation between involved parties (Triple Helix). But most innovations come otherwise like by accidental discovery or as the result of a long term process of accumulation of small and new combination of old innovations. These innovations do not need policies but entrepreneurialism.

Effectiveness

The RIP-policies have been carried out in a context of the market economy and a perceived globalized world. In this context there are three key players: the enterprises, the government and the academics. Depending on the interpretation of a market economy, the key players adopt different roles. On the one hand, in a liberal free market it is supposed that governments cannot create jobs and are very ineffective innovators. The role of government is limited to create conditions for growth and development and to provide public goods like legal system, infrastructure, police, fire service and military. The private firms are the key to innovations and know best the market needs and the academics are the basis of new knowledge or basic research outsourced by enterprises. On the other hand, in socialist forms of the market economy, markets can be created and stimulated by means of public investments in innovation. In both worlds, academics analyse structure, behaviour and performance of the societal economic system leading to policy proposals. Examples of the former are Anglo Saxon countries like USA and UK and illustrations of the latter are Singapore and to a certain extent France and many mixed forms appear like in Germany or The Netherlands.

But even Anglo Saxon countries like USA do not hesitate a second to save once extremely profitable investment banks from bankruptcy by billions dollars of tax money.

At the same time, in whatever form of the market economy, the key players created a globalized market system. The globalized world is predominantly characterized by outsourcing activities of the value chain to emerging low cost countries in order to exploit economies of scale and cheap labour. This low cost – high volume model supported the efficiency of existing business models but it hindered the effectiveness of creating new business models. Moreover, in case of China, the outsourcing created new competitors like Huawei (smart phones) and Yingli (solar cells) who are increasingly became innovative and some went bankrupt.

In the globalized system, the Triple Helix is an attempt to link the private, public and academic sector to increase the innovation potential and to address the effectiveness of innovation output. But in practice, these three worlds of the

Platin Tower (the entrepreneurs, innovative enterprises), the Concrete Tower (the regulators and policy makers with fixed inflexible regulations) and the Ivory Tower (the knowledge workers in a theoretical world) all have different competences and aims: earning money vs. increasing employment vs. writing academic publications and are very hard to synthesize and to align in the same direction. Effectiveness is low in most cases. In case of Uber and Airbnb, the policy makers wrestle with existing labour laws, regulations and tax income regimes favouring current taxi and hotel businesses.

Furthermore, in reality, the source of successful innovations is manifold. Sometimes individual creative entrepreneurs, individual firms, cooperative forms of organizations are at the basis of innovations successes independent of policies. Sometimes governmental policies and programs are the kick off momentum of (breakthrough) innovation. For example, Elon Musk received \$5 billion federal money to support the initial and most risky phase of a possible growth cycle of Tesla, Space X and Solar City without any performance obligation. Most small, radical and revolutionary innovations are born deliberately or accidentally by creative individual entrepreneurs, innovative organizations or public organization. Innovation in the globalized world is often a gamble: some individuals get very rich but most lose.

Therefore, bottom line, the effectiveness of the innovation process in the globalized world is rather low and the definition of the market economy becomes very blurred. In fact, due to the bottlenecks, the future developments of the globalised world and the entrepreneurial dynamism in emerging countries, we are at the brink of a new world order with profound consequences for the RIP -system of innovation.

Bottleneck

The current globalized world economy and its dominant innovation policies are confronted with many bottlenecks (see literature van Someren below). First, the focus on breakthrough and revolutionary innovations dismisses the value of the accumulation of small innovations connected with entrepreneurship of which innovative entrepreneurship is only a part. Only in an entrepreneurial world the next step to a stream of (radical) innovations is increased. Second, the focus on technologies denies the greater relevance of creating the context

for innovation within and between organizations. Thirdly, instead of trying to increase the technical innovation output, the by far more relevant issue is the ability to create a new growth cycle and create value conversion in the short and long term (Dynamic Value Creation). For example, Unilever focused on creating long term value by taking into account stakeholders value and sustainability goals besides profits but is under attack of major shareholders demanding short term financial value. Fourthly, instead of the focus on R&D, inventions, technologies, start-ups and scale-ups, a reorientation towards the whole value chain or value circle (sustainable circular economy) is necessary thereby including material assurance, sustainable transferring between value circle participants. Fifthly, a rethink of the classical dichotomy between private and public organizations is necessary in order to get an answer to upcoming new organizational forms leading to a symbiosis between enterprises and governmental organizations. Sixth, policies often miss their innovation target or even hinder innovations and changing policies often frustrate investors and innovators.

These and many other bottlenecks and the fundamental change of the economic foundation of the market economy including innovation due to the rise of new economies with new rules are tackled by the theory of Strategic Innovation Theory (SIT; see literature below).

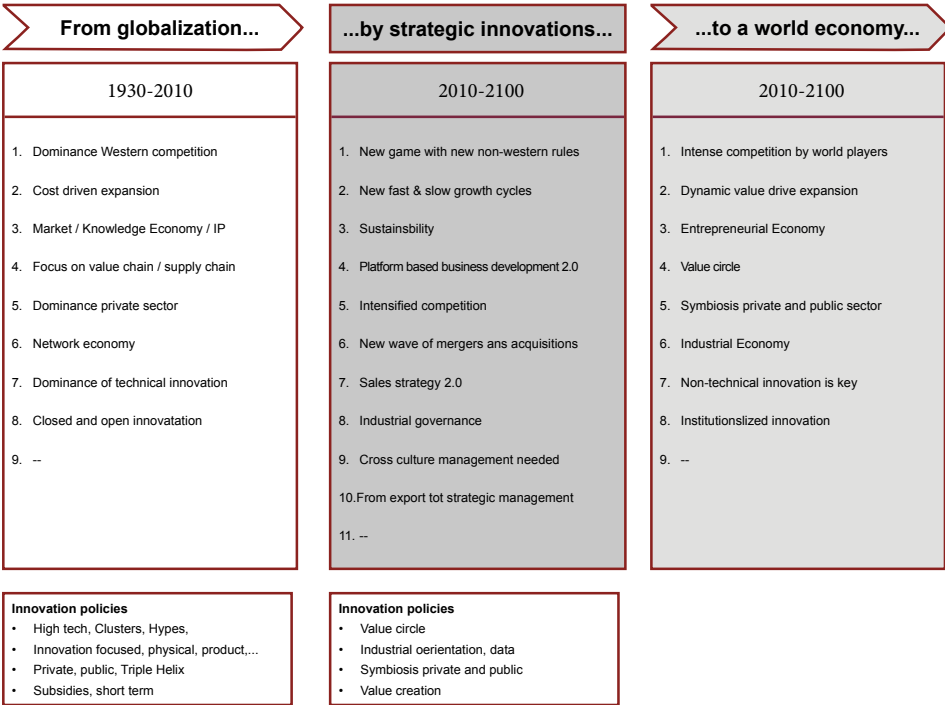
Success

One of the recent successes in the home country of Jean (The Netherlands) is wind parks at sea. Dutch wind mill manufacturers together with government were able to reduce kWh cost level to 7 euro cents which is more or less equal to land production. In this case, the government took the lead by e.g. choosing locations, organizing permits and ensured private parties long term business opportunities. However, despite the new reliable role of Dutch government, subsidies are still at the core of renewables but they also were substantial in fossil energy era.

Priority future policy: Value Innovation Policy (VIP) in the New World Economy

The globalized world order is currently at its zenith and non-Western regions are trying to replace it by a new world order leading to a new world economy

order. The world economy replaces western dominated globalization era as shown in the figure below.



Source based on van Someren & van Someren, Inno China, 2013, fig 4.6. p. 124
van Someren, 2015, Global Magazine, Fenedex, april 2015. Exporteren wordt strategisch Innoveren

Globalization is characterized by Western firms outsourcing low cost and/or low innovative value business activities with aim to lower costs resulting in world circumventing long value chains. Western firms are in the driver seat. Western governments are one of the main actors in the liberal market economy and push forward western norms and value supported by international institutions like GATT, IMF and World Bank.

The New World Economy (van Someren, 2012. 2015) is featured by e.g. many new local, regional or cross border economies offering innovative products and services. Non-western enterprises will increasingly dominate and introduce new brands and innovative products, services and organizational forms. Circular economy, including sustainable regional economies, will partly substitute the linear value chains. Furthermore, a symbiosis between private and public organizations changes the core principle of the free market economy. This symbiosis is the next level of the socialist forms of market economy

as encountered in the globalized world. Non-Western norms and values, culture and behaviour gain weight and relevance in daily business operations supported by new created institutions like the ADB (Asian Development Bank). New powerhouses will increasingly appear in market and many of them will be directly or indirectly supported by governments. China is a typical illustration of a key player in the new world economy.

