REGIONAL INNOVATION ECOSYSTEMS

Impacts and Expectations

ERRIN & DG RTD
January 31, 2018
1. Challenges, results and impact

Challenges and solutions
In 2009, the main stakeholders in Oulu region has signed a strategic collaboration agreement called Oulu Innovation Alliance (OIA). The partnership includes academia, industry and public sector with common focus areas. Five innovation ecosystems have been established, and all of them led by different organizations in the region. The challenge is that the stakeholders have different innovation cultures and there is a lack of resources to build stronger national and European level partnerships with specified focus areas.
We have overcome most of the challenges by creating an operational and systematic model to promote the innovation capacity. External funding has helped us recruit key personnel to build these partnerships and develop the co-creation model further.

We (city of Oulu/university of Oulu) have been leading two national health programs, which were helping us to extend our regional activities on the national level. In addition, we are forerunners in building productive innovation ecosystem (Oulu Health) and innovation platforms (OuluHealthlabs).

Unique testing environment (e.g. OuluHealth Labs) enable to co-create new innovations.

Also, co-operation between research and business is open and enriches the local business life.

Role of funding – EU, national, regional
No EU funding was used nor applied for the OIA establishment and for its operation, as it is foreseen as a sustainable structure. However, we have been active in building EU level partnerships through several funding mechanisms. For example, we got EU funding from the Regions of Knowledge programme, supporting EU level collaboration in creating a joint action plan on eHealth with four EU regions. Ongoing H2020 projects, e.g. MIDAS, are supporting the EU level co-operation aspect.

City of Oulu is one of the reference sites on the EIP-AHA, though more resources/funding are needed in order to be more active in the partnership. In addition, we are participating in the EU COST Action network: “European Network for the Joint Evaluation of Connected Health Technologies”. We have got funding from the Nordic innovation to promote collaboration between five Nordic cities and hospitals. It could be a good model to promote innovation actions in the EU, as well. The EU could support such partnerships by reopening the Region of Knowledge type of funding, which has focus mainly on the establishment of triple or quadruple partnerships at the regional level.

Impacts
The OIA concept has resulted in the development of functional ecosystem model (PPPP), which has responsible partners taking care of health sector business growth, RDI activities, testing and piloting activities and co-creative R&D. The shared responsibility for these
activities has resulted in strong revenue growth (over 30% during last 5 years), increase in the number of employees and start-ups in the health technology sector.

We have created national and international partnerships to support visionary/future health care reform. We have built the innovation capacity and new innovation platforms, which are allowing partners to communicate, interact and find new ways for collaborating. We have established piloting and testing environment to allow companies to get feedback from the medical professionals about their products and services.

The OIA partnership in healthcare has resulted in higher RD investments and increase in collaborative RD projects between academia, industry and health care providers. We have been successful in PCP projects and got training on EU level precommercial procurement.

We provide an innovation platform for companies and easy access to discuss with health care professionals about their needs, and giving opportunity for the companies to have their first pilot in real life environment, which help them to access the Eu market faster.

We have been able to find the synergies between EU, Nordic and national funding instruments to implement our strategic innovation agenda in the health sector. Smart specialization in the Oulu Region is strongly linked to the Oulu Innovation Alliance.

2. Recommendations

→ The partnerships need a common strategic framework in a form of strategic innovation agenda, and resources which are evenly distributed in the cluster/network.

→ The funding from EU is needed. Within the FP9 the PPPP model should be supported with funding instruments that are suitable for the multi stakeholder consortium in an easy and flexible way. EU funding should support company participation and create an agile form of collaborating, like new forms of innovation competitions between MS.
Southern Denmark

1. Challenges, results and impact

Challenges and solutions
The Region of Southern Denmark is the driving force behind a regional initiative to create the best possible framework for citizens and the business community, and to make Southern Denmark an active and dynamic region. This requires close cooperation with the municipalities, businesses, the labour market and academic institutions, which has been established in the cluster ecosystem of the Region of Southern Denmark. Here the ecosystem comprises a different set of actors (companies, knowledge institutions, dealmakers, investors, etc.). Clusters are comprised of a triple helix which consists of business, academia and government. Business, academia and government.

The Region of Southern Denmark is a newly appointed 4-star reference site in the European Partnership on Active and Healthy Ageing with its strong focus on innovation in the health and social sector. In the region one organization has this as its focus point and therefore this organization handles the activities surrounding the reference site status, the Health Innovation Centre of Southern Denmark. The combination of authority of the hospital and regional development unit makes it an excellence European test bed for demonstrating and implementing large scale pilot activities. The region has a strong commitment from its political level to continue to be leading the path on implementing new innovative technologies, like eHealth services, integrated care solutions – including Internet of Things.

South Denmark eHealth Ecosystem, ECHalliance brings together stakeholders from health and social care, research, patient groups and industry within a specific geographical area, committed to accelerating the adoption of Connected Health solutions; at scale on commercial terms.

Role of funding – EU, national, regional
The Region of Southern Denmark has for more than a decade been involved in European projects and initiatives. In the following a non-exhaustive list of running programs and projects are listed: Digital Pathway, CoLab Denmark, SILVER, Patient@Home, Mastermind.

Funding from the Interreg Programmes which have been essential for the organisations to connect international – especially regarding development of ecosystems and smart specialisation.

Impacts
800 jobs created in an emerging sector 2008-2013 – according to Statistic Denmark’s analyses.

Integrated care:
WHINN, ACT@Scale, SmartCare, EIP on AHA group for eMental health, The Future of Telemedicine, Regional and national roll-out of monitoring solutions for COPD patients.
2. Recommendations

→ Focus on strengthening ecosystems and cross cluster collaboration
→ More support to eHealth product / service development (still an emerging marked)
→ Telemedicine – implemented locally (city level)
→ Cross sector innovation / Smart City
1. Challenges, results and impact

**Challenges and solutions**
The S3 of Navarra has been developed together with the Government of Navarra, companies, universities, technology centres and social institutions. It embraces therefore the quadruple helix governance model, which demands the involvement of the most relevant agents and the participation of society.

Being a small region, the surprise was that many of the stakeholders did not know each other before the development of the Navarra S3. Secondly, many meetings (including bilateral) were needed in order to convince every single stakeholder that their opinion and engagement was really needed, since all of them are crucial and will be affected by the strategy. Universities and technology centres were more used to work in this kind of environment. Civil society participation was a challenge, since it was difficult to explain that S3 is not only about industry and innovation.

A good example is our “Social Economy Ecosystem”. Tailored during the drafting of the S3, it was included as a thematic priority for business development the elaboration of a social economy plan. The Plan needed to include the quadruple helix, and it was adopted 6 months later (link). The Plan includes a strategic goals and a participatory governance (“Set of measures aimed at strengthening participation of members and different interest groups in Social Economy projects”).

**Role of funding – EU, national, regional**
Navarra was supported by the S3 Platform. The social economy plan will be included in our EFRD and ESF Operational Programmes.

**Impacts**
This Social Economy Plan of Navarra seeks to align all companies, organisations and agents of the Social Economy in a common strategy, in collaboration with the Administration; that is, as participants of the same project, from the design phase, in order to work in coordination toward the same goal. In order to make the most of this potential, public policy support of the development of the actions envisaged by the Comprehensive Social Economy Plan is not sufficient on its own. It is also necessary to integrate the Social Economy into all of Navarra’s policies on a cross-cutting basis.

The S3 of Navarra comprises 24 “challenges”. We are developing the exercise of linking those challenges with the H2020 call priorities for 2018-2020. For instance, being one of the challenges to promote the electric vehicle, we are identifying concrete calls in order to seek a better coordination of our stakeholders. Therefore, S3 may have a tremendous good impact in regions preparing themselves better for the for coming EU calls. This exercise should also have positive impact creating synergies between EU and regional funds.
2. Recommendations

→ The next phase of smart specialisation should have an increased focus on interregional cooperation.
→ The regions should incorporate in their smart specialisation strategy development process a mapping exercise between the regional priorities established in their S3 and the different financial or investment schemes at regional, national and EU level (H2020, COSME ...).
→ The S3 strategies, including such a financial planning exercise, should be compiled by the European Commission and used to facilitate cooperation among the regions, as well as in the development of adequate financing instruments. This exercise should contribute to further coordination and possible combination of funds at all levels (local, regional, national and EU) to support interregional projects.
1. Challenges, results and impact

Challenges and solutions
The NUTS2 area “North Middle Sweden” consists of three regions. Each region has their own Smart Specialisation strategy and has identified their specific areas of strength. The three regions and clusters in the area have a long tradition of cooperation and experience-sharing, not least through the so-called SLIM-project (2007-2013), an ERDF project which focused on cluster cooperation and the role of the clusters in regional development. The project created new contacts and increased mutual trust among participants, stimulating a higher growth rate among the participating companies as just one of many benefits. Social and environmental sustainability was also at the core of the project. In 2016-2017 the three regions have received funding for a new ERDF project. The aim of the project is to strengthen the regional innovation processes within the three regions through cooperation and exchange of knowledge between the regions, academia and clusters.

The clusters are the bridge between the companies and public authorities and also the universities. Nonetheless, the challenges in building the triple helix partnerships we see in North Middle Sweden are firstly the literally different languages in the different sectors, this is an actual barrier to overcome when building the partnerships. However, partnerships within digitalisation tends to be an exception. Within this field, highly successful cross-cutting sector partnerships are emerging.

The tendency to feel the need to benchmark its own sector towards other sectors, instead of reaching out and co-create, is another challenge North Middle Sweden are experience in the development of the triple helix partnerships. Many actors are struggling with the idea to look beyond their own sector when developing new ideas. The different areas of strengths in the Regional Research and Innovation Strategies for Smart Specialisation are identified based on different grounds and should not be compared, there is for example a great difference in the innovation system for actors involved in advanced manufacturing and actors within health and welfare. This is something to acknowledge, but not in terms of comparing the level of innovative maturity. It is the potential that should determine the services within the innovation system, not the other way around.

Role of funding – EU, national, regional
Both the SLIM project and the project Smart specialisation in North Middle Sweden are ERDF-funded. The operationalization of ambitions through clusters are furthermore heavily supported by ERDF. The clusters are carrying out projects in a majority of the prioritized S3-areas with support from ERDF. In some cases, strategic synergies with Horizon 2020 has been achieved.

There is some distance to travel however in reaching other EU funds since North-Middle Sweden has a track record of quite low participation in framework programmes. The associated challenges are an overreliance on a single funding source, a lack of transregional dimension in project and relatedly, less excellence in projects. A single program will often lack
the flexibility to meet the diverging interests of the public sector, research, business and civil society because of, for example, different positions on aims and indicators, as well as varying possibilities to adhere to the rules a programme, such as overhead costs and reporting requirements.

North Middle Sweden however acknowledge the three interconnected changes or trends that have been particularly valuable in Horizon 2020. These, trends, outlined below are all welcome and further development in line with the comments below could further improve the performance of the programme. First, increased focus on societal challenges is highly welcome. We largely share the formulation of the main challenges in the program. Second, the emphasis on triple and quadruple helix perspective in consortia-building is beneficial and a necessary step to move towards a programme focused on innovation and utilisation of research. Third, the many attempts to increase attractiveness to, and the engagement of, business through for example the SME instrument, the Fast-track to Innovation Pilot, the LEIT sub-program and the contractual PPP:s are commendable. The changes have opened for participation by stakeholders from North-Middle Sweden.