In this context of the world economy, classical RIP innovation policies will be replaced by value innovation policies (VIP). VIP policies aim at the whole value circle and on domination of the new world order by striving for market power. VIP policies complements the battle field of RIP technical innovation policies by means of including industrial policies. Classic western innovation policies based on subsidies, start up financing, domination of high tech, cluster policies will be replaced by industrial power play embedding innovation policies. VIP policies focus on creating value instead of stimulating technology. Strategic innovations supported by VIP policies are necessary to become part of the new world economy. In the world economy a mix of individual creative entrepreneurs, innovative enterprises and public driven innovations will remain. But the symbiosis between private and public organizations and the scope of activities will be broadened resulting in a new form of the market economy. In the world economy, innovative enterprises are not the end goal but the means to achieve larger societal and governmental future visions. The Chinese government is using strategic innovations to create this new world order in which China will ultimately be the dominant power.

International dimension and cross border

The main driver behind the new world economy is at the moment predominantly China. China supports value circle power play by vertical integration of natural resources, R&D and smart manufacturing. This strategy is supported by deliberately creating an unequal playing field in their home market making it Old School Global Western enterprises difficult to compete with Chinese competitors. Chinese innovation policies are combined with industrial policies and market power play on an international scale. Moreover, a symbiosis between public and private firms destroys both the Western free market model as well as socialist market models. With regard to cross border issue, the Chinese new Silk Road is an illustration

of exploiting the symbiosis between private and public organizations to create the new world economy. Here, innovation policies are connected with cooperation with interested parties and binding new regions along the Silk road to increasing competitiveness and getting access to European markets. Innovation policies are part of a holistic plan of bringing China at the top of future world economy.

Province Limburg

Like most regional European governments, the Province of Limburg followed and follows classical RIP innovation policies. One of the examples is the creation of clusters and campuses in the chemicals and new materials, agro food- logistics, Health including medical industries and Smart services. In each of these clusters, except the agro food cluster, dominant organizations like DSM are the leading parties and potential enablers of SMEs. Still these clusters are under construction and it remains to be seen how these Triple Helixes will perform.

A few years ago, the Province of Limburg made an attempt to formulate a cross border policy by integrating the Province of Limburg with the eastern regions of Belgium and the German state North Rhine-Westphalia. The aim of this three-country cross border cooperation was to establish a Technological Top Region (TTR) by combining regional presence of knowledge (TTR region represented one of highest number of patents in EU) and regional entrepreneurship stimulated by the six (regional) governments. Despite the high potential for innovation, the cross border innovation was hindered by a lack of long term willingness of several stakeholders ,national laws and regulations limiting cross border cooperation which were very hard and very slow to eliminate (e.g. different labour laws hindering cross border contracting) and entrepreneurs not used to think cross border.

Personal note

Jean is one of the very few governmental representatives who understands the world of the entrepreneurs, profit seeking private firms and academic knowledge workers. Jean understands the real economy and the limits of policy makers and the role of the civil servant. It is no surprise that Jean is the real father of the successful Dutch voucher system stimulating innovation Dutch SMEs.

But also in international affairs, Jean was able to act and move with ease between various parties with different cultural background like a fish in the water. In fact, he was aware of the real economics in the changing world form globalization to the new world economy and the necessity of a new foundation of innovation policy.

With his feeling of humour he was able to pick up big challenges in the field of innovation and to see and communicate the necessary relativism with the aim to achieve the long term goals.

Because of his professionalism and relativism packaged by humour my relation with Jean started with hard core innovation and international development from a business angle but ended up in personal friendship. May be this is the secret of successful innovation.

Literature

The literature below elaborates on the issues addressed in the essay above: strategic innovation, business models, world economy, Dynamic Value Creation, sustainability, cross border business development, entrepreneurship, leadership and innovation policy.

Someren, T.C.R. van, 2005, Strategische Innovationen. So machen Sie Ihr Unternehmen einzigartig.", Gabler Verlag, Wiesbaden, Germany, May 2005.

Someren, T.C.R. van, 2006, Innovation stratégique: une question de leadership, Business Digest, April 2006, No. 162, p. 9-10.

Someren, T.C.R. van & Someren-Wang, Green China. Sustainable Growth in East and West, Springer Verlag, Management for Professionals, 2012.

Someren, T.C.R. van & Someren-Wang, Innovative China. Innovation Race Between East and West, Springer Verlag, Management for Professionals, 2013.

Someren, T.C.R. van, 2015, Regional Growth and Development in Russia by Strategic Innovation РЕГИОНАЛЬНЫЙ РОСТ И РАЗВИТИЕ В РОССИИ: ПУТЬ СТРАТЕГИЧЕСКИХ ИННОВАЦИЙ, Regionalistica, Tom 2, 2015, No. 1, pp. 6-22

Someren, T.C.R. van, 2015, Exporteren wordt strategisch innoveren, Globe Magazine, April 2015, No. 397, p. 38-41

Someren, T.C.R. van & Someren-Wang, S., Strategic Innovation in Russia, Springer Verlag, 2016.



Robert-Jan Smits

Director-General for Research and Innovation, European Commission

Knowledge for a Strong Europe

If there's one field in which cooperation within Europe has become stronger, more popular, and more successful in the last decade, then it's scientific research and innovation. And that's not only because of the EU Framework Programmes as a source of funding from which Dutch researchers benefit greatly. The broader European science policy – within which investment enhancement, the creation of a European Research Area (the ERA), and for the past two years also Open Science – has also contributed to this.

Let me first say something about investment. Fifteen years ago, the European heads of government agreed in Barcelona to boost this type of investment to 3% of their country's GNP. Although we've made some progress in that regard, and are now at about 2%, it's clear that we are not going to achieve the 3% target for 2020. But there are some countries that prove that it is indeed possible. Sweden, Denmark, and Austria have all now gone above the 3% level. Germany too has made significant efforts and is close to 3%. The Netherlands ought to invest a lot more in research and innovation. That would be a way for us to retain our highly desired position as an innovation leader on the European Innovation Scoreboard, and number 4 on the World Economic Forum's list of most competitive economies. The need for more investment becomes especially clear when you see what's happening in Asia. South Korea is getting close to the 5% mark. China has even increased its research and innovation budget by 22% a year, and now – just like Europe – invests around 2% of its GDP in research.

In order to get the European Ministers of Finance and Europe's central planning bureaus to realise the importance of research and innovation, the DG for Research & Innovation has been tweaking the economic models used to define fiscal policy. Did you know, for example, that the QUEST model – which economists so worship – takes hardly any account of the positive effects that research and innovation have on the long-term growth of the economy? Did you know that many economic models do not even include a phenomenon like digitisation, which is completely changing our economy and society? Incredible! And Rabobank's Director for Knowledge Management Barbara Baarsma – who is also a Crown-appointed member of the Social and Economic Council of the Netherlands – recently pointed out the shortcomings of the models applied by the Netherlands Bureau for Economic Policy Analysis. Fortunately, we've at least been able to persuade Eurostat, the EU's Statistics Office, to no longer classify expenditure on research as "costs" but as "investment". We're getting there! And in this way, we are also creating a specific follow-up to the Academy's "Value of Science" initiative.

The European Research Area, our other flagship, aims to establish an internal market for research, within which there will be no barriers to the mobility of researchers, the obstacles to cross-border cooperation between countries and researchers will be done away with, and the transfer of knowledge will run smoothly. When we look at the partnerships and exchanges between European researchers, universities, academies and funding agencies, we can see that we've achieved a great deal in the past decade.

This now provides us with the basis for really pursuing Open Science, a new approach to scientific endeavour in which Open Access to publications and to data is a central feature. Within that framework, we are working on setting up a European Open Science Cloud (a kind of safe haven for scientific data), we are promoting citizen science, and we recently released an updated version of the European Code on Research Integrity. We are also working on a review of the reward systems at universities. The Amsterdam Call for Action, adopted during the Dutch presidency, provides us with an important political framework.

With all these activities, the European Commission has made a major contribution to European research. It would be nice if that were recognised a bit

more! Jos van der Meer did that in a letter to the NRC newspaper in which he wrote: "Where research is concerned – a major driving force for our economy and prosperity – it is clear: the EU is a blessing." British researchers realise that all too well, and 90% of them voted to remain in the EU. And what about the Swiss, the Israeli and the Norwegians, who want to be part of the ERA "coûte que coûte".

And we can't talk about European research without mentioning HORIZON 2020 – at 80 billion euros the largest research and innovation programme in the world. We recently celebrated the tenth anniversary of the European Research Council (the ERC), the pearl in the crown of Horizon 2020. The fact that there are 700 ERC grantees in the Netherlands – almost 10% of the total number of ERC grants – says a lot about the quality of scientific research in the Netherlands. Calculated per capita, no country has received more ERC grants. That's really great, but it mustn't be a reason to just sit back and invest less in research and innovation. Quite the opposite! In a knowledge economy, you can't just assume you'll stay in the lead for ever.

It's good to see that the concept of the knowledge economy is alive not only at European and national level but also at the level of the regions. Limburg is a splendid example and that – it must be said – is to a large extent due to Jean Severijns!



Thomas Steinmetz

Deputy Head of Unit
Foreign economic affairs, European affairs, Development cooperation
Ministry of Economy, Science and Digitalization Saxony-Anhalt Germany

“A personal view from East Germany”

When I was contacted by Jean Severijns to take part in the implementation of his astounding idea writing a book about the past and maybe the future of his life work I felt honored, interested and also a bit frightened how I could somehow contribute to this.