One big exception is Karlstad University which have been successful in attracting H2020-funds. Their track-record is also based on a long-term collaboration with other stakeholders, particularly the regional authority. The university and region are furthermore deepening this partnership through an initiative called the Academy for smart specialization.

**Impacts**

Smart specialisation has proven to be an effective and transformative tool for increased research and innovation (R&I) contributing to higher competitiveness on the regional and European level. The approach has been successful in refining priorities and achieving a more long-term and systematic approach to R&I policy.

In our regions, smart specialisation has furthermore been key to greater cooperation between business, academia and public organisations. In Värmland, the process has led to the development of the Academy for Smart Specialisation where the regional authority and the university are co-investing in joint projects with strong ties to business within the regional specialisations. Several strategic projects are operational, and more are being developed in all specialisations. In Dalarna, thematic groupings of stakeholders within regional specialisations have been established, allowing for development of strategic projects and increased uptake of horizontal priorities.

Smart specialisation has been particularly successful in enabling interregional cooperation and internationalisation (within Europe). This is not least evidenced by the incremental success of the Vanguard Initiative, where all three regions are members. It should be noted that both political memberships were founded on and preceded by interest and operational work in the pilot projects, i.e. business interest, represented by cluster organisations and science parks.

We particularly welcome the width of areas covered by the approach. While highly applicable and relevant in high technology sectors, smart specialisation has also proven an effective tool to capture and increase the innovativeness in service-driven sectors, such as tourism and
welfare services. The adaption of R&I policies to these areas however need to address new challenges, since they traditionally have been less covered by R&I policy. The priorities have so far resulted in a cross-sectoral project on gamification in tourism between the tourism sector and the IT-sector. Another example is a recent quadruple helix project seeking to establish a test bed on digitalization of welfare services with involvement from SME suppliers, public welfare providers, academic knowledge and most importantly, users of welfare services. Continued and increased support from the European Commission in these areas are therefore important.

2. Recommendations

The focus on later-stage innovation in higher TRL-levels and close-to-market in some of these and other calls is particularly wanted. However, a lot more could also be done to increase the amount of calls around close-to-market innovation. This entails both an increase in calls targeted directly at businesses (such as the FTI and SME Instrument) and calls targeted indirectly through clusters, science parks and other intermediaries (such as the highly popular INNOSUP call).

Furthermore, an enhanced connection with smart specialisation would provide stringency to European research and innovation policy and enable synergies. Involving regions more would improve the bottom-up perspective of Horizon 2020 and thereby enabling user-led, demand-driven innovation and reinforce the positive trends in Horizon 2020 outlined above. However, despite the acknowledgement that smart specialisation is central to the transformation of Europe towards a knowledge economy, and concrete examples illustrating the benefits, a clear role of smart specialisation regarding agenda setting in Horizon 2020 is lacking. Largely, Horizon 2020 priorities are static in relation to smart specialisation which means that connections between smart specialisation and Horizon 2020 is coincidental instead of coordinated.

Concretely this could entail giving the thematic smart specialisation platforms, and similar bodies, similar roles to the PPP:s in priority setting. It could furthermore entail taking account of priorities and capacities highlighted in smart specialisation when setting priorities within programmes and in later framework programmes. Moving towards a coordinated relationship would add stringency to European research and innovation. Second, the connection would naturally also assist in creating synergies between the European structural investment funds and the framework programme. Research and innovation in the ESIF is completely guided by smart specialisation priority setting and if synergies between the programmes are to be created at the strategic level, then the most apparent solution would be to increase the alignment of priority-setting in Horizon 2020 to the priorities set in smart specialisation. Aligning priorities is still possible without blurring the different main objectives of excellence in Horizon 2020 and cohesion in ESIF. It would simply create synergies between the two programmes and the objectives.

Similarly, since the advancement of synergies is an important goal, the European Commission should consider incorporating grades on how the project proposal are working systematically with different funding sources in the evaluation.
Pomorskie Region, Poland

1. Challenges, results and impact

Challenges and solutions
The process of creating partnerships in Pomorskie Region officially began in May 2014 when business and scientific circles interested in developing specific specialisations were asked to submit concrete proposals under the Call for proposals for the selection of Pomorskie Smart Specialisations. In the first stage of the process 28 partnerships submitted their applications that were assessed by independent experts who encouraged them to merge due to the similar scopes of their applications. Therefore, in the second stage of the process there were only 6 partnerships. The regional authorities selected proposals with the highest development potential among those submitted and defined four areas of Pomorskie Smart Specialisation (PSS): 1. Offshore, port and logistics technologies; 2. Interactive technologies in an information-saturated environment; 3. Eco-effective technologies in the generation, transmission, distribution and consumption of energy and fuels and in construction; 4. Medical technologies in the areas of civilisation- and ageing-associated diseases. The selected four areas of smart specialisations also defined the four partnerships in Pomorskie Region.

Pomorskie Region entered into negotiations with Partnerships representing areas of Pomorskie Smart Specialisations, which led to the conclusion of Agreements on Pomorskie Smart Specialisations on 28 January 2016, in order to specify the scope of smart specialisation areas, concentrate efforts on the most attractive and prospective segments (development directions), and facilitate the assessment of R&D and innovative projects applying for financing under operational programmes utilizing EU funds. The Agreements were signed by both Board of the Region and four Partnerships: around 400 partners from the region, including companies, representatives of higher education, clusters, business support institutions, hospitals, NGOs, municipalities and others.

We continued our collaboration with Partnerships. Under the Agreements on PSSs, Councils of PSSs were chosen from among the signatories. They constitute a “channel of communication” between Partnerships and the administration with regard to any activities within the given area of PSS. The Councils, consisting of 10 representatives of business, science and clusters, determine the direction of specialisation development and take measures to strengthen the area of PSSs. The main challenge of the process was the extensive time and resources – both human and financial that its development and implementation requires. Without support of EU funds, it would not have been as successful, comprehensive and efficient.

Role of funding – EU, national, regional
The process of identifying PSSs was carried out in six steps:
→ Step 1 – Reviewing and supplementing analyses concerning the region’s economic profile economic activity areas with high growth potential.
→ Step 2 – Inviting circles that identify with the issue of development of the above-mentioned economic activity
→ Step 3 – Presenting the submitted initial concepts and reviewing (analysing) them with the involvement of the Selection Board.
→ Step 4 – Inviting the Partnerships preparing initial applications to present final concepts of smart specialisations (second stage of the Call for Proposals).
→ Step 5 – Negotiations of the Board of the Pomorskie Region with Partnerships.
→ Step 6 – Concluding Agreements on Pomorskie Smart Specialisations between the partnerships and the Board of the Pomorskie Region.

The first three steps received financial support from EU funds. The from the first step was financed from European Social Fund within Regional Operational Programme for Pomorskie Voivodeship. Also, some activities from the step two and three, such as workshops and payment for external experts assessing applications were partly financed from the system project “INNOpomorze IV”.

The EU funding during the process of entrepreneurial discovery was crucial and we wouldn’t be able to conduct it on such a broad scale without this support. Partnership need support not only during the process of their creation but also - and perhaps even more importantly - at the further stages. This is a challenge that we as a region came across - decrease of involvement within each partnership. EU funding proved crucial at this point. In our region the animation of partnerships was conducted by external contractor Deloitte, which was also financed from EU funds – within Technical Support under Regional Operational Programme for Pomorskie Voivodeship. In 2018 we are planning to start the EU funded project which would support and animate not only regional partnerships but also local governments through building knowledge and expertise.

Impacts
The process of entrepreneurial discovery connected with the selection of Pomorskie Smart Specialisations has encouraged the search for ideas for innovative projects designed to meet market needs. The first calls for project proposals under the Regional Operational Programme for the Pomorskie Voivodeship for the years 2014–2020 showed the great application potential of Pomeranian entrepreneurs. There are already almost 300 projects within areas of smart specialisation recommended for co-financing. Pomorskie Region is also very active at the national and international level – the value of support for our projects within national Operational Programmes “Knowledge Education Development” and “Smart Growth” is 143 million EURO.

Another visible benefit resulting from the functioning of Pomorskie Smart Specialisations is the process of establishing co-operation between entities and regional stakeholders which previously operated individually, failing to notice not only each other, but more importantly the benefits and opportunities arising from such co-operation. The above-mentioned activities result in the creation of specific products and services designed to meet market needs, often with great prospects of expansion onto international markets. The activity of Pomeranian entities operating under the Pomorskie Smart Specialisations is also manifested through initiatives for the creation of industrial consortia, focusing companies around joint innovative undertakings, as well as new ideas for unique start-up support programmes, e.g. in the form of specialised incubators.
The negotiations between the partnerships and the Local Government of the Pomorskie Region also led to agreeing on specific undertakings (so-called horizontal projects) which are relevant for the development of the PSS as a whole and which may be given preference in access to finance within framework of the Regional Operational Programme or support in applying for financing at the national level.

2. Recommendations

→ The EU support for the partnerships should be available not only during their creation but also to animate their further activities to avoid decrease in their involvement

→ The funding is needed also for local authorities to be able to learn and exchange expertise with other European regions. We see in our region concerns of the entrepreneurs to engage in a R&D projects caused by the relatively higher risk of those projects. So there is a need to create a possibility to test the project thesis and fund a projects that would enable a proof of concept. The evaluation of the applications is relatively strict and usually does not allow contact with potential beneficiary which in some cases would be crucial and would allow them to explain the concept of the project. It causes a rejection of many potentially valuable project. There is a need to evaluate and perhaps change the model of assessment of the applications.
1. Challenges, results and impact

Challenges and solutions
The process of turning ideas into new or significantly improved products, services or business processes is tricky and it requires creativity between a variety of stakeholders, including customers, suppliers, financiers and other partners including government. All have been involved in the process of generating a supporting environment to nurture new business that has the potential to generate new markets. Stakeholders have included Universities, innovation hubs, Scottish government, Scottish cities alliance (city network) and numerous actors from the private sector. Therefore, this is a national mission, coordinated over a broad spectrum of actors as we believe the innovation journey has NO wrong door.

The long term goal and challenge for Scotland as a nation is to become one of the world’s top ranked innovation nations (the OECD Innovation performance index, currently identifies Scotland as a 3rd quartile ranked nation). Consultations and analysis of international good practice revealed that in order to succeed a new connected strategy was needed across five dimensions:

- **Wider Innovation**: connecting how partners across the eco-system support business innovation, and adopting flexible approaches that support innovation in all sectors and regions.

- A national commitment to **open Innovation** that gives our large private and public organisations solutions to their productivity/innovation challenges. Use open innovation to create opportunities for innovation across supply-chains in Scotland.

- **Workplace Innovation** - Ideas to transform existing or create new processes, products, services or technologies come from people. Scottish Enterprise recognises this is the most important economic resource. Our ability to transform our innovation performance relies on EVERYONE having a stake in shaping the future. Our Workplace Innovation services provide a platform for this to happen.

- **Deeper Innovation** activity directs support to key Scottish companies to assist them in maintaining their lead position in international markets and embed long-term innovation strategies.
• **Sector Innovation** – ensuring we have the right innovation infrastructure/ecosystem, access to it is well understood and easy to connect to. Invest in strengthening innovation eco-systems in sectors where we have leading edge capabilities - Subsea, Data, High-Value Manufacturing, Food & Drink and Fintech.