I am not a specialist in research or innovation policy but my work as a regional officer for Interregional and European economic affairs of my German Bundesland Saxony-Anhalt very often connected me to these topics. So I am not an insider but more kind of a multiplier having a look from outside recognizing that research and innovation is essential for the development of an economy influencing the whole region.

The Innovation policy in Saxony-Anhalt of course always reflects the different development phases of our region: the difficult 90th after the German reunification embossed by restructuring of a broken economy and reorientation, the fast growing and very dynamic first decade after 2000 and the current period.

Increasing the R&D efforts has been named as an important aim of several regional governments of Saxony-Anhalt during the last 20 years. Contrary to the national average, only one third of the R&D expenditures were financed by enterprises, while public funding covers the rest. This results from the high number of small enterprises and the lack of bigger companies doing research in the region. An integrated policy of settling, investment and innovation is

foreseen to counteract this disadvantageous ratio. SMEs should be encouraged to invest in R&D by measures of low-barrier technology transfer (“innovation from below”). Universities and research institutes are to become important partners for research.

Very important was to add a European dimension to the innovation strategy of Saxony-Anhalt. The approach of Saxony-Anhalt’s regional government aimed at combining economic and innovation policy due to the meaning of the future innovation strategy as a key factor within Saxony-Anhalt’s economic policy. Thus, focussing on a European dimension within innovation policy it was of great importance for the region aiming at:

- Enhancement of economic and market-oriented research and development activities
- Concentration of activities on technological and economic key areas defined in the future innovation strategy of Saxony-Anhalt e.g. by using external sources of knowledge and European structural funds
- Dissemination of enterprise base through concerted settlement of enterprises equipped with own research capacities and use of international partnerships/networks
- Strengthening initiation and promotion of innovative business start-ups
- Improving the use of outcomes resulting from basic research, especially results coming from scientific areas of excellence through enhancement of closer cross-divisional cooperation between science system and economically related innovation system, beyond that, increasing the use of European funding possibilities notably for SME
- Dissemination of the meaning “innovation” going beyond a purely technological interpretation to production and market innovation and better integration of creative potential within the region
- Increasing transparency of innovation activities within Saxony-Anhalt

In the future, an improved use of substantial resources for more innovation, through a closer cooperation between economy and research institutes, is of great importance. Both, economy and research institutes can benefit from this cooperation. The external position of enterprises located in Saxony-Anhalt could be improved with the help of new technologies, products and managerial expertise. At the same time, research institutes could gain an excellent

international reputation. There is the need for an innovation-focused research infrastructure tailored to the needs of the region through cooperation between science and economy, especially in order to strengthen SME’s capacities for innovation.

To my mind the recent Regional Innovation Strategies in all European regions are good compasses to develop tools and instruments to face the social developments and difficult global trends and challenges on a regional level. Focusing on so called lead markets is the right strategy to concentrate on existing strength’ and future potential. But sometimes I have the impression that there is recently a development to fix too much on the own regional business. The overall trend in Europe to not cooperate, being not able to define common topics and interests or to find common solutions is very present in Europe at the moment. We need again a stronger European awareness among the national and regional governments and the people but not a stronger European administration with more bureaucracy. We need more cooperation in all fields of the society: economy, education, research and administration.

What could be learned from other regions?

- How to promote innovation of SME with lower innovation emphasis?
- How functions support to networks and clusters (how to proceed with rules of state aid and deminimis?)
- Competition between regional and national funding (cost based or effort based reporting?)
- How could research infrastructure be funded?
- Could risk capital funds be financed by Structural Funds?
- Experience for efficient implementation of funding (fast approval, less administration for companies)?
- Promoting European innovation cooperation on the basis of identified research and innovation priorities in the partner regions.

My connection to the topic on one hand and to the Province of Limburg was minted by this European dimension.

The cooperation with Limburg represents one of Saxony-Anhalts long-lasting and tidiest partnerships in the field of economics. A long row of common projects and activities were developed and implemented over the last years.

Just a few examples:

- Common membership within RETI (Association of European industry and technology regions), 1999 Limburg took over the presidency from Saxony-Anhalt;
- Close cooperation within the Committee of Regions, representatives worked in specified working groups;
- Cooperation in the field of Regional Innovation Strategies (Saxony-Anhalt and Limburg were EU model regions, financed by ERDF);
- Common implementation of an EU ECOS/OUVERTURE Project called "INTERPRISE" together with two other regions from Hungary and Czech Republic with the aim of the development of regional innovation strategies and the sustainable development of economic contacts between the four partners;
- Contacts between companies in the field of chemicals like BSL Buna and DSM Heerlen;
- Common participation in INTERREG III C Projects, such as:
 - RFO TouriSME – 14 further interregional cooperation projects in the fields of Small and medium-sized enterprises and tourism. In further subprojects a row of regional players like MAHREG (Automotive producer association) and the Regional Development Agency of Limburg (LIOF) were involved.
 - The European Chemical Regions Network (ECRN) started as an INTERREG project and continued as an Association, Saxony-Anhalt and Limburg were founding members.
- Common participation in the INTERREG IVC Project "ChemClust" working on the innovation capacity of chemical clusters; Limburg presented its very innovative concept "open innovation";
- Recent INTERREG Europe Project "S3Chem" – exchange in the field of regional innovation strategies – learning platform for implementation;

In the frame of this cooperation it was shown that both sides have a stable and vital cooperation interest. Limburg always has been pursuing an open-minded EU policy most likely because of its rich and successful neighbor experience. I am convinced that this partnership will continue and develop in the future, Jean has very much contributed to it and there are many others who can go on further.



Prof. -Dr. -Ing. Volker Stich

CEO FIR (Forschungsinstitut für Rationalisierung) and Cluster Smart Logistics RWTH Campus

"Research needs Space" - the RWTH Aachen Campus Cluster Approach

Over the past decades, the border region EUREGIO Rhein-Maas has grown closer together. This continuous process of cooperation has had many facets over time. Examples that illustrate this process, are the focus on research and technologies, building and expanding the universities RWTH Aachen, Maastricht University, University Hasselt, Liège University, Campus Heerlen and Eindhoven, improving cross-border infrastructures and of course increased research project cooperation. These aspects are part of the idea to realize a future-oriented regional policy which will foster innovations in our region aiming to trigger long-term development and economic growth. Particularly in the last decade, this innovation process has been heavily influenced by the digital age under "Industry 4.0, the fourth Industrial Revolution".

The EUREGIO has taken up its high potential with its technical-oriented universities and research institutes to develop a smart competitive advantage for the region. The idea is not only to educate the next generation of engineers and scientists but also to keep innovation, technologies and the development of new products within the region by attracting companies and industry to participate. To achieve this goal, we needed to come up with a smart idea to make the region as attractive for scientists, entrepreneurs, companies and investors as possible. Due to its high diversification, the campuses in the border region were basically born to cooperate on an interdisciplinary level.

Already, we have achieved quite a lot, but further development is needed since there is considerable potential not yet exploited. In a first step similar processes at all universities were initiated to transform research away from bilateral and individual project management towards integrative, interdisciplinary research pools to implement knowledge acquisition on multiple-levels. Hence, we anticipated, in my view, to strengthen each universities profile, and now, as the next step, we try to increasingly cooperate, to mutually share knowledge and facilitate collaborative research to strengthen the entire region from Eindhoven, via Aachen, Maastricht to Liège.

Our Aachen contribution to this is the RWTH Aachen Campus approach, which goes for closing the gap between research and companies by providing an excellent infrastructure where different institutes and companies are working “under one roof”. On the RWTH Aachen Campus, we focus on the idea, to bring science closer to technology and university closer to industry by building research clusters, such as the Cluster Smart Logistics, and associate thematic centers to them which directly tackle specific topics with matriculated industrial partners in an interdisciplinary way.

By doing so, we initiate consortia-projects together on an interdisciplinary level, encouraging companies to participate and work on a multi-level structure instead of being assigned to individual research projects from companies top-down to one professional chair or research institute. Hence, all partners benefit from a larger knowledge pool, especially small and medium-sized companies which otherwise would not have the financial means to create a big scope of innovation.

This multi-lateral cooperation results in an innovative and interactive process because all members are directly involved and produce faster output which can be operationalized pretty quick to the specific markets. Overall, this impacts the region, since companies are emphasized to enroll in our research cluster in Aachen and open the door to influence research projects and technologies on a global level. Hence, globalization and regionalization processes run parallel to and correspond with each other.

We connect regional, national and global organizations to regain regional importance. This way we achieve that our region becomes the operational level and has decision-making powers. which gives us the necessary political weight to improve our status and become one of the important research areas in Europe, for example is Aachen in the meantime known as one of the important players in Electromobility, because “we” were able to develop together with DHL a “last mile logistic e-car, the streetscooter”, which actually is going to be produced in 10000 p/a-series in Aachen.

When reaching a new level of effectiveness, research ideas are directly transformed, executed and implemented. We use the vast diversity of our knowledge pool, share resources, utilize synergy effects, collaborate in future-proof innovations and increase our academic potential by fostering cooperation between computer science, life sciences, physics, mechanical and electric engineering embedded in the clusters Bio-Medical Engineering, Sustainable Energy, Photonics, Production Engineering, Heavy-Duty Drives and Smart Logistics. We managed to successfully transform research from the “how” to acquire new knowledge to “where” to use knowledge synergies. This is an up-to-date attitude in the digital age.