**Role of funding – EU, national, regional**

*Scotland has benefited from a number of EU funds linked to our Deeper, Wider and Workplace Innovation services and products, and to other smaller R&D projects. For the period from 2014 to 2020 we received €476 million from the ERDF and €465 million from the ESF.*

Scotland’s ERDF Operational Programme (OP) places a great deal of emphasis on accelerating the innovative capacity and access to markets for its priority sectors linked to S3 priorities. The ERDF OP notes the need to support the capacity of SMEs to grow in international markets, through enhancing business collaboration and supply chain development and facilitating clustering opportunities.

In particular, the OP notes a strand of activity under ‘deeper innovation’ which would see: ‘the creation of mechanisms to engage in smart specialisation supply chains with collaboration on new innovative products or services between SME suppliers and key players in global supply chains’. Scotland has championed this approach via its engagement in the S34Growth project, that has seen it sharing learning on innovation policy and practice with other EU regions, whilst also allowing for the exploration of this deeper approach to innovation but at an inter-regional level.

It is widely recognised that inter-regional collaboration can create both scale and spill-over benefits to industry in boosting their innovative and internationalisation capacity and which cannot be achieved easily when regions work in isolation. It is hoped that new insights will emerge into the benefits of industry-led inter-regional collaboration – and the mechanisms which support this.

This, in turn, will create new opportunities to refine and improve Scotland’s ERDF OP in terms of scope and reach. In addition, this project will allow us to explore Article 70 options and so explore risks and opportunities associated with undertaking this new form of investment outside of the region.

Moreover, there are also various EU funded projects that we are participating in relating to Service Innovation such as the NESSIE project that tap into the existing knowledge of anti-corrosion technology / novel materials solutions in the maritime sector supply chain to develop demonstration projects for offshore renewables in the North Sea. The corrosion solutions, when developed and commercialised, will provide global growth and job creation opportunities in remote regions in the EU.

**Impacts**
Since the inception and implementation of the strategy, Scottish innovation performance has improved dramatically and is changing the shape of the economy and leading to an increase in high-quality jobs:

- Value gained from Innovation has doubled from on average £500k per project in 2014 to £1.2M in 2016
- Business Innovation activity now at 51% of businesses (2015)
- Since 2014, 3,000 Businesses have become ‘Innovative active’
- BERD increased by 41% between 2010 and 2015 to reach £871M, and has recently broken the £1Billion barrier

Additionally, this has meant that the economy is in the process of transitioning into something far more flexible, being innovation led rather than consumption, facilitating much deeper relationships with existing innovators. Finally, but not least, the process is democratic and involves the ENTIRETY of the workforce.

2. Recommendations

Lessons learned

➢ Connecting and simplifying innovation support across our sectors is vital
➢ Cluster around opportunities (for Scotland this is Data, Fintech, Subsea & Manufacturing)
➢ Process Innovation, Lean Manufacture, and capitalising on Industry 4.0 opportunities can stimulate innovation investment
➢ Invest in infrastructure to accelerate technology, product and process innovations
➢ Use public and private procurement to catalyse innovation
➢ Encourage & Incentivise more businesses to innovate
➢ Value all forms of Innovation Product, Process, Technology, Service, Workplace and Open
➢ Improve efficiency of Innovation services and networks
➢ Focus on economic outputs/impacts from innovation— People, Profit, Exports and Productivity

Recommendations

The identification of Process Innovation improvements can often point to the need for new capital investment. A more flexible approach to State-Aid and funding programmes that enables EU regions to stimulate investment in capital equipment would connect EU innovation and investment policy objectives. This should apply to companies of all sizes.
South Moravia, Czech Republic

1. Challenges, results and impact

Challenges and solutions
A new system of self-governing regions was established just before the Czech Republic accessed the EU in 2004. At that time, political representatives agreed on the commitment to gradually build a knowledge based economy in South Moravia. This lead to formulation of the first generation of the RIS. Since then we have been able to embed (to certain extent) a culture that emphasizes long-term planning and need of collaboration among key stakeholders.

Smart specialisation is as a fruitful concept especially for the regions with well-developed regional innovation ecosystem. Otherwise, it remains a challenge in case of institutionally thin or loosely connected regions even to bring all the actors at one table regardless whether the consensus is reached later or not. Perception of reciprocity and gradual trust building seems to be vital in developing the regional partnership.

Role of funding – EU, national, regional
We have received extensive EU funding in the cohesion framework. Most of it has been dedicated to development of research and innovation infrastructure and to a smaller extent also to its operation. The main advantage apart from the money, comes with an implementation culture, and even more with the fact that the funding opportunities trigger broader and more frequent discussion among stakeholders. Moreover, significant progress in quality of the research and innovation environment (thanks to EU funds) has justified further effort dedicated to innovation policy.

Since 2016 there is a new funding scheme that aims to facilitate implementation of smart specialisation strategies at the regional level. In our case, it opens up new possibilities to deepen our knowledge about the regional ecosystem and evaluate, what we have done in context of the Regional Innovation Strategy so far. It has also helped us to cover the overhead cost and focus regional resources on more visible activities (i.e. support schemes). The main barrier is strongly connected. In case of the Czech Republic, the necessary processes have not been efficiently implemented at the national level. It has resulted in extensive administrative burden, delays and some other difficulties related to the ESIF funding.

Impacts
The benefits of EU funding are enormous, esp. in the field of research and innovation. The EU funding has given momentum to the catching-up effort in regions that were falling far behind the EU average in most of the relevant indicators. In about 10 years one can see distinct changes that can be attributed to a large extent to EU funds.
2. Recommendations

Regarding FPs, the main barriers may be seen in the low level of internationalisation together with inability to compete effectively with first in the class. Obviously, the internal condition has been changing gradually. But undoubtedly, the pace of change needs to be accelerated. In my opinion, the policy at the national level plays central role and underpins or undermines any further changes also in our ability to access fully FP9 in the future.

Interventions should be concentrated on situations where the marker failure is clearly identified. By this I mean mainly highly risky research and innovation, especially to help SME overcome the valley of death and to facilitate knowledge flows (between academia and industry, between research team across borders etc.).

Moreover, attention needs to be paid on evidence on which are the intervention built up in order to balance ambition with feasibility. This may be achieved with adoption of smart specialisation approach which may be highly demanded in case of less developed regions.

Timing is another issue. Intervention needs to be perceived in context of a sequence of steps that need to come in advance and that should follow up the main action. The question of sustainability comes to the fore.

Last but not least, particular attention needs to be paid on evaluation. Evaluation remains in many cases only unwanted obligation and it is done mechanically without any intention to learn from the past. The policy cycle does not end with evaluation, the last step consists of transformation of what we have learn into next steps. We must keep the aspect of quality of life in mind constantly. Every single intervention should have this goal somewhere in the background.
Trentino, Italy

1. Challenges, results and impact

**Challenges and solutions**

We have developed a series of partnerships, creating both dedicated organizations and specific projects at the regional level in different domains and for different purposes (e.g. Hub Innovazione Trentino, Prom Facility, Cartella Clinica del Cittadino, SPIN Lab Italy ecc.). These four examples represent, respectively, an innovation and tech transfer regional hub, a research managed rapid prototyping lab for companies, a jointly (research-companies) developed PHR owned by health public services, an accelerator for technology in sports.

One successful example is Polo Meccatronica, a technological centre where business, innovation and education interact and generate innovative projects with a Triple Helix approach. The centre involves key players in both the public and private sector, offering a common space to produce, research and test innovative products and processes. Polo Meccatronica is a flagship initiative of the autonomous Province of Trento, which has identified mechatronics as one of the four priority areas in the Smart Specialisation Strategy. Polo Maccatronica started in 2013 and by now it hosts 31 companies, comprising of a total of 235 employees and a turnover of 37 million Euros.

Another example is ProM Facility, a new infrastructure open to collaborations and designed to produce, research and experiment innovative and more efficient products, combining traditional mechanics with the most modern sensors and sophisticated virtual prototyping systems and electronic control techniques. Because of the collaboration between multiple regional stakeholders, it provides companies operating in the mechatronics sector with an integrated platform for the prototyping and qualification of mechatronic systems and subsystems.

The main challenge is the integration between different cultures and the governance model for these partnerships. To overcome these difficulties, it is necessary to have a strong political commitment, coupled with qualified people that are able to manage the initiatives. A dedicated communication strategy open to participation and contribution from outside is also important. It takes years, or even decades, to obtain these results.

**Role of funding – EU, national, regional**

We receive part of the funds by EU, from different sources: FESR, EIT and Horizon 2020. In general, the problem is often not linked to adequacy but to the bureaucracy needed to comply. This burden is a mix between EU and National regulations. Lighten the administrative burden and help to create competences at the boundary between research, market and institutions could be a strong help to succeed.

Polo Meccatronica provides an example where Autonomous Province of Trento is investing around 90 million euros with the synergic use of funds from different sources (EU, provincial as well as private).
The ProM Facility has, thanks to the commitment of European Regional Funds (ERDF) innovative machines for a total value of almost 6 million euro for rapid prototyping and three-dimensional printing of artefacts, including 3D metallic and polymer printing, laser cutting of tubes and sheet metal as well as advanced metrology systems such as x-ray tomography and high-speed digital image scanners.

**Impacts from the “polo meccartonica”**

→ 800 companies in the mechatronics sector in Trentino  
→ 400 new jobs generated in the mechatronics sector in Trentino  
→ €90 million total public investment in Polo Meccatronica  
→ 31 companies located in Polo Meccatronica (4 start-ups)  
→ 6,000 m² Mechatronics Protoptyping Facility  
→ €6 million the value of ProM Facility’s machinery (€5 million of ERDF + €1 million in kind from a private company)  
→ Changed enterprise ecosystem, which enhances innovation culture and capabilities of the companies.  
→ Stimulated the attraction of foreign investments.  
→ Helped create vertical clusters, with specific competencies and expertise.  
→ Raised the awareness of importance of innovation among the population.  
→ Fostered digitalization of the public administration.  
→ Opened Trentino to international networks.

2. Recommendations

→ Harmonise the policy framework for the public procurement of innovation and foster their adoption at regional level to accelerate the transition of innovative solutions from pre-commercial phases to market.  
→ Provide regions with data and information regarding the participation of organisations based in the regions at NUTS3 level.  
→ Stimulate the growth of a structural financial ecosystem at European level, especially for the benefit of SMEs in countries without a solid financial ecosystem.  
→ Facilitate cross-sectoral and cross regional value chain innovation across different sectors stimulating the creation of competitive cluster and SMEs.  
Innovation is about culture. Invest in long term programs.
1. Challenges, results and impact

Challenges and solutions
In 2016 and in the framework of the RIS3 strategy, the Regional Government of Tuscany set up the Regional Platform Industry 4.0, the new regional innovation ecosystem to support regional companies, especially SMEs, to innovate their business toward the Industry 4.0 paradigm and to have a better position in the global value chains through digitalization and technological transfer. The Platform 4.0 is based on a multi-partners cooperation approach and according to the triple helix model bring together relevant regional actors (Tuscany Region, universities and research centres, regional clusters, etc.) and inter-acts with business associations, chambers of commerce and other relevant stakeholders at local, national and European level.

At regional level, the Regional Platform for Industry 4.0 acts in connection with the Regional Technological Clusters, with the network of Tuscan Chambers of Commerce and the local business associations. Furthermore, the Regional Platform for Industry 4.0 operates in line with the National Plan for Industry 4.0 and with EU Platform for Industrial Modernisation. To foster the interregional dimension of the regional platform and to help companies to integrate in the European value chains and to develop concrete investment projects, the Regional Government of Tuscany has become part of the Partnership “SME integration to Industry 4.0” of the S3 Platform on Industrial Modernisation established in 2016 by the European Commission.