For the future, I see a couple of big opportunities for our region. Our biggest challenge now is to keep up the pace by managing the completion of the RWTH Aachen Campus and to strengthen and internalize its concept. Then we need to focus on the challenges to build stronger cross-border synergies and make the exchange between the universities a “daily habit” instead of a “special event”. For now, cooperation is project-based and not conceptualized on a long-term trans-regional innovation process.

The good intentions and policies we came up with on a national and local level, need to be transformed to a cross-border regional innovation policy. More concretely, we need to further enable cross-border clusters and centers by increasing our potential of not only cooperating but working together on a “daily” basis. We have to spend more energy and resources to stronger initiate togetherness and mutual learning, not only on the research level but also on university and student level. We already started this process, but much more still needs to be done. Thanks to the efforts and enthusiasm of Mr. Jean

Severijns this process has been accelerated and deepened over the past decade. He has played an important role as member of the FIR presidium to bring stakeholders together, to initiate voucher-projects in order to reduce barriers across the border and he is still a “networker” in the most positive sense of meaning. Thanks to his engagement, we were able to move forward and pick up opportunities, which now turn bit by bit into “hanging fruits”.
Thank you very much for all your efforts and loyalty
Yours Volker Stich from FIR, Aachen

Sources:

Lecture by Jean Severijns:

<http://www.quizover.com/oer/course/smart-specialisation-strategy-in-a-functional-by-jean-videlectures>

Trienes, M. (2013). Innovation und Governance über Grenzen? Perspektiven eines grenzüberschreitenden Regionalen Innovationssystems, Das Beispiel der roten Biotechnologie in der Euregio Maas-Rhein. Fakultät für Georessourcen und Materialtechnik der RWTH Aachen, Dissertation.



Meirion Thomas

Director and Founder, Penbryn Consultants

Jean Severijns and regional innovation – a personal reflection

I first met Jean in May 1994 when we both attended, as part of our respective region's RTP (Regional Technology Plan) teams, the first meeting of the embryonic RIS/RITTS network in Brussels. Later, early network meetings in places such as Lorraine, Wales and Maastricht cemented our working relationship and friendship which has continued to this day. In my case, and probably for Jean too, I don't think that that I could have even guessed the extent to which that network meeting in Brussels signalled the start of a professional and personal journey that has shaped my career for the past, almost 25 years.

In 1994 innovation policy and interventions focused at the level of specific regions were still relatively novel, and it is my sense that the RIS/RITTS activities have proven to be an important stimulus to the promotion of innovation as a policy tool more generally. By focusing on the regional level the, until then, remote concept of innovation gained an immediacy, relevancy and practical meaning that helped turn innovation into a powerful focus of regional and national policies across the EU.

The regional focus also allowed a creative flexibility and engagement with stakeholders to emerge where different national and regional contexts could be, possibly for the first time, reflected in economic policy from the 'bottom up'.

In contrast to national innovation policy that typically focused on politicians exhorting stakeholders, researchers and businesses to 'be innovators', taking the regional perspective allowed businesses to more easily and clearly see interventions emerge from their engagement with the policy making process. By empowering, even requiring, those leading the RIS and RITTS projects to ask businesses and stakeholders what innovation meant to them and how their innovation activities could best be supported - through R&D, supply chains, incremental innovation or specific finance tools for innovation, regional innovation thinking proved effective in reducing the 'distance' between policy (and policy makers) and the practical implementation of priorities and design of interventions to support innovation. This process remains at the heart of Smart Specialisation and the process of "entrepreneurial discovery".

However, it has been clear from the start that the regional innovation policy making process has not always been successful or easy. Cultural differences in interregional or cross border working have always been present, challenging and, frequently, mystifying. For example, on one occasion I was acting as an international expert at another region's project steering committee and, after confidently setting out the process that we used in Wales to engage in a wide consultation with stakeholders, the Steering Committee Chairman looked across the table at me and asked, "But why would we want to do that, Mr Thomas?" I have to admit that in Wales this question had never been asked so simply – let alone answered and working on an interregional basis for almost the first time, I was aware of the need to be sensitive and respectful of my host's cultural position and struggled to explain the imperative for doing so. In time, the enriching experience gained from identifying and working with different business and policy making cultures became a great source of learning, enjoyment and challenge for me.

Over time, I believe that developing and launching a regional innovation strategy became a matter of 'box ticking' rather than real 'bottom up' policy making. In my experience, effective refreshing of a regional innovation strategy has too frequently been carried out by a reordering or rewording of old priorities, adopting new jargon and with a Foreword signed by the latest regional minister to 'hold the reins'. While Smart Specialisation was a welcome and necessary 'kick start' to new policy making, this tendency has continued in a number of Smart Specialisation exercises.

At the present time, and from my perspective, the biggest challenges that are faced remain ones that have been present from the start of my involvement with regional innovation policy making - in particular the need to keep a focus on the needs of the 'demand side' – innovators, businesses, (large and small) and providers of public services – and to develop interventions that meet tangible and well-articulated needs rather than attempt to, mostly for the sake of it, make ill-defined improvements in the achievement of innovation indicators and the take-up of innovation support measures.

This is closely associated with a second persistent challenge which is to keep the focus on the innovation supply-side (universities, research institutes, innovation consultants) within reasonable boundaries. To their credit, actors from the supply side have, in almost all regions where I have worked or had an involvement, been incredibly agile and responded quickly and effectively to the opportunities available to influence and benefit from regional innovation policy making and investments. (The European Court of Auditors confirmed this perception in an audit report on the subject that suggested that a high proportion of innovation funding for regional development had ended up in supporting research infrastructure rather than SME innovation.) However, this means that while the supply side have become relatively efficient 'machines' that absorb innovation and research funding they tend to do so without a strong attachment to meeting the needs of businesses or other stakeholders.

My advice to emerging regional innovation policy makers now would be to start, not with the most obvious stakeholders, but with those whose stake in innovation may appear to be the most distant. In reality these are likely to be those with most to gain (or to lose) from innovation policy and innovations.

To be fully successful innovation activity must be able to fulfil a need – whether that is a commercial need or a societal need. The really big challenges that we face in the middle of the 21st century are those 'grand challenges' such as demographic change, migration, environmental change and the impact of globalisation that are disrupting traditional ways of doing business and even more seriously, traditional ways of doing work, living in communities and settling international conflicts and pressures. Clearly regional innovation policy alone cannot solve the challenges for the whole world but by beginning with

the objective of meeting these challenges in a single region and seeking ways to meet the needs of citizens, communities and economic actors where they are, innovation can be a truly ‘transformative’ force.

The grand challenges have created new demands – amongst other things, our citizens need for better health and social care, a focus on local production and consumption, better integration of new populations and cultures into our communities; the availability of worthwhile and skilled employment, and so on. Where our politicians and leaders have failed to deliver on these challenges we have already seen political and social pressures emerge that have already sadly and deeply changed our post 1960’s assumptions about our continent, our Union and our countries. Brexit is not happening because the 52% in the UK were led by politicians, it is happening because politicians and policy makers did not find ways of leading and innovating across a range of policy areas in response to obvious social, political and economic needs.

Innovation that is transformative in its impact on people living in our community’s and regions across the EU (and the UK) can not only improve the lives for our citizens but also combat the negativity, protectionism, isolation and xenophobia that is afflicting us. This provides a new scope for regional innovation policy in the mid-21st century – to act as a transformative tool for social, political as well as economic well-being.

Meeting Jean Severijns, and other new colleagues, and making new friends at the first RIS/RITTS Network event and then at subsequent events, workshops and collaborations turned my professional interest in innovation and regional policy into a passion, a career and an affirming personal journey that continues to this day. Jean’s enthusiasm and willingness to lead innovations himself at the Province shows me that transformative innovation is not only necessary but is possible with such leadership.

Jean has been a rather constant presence even when we have not worked together of a number of years. He is someone who I feel privileged to have had the opportunity to get to know, to share views, ideas and someone who I greatly value and respect as a friend.

I wish you the best for the next stage of your career and your personal life and look forward to further opportunities to work alongside you (and to share a few more beers along the way).



Richard Tuffs

Director of ERRIN, Brussels

Innovation in Europe – a transformational decade?

Dear Jean,

The following article is based on a speech to EURADA in June 2017 while accepting the Christiane Bom Award for services to fostering regional economic development.

It reflects the importance of regional research and innovation and therefore I think it fits perfectly into your bundle. The article goes like this:

“It gives me great pleasure to accept this award. I note that the award has been given to Mikel Landabaso, Nicola de Michelis, Dimitri Corpakis and I am honoured to have my name associated with these impressive policy makers in Brussels.

The award goes for fostering of regional economic development and the fact that I am from ERRIN – a network committed to research and innovation – illustrates the growing influence of research and innovation as a key driver of economic development.

Just as I am sure that previous awards link people and organisations, I consider that this award is also shared with the ERRIN network and the ERRIN team who have contributed to the success of ERRIN.

Let me just give you a short history of ERRIN, formed in 2001 as an informal network by Alan Welby working for West Midlands in Europe. Alan recognised the lack of regional awareness of EU research and innovation programmes in the Lisbon Strategy's knowledge driven economy.

ERRIN then benefited from a pilot Regions of Knowledge project 2004-2006 (developed by Dimitri Corpakis in DG RTD) – led by Edward Cameron – a good example of a sustainable EU project - and then as a non-profit organization (Belgian ASBL) led from 2007 by Charlotte Andersdottir, then Jonas Bylund and then my predecessor Claus Schultze.

Directors come and go but the network has benefited from a dedicated Management Board and the energy and experience of regional players in Brussels (Glynis Whiting, Valentina Pinna, Anthony van der Ven, Francoise Chotard and Pascal Goergen behind the scenes on the Board¹) – as well as of course current Board members such as Sarah English from Scotland Europa.

But back to the present...let me make a few remarks on the importance of regional research and innovation.

Innovation in Europe – a transformational decade?

*“Today Europe does not need new commitments; it needs **political leadership and decisive action**. Instead of preserving established structures, that have shown themselves unable to cope with the challenges of the 21st century, Member States must be ready to invest in anticipating and accompanying structural change. This requires in particular a reallocation of resources to education, ICT, research and to the creation of high value jobs and growth.”*

Stirring words from a Commission Communication in 2006.

The Communication continue by noting that *“The EU can only become **comprehensively innovative if all actors become involved** and in particular if there is market demand for innovative products* (note that this attention to market demand comes from the Aho Report in 2006). *This broad strategy needs to engage all parties – business, public sector and consumers.*

This is because the innovation process involves not only the business sector, but also public authorities at national, regional and local level, civil society organisations, trade unions and consumers. Such a wide partnership for innovation will create a virtuous circle, where supply of new ideas and demand for new solutions both push and pull innovation.”

While few would disagree with the above sentiments, ten years on many would consider we are still on the journey. The question is ‘Who should be involved in building these innovation partnerships?’

In a final flourish, the Communication tells us that *“the main competence to foster innovation often lies at regional level. Regions should therefore be involved in the preparation and implementation of the National Reform Programmes (Lisbon Strategy), including by developing their own **regional innovation strategies**.”*

While speaking about wide partnerships, there is often little regard to who should bring together this wide partnership together. This is where the regional dimension is essential. Notwithstanding geographies, regions combine proximity with a critical mass and the intrinsic motivation to improve their own local economies. But regions also vary greatly in their economic and institutional capacities such as the type and quality of governance structures and this is where we need to acknowledge the importance of smart specialisation.

Let's fast forward to 2014. In its Industrial Strategy Communication in 2014 (COM2014/14), there is a strong section on “Stimulating investment in innovation and new technologies”. It notes the increased Horizon 2020 budget of €80 billion and the €100 billion available under Structural Funds 2014-2020 to finance research and innovation. This €100 billion will be guided by the concept of ‘Smart Specialisation’. The Communication continues...

¹ Apologies that was I was unable to name all the people who put energy and ideas into the birth of the network

Building on the work of the task forces, the Commission proposes to Member States to combine regional and industrial policy tools to create Smart Specialisation Platforms to help regions roll out smart specialisation programmes by facilitating contacts between firms and clusters, enabling access to the innovative technologies and market opportunities.

From this Industrial Strategy Communication comes the Vanguard Initiative, and the Industrial Modernisation Platform (with over 100 regions engaged in all the thematic areas).

Regional success means joining up the key actors in the region. This we know. But the question was how to do it. Smart specialisation provided some of these answers as regions were asked to “design smart specialisation strategies using the **entrepreneurial discovery process**, so that the European Structural Investment Funds (ESIF) can be used more efficiently and synergies between different EU, national and regional policies, as well as public and private investments can be increased.”

The objectives of Smart Specialisation include:

- To make innovation a priority for all regions
- To focus investment and create synergies
- To improve the innovation process
 - RIS3 requires smart, strategic choices and evidence-based policy making. Priorities are set on the basis of a bottom-up entrepreneurial discovery process supported by strategic intelligence about a region’s assets...
- To improve governance and to get stakeholders more closely involved
- To develop and implement strategies for economic transformation
 - RIS3 requires an integrated and place-based approach to policy design and delivery.
- To respond to economic and societal challenges
 - Policies must be tailored to the local context, acknowledging that there are different pathways for regional innovation and development.
- To make regions more visible to international investors
- To improve a region’s internal and external connections

- Improving internal connections has long been a trademark of innovation policy (e.g. triple or quadruple helix networks, knowledge triangles, university-business cooperation, clusters, etc.). However, regions also need to be outward looking, to position themselves in European and global value chains, and to improve their connections and cooperation with other regions, clusters and innovation players.
- To avoid overlaps and replication in development strategies
- To accumulate a ‘critical mass’ of resources
- To promote knowledge spill over and technological diversification

Smart specialisation has had an effect. For some regions smart specialisation has been an incremental innovation process building on strong regional innovation strategies and good governance. For others, it has been a disruptive innovation with all the issues that disruptive innovation brings with it (many will remember that *‘l’uberisation de la société’* became a major issue in the recent French elections (May 2017)).

Smart specialisation is not an end in itself but a process of regional transformation. But this transformation requires different stakeholders joining together in triple helix or quadruple helix formations – not through force but by attracting committed people from all sectors who see the value of collaboration.

Such collaboration for mutual benefit brings us to the increased use of an ecosystem metaphor – the term regional research and innovation ecosystems is now commonly used and it is here that regional governance and actors play a key role.

Regions thus have a strong role to play not only in responding to ‘top-down’ European or national policies but also playing a top-down role in establishing processes where they have both experience and legitimacy. However, regions must also encourage and stimulate bottom-up engagement to develop and implement strategies and policies.

Once a region is ‘joined up’ – it has an effective innovation ecosystem in place – then the next step is to link up with other ‘joined up’ regions where collaboration can benefit both regions. This includes establishing strong

connected value chains across Europe, sharing best practice in specific activities, learning from good practices outside the region but also setting up what is now termed ‘investment protocols’ where regions collaborate on shared expenditure for demo and pilot projects and shared infrastructure.

Linking regions together is now very much part of EU policy as the recent Commission ‘Reflection Paper on Harnessing Globalisation’ illustrates.

‘Innovation clusters linking up companies, universities, start-ups, investors and local governments must be further developed and linked up across Europe.’

It is here that the value of networks such as ERRIN and EURADA come to the fore by providing a framework for collaboration and playing a strong role in knowledge management – collecting, storing and transmitting knowledge. This is a good place also to mention that ERRIN values our past, present and future collaboration with EURADA.

In conclusion, research and innovation is now accepted as a key driver of economic development. Research and innovation is increasingly seen as place based and the use of smart specialisation strategies will support the development of effective research and innovation ecosystems.

I started this speech with references to the start of ERRIN as a membership organisation decided in 2006 and the Commission Innovation Communication of the same year. Regions were still the bit part players in the ‘innovation play’, but now regions have moved to centre stage as key players in place-based innovation strategies and this is an occasion also to thank both EURADA and ERRIN members for their continual efforts in making this possible.



David Uhlir

CSO / Chief Strategy Officer South Moravian Innovation Centre

A look back on regional innovation policy of the past 15 years - a perspective from South Moravia (CZ)

I have been fortunate enough to have the privilege to be involved with regional innovation strategy (RIS) of South Moravia since its inception in 2002. All of this started with an EU-funded project from pre-accession fund (ECOS-Ouverture) that aimed to develop innovation policy at the regional level in the then-EU candidate countries. I was also double fortunate because we had a great project partner, the Province of Limburg and Jean Severijns in particular. None of us in Brno was initially very clear about what the regional innovation strategy should be and only in the course of the project started to realise that this was something much more ambitious and long-term than we thought. And thanks to the involvement of our partners from Maastricht and Aachen we were able to convince our local and regional policy-makers that investing in something as abstract and long-term as innovation strategy was worthwhile. The first step was the establishment of a dedicated innovation agency, JIC, where I currently work. JIC has been a true success story, helping to create more than 200 start-up companies, assisting some 100 start-ups and SMEs each year in their innovation efforts. Moreover, over time the cumulative effect of these efforts helped to significantly transform the structure of regional economy in Brno and South Moravia which nowadays shows even in the macroeconomic data.

Given this particular experience it comes as no surprise that I am genuinely convinced that the idea of supporting innovation in EU regions is a very sound one. I am also a staunch supporter of international collaboration and learning from the experience of other (better) regions - without the examples of Limburg and Aachen we would have never been able to gain political support and launch the systematic support for innovation in our region.

At a more general level, I believe that innovation policy (in contrast to research policy) needs to be close to the end-users, i.e. companies. And the involvement of actors from the regional level is a must. To be effective such policy needs to be designed in a way that allows flexibility and adaptation of policy tools over time, in response to the ever changing needs of users. The implementing body needs to enjoy sufficient degree of freedom and trust from its founders and funders that allows it to form long-term relationships with the stakeholders in their respective regional setting. Only in this way there is a chance that the innovation policy will be truly needs-driven, concerned more with the substance than the form, and avoiding excessive formalism. The last point - excessive formalism - being often a key weakness associated with the EU Structural Funds programmes where the policing culture of controllers and auditors frequently prevails over the ultimate objective of its interventions, the economic development of regions.

Coming to the 'advice' part of my short contribution, or rather an attempt to generalise my experience with support for innovation at the regional level: my opinion is that there are several key elements that need to be present for the innovation policy to really make an impact.

- Strong, stable political commitment and long-termism - innovation policy is clearly a long-term game and expecting too much too quickly on the part of policy makers is likely to cause problems.
- Keeping strategic focus and result-orientation - this also means that we as policy practitioners should be able to articulate what we want to achieve in pretty concrete terms before we start looking for sources of funding (and usually there is money available if the project makes sense and addresses a real need).
- Best people on board, stability of intermediaries and their people - without good people it is difficult to create lasting ties and trust which are pre-requisites for flexibility and capacity to mobilise others for an action.

- Being constantly in the field - having on mind the daily problems of your clients is a necessary condition for success and pre-condition for the ability to 'sense potential' for new initiatives, identifying new actors who can contribute with their energy and vision. It also means being open to good practices from other regions and countries and maintaining links with our peers abroad.
- Robust governance structures - the ability of public sector stakeholders to create a 'protected space' for experimentation, design of new policy instruments and initiatives are a characteristic of an advanced innovation ecosystem. This also includes the readiness to accept failure in innovation policy as a matter of fact. You cannot have innovation without taking a risk.

In retrospect, I can see, on one hand, that my region was very fortunate in many ways - the political constellation concerning innovation policy has been very favourable from the onset and for most part it remained such over the past 15 years or so. This allowed us to develop a stable environment for innovation policy at the regional level, to learn from our own mistakes and gradually build up a professional capacity. On the other hand, I can see that a similar success has not been achieved in other regions, and also on the national level. To my mind this comes largely to the fact that the policies there were not needs driven but subsidy driven. To put it simply, too much money is being spent on innovation (mostly EU regional funds) with too little strategy and little understanding of what the objectives should be and what the needs are. This is a missed opportunity and I tend to see this across many other regions in the EU. If this was to change, my belief is that the EU funds should be reduced and their spending should be conditioned by existence of very concrete projects, with clear objectives and concrete people backing them (rather than throwing the money in very general Operational Programmes where they turn out to be impossible to spend due to a lack of good projects).

To conclude, I have to say that it has been a great privilege to work with people like Jean Severijns (and a number of others, often shared friends). This experience taught me to look pragmatically at innovation policy, to look for concrete results rather than formal satisfaction of project objectives. And this is precisely the wish I have for the future of innovation policy in Europe and its Member States: it should be pragmatic, practical, results oriented. And it should help to disseminate such a culture to as many regions as possible.



Prof. Dr. Christiane Vaessen

Honorary Consul of the Kingdom of the Netherlands for the
Regio of Aachen
Director of the Region Aachen - Zweckverband

Living and working in one of the most interesting border regions of Europe!!!

Generations of Scientists, engineers, politicians and administrative stuff of the three countries of the EUREGIO Maas-Rhine seem to have the same aim: collaboration with each other all over the world... That is inspiring and enriching – but can it bring economically profitable results and how does it work successfully?

For the EUREGIO we had to answer the first question with a clear “yes”, but the devil is in the detail. Many organizations and people don’t get tired to organize events, conferences and so on for bringing people together. But normally, it happens by chance that two or more people are meeting each other, who then make an agreement to work together on a cross-border basis.

The fundamental thing we had to consider is: regional innovation systems will work if the companies or university institutions on both sides of the border formulates innovation strategies in order to sustain their competitive position – and afterwards people who work in these organizations had to meet each other! Many cross-border policy reports and case studies are written, a lot of Interreg money was spent but on closer inspection it seems to be simple and difficult at the same time: first of all you need dedicated people who are ready to embrace something new and who are interested to develop their intercultural competences on the other side of the border.

Here in the EUREGIO we had some extraordinary examples for this successful cooperation: Aachen-Maastricht Institute for Biobased Materials is a European, cross-border, research institute focusing on the development of advanced biobased materials, located on the Brightlands Chemelot Campus and strives for excellence in applied and translational research by creating synergies between academia and industry.

On the other hand we need a lot of expertise to solve legal problems in cross-border mobility and the above named cooperations. We had to do impact assessments like the Institute for Transnational and Euregional cross border cooperation and mobility / ITEM at Maastricht University does. Here we also have a cooperational and interdisciplinary approach: information exchange with existing border information points, database with information on regulations, jurisprudence and best practices.

In order to realize cross-border cooperation there must be combined many things and we need people like Jean: never getting tired to bring people together, to have new ideas, to organize cooperation, to coordinate new arrangements whether in Azerbaijan, Maastricht or Düsseldorf, to inspire people, and doing this always with a smile...

Beste Jean, wij zullen je erg missen!!!



Rene Wintjes

Senior Researcher UNU-MERIT, Maastricht University

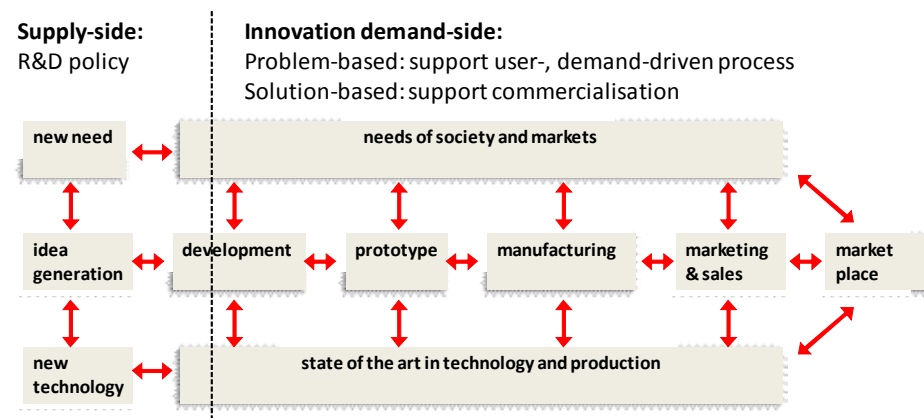
Supporting problem-based innovation and up-take of solutions; two sides of the emergence of demand-side innovation policy at regional level

There is a general trend towards more demand-side innovation policy approaches at national (OECD 2011) and regional level (Wintjes 2012). Promoting the supply side of innovation with R&D subsidies is still the dominant, innovation policy. Firmly embedded in the mainstream neo-classical economics paradigm and new growth theory, it emphasizes the market-failure arguments concerning the quantity of R&D investments which provide a rationale for public subsidies for R&D and promoting IP protection. However, both in terms of 'means' and 'end', innovation and innovation policy has broadened. These broadened views on innovation and innovation policy that has developed over the last decade, are co-evolving towards a future with new combinations of ideas and practices on innovation and innovation policy. Innovation has become instrumental in addressing many problems or challenges in society (not only economic ones), and many ministries (not only those concerning science and economy) promote innovation with dedicated innovation policy interventions. Innovation (policy) has become 'multi-purpose' and pervasive, which calls for more strategic policy approaches. Also the involved disciplines, theoretical rationales and for instance methods of

impact evaluation are slowly becoming more ‘multi-’, and move away from a single, orthodox economic one, towards a more multi-disciplinary, heterodox and mixed-methods future for innovation (policy) studies.

Two types of demand-side innovation policies are discussed here: support to commercialisation and problem-based innovation. Both these innovation processes serve to cross the so-called ‘valley-of-death’, but they start from different sides: the solution side or the problem side. Some systemic policy instruments address both sides at the same time.

The Voucher scheme as invented, developed and evaluated in Limburg and diffused to almost every region and country in Europe, could be seen as an ‘early warning’ or ‘weak signal’ of the emergence of instruments which combine both problem-based innovation (policy) and commercialisation (policy), and of the systemic integration of such demand-side instruments in the mainstream regional innovation policy mix. Instruments which serve to transform generic regional research and innovation policies into coherent, impact oriented strategies. In combination with supply-side innovation policy they are part of modern policy mixes designed towards smart growth driven by needs and based on territorial specificities. In the literature this modern approach is conceptualised as: platform policies (Cooke 2007), constructing regional advantage (Asheim et al. 2011), place-based development (Barca 2009) and smart specialization (Foray et al. 2009).



Based on Rothwell and Zegveld, 1985

The emergence of demand-side innovation policy

Interventions closer to markets, beyond supporting pre-competitive R&D, have long been considered undesirable because of ‘market-distortion’ effects of public intervention by favouring certain innovations over others (OECD 2011). Supply-side innovation policy aiming for more R&D expenditures is no longer the single (one-size-fits-all) public innovation policy aiming for economic development. The most commonly used definition of demand-side innovation policies is formulated by Edler & Georghiou (2007, p.952): “a set of public measures to increase the demand for innovations, to improve the conditions for the uptake of innovations or to improve the articulation of demand in order to spur innovations and the diffusion of innovations”. One of the reasons for the renewed interest in demand-side policy is its effectiveness in addressing societal challenges, e.g. concerning demand for health innovations and clean technologies. However, the six trend reports of the EU Business Innovation Observatory¹ shows that the call for more demand-side innovation policy is a much wider trend, which also includes industrial and business challenges. Dozens of case studies on successful and promising, but often disruptive business innovation trends are analysed, including for instance: Big data, new business models, Internet of Things, servitization, blockchain, design for innovation, automated driving, circular economy, artificial intelligence, collaborative economy, advanced manufacturing , drones, design for innovation, new materials, etc. When asked for the most appropriate policies to scale-up the impacts and promote further up-take of these trends, many types of demand-side policies were mentioned by those interviewed. The concerning technological inventions and innovations already exist, so it may not be a surprise that hardly anybody interviewed asked for more or better R&D policy. What is called for is support in the transformation of innovation systems and the behaviour of its stakeholders. Conservative customers (public sector, business sector and consumers) and out-dated regulations and skills emerged as main barriers for further up-take of the business and societal innovations. Existing structures and strategies of stakeholders in innovation are difficult to transform. Since, “knowledge once acquired becomes as firmly rooted as a railway embankment in the earth ... [and] everything we think, feel or do often enough becomes automatic” (Schumpeter, 1934: 84), we rather stick to routines and the known ‘best practices’.

¹ http://ec.europa.eu/growth/industry/innovation/business-innovation-observatory/trend-reports_en

Companies which are successful in the above mentioned disruptive innovations therefore ask for support in transforming our systems and behaviour, e.g. by calling for demonstration and proof of concept projects, innovative public procurement, up-dating of skills, regulation and standards. Traditional policy to promote commercialisation and diffusion of knowledge and innovation typically rests on publicly lowering the price and by IPR which regulates ownership and facilitates licensing of knowledge and technologies.

Problem-based and combinations with solution-based innovation policy

Demand-side innovation policy not only consists of support for commercialisation and wider diffusion and application of solutions (in search for users with problems it can solve), but also of problem-based innovation support which refers to a reversed process starting with identification and assessment of concrete problems (in search of solutions). Two important policy elements in this respect are: better articulation of needs and interaction with users.

The pilot Voucher scheme in Limburg clearly had a ‘problem-based’ or ‘needs driven’ aspect, since a large part of the implementation efforts went into the identification of ‘problems’ and definition of problem statements and questions together with SMEs. At the same time it also served in ‘commercialising’ knowledge of DSM Research by demonstrating that its expertise can be used to solve problems of regional SMEs. The two types of beneficiaries of this systemic instrument engage in interactive learning between producers and user of knowledge and innovation (Lundvall 1988). These two type of stakeholders are persuaded to break out of old routines. Due to the changed networks, capabilities and perceptions of both types of beneficiaries, both their behaviour and systems in which they innovate are transformed from within.

Problem-based and solution-based innovation policy (also referred to as support for commercialisation, or diffusion and up-take of innovations) as an emerging type of innovation policy addresses transformation challenges in innovation systems. This transformative power should be linked up and integrated with mainstream supply-side innovation (also referred to as R&D-) policy and solution-based innovation policies.

A voucher-scheme can be seen as an example of a systemic instrument which links problems and solutions at regional level. It does not subsidise or promote additional R&D, but rather aims to create a market for existing knowledge. Vouchers as invented, developed and evaluated in Limburg mid ‘90s, have been diffused to many countries and regions and can be seen as an innovation in policy, which has been integrated in the mainstream policy mix, as they have become a routine for policy agencies across Europe.

Another, more recent policy innovation concerns schemes such as Demola², as was developed in the region of Tampere. In this most R&D intensive region in Europe innovation policy mostly consisted of supporting R&D, but this policy has been transformed. Platform-based innovation policy schemes, such as Demola have been designed, which start with concrete problems raised by companies or other stakeholders. In multi-disciplinary cooperation teams with students the problems are addressed. By tapping into young talents which co-create and try out new stuff entry and breakthrough in markets (or society) is speeded-up as they pitch prototype solutions within 4 months. The platforms in Tampere have achieved encouraging results: 535 innovation projects responding to problems, challenges and needs arising from real life; 2500+ innovation community members; 170 partner companies; 100+ start-ups; 500+ jobs; €18m attracted funding for start-ups and innovators. A variety of such problem-based innovation schemes have emerged in Europe, including hackatons, competence centres, living-labs, digital collective awareness platforms, bootcamps, co-creation spaces, etc.

For universities it can transform their teaching approach. For instance Problem-based-learning is described as strength in teaching at Maastricht University,; “In small groups of roughly 13 students, supervised and assisted by a tutor, you actively seek solutions to real-life problems. In this way, you learn not only to operate at an academic level, but also to work independently on real-world issues – just as you will later on, in your career.”³ By leaving the classrooms and university labs, this problem-based-learning could be extended into problem-based innovation, where the region serves as a living lab for fast prototyping.

² <https://www.demola.net/>

³ <https://www.maastrichtuniversity.nl/education/why-um/problem-based-learning>

New innovation policies and policy instruments rarely originate from science or R&D, but rather from (policy) learning (by Doing, Using, Interacting) how to integrate resources/capabilities in the real world, outside the controlled conditions of laboratories.

Voucher schemes now exist in many forms and shapes and serve a variety of purposes. Policy makers with an ‘entrepreneurial-state’ of mind, such as Jean Severijns, are needed to orchestrate such ‘entrepreneurial-discovery’ and transformation processes.

I had the pleasure to work with Jean at the beginning of my career at Merit, when I was asked to evaluate the Voucher pilot. It opened my eyes for innovation in policy. I also recall from that period an assignment to select partner regions in Europe for Limburg to cooperate with. At many occasions we met and collaborated again, either abroad or in Maastricht. The background report to the OECD study on cross-border cooperation was a more recent assignment. For most regions I had to search for additional material myself, but for the material I got from Jean I had to create several separate folders. Not only Limburg and its border regions have benefitted from his work. I enjoyed our trips to Albania and Macedonia where we cooperated in trying to improve their innovation policy. I hope this doesn’t end. I realised for instance when I was in meetings in Zagreb last week, that my previous visit to this city a few years ago with Jean was way more inspiring and fun.

Literature

Edler J. and Georghiou L. (2007). “Public procurement and innovation—Resurrecting the demand side”. *Research Policy* 36 (2007) 949–963.

Foray, Dominique, Paul A. David, and Bronwyn H. HALL. Smart specialisation from academic idea to political instrument, the surprising career of a concept and the difficulties involved in its implementation. No. EPFL-WORKING-170252. EPFL, 2011.

Lundvall, B-Å. (1992). “National systems of innovation: towards a theory of innovation and interactive learning”. London: Pinter Publishers.

OECD (2011). “Demand-side innovation policy”. OECD Publishing. Available at: <http://dx.doi.org/10.1787/9789264098886-en>

Wintjes, R., G. Avigdor, G. Christopoulos (2016) “Optimal recycling, big data from space, and blockchain applications: disruption and policy response”. Sixth Trend Report of the Business Innovation Observatory. Available at: http://ec.europa.eu/growth/industry/innovation/business-innovation-observatory/index_en.htm

Wintjes, René (2012), “Demand-side innovation policies at regional level”, Regional Innovation Monitor, Thematic Paper 3. Available at: <https://ec.europa.eu/growth/tools-databases/regional-innovation-monitor/report/thematic>

Wintjes, René & Jean Severijns (2012), From mycelium to high quality mushrooms: An Albanian success in cooperation between university researchers and an entrepreneur. In WBC-INCO.net Journal nr.9 , summer 2012, p.15

r.wintjes@maastrichtuniversity.nl



Thomas Wobben

Director of Legislative Work for the COTER, ECON and SEDEC commissions in the European Committee of the Regions

Chemical Regions and More!

- How do you look back on (regional) research/innovation policy of the past years? (you might, for example, approach it from a European, national or regional perspective)

I look back on something we started: a strategy dialogue on the future of the chemical industry in a region and the setting up a network of chemical regions in Europe.

- What is your view of the effectiveness of this policy?

In 1999 the regional government of Saxony-Anhalt started a strategic dialogue¹ between the chemical industry, the trade unions and the regional administration about the long-term prospects/perspective of this industry in the region. This dialogue was initiated by the industry itself to remove existing barriers to the development of chemical sites in the regions, to promote cooperation on a new business lead cluster organisation, and to identify joint initiatives to further strengthen the competitiveness of chemical sites in the area.

From very early on it was clear that this process of **internal cooperation** and collaboration needed to be accompanied by an **external strategy of interregional cooperation** to express joint interests, for example regarding national or European regulations.

¹ http://www.isw-institut.de/doku-publikation/isw%20Report_32.pdf

This was why Saxony-Anhalt also took the lead in setting up the **European Network of Chemical Regions**² to join forces in ensuring the future competitiveness of chemical sites and the industry in Europe. Until then chemical sites used to compete with each other in attracting investment to boost growth and jobs for their territories. With the White Paper on the future of Chemical Policy in the EU³ it became evident that the overall competitiveness of Europe as a place for the chemical industry could be at risk – seriously disrupting the development potential of the chemical sites in Europe.

- What was the biggest challenge, and what was the biggest success?

Besides the fear of failure and the lack of skills, the biggest challenge was to overcome the scepticism on all sides that such a dialogue could achieve real results.

When both the strategy dialogue and the interregional networking offered tangible results, the mood lifted and enthusiasm at government and industry level grew. Success is not a static thing, however. It needed constant feeding, strategic support and political commitment. It needed vision and the trust of participants to achieve something together. Once this bond broke, the strategy process got stuck.

- What is the most important piece of advice you can give for future policy: continue along the same path, or chart a new course instead?

Bring the right people round the table, discuss real problems and challenges, define joint strategies and engage with each other in implementing the strategies: these are the key elements of success. A lot also depends on the skills and motivation of a few highly motivated people who find each other at the right time and the right place. While it helps that decision-makers at the top support such processes, their success is largely defined at a much lower level - in the “machine room” of policymaking; at the level of the administrators in charge; the engineers at the sites; and the motivated researchers in the universities and innovation centres.

² www.ecrn.eu

³ <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52001DC0088&from=EN>

- Can you say something about the international, cross-border dimension of the policy as implemented and wished-for, and the associated implementation opportunities or problems?

The most exciting thing about bringing regions together is the insight that most of them face similar challenges: strengthening links between public, private and research actors, creating an innovation eco system, looking for investment and finance, creating the best regulatory environment etc. Using interregional cooperation to find joint solutions can help jump the queue and shorten the learning curve. But it takes time to build trust and understanding.

- The Province of Limburg is a border province. In our contacts about this, you may have formed an impression about certain matters or noticed something that is worth mentioning.

It is no surprise to me that the Province of Limburg is one of the most truly European regions I have ever visited. Having close borders with Germany and Belgium, being part of the economic axis Aachen-Maastricht-Hasselt-Leuven and bordering the innovation hub of Eindhoven plus Liege in the south makes this region very special. Limburg was one of the first regions to be selected to carry out a Regional Technology Plan⁴ in 1996 and since then it has been a key player in cross-border innovation, regional innovation systems, and open innovation systems, to name but a few. Limburg is also the home of the European Journalism Institute, the European Institute for Public Administration and, of course, will always be membered as the birthplace of the EURO, with the signing of the Maastricht Treaty in 1992.

- Finally, it might be interesting to say something about our personal working relationship, perhaps a small personal touchJ

Since 1996 I have visited Limburg numerous times to arrange meetings of ministers, business leaders and researchers with their counterparts in the Province of Limburg. I was always impressed by the hospitality and openness of the people we met and the curiosity to learn something new. Limburg has always been a reliable partner for many interregional cooperation projects and is also a key member in the ECRN.

⁴ http://ec.europa.eu/regional_policy/archive/innovation/innovating/pdf/limburg-nl_en.pdf

In the end – as always – it is the people that matter! In this respect, the cooperation with Jean Severijns was always a very important part of our joint success. He and I quickly became friends and I learned a lot from him. While I was working in Brussels to open doors and to create new links with European policymakers, it was Jean who provided the first-hand experience and the evidence from the ground about what works in innovation policy and what does not.

While Jean often questioned whether we could really make a difference and pushed us to aim high, I was always certain that we could rely on him to achieve our goals.

By doing so we also had a lot of fun over the more than 20 years that we worked together.

Thomas Wobben

Content

Introduction Jean Severijns	3
<u>Reflections by the province of Limburg</u>	7
Are we progressing? Theo Bovens	9
Twan Beurskens	11
Strategy and individual Servi Verstappen	13
<u>More European Reflections</u>	17
Leadership Matters for Innovative Regions Rolf Alter	19
“Research/ innovation policy – have we managed to be anyhow impact oriented after 25 years of regional interventions?” Andrea Di Anselmo	21
“...always becoming and never just being.” Michael F. Bayer	25
Local knowledge factories Ann-Pascale Bijmens	27
Progress in two decades of strategic policy planning for regional innovation and challenges ahead Patrics Boekholt	29
Innovation policy Return on experience Pierre Bourgogne	39
Successful Energy Transition between Innovation Promotion and Structural Policy – The Example of the HYPOS Initiative – Hydrogen Power Storage and Solution East Germany Dr. habil. Gunthard Bratzke	43
Attention: Good expert Report Prof. Helmut Breuer, Aachen	47

How European regional policy changed over time Luc Broos	51
The partnership process Brian Callanan	53
“A life searching for Innovation” Ercole Cauti	55
To Jean Severijns - our true example of how to be always one step ahead! Raluca Cibu-Buzac	183
Dimitri Corpakis	65
Regional hotspots: developing ecosystems through smart specialisation strategies Prof. Koenraad Debackere,	71
RITTS and the Wandle Valley – Creating the Hub of London Innovation James Dick	79
Agendasetting in Europe by regional cooperation. The example of “Silver Economy” Claus Eppe	89
Innovation and research policy of the EU in the last decade – The Hungarian aspects Dr Sandor Erdei	93
Successful Energy Transition between Innovation Promotion and Structural Policy – The Example of the HYPOS Initiative – Hydrogen Power Storage and Solution East Germany Andreas Fiedler, M.A.	43
Smart specialisation, Edmund Phelps and the Palazzo Lombardia Prof. Dominique Foray	97
The Innovator Dr. Kastytis Gečas	101
“The American way” Ad van Ginneken	107
A “cycling tour” of Innovation in Limburg! Hubert Grooten	111

“The outstanding role of interregional cooperation for innovation policy such as the collaboration between Saxony-Anhalt (Germany) and Province of Limburg (the Netherlands)” Catrin Gutowsky	117
Looking Back on Innovation Policy Eddy Hartog	123
Limburg in Brussels Peter van der Hijden	125
Jean: Limburger and world citizen Dr. Martin Hinoul	127
Open cooperation in Europe Theo Hommels	129
Research and innovation policy from a North Rhine-Westphalian perspective Dr. Günther Horzetzky	135
Dutch and German attitudes towards innovation and internationalization in the 21st century Dr. Herbert Jakoby	139
Innovation under the ‘smart paradigm’: Smart specialisation and smart cities setting the innovation policy agenda 139 Prof. Nicos Komninos	143
ZigZags but progressing Elżbieta Książek	153
Regional Innovation in perspective Mikel Landabaso	157
Employability. How the S ³ may help: the Wroclaw metropolitan attempt to attack this European grand problem Prof. Jerzy Langer	169
A common passion – leaving a legacy for the future of our children Johan Lavrysen	175
Leadership Matters for Innovative Regions Karen Maguire	19
A déjà-vù after 20 years Dr. Lothar Mahnke	177

How 2 Limburgers started seeding innovation throughout Europe Wim Martens	179
To Jean Severijns - our true example of how to be always one step ahead! Sorin Maxim	183
Research and innovation experiences in Azerbaijan Tariyel Mirzoyev	187
On the success of cross-border regional economic policy Prof. Dr. Urs Müller	191
Aachen Way to 2.0 Manfred Nettekoven	197
Some Southern Sweden experiences Tomas Olofsson	201
Bright future for Limburg Prof. dr. Martin Paul	203
Economic development and innovation in cross border regions Jean Peyrony	205
Regional Economic Development: To be or not to be Marinus Puyenbroek	207
25 years in innovation policy: from national networks to regional clusters Kees Planqué	211
Some personal thoughts: Irma Friedl	213
Developments in Lithuania Marius Ramanauskas	215
How to work and live better in the future? Vanja Rangus	217
From research policy for an elite to harnessing the innovation potential of all regions: personal reflections on 20 years of development of EU innovation policy Katja Reppel	221
To Identify A Problem Is An Issue, To Find The Solution To It Is Another Story! Christian Saublens	231

“Organize and behave as if it is a business” Frank Schaap	235
To the father of a good idea that spread - Innovation vouchers conquering Europe Dr. Sven Schade	241
RDI: a view from Estonian periphery corner Vitali Sergejev	247
Lithuanian Innovation Centre (LIC) participation in European Innovation projects Rimantas Serva	251
Reflections on Regional Innovation and Research policy from a Limburg perspective Jean Severijns	253
Glocal integration in Limburg and the Euregion Prof. dr. Luc Soete	271
From Radical Innovation Policy (RIP) to Value Innovation Policy (VIP) Prof. Dr. Taco C.R. van Someren	275
Knowledge for a Strong Europe Robert-Jan Smits	283
“A personal view from East Germany” Thomas Steinmetz	287
“Research needs Space” - the RWTH Aachen Campus Cluster Approach Prof.-Dr.-Ing. Volker Stich	291
Jean Severijns and regional innovation – a personal reflection Meirion Thomas	295
Innovation in Europe – a transformational decade? Richard Tuffs	299
A look back on regional innovation policy of the past 15 years - a perspective from South Moravia (CZ) David Uhlíř,	305
Living and working in one of the most interesting border regions of Europe!!! Prof. Dr. Christiane Vaeßen	309

Supporting problem-based innovation and up-take of solutions; two sides of the emergence of demand-side innovation policy at regional level	
Rene Wintjes	311
Chemical Regions and More!	
Thomas Wobben	319