In addition, the Regional Platform Industry 4.0 has been recently recognized by the European Commission as one of the existing Digital Innovation Hub operating in the EU and it has been included in the European Catalogue of DIHs.

The main challenges of the Regional Platform is the development of a regional ecosystem to help companies especially SMEs to face the challenges of digitalisation and to adapt to the Industry 4.0 paradigm. The creation of a regional network of key players operating in the field of digitalisation helped to bring together companies and the research system in order to facilitate technological transfer in Tuscany. The public sector and in particular the Regional Government played a key role in overcoming the complexity of this innovation eco-system and in facilitating the interaction of the different actors involved.

Role of funding – EU, national, regional
The Regional Platform Industry 4.0 is a key tool for the implementation of the regional smart specialisation strategy. The Platform has not count for the moment with EU funding but only with regional resources. As for the implementation of the platform’s Action plan, the Regional Government has however provided grants and financial support to several projects developed by SMEs, large companies and Universities/research centers through the European Structural
and Investment Funds and regional funds. Regional funding operated also in complementarity with national funding granted in the framework of the National Plan for Industry 4.0.

The possibility to use other EU direct funds to further develop the Regional Platform and to implement its Action Plan have to be further explored to support the functioning and the management of the regional innovation ecosystem. The complexity of some EU financial mechanisms and resources such as Horizon 2020 Programme, the low success rate of the eligible proposals and the long-term procedures for the selection and the evaluation of proposals and applications did not allow to consider such financial instruments as tools to support the Regional Platform 4.0.

**Impacts**

The main outcome and results of the Platform are directly linked to the activities foreseen in the Action plan: Awareness building, Industry 4.0. maturity assessment for SMEs, Business development, Funding and financial support through regional and European structural funds (grants and other financial facilities to develop innovation projects and investments linked to Industry 4.0. paradigm and trainings).

During 2016-2017 in the framework of the Platform, Tuscany Region has developed different actions in support of SMEs, such as research to business and matchmaking events. A pilot project to map 4.0 skills in Tuscan research institutions has also been developed.

2. **Recommendations**

Regions represent the best level to bring coherence and to connect the actions of academic stakeholders, research centres, clusters and enterprises with European research and innovation policy. To this extent, synergies between the Research and Innovation Strategies for Smart Specialisation (RIS3) and FP for R&I should be enhanced. A better alignment of FP9 and RIS3 tools could allow stronger impact of R&I at territorial and local level. In line with the Smart Specialization strategies, one of the aims of FP9 should be to facilitate the creation of European value chains. A cross-cutting objective within FP9 should therefore be the support to the development of stable interregional networks of competence centers, involving universities, large companies, SMEs and public administration in the framework of scientific and technological collaboration projects, favoring a stronger integration between research and cohesion policy.

In particular, EU funding under the future FP9 should help:

- To develop and strengthen already existing regional innovation ecosystems which have been set up to increase EU regions’ competitiveness, to boost innovation and investments, involving especially SMEs which remain particularly vulnerable,
- To foster interregional cooperation of such innovation ecosystems in order to promote the creation of new European value chains,
- To support public-private partnerships and projects developed according to the triple or quadruple helix approach,
- To support projects and experimentations for SME (cascade funding scheme),
To develop new and simplified tools to implement synergies between different funding programmes (e.g. ESIF, H2020, etc.)

The Regional Platform Industry 4.0 and the related Digital Innovation Hub set up in Toscany together with the S3 Partnership on Industry 4.0 and SMEs and its value added at local and European level, are concrete example of pilot projects which could benefit from more targeted and streamlined EU financial resources.
1. Challenges, results and impact

Challenges and solutions
Zuid-Holland, centred on the cities of Rotterdam and The Hague, is a 24/7 real-life testing ground. As a region lying below sea level, the region has a huge challenge adapting to climate change. As a gateway to Europe with the port of Rotterdam, Zuid-Holland invests heavily in smart and clean transport. As a metropolitan region, we face challenges in feeding the city and keep a safe, clean and healthy environment for our people. All the region’s challenges are interrelated and need innovative solutions. This asks for crossovers between multiple disciplines and clusters. Zuid-Holland has developed five major clusters, contributing to innovations that we nurture at home and share with the world.

Examples are:
- Hightech & Smart Industry: Holland Instrumentation
- Life Sciences & Health: Medical Delta
- Horticulture: Greenport West-Holland
- Port in transition: SmartPort

Role of funding – EU, national, regional
We use the partnerships as described above to participate in European projects. From 2007 until 2013, knowledge institutes, businesses and authorities in Zuid-Holland received 1 billion euros in European subsidies for research, development and infrastructure. Approximately half was spent on university research programmes. During Brussels’ current financial period, all parties in Zuid-Holland together have already received 250 million euros in European subsidies from 2014 up to 2016. Main sources were European research programmes (FP7 and Horizon2020) and area-based subsidies from the ERDF. The allocation of these resources confirms the region's strength, as projects are selected on the basis of excellence.

Impacts
Our economic clusters are competitive, resulting in economic growth, jobs and prosperity for our region. In 2016 the regional economic growth was 2.3%, while the employment rate has grown with 1%. The most recent figures of R&D investments show that on a yearly basis a total of 3.1 billion euros were invested in R&D, which is 2.19% of the gross regional income.

More specific results and impacts are:
- Encouraging industrial research and experimental development. Unique European large-scale open access research and development facilities like the NeCEN microscope and the Bio Process Facility are financed by the ERDF. Also supported are our Fieldlabs (similar to the EU Digital Innovation Hubs), valorisation centres and incubators such as YESIDelft.
- Participation in and financial encouragement of starting and expanding knowledge-driven companies. Our regional economic development agency, InnovationQuarter,
24 has in four years created revolving funds of 130 million euros – partly financed by the ERDF.

→ Improving the innovation climate and the access or utilization of research & development knowledge infrastructure by SMEs.
→ Promoting sustainability with geothermal energy or geothermal heating.
→ Promoting the use of biomass for energy.

2. Recommendations

Key lessons learned:
→ Digital Innovation Hubs and Competence Centres, like our Fieldlabs, have a big potential for economic development and solving societal challenges by providing experimental testing environments. They are able to try new business models without heavily regulating them and address market failures at the same time. To be successful public funding is needed, so that they can prove themselves as reliable partners for private funding.
→ Structural financial support from Europe is needed for scale and mass creation. This also applies to the ability to invest in Fieldlabs as well as to cover the operational costs and the higher coordination costs for international cooperation. For more information please find the English version of our report on Financing Fieldlabs.

Recommendations:
→ Research excellence and competitiveness must remain the underlying principles, while the ESI Funds should target regional growth and cohesion.
→ Further efforts must be made to maximise synergies based on regional strategies and challenges for our clusters. For example, by rewarding regional impact of excellence research.
→ Ensure that framework conditions are improved and simplified so as to boost synergies and complementarity between sector-specific R&I policies, the Structural Funds, and R&I funds and programmes.
→ Provide funding solutions, stimulated by the Vanguard Initiative, which support the creation of the field lab innovation infrastructure would be very helpful.
1. Challenges, results and impact

Challenges and solutions
In the Lower Silesia, there is a strongly developed triple helix in the regional innovation ecosystem. Also, democratization of this system has been gradually developed for several years. This enables the successive construction of collaboration engaging citizens in innovation-based activities in the region. Wrocław (capital of Lower Silesia) is a good example of so called “meeting place”, where citizens are actively encouraged to take part in innovation-based initiatives. It is still growing process.

The challenges that we faced to build regional innovation system:

→ Uneven location of innovative “hubs” in the region (Wrocław vs other cities and other part of the region)
→ A small range of flexible business support (e.g. unused local beta markets potential)
→ There is still too little public interest in the sphere of innovation
→ A new generation is introducing other requirements for the market, marketing, social, political activities, etc.

Solutions implemented:

→ The greatest possible flexibility
→ Anticipation
→ Purposeful tooling for innovation development
→ Work at the bottom of a triple helix
→ Animation of R&D - business cooperation

Role of funding – EU, national, regional
We have not received EU funding for creating your partnership. It is a bottom up initiative. The partnership was born naturally. However, EU funding was received to build the tooling system, e.g. part of Wrocław Technology Park (WPT). On average around 50% of WPT assets were created using EU funds. These tools are the basis for shortening the process of innovation.

EU funds are public. As such should work for public issues development and the society. Therefore, we propose that EU funds should be used to generate markets for local regional and European companies, that in turn may have a very positive impact on regional surroundings in a quadruple helix manner.

Impacts
Taking into consideration such initiative as WPT (born in 1998), it has a big impact on local SME development, R&D – business collaboration, increase of business attractiveness of Region and Wrocław city itself. WPT together with 11 Universities run two entrepreneurship incubators. For 11 years we have supported the development of approx. 160 companies (mainly start-up’s, spin-off’s and spin-out’s) in our incubators. Our incubators were the winner
of “return on public investment” international contest, since 8 on 10 companies survive on the market, when they are incubated in our incubators. Local economy rises due to the fact of synergistic co-existence of approx. 230-240 companies in one highly innovative surroundings of WPT. The social benefit may be seen e.g. in an increase of working places and attracting new investors (Lower Silesia, especially Wrocław has one of the lowest unemployment rates).

2. Recommendations

→ Public funds should diminish the risk, which means invest to support a complete process of innovation;

→ Funding should cover in a flexible way all possible components of the process and ecosystem of innovation. It is difficult to develop innovation if you have to struggle with holes in the budget;

→ Public funding should use and strengthen the system of regional and sub-regional markets

→ Public funding can be used to involve the society into the innovation, but open manner (open source) should be very carefully proposed to the business development, since companies are very sensitive to the loss of Intellectual Property

We recommend that FP9 shall address coming development of regional innovation ecosystems in an open and flexible manner. RIS shall be taken into account, however shall not be perceived as having a rigid role, but rather as a guideline for developing the region and its specific competences. Support should be guided to the existing institutions supporting innovation instead of creating new. Taking the above into account, we also recommend the support of new initiatives, but in connection to the previous achievements. It is important to maintain regional development of innovation eco-system in continuity, and not to support new “one off” initiatives which do not support the development of the ecosystem as a whole. At the same time, all new promising ideas should be considered.

We also strongly recommend focussing FP9 funding programme on creation of regional markets for all partners involved. This shall have a large impact on the regional society and fasten the development of regional triple helix into the quadruple helix.

We also recommend focus on the creation of living labs, which will be open for the society not only in the period of the forthcoming projects (to not to die after the project period), but that they would serve as an innovation-born-places for new generation.
1. Did your region develop triple or quadruple partnerships at the regional level? What were the challenges in building these partnerships and how did you overcome them?

Lorem ipsum...
Lorem ipsum...
Lorem ipsum...

2. Did you receive EU funding for creating your partnership? If yes, which funding was used and was it adequate? And if not, why? How could EU (funding) support in overcoming those barriers or support further creation of such partnerships?

3. Main results and impacts achieved so far (impact to local economy, social benefits, etc.)

"Food for thought"

- Have smart specialisation strategies supported your project / creation of triple or quadruple partnerships?
- How far has the region identified and/or developed ‘bankable’ projects at the regional and interregional dimension based on a partnership approach?
- Did you search for synergies between EU and national funding instruments? Were you able to combine various funding sources?
4. Describe your most important lessons learned and your recommendations to the upcoming funding programmes and in particular FP9? What type of funding would support you the best in the future?

Contact Details

Name:
Organisation/Office:
Email:
Country of case origin: