THINKING SMART

Toolkit for the engagement of HEI in regional growth

Best practices for the contribution of HEI to RIS3

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Abstract

This document presents the results of Task 2.1 - Research on best practices for the contribution of Higher Education Institutions (HEI) to the R+I Smart Specialization Strategies (RIS3), implemented in WP2, as well as the results of Task 2.3 - Case studies selection. It includes the collection and analysis of best practices and lessons learnt implemented by HEI in Europe with regard to their involvement, participation and contribution to regional development, with a special focus on smart specialisation strategies.

The document describes the approach and criteria taken to select the best practices that are more relevant for the aim of the project. By applying these criteria, a set of 10 case studies has been elaborated and are included in this report. These case studies, distributed across Europe, correspond to case studies of universities that have successfully integrated the smart specialisation strategies in their strategic orientations (with an especial attention to its impact in educational offer) and that have an active role in the smart specialisation of their region.

The document contents are also supported by interviews to twenty stakeholders connected to the ten case studies as well as by the interviews with some key stakeholders across Europe that represent different views of the relations and connections among HEI and RIS3, according to their activity sector and diverse geographical origin.

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1. Introduction

This document “Best practices for the contribution of HEIs to RIS3” gathers the most relevant results of Task 2.1 - Research on best practices for the contribution of Higher Education Institutions (HEI) to the R+I Smart Specialization Strategies (RIS3), implemented in WP2 of the “Thinking Smart” Project and constitutes its scheduled Output O2.2.

It also includes results of Task 2.3 - Case studies selection and a summary report of the collection and analysis of best practices and lessons learnt implemented by a collection of selected HEI in Europe with regard to their involvement, participation and contribution to regional development, with a special focus on smart specialisation strategies.

The document describes the approach and criteria taken to select the best practices that are more relevant for the aim of the project. By applying these criteria, a set of 10 case studies has been elaborated and are included in this report. These case studies, distributed across Europe, correspond to case studies of universities that have successfully integrated the smart specialisation strategies in their strategic orientations (with an especial attention to its impact in educational offer) and that have an active role in the smart specialisation of their region.

The document contents are supported by interviews to twenty stakeholders connected to the ten case studies as well as by the interviews with some key stakeholders across Europe that represent different views of the relations and connections among HEI and RIS3, according to their activity sector and diverse geographical origin.

The names of stakeholders has been blinded but information on their characteristics is provided in order to have knowledge of their expertise and background.

2. Best Practices identification and compilation strategy

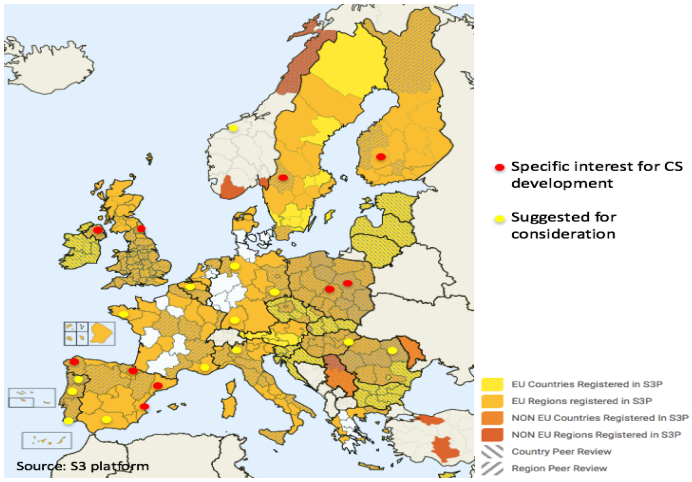
Thinking Smart project aimed to analyse universities that have successfully integrated the smart specialisation strategies in their strategic orientations (in terms of teaching/ learning, R&DI, services, etc.) and that have an active role in the smart specialisation of their region, highlighting the experiences of universities and regional governing bodies on the preparation and implementation of strategies aiming at fostering regional competitiveness.

After analysing the information sources, documents and identifying the projects (Appendices 8.1) connected with RIS3 and Thinking Smart project, the consortium identified 40 regions across Europe considered feasible to provide Case Studies relevant for the project.

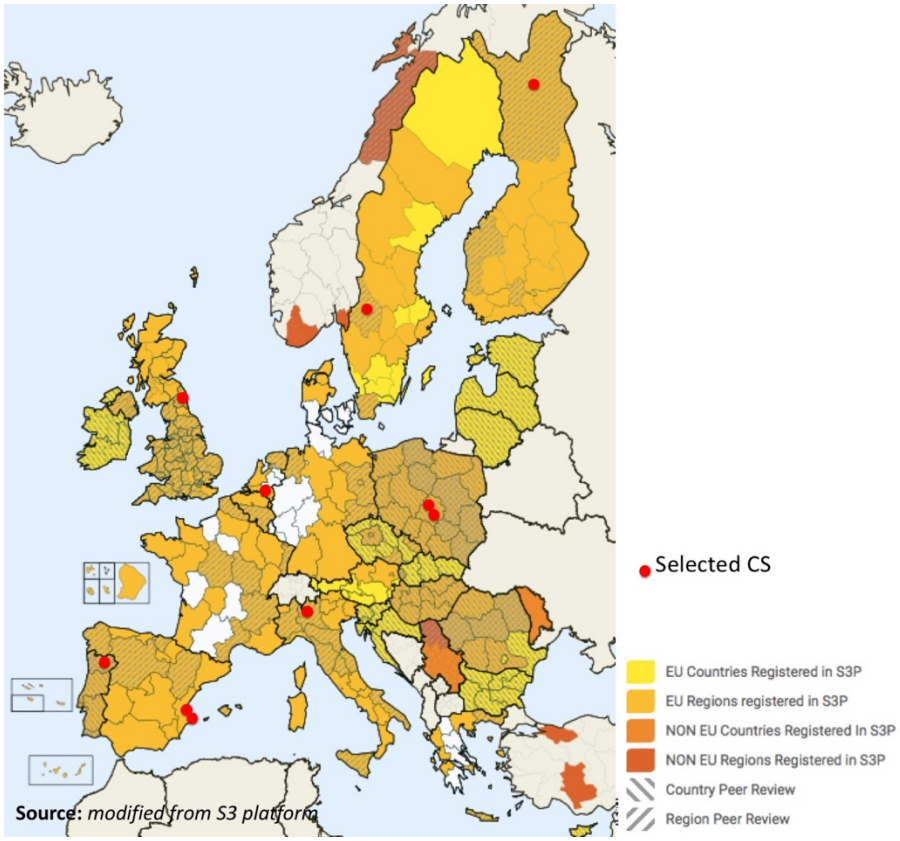
The regions are: Basilicata (Italy), Eszak Alfold (Hungary), Lodz (Poland), South Moravia (Czech Republic), Orebro (Sweden), Murcia (Spain), Slovenia (Slovenia), Northern Ireland (UK), Navarra (Spain), Bremen (Germany), North East (Romania), Tampere (Finland), Provence-Alpes-Cote d'Azur (France), Limburg (Netherlands), Flanders (Belgium), Møre og Romsdal (Norway), Algarve (Portugal), Andalusia (Spain), Styria and Upper Austria (Austria), Campus Iberus (Aragón, Navarra, Rioja, Catalunya), Castilla y León (Spain), Lombardy (Italy), Lower Silesia (Poland), Norte (Portugal), Ostrobothnia (Finland), South Moravia (Czech Republic), South Ostrobotnia (Finland), Värmland (Sweden), Tras os Montes (Vila Real) (Portugal), Comunidad Valenciana (Spain), Newcastle (UK), Galicia (Spain), Brittany (France), Centro Region (Portugal), Saxony (Germany), Basque country (Spain), Provernce-Alpes-Cote d'Azur (France), Scania (Sweden), Catalonia, Spain, RegioWIN contest (Baden-Württemberg), Several regions in Baden-Württemberg participated.

The consortium decided to use as a *selection criteria* the identification, description and analysis of at least one best practice that could be detected and that demonstrate the contribution and integration of universities in/to regional development and S3 in the universities selected as Case Studies of Thinking Smart project. These Universities cover different scenarios in different regions of Europe and have successfully integrated the smart specialisation strategies in their strategic orientations (with an especial attention to its impact in educational offer), having an active role in the smart specialisation of their region.

An initial selection of regions was done from which selecting potential case studies. After analysing also the availability of information in languages accessible for the consortium members more active in the elaboration of case studies, the selection was focus on cases closer to the partners.



The final location of case studies, listed below, is shown in the following figure,



The universities selected as Case Studies of Thinking Smart had already integrated the smart specialisation strategies in their strategic orientations:

CS_1_Universitat Politecnica de Valencia (UPV), Spain

CS_2_University of Trás-os-Montes and Alto Douro (UTAD), Portugal

CS_3_Politecnico di Milano (POLIMI), Italy

CS_4_Lapland University, Finland

CS_5_Newcastle University (NCL), UK

CS_6_Karlstadt University, Sweeden

CS_7_Lodz University, Poland

CS_8_Lodz Technical University, Poland

CS_9_Eindhoven University of Technology, the Netherlands

CS_10_Universitat de Valencia, Spain

In each university more than one single best practice has been studied. In this report we analyse in total 30 best single practices associated to the 10 selected universities.

We follow the notation BP_i_j for each of the best practices case analysed where i, between 1 and 10, stands for university, and j, takes integer values between 1 and 30, concerning the best practices identified among the 10 cases studies analysed.

Thus the values of i correspond to:

CS_1_Universitat Politecnica de Valencia (UPV), Spain

CS_2_University of Trás-os-Montes and Alto Douro (UTAD), Portugal

CS_3_Politecnico di Milano (POLIMI), Italy

CS_4_Lapland University, Finland

CS_5_Newcastle University (NCL), UK

CS_6_Karlstadt University, Sweeden

CS_7_Lodz University, Poland

CS_8_Lodz Technical University, Poland

CS_9_Eindhoven University of Technology, the Netherlands

CS_10_Universitat de Valencia, Spain

The values for j and thus, the list of best practices and case studies selected and compiled in this document correspond to:

BP_1_1: Polytechnic City of Innovation CPI_ UPV Science Park

BP_1_2: UPV Start-up ecosystem

BP_1_3: Valencia Space Consortium (VSC)

BP_1_4 Bank of patents of the Valencian Innovation System

BP_2_5: “Commitment 2020”: entrepreneurship and territorial cohesion forum

BP_2_6: “UNorte.pt Consortium”: pioneer initiative and inspiring others

BP_2_7: Régia Douro Park – Science and Technology Park

BP_3_8: A University Foundation as a strategic tool for smart specialisation.

BP_3_9: POLIHUB: a university incubator to support entrepreneurial discovery

BP_3_10: CAMPUS SOSTENIBILE: the university as the testing field of innovative co-design processes

BP_4_11: Lapland of Expertise

BP_4_12: International Lapland

BP_4_13: Lapland University Consortium’s Joint Innovation Programme

BP_5_14: drawing on university capabilities for smart specialisation analysis (NC)

BP_5_15: Attracting national centres to strengthen regional innovation capabilities (NC)

BP_5_16: The 10 Professors Programme: building research capability and regional alignment (SW)

BP_6_17: Smart Specialisation Academy: structuring the relationship between Region and University (SW)

BP_6_18: Promoting Gender Mainstreaming through Smart Specialisation (SW)

BP_7_19: The practical courses of study based on regional specializations

BP_7_20: The HEI as platform for exchange of views on the development of regional specializations between key stakeholders

BP_8_21: Significant impact on regional strategies

BP_8_22: Active participation in clusters

BP_8_23: Alignment of the R&D projects with S3 strategy

BP_9_24: Social value creation through evidence-based lighting design

BP_9_25: Smart and Green Mobility as a result of cross-sectorial collaboration for smart specialisations

BP_9_26: Smart Specialisations in sustainable energy, mobility and IT technology for Smart Cities Development

BP_10_27: The UV Science Park (PCUV)

BP_10_28: Observatory of Professional Insertion and Labor Advice (OPAL)

BP_10_29: Bank of patents of the Valencian Innovation System

BP_10_30: Valencia Space Consortium (VSC)

3. Key Stakeholders

3.1. Selection of key stakeholders

The key stakeholder's selection was proposed by the whole Consortium. Their blind characteristics are the following:

1. Principal administrator at the OECD's Science and Technology Policy Division

Senior economist/principal administrator at the OECD's Science and Technology Policy Division. In particular, he/she is responsible for the working party on innovation and technology policy (tip). With more than 15 years' experience in innovation policy. He/she has written on a range of topics from industry-science relations, human resources in S&T, technology incubators, university patenting and licensing, open innovation and globalisation and more recently on innovation for social challenges. Current activities include the study of the changing nature of innovation and the policy implications as well as work on demand-side policies for innovation.

2. General Director of **Smart Specialisation Platform at the European Commission (DG JRC-IPTS)**

He/she works for the Smart Specialisation Platform at the European Commission's Joint Research Centre in Seville. He/she currently leads a project on the role of higher education in smart specialisation, in cooperation with DG Education and Culture. This project includes action research in selected European regions and monitoring of how the European Structural and Investment Funds are being spent on higher education. During the negotiations on the operational programmes of the EU's Cohesion Policy he assisted DG Regional Policy in the analysis of innovation strategies in the UK and Portugal.

3. Expert on innovation and regional economic development

His/her expertise focuses on innovation and regional economic development, combining knowledge of innovation, education and research initiatives. In this capacity he/she has worked with local, regional and national authorities in the UK as well as with several of the European Commission Directorate Generals and other Member States.

His/her experience includes working as an advisor on regional innovation to DG Research advisory groups and as an expert advisor to the ODPM House of Commons Select Committee Inquiry into Regional Disparities in Prosperity in the UK. He/she was also a member of the UK Government's expert panel on Neighbourhoods, Cities and Regions Analysis.

Longstanding research interests on the role of proximity in innovation and economic development, particularly the nature and activities of knowledge exchange networks.

He/she recently contributed to an evaluation of the Marie Curie Actions, and led the evaluation of the European Institute of Innovation and Technology (EIT) for DG EAC. Other relevant work includes leading an evaluation of the regional dimension to EU R&D policies; undertaking the evaluation of the EU's Regions of Knowledge Pilot Action; leading a major study on the role of HEIs in the Greater South East on innovation and knowledge transfer in the UK, and various activities promoting the role of innovation in the present European Territorial Cooperation Objective. He was the author of the UK Government's 'Practical Guide to Cluster Development'.

His/her work spans the academic and policy boundaries, combining rigorous policy review with theoretical insights. He is currently leading two major European studies: one on regional economic resilience funded by the ESPON programme and the second on theme of regional innovation and smart specialization, financed by the EU's FP7.

4. Expert on Higher Education

He/she was centrally involved in 1998-2001 in initiating and shaping the Bologna Process, which aims to foster coherence in degree, credit and QA systems throughout Europe. Between 2001-2006, he worked for the EU Commission where he was in charge of major policy documents aimed at setting a European agenda for change/modernisation in higher education and research.

He/she has hands-on experience of university management and of quality assurance/accreditation (he is also a member of Austrian and Spanish accreditation agencies).

His/her career has involved active cooperation with major international organisations (OECD; Council of Europe; UNESCO; European Commission for the shaping/inception of its Erasmus, Tempus and Asia-Link programmes) and with numerous university networks in Europe and North and Latin America. He/she also served 8 years as Director General for Europe and Vice President of the Council on International Educational Exchange, New York/Paris."

5. European Industrial Research Management Association Delegate

"The European Industrial Research Management Association is an independent, member-led and non-profit organisation involving around 100 major companies operating in a wide range of sectors. It is a peer-to-peer learning organisation for R&D and Innovation professionals. The Association was founded in 1966 with the support of OECD. EIRMA deals with the effective global management and organisation of business R&D and innovation within a European perspective. The ultimate goal of EIRMA is making European R&D and Innovation a major contributor to a more liveable, sustainable world and an attractive place for its major stakeholders."

6. Director for Research and Innovation at EUA

He/she has worked for EUA since 2006 and has served as Director for Research and Innovation (R&I) since January 2014. He/she is responsible for supporting the work and enhancing the role of universities as major research and innovation organisations at the European level.

His/her responsibilities include the coordination of policy input based on the evidence and practice provided by EUA individual members and the National Rectors' Conferences. She is also in charge of policy input in collaboration with other major pan-European university networks and relevant stakeholders in the R&I sector. Her areas of work and activities cover a wide range of current EU priorities, namely the Horizon 2020 programme and its successor Framework Programme 9 (FP9); the European Research Area; research infrastructures; research integrity; university-business cooperation and other research partnerships; Regional Innovation Strategies for Smart Specialisation (RIS3); the Digital Agenda and Open Science. She also addresses the broad fields of doctoral education and academic careers in collaboration with the EUA-Council for Doctoral Education (EUA-CDE). As part of the EUA strategy in the field of energy as a fundamental societal challenge, she coordinates scientific and policy input to the European Strategic Energy Technology Plan (SET-Plan) through the European Platform of Universities in Energy (EUA-EPUE).

7. Pan-European Network Delegate

Leading pan-European Network bringing together 200+ accredited Business & Innovation Centers (BICs), Innovation-based Incubators, and Entrepreneurship Centers across Europe and beyond. A recognized expert and experienced speaker in innovation, incubation and local economic development, Philippe has developed strong relationship and several collaborative projects with the European Commission (EC), the European Space Agency (ESA), and a series of national & regional Governmental Agencies.

8. Conference of European Schools for Advanced Engineering Education and Research (CESAER) Delegate

CESAER is a non-profit international association of leading European universities of science and technology and engineering schools/faculties at comprehensive universities and university colleges.

CESAER stands for scientific excellence in engineering education and research, and the promotion of innovation through close cooperation with industry in order to ensure the application of cutting-edge knowledge in industry and society. It maintains and promotes the highest quality standards.

CESAER was established in 1990 and now has a membership of 51 institutions from 26 countries. CESAER sees the diversity of cultures and structures in Europe as a specific strength and opportunity and aims at a membership that mirrors that diversity."

9. Science Europe Association Delegate

Science Europe is an association of European Research Funding Organisations (RFO) and Research Performing Organisations (RPO), based in Brussels. Its founding General Assembly took place in Berlin in October 2011.

Science Europe promotes the collective interests of the Research Funding and Research Performing Organisations of Europe. It supports its Member Organisations in their efforts to foster European research. It will strengthen the European Research Area (ERA) through its direct engagement with key partners. In doing so it will be informed by direct representation of all scientific communities in its reflections on policies, priorities and strategies.

It works and partners with other entities such as the European Universities, the European Academies, the European Scientific Intergovernmental Organisations and the European Commission to develop a coherent and inclusive ERA. In its structures and actions it ensures that it takes into consideration the interests and opinions of researchers in all European research systems.

10. BusinessEurope Delegate

BusinessEurope is the leading advocate for growth and competitiveness at European level, standing up for companies across the continent and campaigning on the issues that most influence their performance. A recognised social partner, we speak for all-sized enterprises in 34 European countries whose national business federations are our direct members.

The organisation is headquartered in Brussels at the heart of the EU institutions. We work on behalf of our member federations to ensure that the voice of business is heard in European policy-making. We interact regularly with the European Parliament, Commission and Council as well as other stakeholders in the policy community. We also represent European business in the international arena, ensuring that Europe remains globally competitive.

11. European Association of Research and Technology Organisations (EARTO) Delegate

EARTO is a non-profit international association established in Brussels, where it maintains a permanent secretariat.

EARTO aims to promote and defend the interests of RTOs in Europe by reinforcing their profile and position as a key player in the minds of EU decision-makers and by seeking to ensure that European R&D and innovation programmes are best attuned to their interests; to provide added-value services to EARTO members to help them to improve their operational practices and business performance as well as to provide them with information and advice to help them make the best use of European R&D and innovation programme funding opportunities.

The Association represents the interests of about 350 RTOs from across the European Union and "FP-associated" countries (91 direct members, some of which are associations regrouping several RTOs).

The members elect an Executive Board to manage the day-to-day affairs of the Association. The Board elects one of its number as President. The President and Board appoint a smaller number of Board members to serve as a Steering Committee.

12. Full Professor of Economics and Management at the School of Engineering

Full Professor of Economics and Management at the School of Engineering of the University of Pisa. He has authored in the most important journals in economics of science and technology, innovation policy, and research evaluation and metrics. He/she is member of RISE, the group of experts supporting the Commissioner for Research and Innovation, Carlos Moedas. He has been working for OECD, DG Research, DG Regio, and several national and regional governments. In the period 2011-2015 he has served as member of the Board of the Italian Agency for the Evaluation of Universities and Research Institutes. He has pioneered the field of microdata on higher education institutions, first with the Aquameth project, then with the Eumida feasibility studies, and finally with ETER, the project supported by Eurostat, DG Education and DG Research aimed at producing microdata on al higher education institutions in Europe. On these issues he/she has published two books from Edward Elgar (2007 and 2014). He/she has in preparation a book from Springer on the evaluation of research in Social Sciences and Humanities.

13. Vice-President SEFI

The European Society for Engineering Education is the largest organisation for engineering education in Europe. Commonly known as SEFI, an acronym for its French name, Société Européenne pour la Formation des Ingénieurs, it is also known in German as the Europäische Gesellschaft für Ingenieur-Ausbildung. SEFI was founded in Brussels in 1973 and has more than 300 members in 40 countries. It promotes information exchange about current developments in the field of engineering education, between teachers, researchers and students in the various European countries.

Additionally, it develops the cooperation between higher engineering education institutions and promotes cooperation with industry, acting as a link between its members and other scientific and international bodies, in collaboration with other international organisations like its European sister organisation IGIP, the American Society for Engineering Education, and the Board of European Students of Technology.

3.2. Interview guide

The Stakeholder interview template was organized into 21 questions. Type of Stakeholders: Regional representative, University representative/Educational Expert; and business representative.

GUIDE:

1. Name, region and role of the interviewed key Stakeholder

2. Did you ever take part in S3 design or implementation in a region/country?

3. If your answer has been "Yes" to the previous question, can you let us know in what region and at least one priority topic of that region matched by the thematic orientation/specialisation of at least some university at your region characterises the S3 of that region / country?

The HEIs of that region that matched the mentioned priority topic :……

4. Are you aware of any change in your region / country because of the presence of Universities with certain thematic orientations / specialisations?

5. If your answer has been "Yes" to the previous question, can you provide more details on that?

6. If your answer has been "No", can you explain the reason why? More than one answer is possible.

[ ] Lack of interest from the S3 designers (regional or national government officials)

[ ] Lack of knowledge / information on what the local Universities do

[ ] The whole S3 design process has not involved the academic community

[ ] The S3 priority areas were too far from the local University orientations / specialisations

[ ] The academic community heavily influenced the S3 priority setting

[ ] Other…

7. Are you aware of any change in one or more local Universities' thematic orientations / specialisations as a result of your region / country S3 priorities?

8. If your answer has been "Yes" to the previous question, can you provide more details on that?

9. If your answer has been "No", can you explain the reason why? More than one answer is possible.

[ ] Lack of interest from the University representatives

[ ] Lack of knowledge / information on what the S3 is about

[ ] The whole S3 design process has not involved the academic community

[ ] The S3 priority areas were too far from the local University orientations / specialisations

[ ] The academic community heavily influenced the S3 priority setting

[ ] Other…

10. From the following list, what are in your opinion the key areas where local Universities can operationally implement the S3 priorities of your region / country? Use the following convention: 1=not at all, 2=not much, 3=don't know/neutral, 4=somehow, 5=very much

- Generation, Scouting and Development of Innovative Ideas
- Seed Capital
- Banks, Equity, Corporate Venturing
- Support to Enterprise Growth
- Research-Industry Collaboration
- Open Innovation
- Public Private Partnerships
- Social Innovation
- Student Engagement in Research and Innovation
- Other (go to next question)

11. If you answered "other", can you explain what you had in mind?

12. From the same list, what are the areas where you have seen a (re)alignment of local Universities to the S3 priorities of its region / country? Use the following convention: 1=not at all, 2=not much, 3=don't know/neutral, 4=somehow, 5=very much

- Generation, Scouting and Development of Innovative Ideas
- Seed Capital
- Banks, Equity, Corporate Venturing
- Support to Enterprise Growth
- Research-Industry Collaboration
- Open Innovation
- Public Private Partnerships
- Social Innovation
- Student Engagement in Research and Innovation
- Other (go to next question)

13. If you answered "other", can you explain what you had in mind?

14. From the same list, what are the areas where you see value in an online toolkit that collects good practice examples? Use the following convention: 1=not at all, 2=not much, 3=don't know/neutral, 4=somehow, 5=very much

- Generation, Scouting and Development of Innovative Ideas
- Seed Capital
- Banks, Equity, Corporate Venturing
- Support to Enterprise Growth
- Research-Industry Collaboration
- Open Innovation
- Public Private Partnerships
- Social Innovation
- Student Engagement in Research and Innovation

- Other (go to next question)

15. If you answered "other", can you explain what you had in mind?

16. Considering the various steps of the S3 development process, in which of them the contribution of local Universities has been more prominent in your opinion? Use the following convention: 1=not at all, 2=not much, 3=don't know/neutral, 4=somehow, 5=very much

Analysis of the specialisation potential of the region/country (for example: HEI carrying out original studies, surveys, or other research in support of S3 design)

Governance process (for example: HEI promoting the formation and animation of a Quadruple-Helix structure in support of regional/national S3, together with e.g. other universities, research centres, industrial clusters, individual enterprises or SMEs, government bodies or agencies, civil society and business associations / innovation intermediaries, etc.).

Entrepreneurial Discovery (for example: HEI's education/research/entrepreneurship promotion areas and activities of excellence have been considered by the policy makers while shaping the S3 priority domains)

Visioning (for example: HEI's new initiative / decision or policy change at the level of e.g. Rectorate, or Departments to align with the regional/national S3 priorities in the domain(s) of e.g. education, research, entrepreneurship promotion or other "third mission" areas and activities).

Other (go to next question)

17. If you answered "other", can you explain what you had in mind?

18. Additional, forthcoming steps of the S3 are listed below, where do you think the contribution of local Universities system can be more prominent in the near future? Use the following convention: 1=not at all, 2=not much, 3=don't know/neutral, 4=somehow, 5=very much

- Implementation (for example: a local University participating in the regional/national calls for proposal to be launched under ERDF's Thematic Objective 1).
- Monitoring (for example: a local University contributing to the definition and implementation of Operational Programme indicators and/or the elaboration of follow-up studies).
- Upgrade and re-design of the whole S3, which is or should be a sort of permanent process according to the European recommendations

- Other (go to next question)

19. If you answered "other", can you explain what you had in mind?

20. From the following list, what are the topic areas where you can mention an example of good practice from local Universities? More than one answer is possible.

[ ] Improved communication mechanisms between HEI and regional/national authorities

[ ] Incentives to participation of HEI in Entrepreneurial Discovery and S3 governance

[ ] Better participation of HEI in S3 implementation

[ ] Successful adjustment of HEI strategies to match S3 (with a special attention to the integration of S3 priorities in the educational offer and teaching/learning processes)

[ ] The drivers behind / barriers against successful engagement of HEI in S3

[ ] How to achieve an effective self-assessment of HEI capacities

[ ] Other…

Any link to information sources regarding the above will be appreciated.

21. Do you agree for publishing your personal information in the projects documents?

3.3. Synthesis and conclusions

The five finally contacted key stakeholders were originals from, or had mainly worked in, different European countries. Most of the questions were general but several of them related to their region, in which case the answers refer to the above regions.

Most of them have got experience in some S3 development. It is interesting the claim that rural, isolated and suburban regions somehow were able to more easily focus on specific topics linked to their local knowledge institutions than metropolitan areas. Moreover, the differences between local and national governments a) focussing primarily on re-industrialisation (via clusters), b) focussing on effective links with knowledge and c) even designing full-grown S3 strategies, including providing adequate societal, political, legal and financial frameworks are striking. Overall, it seems that North-West European regions (such as Amsterdam, Stockholm, London, Munich, Zurich, Lac Leman, Copenhagen, Leuven, Helsinki and so on) have been much more successful in realising creative, open and innovative societies than Eastern and Southern European regions despite their evident growth in prosperity, peace and overall development- with view exceptions in Spain (Barcelona and Valencia), Italy (Piermont & Lombardi), Czech Republic (Brno) and Estonia – that generally continue to lag behind.

Between examples of perfect matches in rural areas were: Energy and healthy ageing in Northern Netherlands; Electronics and superconductors in the Eindhoven area; Biotechnology and health ICT in Lac Leman; Nano-electronica and health in Eastern Netherlands; Petrochemical industry and maintenance in South Western Netherlands.

All stakeholders agree on the fact that there is a natural symbiosis between universities specialization and businesses of the region. The effects of a good match are striking in terms of higher investments, attraction of talent, co-location of (new) business, higher employment rates, higher economic growth, higher standard of living etc. Interestingly, there seems little evidence to more scientific creativity and excellence through thematic focus. Some studies even bring forward an opposite relationship: the more focus and concentration, the bigger the negative long-term impact on scientific creativity and quality. An example is the concentration and focus of Eastern European studies and languages in the Netherlands in the early eighties leading to the closure of many such departments in Dutch universities by the beginning of the nineties when circumstances suddenly changed. That is why some metropolitan S3 strategies in that region was much more focused on providing the favourable societal (openness & tolerance), political (non-intervention), financial (at least 3% GDP into R&D) and legal (tax reduction, open immigration laws) framework conditions and structures for cooperation, such as regional knowledge board, open innovation eco-systems etc.

Only one of the stakeholders was not aware of any change in one or more local Universities' thematic orientations/specialisations as result of his region/country S3 priorities and he thought it due to the little time past. All the other have seen some change. But this change has not got to be positive. As pointed by some of them, the effect of such specialisation and thematic focus may mean an impoverishment of the academic offer, reduction of research-based disruptive and market-creating innovation and, on the long term, decline of scientific creativity and quality though some young universities seem to prosper under such specialisation compared to the suffering excellent research-universities. However, the overall performance of such regions often remains limited to incremental innovation, too much orientation of education and training not always resulting in more attractiveness for talent from world-wide.

When asked about their opinion on the key areas where local Universities can operationally implement the S3 priorities of the HEI region / country, they all were given a likert table, their answers are indicated in the following likert scale table (1=not at all, 2=not much, 3=don't know/neutral, 4=somehow, 5=very much):

	1	2	3	4	5
Generation, Scouting and Development of Innovative Ideas				x	xxxx
Seed Capital	xx	x		xx	
Banks, Equity, Corporate Venturing	xxx	x		x	
Support to Enterprise Growth		xx	x	xx	
Research-Industry Collaboration				xx	xxx
Open Innovation			xx		xxx
Public Private Partnerships		xxx		xx	
Social Innovation		x	x	xx	x
Student Engagement in Research and Innovation			x		xxxx
Other (go to next question)				x	x

Thus, we see some variety of opinions though they all agree on its relevance in generation, scouting and development of innovative ideas and contributing to Research-Industry collaboration and mostly in the student engagement in research and innovation. In the "other" one of the pointed out that the new international programme contributed to giving an innovative image to the region and was visited and later replicated in other regions and countries. The other added opinion was that the essences of the universities contributions to S3 strategies is to push towards the unknown and breakthroughs therewith boosting regional development towards bottom-up research-based disruptive and market-creating innovation, promoting a fundamental and conceptual understanding and support to science and knowledge, enlightenment and liberalisation of the citizens, teach respect for the rule of law and human rights and peace etc.

From the same list, the areas in which they have seen a (re)alignment of local Universities to the S3 priorities of its region / country, their answers with same Likert were:

	1	2	3	4	5
Generation, Scouting and Development of Innovative Ideas		x	x		xx
Seed Capital	x	xx		x	
Banks, Equity, Corporate Venturing	xx	xx			
Support to Enterprise Growth		xx		xx	
Research-Industry Collaboration		x		x	xx
Open Innovation		x	x	xx	
Public Private Partnerships		x		xxx	
Social Innovation		xx	x	x	
Student Engagement in Research and Innovation		xx		x	x
Other (go to next question)					

One of the stakeholders pointed out that he had seen universities aligning in both directions with described effects.

From the same list, the areas where they see value in an online toolkit that collects good practice examples were as follows:

	1	**2**	**3**	**4**	**5**
Generation, Scouting and Development of Innovative Ideas		x	x		xxx
Seed Capital	xx	xx		x	
Banks, Equity, Corporate Venturing	xxx	xx			
Support to Enterprise Growth	x	xx	x	x	
Research-Industry Collaboration	x	x		x	xx
Open Innovation		x	x	x	xx
Public Private Partnerships	xx	x	x		x
Social Innovation		x	x	x	xx
Student Engagement in Research and Innovation		x		x	xxx
Other (go to next question)	x				x

Considering the various steps of the S3 development process, the opinion of stakeholders was not uniform on which of them the contribution of local Universities has been more prominent as the following Likert gathering their opinion shows (1=not at all, 2=not much, 3=don't know/neutral, 4=somehow, 5=very much)

	1	2	3	4	5
Analysis of the specialisation potential of the region/country (for example: HEI carrying out original studies, surveys, or other research in support of S3 design)	x	x		xxx	
Governance process (for example: HEI promoting the formation and animation of a Quadruple-Helix structure in support of regional/national S3, together with e.g. other universities, research centres, industrial clusters, individual enterprises or SMEs, government bodies or agencies, civil society and business associations / innovation intermediaries, etc.).		xx	xx		x
Entrepreneurial Discovery (for example: HEI's education/research/entrepreneurship promotion areas and activities of excellence have been considered by the policy makers while shaping the S3 priority domains)		x	xx	xx	
Visioning (for example: HEI's new initiative / decision or policy change at the level of e.g. Rectorate, or Departments to align with the regional/national S3 priorities in the domain(s) of e.g. education, research, entrepreneurship promotion or other "third mission" areas and activities).		x	x	xx	x
Other (go to next question)	x				x

Neither there has been uniformity in the forthcoming steps of the S3 listed below on where they think that the contribution of local Universities system can be more prominent in the near future (1=not at all, 2=not much, 3=don't know/neutral, 4=somehow, 5=very much)

	1	2	3	4	5
Implementation (for example: a local University participating in the regional/national calls for proposal to be launched under ERDF's Thematic Objective 1).				xx	xx
Monitoring (for example: a local University contributing to the definition and implementation of Operational Programme indicators and/or the elaboration of follow-up studies).		xx		x	xx
Upgrade and re-design of the whole S3, which is or should be a sort of permanent process according to the European recommendations		x	xx		xx
Other (go to next question)					

Here the Brexit existence was pointed out by some stakeholder for not being able to answer to the first question.

Finally, from the list provided in Question 20, all stakeholders agreed on mentioning ”Better participation of HEI in S3 implementation” as topic where they can mention an example of good practice from local Universities. The other options received minor attention:

- Improved communication mechanisms between HEI and regional/national authorities
- Incentives to participation of HEI in Entrepreneurial Discovery and S3 governance
- Successful adjustment of HEI strategies to match S3 (with a special attention to the integration of S3 priorities in the educational offer and teaching/learning processes)
- The drivers behind / barriers against successful engagement of HEI in S3

Some of the stakeholders did request not publishing their personal information in the projects documents and thus we will not.

4. Case Studies

4.1. Selection criteria

Thinking Smart project aimed to analyse universities that have successfully integrated the smart specialisation strategies in their strategic orientations (in terms of teaching/ learning, R&DI, services, etc.) and that have an active role in the smart specialisation of their region, highlighting the experiences of universities and regional governing bodies on the preparation and implementation of strategies aiming at fostering regional competitiveness.

After analysing the information sources, documents and identified the projects (Appendices 8.1) connected with RIS3, the consortium identified 40 regions across Europe considered feasible to provide Case Studies relevant for the project:

#	Region	Framework / source
1	Basilicata (Italy)	FP7 SmartSpec case study regions
2	Eszak Alfold (Hungary)	FP7 SmartSpec case study regions
3	Lodz (Poland)	FP7 SmartSpec case study regions Erasmus+ case study regions; involved in current project
4	South Moravia (Czech Republic)	FP7 SmartSpec case study regions
5	Orebro (Sweden)	FP7 SmartSpec case study regions
6	Murcia (Spain)	FP7 SmartSpec case study regions
7	Slovenia (Slovenia)	FP7 SmartSpec case study regions
8	Northern Ireland (UK)	FP7 SmartSpec case study regions
9	Navarra (Spain)	FP7 SmartSpec case study regions Seminar on Higher Education and Smart Specialisation April 12-13, 2016
10	Bremen (Germany)	FP7 SmartSpec case study regions
11	North East (Romania)	FP7 SmartSpec case study regions Seminar on Higher Education and Smart Specialisation, April 12-13, 2016
12	Tampere (Finland)	FP7 SmartSpec case study regions
13	Provence-Alpes-Cote d'Azur (France)	FP7 SmartSpec case study regions
14	Limburg (Netherlands)	FP7 SmartSpec case study regions
15	Flanders (Belgium)	FP7 SmartSpec case study regions

#	Region	Framework / source
16	Møre og Romsdal (Norway)	FP7 SmartSpec case study regions
17	Algarve (Portugal)	FP7 SmartSpec case study regions
18	Andalusia (Spain)	S3 platform case studies
19	Styria and Upper Austria (Austria)	S3 platform case studies
20	Campus Iberus (Aragón, Navarra, Rioja, Catalunya)	S3 platform case studies
21	Castilla y León (Spain)	S3 platform case studies
22	Lombardy (Italy)	S3 platform case studies Erasmus+ case study regions; involved in current project
23	Lower Silesia (Poland)	S3 platform case studies
24	Norte (Portugal)	S3 platform case studies
25	Ostrobothnia (Finland)	S3 platform case studies
26	South Moravia (Czech Republic)	S3 platform case studies
27	South Ostrobotnia (Finland)	S3 platform case studies
28	Värmland (Sweden)	S3 platform case studies Region Värmland. (2013a). Värmland Model 2.0. Region Värmland. Värmland, Sweden. Region Värmland. (2013b). Värmlandstrategin 2014–2020. Region Värmland. Värmland, Sweden.
29	Tras os Montes (Vila Real) (Portugal)	Erasmus+ case study regions; involved in current project
30	Comunidad Valenciana (Spain)	Erasmus+ case study regions; involved in current project
31	Newcastle (UK)	Erasmus+ case study regions; involved in current project
32	Galicia (Spain)	Workshop on “Universities promoting regional innovation across Europe”
33	Brittany (France)	Workshop on “Universities promoting regional innovation across Europe”
34	Centro Region (Portugal)	Workshop on “Universities promoting regional innovation across Europe”
35	Saxony (Germany)	Workshop on “Universities promoting regional innovation across Europe”
36	Basque country (Spain)	Workshop on “Universities promoting regional innovation across Europe”
37	Provence-Alpes-Cote d'Azur (France)	Workshop on “Universities promoting regional innovation across Europe”

#	Region	Framework / source
38	Scania (Sweden)	Benneworth, P., Coenen, L., Moodysson, J., & Asheim, B. (2009). Exploring the multiple roles of Lund University in strengthening Scania's regional innovation system: Towards institutional learning?. European Planning Studies, 17, 1645–1664.
39	Catalonia, Spain	Seminar on Higher Education and Smart Specialisation April 12-13, 2016
40	RegioWIN contest (Baden-Württemberg) Several regions in Baden-Württemberg participated	http://regiowin.eu

The *selection criteria* for the selection of the case study is based in the use of materials already available to draw on in the identification, geographical mix across Europe, and selecting specific countries looking at peripheral regions, cross-border or organizational structure, instead of overly studied regional universities.

One of the difficulties that the consortium faced was the availability of materials in English to analyse. In some of the universities selected, the documents were in the language of the country and it was not easy to quick translate with accurate data, furthermore their implementation of RIS3 was not so advance; there so, we decide to change some of the first options agreed.

The final selection of Case studies was:

CS_1 Universitat Politécnica de Valencia, Spain

CS_2 University of Trás-os-Montes and Alto Douro, Portugal.

CS_ 3 Politecnico di Milano, Italy

CS_4 Lapland, Finland

CS_5 Newcastle University, United Kingdom

CS_6 Karlstad University, Sweden

CS_7 University of Lodz, Poland

CS_8 Lodz Technical University, Poland

CS_9 Grenoble Alps, France

CS_10 Thent/Liege University, Belgium

The geographical distribution of this Universities is shown in the map presented in section 2 of this report. Due to the difficulty in finding information in English and poor advance in RIS3 implementation, regarding CS_9 and CS_10, The WP Leader proposes to the consortium in a virtual meeting to change the Regions and, and look to the Netherlands and Spain. Regarding CS_10 -Universitat de Valencia, Spain- we must say that, despite is in the same region than CS_1 UPV, UV is a model of the outcome of more than five centuries of history: accumulation of knowledge and unique documentary treasures that contributes to social innovation and it is also included in the RIS3 strategy of Comunitat Valencia, Spain.

4.2. Case Studies description

4.2.1. Case study 1: Universitat Politecnica de Valencia, CVRegion, Spain.

A model of university-industry collaboration based on research, development and growth

About COMUNITAT VALENCIANA

Comunitat Valenciana is one of the 17 autonomous regions of Spain and consists of three provinces: Castellón, Valencia and Alicante located at the east of Spain.

In what I+D+I is concerned, Valencian Community is increasing its investment in I+D in terms of its growth domestic product (GDP) (0.7% in 2000, 1.1% en 2009, 1% in 2011) but beeps below the national average (1.3% in 2011).

About Universitat Politècnica de Valencia (UPV)

UPV is a modern, innovating and efficient institution which is able to offer quality structured training geared towards the necessities of society, also it develops research which is relevant and has an impact, transfers its results both nationally and internationally, is considered as a strategic partner for universities and institutions at a global level, and stands out in its commitment to social responsibility as a public university.

UPV values are: to believe in and practise the values of honesty, integrity, equality, solidarity and integration; to develop our activity in a professional and committed way - and also with creativity, dynamism and a spirit of innovation- from an international perspective. To seek to provide satisfaction, at the same time making efficient use of the resources under our control and be accountable to society in a transparent way; and to ensure a practise of government of the University which encourages the participation of different groups.

About RIS3 in the Region

The RIS3 in the region of Valencia has focused on three major priorities of development: quality of life, innovative product and advanced manufacturing processes: a) Quality of life encompasses the production and Valencian agri-food transformation, It also integrates innovation for the health promotion, disease prevention, the development and improvement of products, services, infrastructure, human resources and health process management. b) Innovative product includes the manufacture of goods, mainly footwear, textile, toy, childcare articles, and habitat, and c) Advanced manufacturing processes covers the manufacture of means of transport (automobile and railway). This axis includes the manufacture of capital goods, a strategic sector with a view to the improvement of competitiveness, productivity and the internationalisation of the regional economy.

BEST PRACTICES

BP_1_1: Polytechnic City of Innovation CPI_ UPV Science Park

- ***Brief***: The CPI is built on a model of Open Collaboration Network, flexible configuration, which brings together public and private agents who share their knowledge and resources on a voluntary basis. Three main agent compose the base of CPI: Research centres, Innovation Antennas, Entrepreneurial Innovation centres. CPI works in close relationships with private companies, public Valencian bodies, Spanish I+D+I body and international agencies to promote global innovation.
- ***Area***: Research, Transfer of knowledge & Technology
- ***Potential impact for regional development***: Consultancy Services. Innovation Vouchers. Knowledge Transfer Partnerships. Science and Technology Parks. Research and Technology. Network and Cluster Development. Encouraging Intellectual Property Development International Linkages.

BP_1_2: UPV Start-up ecosystem

- ***Brief***: STARTUP project concerns promoting and assisting students and graduates in entrepreneurial technological activities. All the initiatives, projects and companies that belong to STARTUPV become links in an enterprising value chain, which pull one from another. As part of this entrepreneurial ecosystem, the entrepreneurial projects, start-up's and companies benefit and benefit from the institutional support, the services of the UPV and the network of experts of the UPV Ideas Institute. Likewise, entrepreneurs must bring their experience and time to the ecosystem for the benefit of others.
- ***Area***: PROMOTING ENTERPRISE, BUSINESS DEVELOPMENT AND GROWTH
- ***Potential impact for regional development***: Graduate Enterprise (training, placements, new firms). University Spin Outs. Network and Cluster Development. Encouraging Intellectual Property Development. International Linkages. Workforce Development (skills development programmes). Talent Attraction and Retention. Student participation

BP_1_3: Valencia Space Consortium (VSC)

- ***Brief***: VSC carries out scientific research and technological development services in any field related to the space sector, increasing safety and quality of production of space systems as well as conducting all activities aimed, directly or indirectly, to achieve social and economic progress in Europe in the space sector
- ***Area***: enhancing regional innovation through research activities
- ***Potential impact for regional development:*** Network and Cluster Development. International Linkages. Workforce Development. Talent Attraction and Retention (incoming mobility, fellowship). Social and economic development. Knowledge Transfer Partnerships. Innovation Vouchers.

BP_1_4: *Bank of patents of the Valencian Innovation System*

- ***Brief***: The Patent Bank is a joint program of the *Generalitat Valenciana* and the public research bodies of the Region of Valencia, which aims to facilitate the

meeting between entrepreneurs, entrepreneurs and innovative knowledge generation centres, to facilitate the transfer of the technological results generated by scientists to the productive and service sectors. It aims to value the potential of the Region in the hand of the business and industrial fabric together with our excellent R & D & I network, fostering a rapprochement between companies and universities in order to strengthen their relationships, in which the university is a source of technological solutions for our companies. It aims to be a unique window in which all the research results of universities and public research organizations are found and thus facilitate the supply of patents and technologies pending licensing.

- ***Area***: understanding the role of universities in regional development
- **Potential impact for regional development:** Tapping into the knowledge base about the role of universities in regional. Universities and regional innovation**.** Social and economic development**.** Building regional capacity**.** The university drivers. Innovation Vouchers. Workforce Development (skills development programmes)**.** Talent Attraction and Retention (incoming mobility, fellowship)**.** Encouraging Intellectual Property Development. University Spin Outs.

4.2.2. Case study 2: University of Trás-os-Montes and Alto Douro, Portugal.

A model of regional collaboration with pertinent applied research for the Douro region that leads to cooperative economic and social development

About DOURO REGION

The Douro Region (NUTS III) is the sub region of the Northern Region where the University is located and contrasts with the Northern Region that receives influence from Oporto and surrounding municipalities, the second largest metropolitan area in Portugal. The identity matrix of the territory / sub region is agro forestry business and tourism.

In 2001, UNESCO recognised the Alto Douro Wine Region, which was considered a “living evolutionary cultural landscape” and important magnet for tourism. The UTAD has a national and international R&D and teaching staff for the viti-vinicultural sector that contributes to quality wines and entrepreneurial upstarts. The Douro wine industry has a key role for the regional economic growth and was included in the Regional Innovation for Smart Specialization Strategy (RIS3) for the Northern Region as an important component for Agro-food Systems

About HEI

UTAD is an institution of higher educational level oriented towards the creation and dissemination of culture, knowledge and science by merging teaching, scientific research, regional cooperation and applied research development and construction for the region.

Public higher education institutions, such as UTAD, are created by decree-law according to the national system of public higher education, and taking into account their needs and sustainability. These institutions have legal autonomy and are subject to a public interest recognition procedure by the Ministry of Education in order to function and assign

degree programmes that reflect the needs of the region. Public funding accounts for 60% of the overall budget.

About RIS3 in the Region

The work carried out during the preparation of the smart specialisation strategy (S3) had significant involvement of relevant stakeholders and experts through the organisation of surveys, thematic workshops and individual meetings.

After an analysis of the regional context and potential for innovation, and the establishment of an overall vision for North's future, the following priority areas have been selected: Life and health sciences; Culture, design and fashion; Sea-related economic activities; Human capital and specialised services; Mobility and environment industries; Advanced manufacturing; Agriculture environmental systems and food; Symbolic capital, technology and tourism.

BEST PRACTICES

BP_2_5: "Commitment 2020": entrepreneurship and territorial cohesion forum

- ***Brief***: In an unprecedented initiative, in Portugal, higher education institutions, intermunicipal communities of Northeast and Chamber of Commerce and business association teamed up to sign a Commitment Letter ("Commitment 2020": entrepreneurship and territorial cohesion forum) to promote a Development program for Trás-os-Montes and Alto Douro region. In this letter, the signatories pointed out that the presence of the higher education entities, in the Trás-os-Montes and Alto Douro region, continues to have strong challenges in the reinforcement of competitiveness and economic, social and territorial development. Following the letter, two forums were recently organized. Considering the region to be a land of opportunity, the forum intended to create a space for participation and sharing of ideas and concerns that could generate clear ideas and proposals, and promote more complicity and cooperation among the regional actors.
- ***Area:*** Understanding the role of universities in regional development
- ***Potential impact for regional development***:
  - Social and economic development
  - The mechanisms by which universities can and do contribute to regional development
  - Consultancy Services
  - Knowledge Transfer Partnerships
  - Encouraging Intellectual Property Development
  - International Linkages
  - Workforce Development (skills development programs)

BP_2_6: "UNorte.pt Consortium": pioneer initiative and inspiring others

- ***Brief***: The "UNorte.pt Consortium" is a strategic partnership between the public universities of Northern Portugal: Porto, Minho and UTAD. This consortium is considered a "pioneer initiative" and "inspiring for other institutions" for improving organizational communication, efficiency and implementing a regional strategy.

The three universities in Northern Portugal have been working together, in order, to cement efforts and align proposals for developing projects that will combine scientific merit with an effective impact on the region´s economic and social development and subsequently strengthening the probability for success in obtaining national and international funding.

- ***Area:*** Enhancing regional innovation through research activities
- ***Potential impact for regional development:***
  - The mechanisms by which universities can and do contribute to regional development
  - Research and Technology Centers
  - Graduate Enterprise (training, placements, new firms)
  - Talent Attraction and Retention (incoming mobility, fellowship)

BP_2_7: Régia Douro Park – Science and Technology Park

- ***Brief***: The Douro Régia Park –Science and Technology Park - is focused on agro-food, agro-industrial, oenology, viticulture, green economy, environmental enhancement and agro-environmental technologies. This science and technology park is promoted by the Municipality of Vila Real, UTAD and Portuspark (Network of Technology Parks and Incubators). It stands as a beacon for integrated economic development, investing in the strong valences of UTAD and the region. It constitutes a new business centrality for the Douro region.
  The Park has multiple valences to support entrepreneurs and companies, business projects, national and international investors, research promotion, and development and transfer of technology and knowledge.
- ***Area:*** Promoting enterprise, business development and growth
- ***Potential impact for regional development***:
  - Building regional capacity
  - Consultancy Services
  - Network and Cluster Development
  - Workforce Development (skills development programs)

4.2.3. Case study 3: Politecnico di Milano, Italy

A model of regional collaboration with pertinent applied research for the Douro region that leads to cooperative economic and social development

About LOMBARDY REGION

Lombardy, with its 9.9 million people (Istat, 2015), was the fifth among all European regions by GDP in 2012 (Infocamere, 2015). Its manufacturing system is among the most developed in Italy and Europe, with a strong vocation to export. Lombardy region is one of the most accessible regions in Italy and a crucial gateway to Italian economy, being at the crossroad of three important European corridors. It is a peculiar and favourable context in terms of university offer with its 13 HEI institutions and its 34 research centers. The most significant research fields are Health, Energy and Environment, Advanced Manufacturing, Food and ICT, most of them covering both fundamental research and technology transfer.

In terms of Research and Innovation policies, Italian Regions and the state have a shared competence: Regions in particular in the last decade, have developed specific attention to this field of public action and Lombardy Region has been at the forefront in this respect, trying to play a proactive role in the field of research and innovation strategy.

About HEI

Established in 1863, Politecnico di Milano is one of the most outstanding technical universities in Europe, the largest school in Engineering, Architecture and Industrial Design in Italy. It is organized in 12 Departments and 4 Schools, distributed in 7 Campuses, as an outcome of a peculiar strategy aimed at developing specialisation in education and research on the base of the interaction with the local manufacturing systems, particularly in subregional spaces traditionally characterised by a distrectual organisation of economy. Schools take care of education, whereas Departments are devoted to research. Smart specialisation strategies is coordinated by Rector and pro-rectors and supported TTO office (Ufficio per il trasferimento Tecnologico); Fondazione Politecnico (University Foundation) and Servizio Ricerca d'Ateneo (Athenaeum Research Office). Politecnico di Milano model of interacting with S3 could be described as a well coordinated but implicit model: the S3 strategy is not based on an official encompassing and explicit plan. Nevertheless its model is based actually on the one hand on a longstanding tradition of collaboration with the private and public entrepreneurial world and public institutions, on the other hand a coordinated organisation of tasks, assigned to different structures with dedicated staff and peculiar objectives, complement each other: the result being the fact that Politecnico di Milano is one of the most successful actors in the logic of smart specialisation in the country.

About RIS3 in the Region

Lombardy Region was one of the first to release its own specialisation strategy at the end of 2013; revised in 2014 and 2015, the Region's S3 aims at concentrating resources and supporting innovation processes and recovering in terms of competitiveness. In order to do that, integration between actors is promoted, favouring an enabling context, together with support to smart cities perspectives, in order to enhance attractiveness, and a demand-pull approach is promoted. In particular, in its last version of S3 strategy approved in 2015, the Region proposes to further detach from his past traditional territorial logic or vertical system, in order to develop systems of competences. 7 Specialisation areas are acknowledged, quite a large set of options, due to the peculiar regional context, highly specialized by at the same time highly differentiated. Three main actions develop the S3 strategy: the production of an updated map of regional competences and research infrastructures; the production of a value chain , by way of an open innovation platform as a tool to entrepreneurial discovery; the definition of priorities of regional clusters. The Region aims at supporting a process of identification of new emerging manufacturing systems, at the same at promoting new capacity of collaboration between the regional actors. Technological clusters (TC) are identified in this sense as both a space for supporting entrepreneurs developing new cross-sectorial fields of innovations and new governance spaces - to connect regional authorities and regional systems. The development of the Regional Strategy was the product of a process of collaboration between different regional directions and between the regional and national level; at the same time it is the result of the involvement of stakeholders, through specific working group destined to identify technological clusters. Hei, together with all other stakeholders were involved.

BEST PRACTICES

BP_3_8: A University Foundation as a strategic tool for smart specialisation.

- ***Brief***: Politecnico di Milano founded in 2003 Fondazione Politecnic, as the result of a joint effort between the Athenaeum and some of the most relevant city and regional institutions and corporations. It is an explicit tool to set up a stable Quadruple Helix collaboration in terms of entrepreneurial discovery. In order to develop this major challenge, the Foundation main role is that of developing innovating projects both for large and small and medium firms and European projects, able to extend at the European scale the existing collaborative networks of the athenaeum and the local enterprise system. In this perspective since 2013, the Foundation is in charge for the management of Politecnico's business incubator unit: Polihub. In addition to that, in order to develop the relationship with the wider society, Fondazione is also in charge of developing third mission's projects, "involving teachers and students in the drive for civil and communal change", in particular with a strong focus on cooperation with emerging countries (POLISOCIAL PROJECT).
- ***Area***: Promoting enterprise, business development and growth
- ***Potential impact for regional development:***
  - Tapping into the knowledge base about the role of universities in regional
  - Why universities are important for regional development
  - Universities and regional innovation
  - Human capital and skills
  - Social and economic development
  - The university drivers
  - The mechanisms by which universities can and do contribute to regional development

BP_3_9: POLIHUB: a university incubator to support entrepreneurial discover

- ***Brief***: PoliHub is the Startup District&Incubator of Politecnico di Milano. It offers support not only to start up but also to existing hitech companies, with the objective of "Sharing of expertise, and providing access to the network of one of the best European technical universities in order to relaunch the new entrepreneurship".. POLIHUB in fact is the more recent evolution of the Politecnico Acceleratore d'impresa, founded in 2000. It works with a bottom up perspective being open and looking for to new startup to support or existinh hitech companies to further support on the base of Politecnico expertise and competencies. The rationale of POLIHUB is to create an urban district favouring innovation and located in the city of Milan; actually it is the most relevant action developed in this sense at urban level, since similar initiatives have failed such a result. The support provided by the city of Milan has consolidated this urban role.
- ***Area:*** Promoting enterprise, business development and growth
- ***Potential impact for regional development:***
  - Tapping into the knowledge base about the role of universities in regional
  - Why universities are important for regional development
  - Universities and regional innovation
  - Human capital and skills

- Social and economic development
- University Spin Outs
- Network and Cluster Development
- Encouraging Intellectual Property Development
- International Linkages
- Workforce Development (skills development programs)

BP_3_10: CAMPUS SOSTENIBILE: the university as the testing field of innovative co-design processes)

- ***Brief***: Campus Sostenibile is an initiative started in 2010 and originally focused on the historical university campus and aiming at achieving a sustainable university campus. Launched by the Rectorate, it spent its first year in developing new approaches (and practices) to energy consumption inside the campus (promoting rules and procedure to reduce energy consumption). After a first phase, the project was opened to the university community, in order to involve its capacity to design and implement innovative solutions. Later on, it developed into a more ambitious project, on the base on the interaction with a EU funded research project focussed on the role of Living Lab in Smart Communities. As such it provided a test field for the idea of Smart cities and communities starting from the real community of research of the university and the real community of practices of students, faculty and citizens. The goals of the project are to test innovations developed by scientific research; to promote life style transformation and more liveable spaces; to become a positive example for the entire city; to cope with the international network of sustainable campuses. Developing the Smart city approach it can be considered a valuable bottom up initiative to implement in an operative way a smart specialisation strategy
- ***Area:*** Enhancing regional innovation through research activities
- ***Potential impact for regional development:***
  - Tapping into the knowledge base about the role of universities in regional
  - Why universities are important for regional development
  - Universities and regional innovation
  - Social and economic development
  - The mechanisms by which universities can and do contribute to regional development
  - Knowledge Transfer Partnerships

4.2.4. Case study 4: Lapland, Finland

A model of Region-University Collaboration

About REGION

Lapland is one of the northernmost regions of Europe. Its economic importance for Finland and the EU is quite notable: Lapland hosts the only chrome mine and the largest gold mine of Europe and has the biggest and most modern forest, metal and mining industry's concentration of the entire EU. Another important industry is tourism. In Lapland there are some 46 different innovation and learning centres - physical and virtual

laboratories, research facilities, studios, 3d printing workshops and simulation environments. These are run under the aegis of 7 public research organisations within the so-called Cluster of Arctic Development Environments.

About HEI

The Lapland University Consortium is composed of two HEIs from the Lapland region: the University of Lapland, established in 1979 in Rovaniemi, and the Lapland University of Applied Sciences, founded in 2014 as a merger between the Rovaniemi University of Applied Sciences (established since 1996) and the Kemi-Tornio University of Applied Sciences (established since 1992).

The Lapland University Consortium is a unique form of strategic alliance in Finland, established to ensure the possibility to its members of carrying out and offering "nationally and internationally high-grade research, education, and art" in the fields of tourism and culture. Through this co-operation, the participant HEIs better comply with the requirements of the 2009 Universities Act, mandating them to strongly interact with the surrounding economy and society, ensuring that their research is worldwide excellent and has direct impact on the local community, while also contributing to the country's international competitiveness. In fact, the Lapland University Consortium has been cooperating also with the vocational schools of the area, setting up two joint institutes: the Multidimensional Tourism Institute (together with the Lapland Tourism College) and the Institute for Northern Culture (together with the Vocational College Lappia).

About RIS3 in the Region

The priority sectors of Lapland's specialisation are mining and metal industry, tourism and bioeconomy; however, transversal (cross-sectorial) actions are also foreseen and specific emphasis is given to the emergence of new, globally competitive industries as well as to the unexploited innovations generated by companies, research institutes and educational institutions in Lapland. The Programme's proposals for action across the period 2014-2020 (about 50 of them) are grouped in three main categories: refining of Arctic natural resources, utilisation of Arctic natural conditions and cross-cutting development actions enabling Arctic growth. The Programme is also linked with Lapland's Arctic Specialisation roadmap, which sets out the phasing of the various actions for the period 2014-2020. In addition, the Programme describes the structure of the financing and business innovations in Lapland, in the framework of which those actions are to be implemented. The proposals for action of the Arctic Programme are integrated with broader regional development policy as well as to the new national Arctic strategy of Finland by means of a dedicated assessment and monitoring model.

BEST PRACTICES

BP_4_11: Lapland of Expertise

- ***Brief***: Expertise is one of the six cornerstones of Lapland's Smart Specialisation Strategy. Expertise in Lapland rests on the network of higher education institutions, vocational institutes and sector research institutes, which cover the whole region. In particular, Lapland's expertise base is strengthened by extensive research into natural resources, which is pursued by separate regional units in the sectorial institutes

- ***Area***: Enhancing regional innovation through research activities
- ***Potential impact for regional development***:
  - Tapping into the knowledge base about the role of universities in regional development
  - Human capital and skills
  - The mechanisms by which universities can and do contribute to regional development:
  - Research and Technology Centers

BP_4_12: International Lapland

- ***Brief***: Although Lapland is already an international region, internationalisation is planned to develop further until 2030, so as to bring distinct economic added value to the business sector. Accessibility is one of the six cornerstones of Lapland's Smart Specialisation Strategy. Internationalisation is a clear policy target at several distinct levels, including the setup of interdisciplinary cooperation groups across scientific and artistic fields, strengthening the acquisition of EU funds in support of Arctic growth, business cooperation within the Arctic Macroregion(s), global marketing of Arctic tourism, international transport routes and information networks.
- ***Area***: Promoting enterprise, business development and growth
- ***Potential impact for regional development***:
  - Universities and regional innovation
  - Building regional capacity
  - The mechanisms by which universities can and do contribute to regional development
  - International linkages

BP_4_13: Lapland University Consortium's Joint Innovation Programme

- ***Brief***: Lapland's Arctic Specialisation Programme issued in November 2013 by the Regional Government of Lapland, placed a special emphasis on the contributions received from the Lapland University Consortium. Since 2008, the consortium has defined and executed a Joint Innovation Programme, with its embedded priorities of research, development and innovation.
- ***Area:*** Understanding the role of universities in regional development
- ***Potential impact for regional development***:
  - Tapping into the knowledge base about the role of universities in regional development
  - The university drivers
  - The mechanisms by which universities can and do contribute to regional development
  - Knowledge Transfer Partnerships

4.2.5. Case study 5: Newcastle University, United Kingdom.

A model of a University and RIS3 in a changing governance system

About the North East of England

The North East of England is a NUTS 1 region with a 2015 population of around 2,625,000 (Eurostat). In the English system there is no government at this regional scale. From the late 1990s until early 2010s there was a functioning regional institutional tier centred on nine central government funded Regional Development Agencies (RDAs), including one covering the North East of England. These RDAs were closed after the election of a new UK government in 2010 and replaced as the main sub-national economic development vehicle in England by 39 Local Enterprise Partnerships (LEPs). In the North East, the southern part of the region (Tees Valley) formed its own LEP, leaving the rest of the region (seven local authorities including Newcastle upon Tyne) to be covered by the North East Local Enterprise Partnership (NELEP). The North East is an old industrial region, and its economy has struggled to adapt to the decline of its traditional manufacturing and mining industries since the 1970s and 1980s. It's GDP per inhabitant measure (for 2014 and covering both LEP areas) of 25,500 euros is the lowest of any of the English NUTS 1 regions, and far below the corresponding figure of 34,900 for the UK as a whole (Eurostat). Levels of private sector research and development are relatively low, so the innovation system of the region is highly reliant on the research base in the universities. Leveraging these academic research strengths to support the growth of more innovative industries was a goal of policy for the RDA and this focus is continued by NELEP. The NELEP area has four universities – two of which are older, more research intensive institutions (Newcastle and Durham) and two newer universities, which were polytechnics until 1992 (Northumbria and Sunderland).

About Newcastle University

The origins of Newcastle University are in nineteenth century medical and science/engineering colleges that were part of nearby Durham University, before becoming the basis of an independent university in 1963. Its current structure still reflects these foundations, with three faculties in the areas of Medical Sciences; Science, Agriculture and Engineering; and Humanities and Social Sciences. Across these different faculties there are (as of 2015/2016) 23,391 undergraduate and postgraduate students, and 2,505 academic staff[1]. Newcastle is a research-intensive universities (signified by membership of the Russell Group). With its strengths in life/health sciences and engineering, this ensures that it has long been seen by policymakers as a leading asset within the regional innovation system. This status has been reinforced by a relatively strong commitment to regional engagement on the part of the University itself over roughly the past twenty years. In part, this engagement mission developed in response to opportunities for participation in regional development projects generated by the RDA and the funding it received through this route. The most recent manifestation of this mission has been its strategic goal to be a 'world-class civic university', and a focus on promoting activities that respond to three 'societal challenges': ageing, sustainability, and social renewal.

[1] http://www.ncl.ac.uk/press/about/figures/.

About RIS3 in the Region

In the UK there were separate RIS3 submitted to the European Commission for England, Scotland, Wales and Northern Ireland. This means that there was not a formal RIS3 at the regional level within England. However, LEPs have been given a central role in delivering the strategy for England by identifying opportunities at the local level that could be aligned with national priorities through preparation of Strategic Economic Plans. Most of the ESIF funding allocation for England has also been devolved to the LEPs[2]. NELEP has reacted with an explicit commitment to this role. This was partly in response to an Independent Economic Review of the North East led by a former government minister that called for the region to become an 'international exemplar in smart specialisation, open innovation systems and culture' (Adonis *et al.*, 2013, p.16). The LEP commissioned a smart specialisation report, prepared in-part by members of Newcastle University, which was published in December 2013 (Fisher *et al.*, 2013). This focused on four areas of economic activity in which the North East had existing strengths or strong potential for growth: Passenger Vehicle Manufacturing; Subsea and Offshore Technology; Life Sciences and Healthcare; and Creative, Digital, Software and Technology Based Services. These four areas have subsequently been adopted as smart specialisation priorities by NELEP[3]. More recently, as part of update of the Strategic Economic Plan, NELEP have recognised the value of extending the focus on the four priority areas S3 beyond just their activities in supporting Innovation in the region, and embedding it within the other two areas that they are responsible for as part of the Strategic Economic Plan – Business Growth and Improving Skills.

BEST PRACTICES

BP_5_14: drawing on university capabilities for smart specialisation analysis

- ***Brief***: The smart specialisation priorities adopted by NELEP were preceded by an analytical report that was completed in December 2013. The team that produced this report was led by Newcastle Science City - an economic development partnership vehicle between Newcastle University and Newcastle City Council. It also involved researchers from two parts of the University - the Centre for Urban and Regional Development Studies and the Business School - and a consultancy firm (Innovation Bubble). The analysis of the economic strengths of the region's economy in this report identified the four areas of activity that have become the smart specialisation priorities of the LEP. This report therefore is featured as a good practice example of a university supplying the analytical capabilities that at the time (when NELEP was still in the early stages of becoming operational) were lacking in the relevant regional authority.
- ***Area***: Understanding the role of universities in regional development
- ***Potential impact for regional development:***
  - Tapping into the knowledge base about the role of universities in regional development.
  - The university drivers.
  - The mechanisms by which universities can and do contribute to regional

[2] http://s3platform.jrc.ec.europa.eu/-/smart-specialisation-hub-for-england?inheritRedirect=true
[3] http://www.nelep.co.uk/innovation/

development.
- Consultancy Services

BP_5_15: Attracting national centres to strengthen regional innovation capabilities

- ***Brief***: In the UK a formal RIS3 was only produced for submission to the European Commission at the level of England, Scotland, Wales, and Northern Ireland. The role of LEPs like that covering the North East of England (not including Tees Valley) in developing smart specialisation priorities are important in helping to deliver the strategy at a sub-national scale, but it is important to view their activities within this national (English) framework. This best practice therefore focuses on the contribution of Newcastle University to the implementation of the national industrial and innovation strategies that underpinned the RIS3 in England. More specifically, it focuses on the recent award by the central government of two national centres to the University: the National Centre for Ageing, Science & Innovation (NASI) and the National Institute for Smart Data Innovation (NISDI). NASI was announced in 2014 with a £20 million investment from central government (match funded by the University). NISDI was announced in 2016 with a £30 million investment from central government. Despite their national status, these institutes do play into two of the smart specialisation priorities of NELEP (respectively Life Sciences and Healthcare, and Creative, Digital, Software and Technology Based Services). They have also engaged a wider consortium of local actors beyond Newcastle University.
- ***Area***: Enhancing regional innovation through research activities
- ***Potential impact for regional development:***
  - The university drivers.
  - Building regional capacity.
  - Research and Technology Centres.
  - Network and Cluster Development

4.2.6. Case study 6: Karlstad University, Sweden.

A model of building a university-region partnership for/through smart specialisation

About Värmland

Värmland is a mainly rural region of around 275,000 people in the west of Sweden. It is one of the the 21 counties that are the largest sub-national unit of government in Sweden. The regional economy is dominated by a few industries (pulp and paper, steel and engineering, IT, hospitality) for which cluster initiatives and networks have been established (Region Värmland, 2015). The GDP per inhabitant is lower for the region (36,000 euros in 2013) than for Sweden as a whole (45,400 euros), but still higher than that of the EU as a whole (26,700 euros)[4]. It has a developing innovation support system (in which Karlstad University is central), but continuing weaknesses in the business sector that restricts the translation of research into innovation outputs (Region Värmland, 2015). Region Värmland (set up in 2001) is a cooperative body formed by the County

[4] Figures from Eurostat (http://ec.europa.eu/eurostat)

Council and the municipalities as a single agency for regional development and planning functions[5].

About Karlstad University

Karlstad University is the main higher education provider and only university in Värmland. It was founded as a university college in 1977 and obtained full university status in 1999. Karlstad, like most universities in Sweden, is a public institution. It has around 16,000 (mainly undergraduate) students and around 1,200 staff. As a relatively new university, Karlstad is predominately a teaching-focused institution and not amongst the highest ranked research universities in Sweden overall. It does however have strong research niches in areas including computer science and service research. Reflecting its status as a 'single player university in a peripheral region' (Boucher *et al.*, 2003), Karlsatd University also assumes a prominent role within its region through its teaching and research.

About RIS3 in the Region

The RIS3 for Värmland (2015-2020) was produced by the Region Värmland development agency. Its development closely followed the six-step process advised by the European Commission, and involved participation by Karlstad University and other actors (including business) within the region. This cooperative mode of working has particularly built on a collaboration agreement between the Region Värmland and Karlstad University that was signed in 2010 (Kempton, 2015). The strategy identifies six priorities: Forest-based Bioeconomy; Digitalisation of Welfare Services; Advanced Manufacturing and Complex Systems; Nature, Culture and Place-Based Digitalised Experiences; System Solution with Photovoltaics; and (as a cross-cutting priority) 'Value-creating Services' (Region Värmland, 2015). There is also a distinctive goal to incorporate gender mainstreaming into the strategy (see below).

BEST PRACTICES

BP_6_16: The 10 Professors Programme: building research capability and regional alignment

- ***Brief***: The RIS3 for Värmland builds on a process of strengthening relationships between Region Värmland and Karlstad University that began developing following an OECD review in 2005/2006. In the period leading up to the development of the RIS3 (2010-2014) this process was formalised through a Collaboration Agreement between the two parties. The main tangible product of this agreement was an initiative to create 10 new professorships within the University in areas that were deemed relevant by the Region and the 4 cluster organisations mentioned above. The aim of this was to help develop strong research environments in the University while also increasing potential for knowledge co-production with other regional actors. So while this initiative preceded the RIS3 in Värmland, it is a crucial part of a longer process of developing smart specialisation in the region (also see Kempton, 2015).
- ***Area:*** Enhancing regional innovation through research activities
- ***Potential impact for regional development:***

[5] See http://www.regionvarmland.se/english-summary/

- Building regional capacity.
- Network and Cluster Development.
- Talent Attraction and Retention (incoming mobility, fellowship).

BP_6_17: Smart Specialisation Academy: structuring the relationship between Region and University

- ***Brief***: The Smart Specialisation Academy is the latest manifestation of the formal collaboration between Region Värmland and Karlstad University, and is funded by the partners for the period 2016 to 2020. It can be seen as an extension of the 10 Professors Programme, but it is guided by a clearer strategy and expectations around collaboration between university and regional actors. The formation of the Smart Specialisation Academy after the RIS3 also means there is a direct focus on the specific priorities identified through the entrepreneurial discovery process and an intention to build a critical mass of research capability in these six areas.
- ***Area:*** Understanding the role of universities in regional development
- ***Potential impact for regional development:***
  - Building regional capacity.
  - The mechanisms by which universities can and do contribute to regional development.
  - Research and Technology Centers.
  - Network and Cluster Development.

BP_6_18: Promoting Gender Mainstreaming through Smart Specialisation

- ***Brief***: A distinctive feature of the RIS3 for Värmland is that Gender Mainstreaming within the labour market is written into the strategy; not just as an add-on to the prioritisation of smart specialisation domains, but as an integral thread throughout the whole document. The strategy claims that Värmland is the first region in Europe to have incorporated such an analysis and policy focus into their RIS3 (Region Värmland, 2015). This direction was decided upon as part of a review of the region's planned RIS3 with the European Commission Smart Specialisation Platform based in Seville. While this focus does address a social challenge – related to a currently gender-segregated labour market – the strategy mainly emphasises the potential economic benefits for the key industries in the region that will follow from gender mainstreaming. Karlstad University was not central to the analysis and entrepreneurial discovery process for this gender mainstreaming dimension of the RIS3, but have subsequently become involved in its implementation.
- ***Area:*** Contributing to the development of regional human capital and skills
- ***Potential impact for regional development:***
  - Tapping into the knowledge base about the role of universities in regional development.
  - Human capital and skills.
  - Social and economic development.

4.2.7. Case study 7: University of Lodz, Poland

A model of university contribution to S3 strategy in the region and development of practical courses and studies

About REGION

Lodzkie Region is located in central Poland, which is of great importance to its economic, social and cultural development. The region has an area of more than 18 000 km2 and a population of 2,5 million. Lodzkie has excellent communication potential with two important TEN-T Corridors crossing the region: Corridor II (Berlin - Warsaw - Minsk - Moscow - Niznij Novgorod) and Corridor VI (Gdynia/Gdansk - Warsaw - Katowice - Žilina).

About HEI

University of Lodz was established in 1945 as a successor of educational institutions active in Lodz in earlier times. The 12 faculties of the University provide programmes in 76 fields of study and 160 specializations. In addition, the University offers doctoral programmes, more than 60 postgraduate curricula including an MBA programme, and programmes financed by the ESF. About 10,000 students complete their programmes at the University of Lodz every year. The students, together with those studying in Lodz within exchange programmes, come from about 80 different countries. The 38,000 students that attend classes at different faculties of the University are taught by 2,226 academic teachers, 586 of whom bear the highest academic rank.

About RIS3 in the Region

Dynamically developing economy of Lodzkie Region needs modern management adjusted to the changing conditions, based on knowledge and innovation. This direction was adapted in recent years, resulting in passing Regional Strategy of Innovation LORIS 2030. Then, the foundations for optimal application of endogenic potential were laid in order to ensure diffusion and absorption of innovation. This document indicates 6 Regional Intelligent Specialisations: modern textiles and fashion industry (including design); advanced building materials; medicine, pharmacy, cosmetics; power engineering, including renewable energy sources; innovative agriculture and food processing; IT and ICT as well as four key technological fields with highest ability to support economic growth. Their separation allowed to indicate the fields of cooperation of enterprises with scientific units, institutions in business environment and administration authorities, without which the success in the scope of innovation development is practically impossible in present market conditions.

BEST PRACTICES

BP_7_19: The practical courses of study based on regional specializations

- ***Brief***: According to the Europe 2020 Strategy, effective use of public funds for projects that are based on a strong partnership between businesses, research institutions and public institutions especially in the area of science and business will create smart specialization. The primary effect of such actions is to stimulate entrepreneurship both in the local and regional level. University of Lodz also joined into activities whose aim was creating smart specialization. Cooperation between science and business with the use of European funds allows for to develop practical courses of study based on regional specializations. These activities will allow for the effective learning professionals who directly after graduation can support the company based on regional specializations

- ***Area***: Contributing to the development of regional human capital and skills
- ***Potential impact for regional development***:
    - Why universities are important for regional development.
    - Universities and regional innovation.
    - Social and economic development.
    - Building regional capacity.
    - The mechanisms by which universities can and do contribute to regional development.
    - Workforce Development (skills development programs).
    - Increasing Mobility of Staff and Students (internship and placement).
    - Talent Attraction and Retention (incoming mobility, fellowship)

BP_7_20: The HEI as platform for exchange of views on the development of regional specializations between key stakeholders

- ***Brief***: The team, consisting of professors, doctors and experts at the University of Lodz under the guidance of prof. Zofia Wysokińska had a huge contribution in the development of smart specialization. Involvement in the work of the team led to the development of the main priorities for regional specialization in the Lodz region. The University of Lodz has become a platform for exchange of views on the development of regional specializations between key stakeholders. Joint scientific conferences, symposia allowed to adjust priorities to the strengths of the region. The cooperation of the University of Lodz with other stakeholders in the region formed the basis for the development strategy of regional specialization.
- ***Area***: Understanding the role of universities in regional development
- ***Potential impact for regional development***:
    - Why universities are important for regional development.
    - Universities and regional innovation.
    - Human capital and skills. Social and economic development.
    - Building regional capacity.
    - The mechanisms by which universities can and do contribute to regional development.
    - Science and Technology Parks.
    - Research and Technology Centers.
    - Network and Cluster Development.

4.2.8. Case study 8: Lodz Technical University, Poland

A model of university-local government collaboration based on the experience of prominent scientists

About REGION

Lodzkie Region is located in central Poland, which is of great importance to its economic, social and cultural development. The region has an area of more than 18 000 km2 and a population of 2,5 million. Lodzkie has excellent communication potential with two important TEN-T Corridors crossing the region: Corridor II (Berlin - Warsaw - Minsk -

Moscow - Niznij Novgorod) and Corridor VI (Gdynia/Gdansk - Warsaw - Katowice - Žilina).

About HEI

The Lodz University of Technology (previously known as the Technical University of Lodz) was established in 1945, just after the WWII (Second World War) finished. It has 22 Institutes and more than 30 Departments organised in 9 Faculties (the Faculty of Mechanical Engineering, the Faculty of Electrical, Electronic, Computer and Control Engineering, the Faculty of Chemistry, the Faculty of Material Technologies and Textile Design, the Faculty of Biotechnology and Food Sciences, the Faculty of Construction, Architecture and Environment Engineering, the Faculty of Technical Physics, Computer Science and Applied Mathematics, the Faculty of Organisation and Management, the Faculty of Process and Environmental Engineering). The University has more than 18,5 thousand students (including more than 400 international students) and almost 3 thousand employees, including almost 1,4 thousand academic teachers. It also provides several doctorate studies for almost 700 PhD candidates. Since the beginning of its operation the Lodz University of Technology had more than 100 thousand graduates.

About RIS3 in the Region

Dynamically developing economy of Lodzkie Region needs modern management adjusted to the changing conditions, based on knowledge and innovation. This direction was adapted in recent years, resulting in passing Regional Strategy of Innovation LORIS 2030. Then, the foundations for optimal application of endogenic potential were laid in order to ensure diffusion and absorption of innovation. This document indicates 6 Regional Intelligent Specialisations: modern textiles and fashion industry (including design); advanced building materials; medicine, pharmacy, cosmetics; power engineering, including renewable energy sources; innovative agriculture and food processing; IT and ICT as well as four key technological fields with highest ability to support economic growth. Their separation allowed to indicate the fields of cooperation of enterprises with scientific units, institutions in business environment and administration authorities, without which the success in the scope of innovation development is practically impossible in present market conditions.

BEST PRACTICES

BP_8_21: Significant impact on regional strategies

- ***Brief***: The new strategic documents (both the Regional Development Strategy for the Lodzkie Region 2020 and the Regional Innovation Strategy for the Lodzkie Region 2030) updated and drafted by the regional authorities have been highly praised and recommended as presenting an innovative and territorial approach to development. This was possible because of wide consultations and close cooperation between various parties involved in drafting the documents. Above all, close cooperation with representatives of leading academics from the universities (including the Lodz University of Technology), helped to shape and tailor the documents to fit the needs of the region.

- ***Area***: Understanding the role of universities in regional development
- ***Potential impact for regional development***:
    - Why universities are important for regional development.
    - Universities and regional innovation.
    - Human capital and skills.
    - Social and economic development.
    - Building regional capacity.
    - The mechanisms by which universities can and do contribute to regional development.
    - Consultancy Services.
    - Knowledge Transfer Partnerships. Science and Technology Parks.
    - Research and Technology Centers.
    - Network and Cluster Development.
    - Encouraging Intellectual Property Development.

BP_8_22: Active participation in clusters

- ***Brief***: It is a common practice at the Lodz University of Lodz that respective Faculties, Departments or Institutes are active members of the clusters corresponding to their scientific potential and experience. Such participation results in R&D cooperation between the other members of such clusters (mainly the enterprises) and the University units. The cooperation is based mainly on development of collaborative projects (both EU and national), contracting the research from the side of the companies to the respective Departments/Institutes and offering of different courses that match the needs of the companies. Examples of the clusters connected with the S3 strategy in which Lodz University of Technology is an active member are the Lodz Construction Cluster and the Cluster of Advanced Technologies of the Textile-Clothing Industry.
- ***Area***: Promoting enterprise, business development and growth
- ***Potential impact for regional development***:
    - Why universities are important for regional development.
    - Universities and regional innovation.
    - Social and economic development. Building regional capacity.
    - The mechanisms by which universities can and do contribute to regional development.
    - Consultancy Services.
    - Knowledge Transfer Partnerships.
    - Network and Cluster Development.
    - Encouraging Intellectual Property Development.

BP_8_23: Alignment of the R&D projects with S3 strategy

- ***Brief***: One of the goals of any university is the realisation of R&D projects. The Lodz University of Technology is particularly active in this field, and as there is an increasing number of calls for proposals launched by the regional government bodies, connected with S3 strategy, the projects developed by the respective Faculties/Departments/Institutes have to be aligned with the S3 of the region. Otherwise it would be much more difficult to obtain financing from such calls. The projects that are not connected with S3 can still be developed, however, the financing will not come from the regional institutions, but the national ones.

- ***Area***: Enhancing regional innovation through research activities
- ***Potential impact for regional development***:
    - Why universities are important for regional development.
    - Universities and regional innovation.
    - Social and economic development.
    - The university drivers. Building regional capacity.
    - The mechanisms by which universities can and do contribute to regional development. Research and Technology Centers

4.2.9. Case study 9: 9. Eindhoven University of Technology, the Netherlands

A model of the outcome of more than five centuries of history: accumulation of knowledge and unique documentary treasures

About the Brainport Eindhoven Region

Brainport Eindhoven Region is the industrial high-tech heart of the Netherlands, covering Eindhoven and 20 surrounding municipalities, and is part of the region SouthEast-Netherlands (ZON). The name Brainport dates back to the early 2000s and represents – besides a new brand name for the region - a well coordinated and interlinked set of Triple Helix collaborative initiatives to strengthen the region's economic and innovation base. With a strong technology and design base, Brainport is one of three key pillars of the Dutch economy, together with Seaport (Port of Rotterdam) and Airport (Schiphol Amsterdam). Brainport belongs to a select group of high performing high-tech clusters in Europe.

Brainport has a population of about 740,000 people, a Gross Regional Product of EUR 27 bn and a total R&D investment of EUR 2.5 bn, of which more than 80 per cent private. Brainport accounts for about 40% of Dutch business R&D expenditure and is the region with the highest patent density in Europe.

About Eindhoven University of Technology (TUE)

The Eindhoven University of Technology (TU/e) is located in Eindhoven, Netherlands founded in 1956 as a public state-funded university. It plays a significant role in tackling major societal challenges in fields like health, energy and mobility.

TU/e is recognised for high quality education, leading position in strategic research areas meeting the societal challenges such as automotive systems, broadband telecommunication technologies, information and communication systems, nano-engineering, plasmas and polymers, with its key research areas identified as energy, health and smart mobility; **Knowledge valorization** e.g. developing of technological innovations and the growth of wealth and prosperity both in its own region (technology & innovation hotspot Eindhoven) and beyond. It boats of a strong, distinctive position in the education market being ranked in top 100 universities in the world by Times n the world in two disciplines, 64th in 'Engineering and Technology' and 75th in the 'Computer Science' .

TU/e has 3,055 employees (33% international), and 2,044 academic staff with a community of 4,973 BSc students (4% international), 3,238 MSc students (16% international), 290 technological designers (PDEng)

and 1,210 doctoral candidates (PhD) who can choose from 11 three-year Bachelor's programs (BSc), 22 two-year Master's degree programs (MSc) and 11 two-year designer programs (PDEng).

About RIS3 in the Region

Brainport 2020 has been designed as a **Smart Specialisation Strategy**, with open innovation, focus and triple helix collaboration as its keywords. In 2010 Brainport developed, on request of the central government and parallel to the already existing airport and seaport visions, a cohesive and comprehensive future vision. The existing regional strategies and programmes can best be seen as **'pacts'** signed by public-private, triple helix-like partnerships involving a broad range of actors.

Regional, national and international policies that have been decisive for prioritisation of domains. The innovation system of Brainport is to an important extent 'business-driven', powered by entrepreneurial leadership and strong collaboration between industry, knowledge institutes and government in the triple helix and ample participative involvement of civic society among which one of the strategic roles plays TU/e.

As from February 2011, Dutch national industrial and innovation policy has gradually been reformed from a 'key area' ('sleutelgebieden') into a 'top sector' ('topsectoren') policy; nine top sectors have been selected including:

- High Tech Systems and Materials;
- Life Sciences and Health;
- Logistics;
- Chemicals;
- and Creative Industry.

BP_9_24: Social value creation through evidence-based lighting design

- ***Brief***: TU/e is the co-ordinator of the research-based project, De-escalate that develops and tests mechanisms for de-escalation of aggression through dynamic light. The project studies the potential impact of light on de-escalation, by examining psychological pathways through which exposure to dynamic light might defuse escalation. It translates these findings into dynamic lighting scenarios, and tests their effectiveness in two real-life situations: an inner-city entertainment area and a psychiatric care facility.
  The project will develop and test mechanisms for de- escalation through light: lowering arousal levels, inducing positively valenced mood, shifting and broadening attention, facilitating social behaviour, increasing self- awareness, and enhancing self- control.

Theory- informed 'Light principles' will first be tested in controlled laboratory settings of the TU/e Intelligent Lighting Institute (ILI) established in 2010 to investigate novel intelligent lighting solutions that might affect people. It does it in collaboration with the public and private sectors. The lighting research performed at ILI is producing unique know-how and a technological head start for the participating parties, the Brainport Region, and as part of Europe; the collaboration system is unique and presents an excellent example for the smart specialisation approach.

- ***Area:*** Enhancing regional innovation through research activities
- ***Potential impact for regional development:***
    - Universities and regional innovation,
    - Social and economic development,
    - The mechanisms by which universities can and do contribute to regional development,
    - Encouraging Intellectual Property Development ,
    - The mechanisms by which universities can and do contribute to regional development ,
    - Encouraging Intellectual Property Development

BP_9_25: Smart and Green Mobility as a result of cross-sectorial collaboration for smart specialisations

- ***Brief***: The automotive industry is changing rapidly. New developments are particularly evident in the fields of Smart and Green Mobility. This requires collaboration with other sectors in the fields of energy, ICT, infrastructure and traffic management, among others. But collaboration between companies, research institutes, education and governments is also crucial.
  The Automotive Campus in Helmond - located in the Brainport Region - is the national and international hotspot, meeting point and place of business in the field of automotive (technology) and smart mobility. The Automotive Campus offers an attractive learning and working environment, state of the art technological (test) facilities and flexible accommodation concepts.

  The Campus is a one-stop-shop when it comes to automotive technology and mobility concepts. The door is open to engineers, suppliers, scientists, testers and assembly workers. For a "pit stop", co-creation or as a new home base for innovation and product development. The Campus is a meeting place where know-how and companies can get together with the aim of promoting cross-sector cooperation, exchange of knowledge and open innovation. Smart, safe and sustainable mobility solutions for people, roads and vehicles of today and tomorrow are realized at the Automotive Campus

  TU/e university is one of the strategic partners benefitting contributing to the scientific development of the Campus offering educational, research and training activities as well as research staff.

- **Area:** Promoting enterprise, business development and growth

- ***Potential impact for regional development:***

    - Universities and regional innovation
    - Human capital and skills,
    - Social and economic development,

- The mechanisms by which universities can and do contribute to regional development,
- Research and Technology Centers
- Network and Cluster Development,
- Encouraging Intellectual Property Development,
- Increasing Mobility of Staff and Students (internship and placement),
- Talent Attraction and Retention (incoming mobility, fellowship)

BP_9_26: Smart Specialisations in sustainable energy, mobility and IT technology for Smart Cities Development

- ***Brief:*** The Triangulum project, funded from Horizon 2020, demonstrates how a systems innovation approach based around the European Commission's SCC Strategic Implementation Plan can drive dynamic smart city development. This project will transform designated urban districts into smart quarters in three forerunner cities and then transfer the concepts to three further cities. It will implement pioneering concepts in the three cities Eindhoven (Netherlands), of Manchester (UK), and Stavanger (Norway). Subsequently, the concepts will be transferred to Leipzig (Germany), Prague (Czech Republic), and Sabadell (Spain). The project name Triangulum stands for the three points demonstrate, disseminate and reciprocate.
  The consortium of 23 European partners was formed around 3 clusters of Triple Helix stakeholders in each of 3 cities representing e.g. urban municipalities, research institututes and and industry are involved have been formed. TU/e, together with its local partners will work on the transformation of two two districts in Eindhoven into sustainable living environments during the course of the project. The former Philips industrial complex in the "Strijp-S" neighborhood will become a creative smart district. An innovative concept to clean up contaminated land will double as a means of producing energy. A district-wide ICT solution will allow residents to access different kinds of infrastructure, such as booking electric vehicles from a district car sharing scheme or using smart parking concepts.

- ***Area:*** Improving social equality through community development and "place making"
- ***Potential impact for regional development:***
  - Why universities are important for regional development,
  - Universities and regional innovation,
  - Social and economic development,
  - Building regional capacity,
  - Research and Technology Centers,
  - Network and Cluster Development
  - Encouraging Intellectual Property Development

4.2.10. Case study 10: Universitat de Valencia, CV Region, Spain

A model of the outcome of more than five centuries of history: accumulation of knowledge and unique documentary treasures

About COMUNITAT VALENCIANA

Comunitat Valenciana is one of the 17 autonomous regions of Spain and consists of three provinces: Castellón, Valencia and Alicante located at the east of Spain. In what I+D+I is concerned, Valencian Community is increasing its investment in I+D in terms of

its growth domestic product (GDP) (0.7% in 2000, 1.1% en 2009, 1% in 2011) but beeps below the national average (1.3% in 2011).

About Universitat de Valencia (UV)

Universitat de València (UV) keeps a strong relationship with its region. UV was born over five hundred years ago, and throughout the centuries it has evolved becoming a modern, public university that deals with all areas of knowledge: social, economic and legal sciences, experimental sciences, engineering, health sciences, educational sciences and the humanities. UV encourages the search of new knowledge, scientific and technological development, the evaluation of the results obtained by them, both in relation of basic research as well as applied, transferring research results to the production sectors, contributing to the technical progress and the economic and social development. In the same way, with its own rationality and universality guarantee, the University of Valencia is an institution spreading culture and science in society. Hence UV undertakes activities related to its environment by teaching, research, creation and dissemination of culture, transfer of knowledge to the public and private sector, international cooperation and solidarity.

About RIS3 in the Region

The RIS3 in the region of Valencia has focused on three major priorities of development: quality of life, innovative product and advanced manufacturing processes: a) Quality of life encompasses the production and Valencian agri-food transformation, It also integrates innovation for the health promotion, disease prevention, the development and improvement of products, services, infrastructure, human resources and health process management. b) Innovative product includes the manufacture of goods, mainly footwear, textile, toy, childcare articles, and habitat, and c) Advanced manufacturing processes covers the manufacture of means of transport (automobile and railway). This axis includes the manufacture of capital goods, a strategic sector with a view to the improvement of competitiveness, productivity and the internationalisation of the regional economy.

BEST PRACTICES

BP_10_27: The UV Science Park (PCUV)

- ***Brief***: PCUV is an initiative aimed at strengthening links between the university's scientific potential and the productive system, generating knowledge, fostering innovation processes, promoting the creation of science-based companies and contributing, thus, the economic and social development of our environment. In an academic environment, together with other research centres of the University of Valencia and the Consejo Superior de Investigaciones Científicas (CSIC). PCUV provides spaces and services to companies derived from university research -spin-off- and to external companies or Business R & D departments with content related to the nature of this agency for innovation. Its mission is to generate employment, wealth and welfare through the social profitability of knowledge.
- ***Area***: Promoting enterprise, business development and growth
- ***Potential impact for regional development***:
    - Graduate Enterprise (training, placements, new firms).

- University Spin Outs. Network and Cluster Development.
- Encouraging Intellectual Property Development. International Linkages.
- Consultancy Services.
- Innovation Vouchers.
- Knowledge Transfer Partnerships.

BP_10_28 : Observatory of Professional Insertion and Labor Advice (OPAL)

- ***Brief***: The Observatory of Professional Insertion and Labour Advice (OPAL) aims to help all students and graduates of the Universitat de València in the labour market and improve their professional possibilities within the regional needs aimed to fulfil the strategic position of their graduates into Comunitat Valenciana and their companies..
- ***Area:*** *Contributing to the development of regional human capital and skills*
- ***Potential impact for regional development***:
  - Workforce Development (skills development programs).
  - Increasing Mobility of Staff and Students (internship and placement).
  - Talent Attraction and Retention (incoming mobility, fellowship).
  - Student Volunteering and Community Work.
  - Widening Student Participation to under-represented social groups

BP_10_29: *Bank of patents of the Valencian Innovation System*

- ***Brief***: The Patent Bank is a joint program of the *Generalitat Valenciana* and the public research bodies of the Region of Valencia, which aims to facilitate the meeting between entrepreneurs, entrepreneurs and innovative knowledge generation centres, to facilitate the transfer of the technological results generated by scientists to the productive and service sectors. It aims to value the potential of the Region in the hand of the business and industrial fabric together with our excellent R & D & I network, fostering a rapprochement between companies and universities in order to strengthen their relationships, in which the university is a source of technological solutions for our companies. It aims to be a unique window in which all the research results of universities and public research organizations are found and thus facilitate the supply of patents and technologies pending licensing.
- ***Area***: understanding the role of universities in regional development
- **Potential impact for regional development:** Tapping into the knowledge base about the role of universities in regional. Universities and regional innovation**.** Social and economic development**.** Building regional capacity**.** The university drivers. Innovation Vouchers. Workforce Development (skills development programmes)**.** Talent Attraction and Retention (incoming mobility, fellowship)**.** Encouraging Intellectual Property Development. University Spin Outs.

BP_10_30: Valencia Space Consortium (VSC)

- ***Brief***: VSC carries out scientific research and technological development services in any field related to the space sector, increasing safety and quality of production of space systems as well as conducting all activities aimed, directly or indirectly, to achieve social and economic progress in Europe in the space sector

- ***Area***: enhancing regional innovation through research activities
- ***Potential impact for regional development:*** Network and Cluster Development. International Linkages. Workforce Development. Talent Attraction and Retention (incoming mobility, fellowship). Social and economic development. Knowledge Transfer Partnerships. Innovation Vouchers.

4.3. Synthesis of identified BPs and LLs and conclusions

CS_1_Universitat Politècnica de Valencia, Spain

BP_1_1: Polytechnic City of Innovation CPI_ UPV Science Park

BP_1_2 UPV Start-up ecosystem

BP_1_3 Valencia Space Consortium (VSC)

BP_1_4 *Bank of patents of the Valencian Innovation System*

Lessons learnt and conclusions

- ***Open innovation****:* Open innovation refers to the practice of using knowledge and expertise from outside an organisation to accelerate the process of innovation. The use of an open innovation model in sourcing R&D services allows Polytechnic City of Innovation CPI_ UPV Science Park to flexibly engage in multiple specialised fields of research as required by its priorities. Specifically, the Polytechnic City of Innovation CPI_ UPV Science Park is using a programme logic approach to look at what RD&I is required and then enacts its strategy through bottom-up prioritisation.
- ***Effective buy-in****:* The end-user levy arrangements that underpin the funding of STARTUP provide a stable source of assistance and funds, facilitating a longer term approach to entrepreneurship and research than organisations operating on insecure annual funding agreements. STARTUP capitalises on the interest of entrepreneurs as they must bring their experience and time to the ecosystem for the benefit of others. This outcome is of mutual benefit as the entrepreneurs involved have a greater understanding of the impacts and more effective outcomes increase productivity gains.
- ***Network with similar bodies****:* The Valencia Space Consortium needs to be aware of potential collaborators, both locally and internationally. Experiences of peers and competitors can be important warnings of upcoming challenges to a cluster. Consequently, the maintenance of extensive networks amongst peers, competitors and related industries is essential.
- ***Bottom-up priority setting***: The greatest strength of the Bank of patents of the Valencian Innovation System is its ability to capture the R&D priorities of end-users and involve them directly in the process of innovation. The Bank of patents of the Valencian Innovation System priority setting process utilises a structure in which the university is a source of technological solutions for our companies. This system ensures that producer and researcher priorities are able to meet as the research results of universities and public research organizations are easily

available.

CS_2_University of Trás-os-Montes and Alto Douro, Portugal

BP_2_5: "Commitment 2020": entrepreneurship and territorial cohesion forum

BP_2_6: "UNorte.pt Consortium": pioneer initiative and inspiring others

BP_2_7: Régia Douro Park – Science and Technology Park

Lessons learnt and conclusions

- Incentives to participation within HEI in Entrepreneurial Discovery and S3 governance;
- Improved communication mechanisms between HEI and regional/national authorities;
- Better participation of HEI in S3 implementation;
- Successful adjustment of HEI strategies to match S3 (with a special attention to the integration of S3 priorities in the educational offer and teaching/learning processes).

The location of UTAD within a low-density population area, gives added importance to the responsibility for contributing to the economic and social development of the Douro region. It is in this context that a collaborative and cooperative work with the various actors in the Douro region, such as, municipalities, business associations or chambers of commerce and the civil society has been synergetic in the smart specialization strategy (S3) for the regional social an economic analysis process. The development of this territory requires enhancing the value of endogenous resources and working to contribute to the innovative process, which mainly focuses on the primary sector in the Douro region.

CS_3_Politécnico de Milano, Italy

BP_3_8: A University Foundation as a strategic tool for smart specialisation.

BP_3_9: POLIHUB: a university incubator to support entrepreneurial discovery

BP_3_10: CAMPUS SOSTENIBILE: the university as the testing field of innovative co-design processes

Lessons learnt and conclusions

- The case shows the burden of fragmentation, in both the research community, the institutional sphere and the economic sector. In particular, it allows to reflect upon the role of a place-based approach in order to address barriers to a Smart Specialisation Strategy, able to reinforce the active interaction among HEIs,

INSTITUTIONS; CORPORATIONS and SOCIETY at large.

- It shows the necessity of new governance models, supported by a clear and sound legitimacy able to foster collaboration among stakeholders: the new governance models proposed by the Region seems less effective in promoting Entrepreneurial discovery than relationship based on sound and historical interaction between the stakeholders. In this perspective, the de-territorialisation of Smart Specialisation Strategy promoted by Regione Lombardia seems less efficient than the place-based approach, which seems to contradistinguish the HEI's approach.
- It also shows that University basically, and more successfully, acts on the base of operative tools, which support an implicit strategy ongoing even before the regional and national strategy. Effective self-assessment of HEI capacities could be enhanced, making more explicit strategies and evaluation of results. The Region could play a role in supporting self-assessment of HEIS, but should also play the same role in relation to its own role.

CS_4_Lapland University, Finland

BP_4_11: Lapland of Expertise

BP_4_12: International Lapland

BP_4_13: Lapland University Consortium's Joint Innovation Programme

Lessons learnt and conclusions

- ✓ Lapland's research institutes and educational institutions provide a very good basis for Arctic innovation activities, although it is requested within the Smart Specialisation Strategy that they "specialise more boldly in Arctic themes".

- ✓ Public financing of education and RDI operations will be more dependent on the creation of international networks to access Brussels or elsewhere based sources in the future.

- ✓ The Smart Specialisation Strategy of Lapland and the Joint Innovation Programme 2013-2016 have been built together – not only at the same time. This reflects the very good level of informal communication between Universities and Regional authorities and produced as a result the definition of respective strategic goals in line with each other and the identification of potential synergies in full coherence and with absolute complementarity.

CS_5_Newcastle University, UK

BP_5_14: drawing on university capabilities for smart specialisation analysis

BP_5_15: Attracting national centres to strengthen regional innovation capabilities

Lessons learnt and conclusions

- ***Utilising academic analysis:*** The analytical report that underpins the NELEP smart specialisation priorities was based on substantial input from Newcastle University researchers. In turn this drew on their existing experience of studying the regional economy, reflecting the relatively locally embedded nature of the institution. These analytical capabilities took on an extra importance in this case due to the transnational nature of the institutional arrangements in the region during this period when a new economic development agency vehicle (NELEP) was still in the early stages of becoming operational.

- ***Multi-level governance perspective:*** The national (here England) as well as regional level is important to smart specialisation in this case. Newcastle University has strong links to NELEP, but (compared to regional bodies in other European systems) this agency has relatively limited powers and resources. This means that, from the perspective of Newcastle University, it has arguably been more important to be aligned with national than regional innovation and industrial priorities. This approach has resulted in the University successfully attracting two major national centres (NASI and NISDI). Despite their national status, however, these centres have significant potential to feed into the regional innovation strategy in the future.

CS_6_Karlstad University, Sweden

BP_6_16: The 10 Professors Programme: building research capability and regional alignment

BP_6_17: Smart Specialisation Academy: structuring the relationship between Region and University

BP_6_18: Promoting Gender Mainstreaming through Smart Specialisation

Lessons learnt and conclusions

- ***Strong university-regional relationships***: The overall lesson to draw from this case study is the value to smart specialisation of building a strong relationship between a university, the regional authority, and other important actors within the region (e.g. the cluster organisations). This relationship has developed over time: the partnership dates back to 2005/2006, and has passed through the subsequent stages of the 10 Professors Programme and Smart Specialisation Academy. In this case, therefore, the RIS3 needs to be understood as part of a longer-term trajectory.

- ***Institutional Continuity:*** The process of building this relationship has been facilitated by continuing institutional stability over this period. This has allowed inter-personal trust to develop between the key individuals in each of the organisations involved. This has been foundation for the features of the best practices described above relating to good communication between HEI and regional authority, participation of a HEI in the RIS3 and entrepreneurial discovery process, and increasing alignment of the University's strategy with that of the region.

- ***Gender Mainstreaming***: The RIS3 for Värmland includes an innovative example of how gender mainstreaming can be incorporated into a smart specialisation strategy. This is relevant as a potential mechanism for structural transformation of the regional economy in this particular context due to the male dominated nature of employment in the dominant traditional industries.

CS_7_University of Lodz, Poland

BP_7_19: The practical courses of study based on regional specializations

BP_7_20: The HEI as platform for exchange of views on the development of regional specializations between key stakeholders

Lessons learnt and conclusions

- ***Improvement of communication***: One of the ways of improving the communication between HEIs and authorities would be to organise a yearly conference or workshop related to the idea of RIS3, in which not only scientists would participate, but also the employees of the regional government responsible for implementation of the smart specialisation in the region.
- ***Successful adjustment of HEI's strategies:*** The adjustment of HEI's strategies should be a top-down process. It should be started by the authorities of the University (rector, vice-rectors), and later continued by the deans of the respective faculties. They could involve further employees in the process of for example developing new practical studies in cooperation with the companies from the sectors included in the regional S3 strategy.
- ***Barriers against engagement of HEI's in S3:*** Lack of funds, poor promotion, lack of information on opportunities for cooperation between companies and HEI, resistance from conservative scientists.

CS_8_Lodz Technical University, Poland

BP_8_21: Significant impact on regional strategies

BP_8_22: Active participation in clusters

BP_8_23: Alignment of the R&D projects with S3 strategy

Lessons learnt and conclusions

- ***Improvement of communication***: One of the ways of improving the communication between HEIs and authorities would be to organise a yearly conference or workshop related to the idea of RIS3, in which not only scientists would participate, but also the employees of the regional government responsible for implementation of the smart specialization in the region.
- ***Successful adjustment of HEI's strategies:*** The adjustment of HEI's strategies should be a top-down process. It should be started by the authorities of the University (rector, vice-rectors), and later continued by the deans of the respective faculties. They could involve further employees in the process of for example developing new

practical studies in cooperation with the companies from the sectors included in the regional S3 strategy.

- ***Barriers against engagement of HEI's in S3:*** Lack of funds, poor promotion, lack of information on opportunities for cooperation between companies and HEI, resistance from conservative scientists.

CS_9_Eindhoven University of Technology, the Netherlands

BP_9_24: Social value creation through evidence-based lighting design

BP_9_25: Smart and Green Mobility as a result of cross-sectorial collaboration for smart specialisations

BP_9_26: Smart Specialisations in sustainable energy, mobility and IT technology for Smart Cities Development

Lessons learnt and conclusions

- **Brainport 2020** forms a well coordinated and interlinked set of Triple Helix collaborative initiatives to strengthen the region's economic and innovation base under the lead of research institutions such as the Eindhoven University of Technology, regional authorities and business partners.

- TU/e considers it important for the **knowledge** gained at the university **finds its way into society**. Scientific results are translated into products and processes that are practicable making the Brainport an incubator for innovation and home to world-class companies and knowledge institutions.
- Brainport 2020 has been designed as a **Smart Specialisation Strategy but in a strong allignemt wtih a central policy** and the already existing, cohesive and comprehensive future vision. The existing regional strategies andprogrammes can best be seen as **'pacts'** signed by public-private, triple helix-like partnerships involving a broad range of actors. In other words regional, national and international policies have been decisive for prioritisation of RIS3 domains.

- A special agency was established called Brainport Development in which large companies and SMEs, knowledge institutes and governments at various levels collaborate. Its management approach is to bring stakeholders together, acting as a catalyst and stimulator, in a project-based manner, and to shape initiatives in such a way that they can sustain themselves, borne and backed by the stakeholders involved rather than by Brainport.

CS_10_Universitat de Valencia, Spain

BP_10_27: The UV Science Park (PCUV)

BP_10_28 : Observatory of Professional Insertion and Labor Advice (OPAL)

BP_10_29: Bank of patents of the Valencian Innovation System

BP_10_30: Valencia Space Consortium (VSC)

Lessons learnt and conclusions

- ***Optimal innovation system****:* Innovation systems evolve in a national context that is influenced by such factors as culture, history, politics and the natural environment, all of which are subject to change. PCUV enhances idea by assuming that no model exists that transcends time and the cultural space.

- ***Social Innovation****:* The end-user of OPAL as well as of PCUV provides a stable source of needs in the regional market and funds, facilitating a longer term approach to entrepreneurship and research. This outcome is of mutual benefit as the entrepreneurs involved have a greater understanding of the impacts in the region and more effective outcomes increase the productivity gains. High values in social innovation.

- ***Bottom-up priority setting***: Bank of patents of the Valencian Innovation System captures the R&D priorities of end-users and involves them directly in the process of innovation. The Bank of patents of the Valencian Innovation System priority setting process utilises a structure in which the university is a source of technological solutions for our companies. This system ensures that producer and researcher priorities meet.

- ***Network with similar bodies****:* The OPAL is aware of potential collaborators, both locally and internationally. Experiences of peers and competitors can be important warnings of upcoming challenges to a cluster. Consequently, the maintenance of extensive networks amongst peers, competitors and related industries in the region is essential.

- **History and growth**: UV provides a glimpse into what the lessons learnt through 500 years of university experience in teaching, government, and the private sector in Valencian region's innovation system. It facilitates social cohesion and mobilising social energy toward a shared goal very effectively once the goal is clear. The path to the goal through experience is well known in the case of UV strategy. This suggests that the factors responsible for past successes may now work as innovators to growth.

5. Other remarkable best practices and lessons learnt

In the framework of the Education, Research and Innovation, HEIs have a crucial role to play in integrate knowledge, innovation and cooperation in cooperation with the other actors of the quad-Helix: government, society, and industry.

Universities dealing with the other actors of the Quad-Helix, as well as those dealing with specific policy areas (such as industry, health, agriculture, environment and culture) can provide administration and industry with strategic advice, as well as experts to work directly on regional development priorities. Universities are a critical 'asset' of the region, mainly in the less developed regions where private sector may be weak or relatively small, with low levels of research and development activity.

There is a range of mechanisms by which universities can contribute to regional innovation systems. Universities can, for instance, stimulate the entrepreneurial spirit of their staff and students, provide advice and services to SMEs, and participate in schemes promoting the training and placement of high level graduates in innovative businesses. They can also host incubators for spin-offs in science and technology parks and provide valuable input to innovative clusters and networks. These mechanisms can be delivered as stand-alone projects or within wider strategies. The latter is the ideal and will ensure maximum impact but is difficult to achieve as there are many barriers to overcome and there are few good practice examples to draw on. Furthermore, Universities and Businesses should directly cooperate in curricula design and curricula delivery to ensure that graduates have the right skills and transversal competences. By having businesses cooperating with the educational side of Universities, talent attraction and retention would be enhanced in the region. Universities can also play an important role in the field of vocational training.

Based in the different experiences analysed in the 10 Case Studies from Thinking Smart, we can also enumerate the following successful contributions:

- ✓ HEIs help to better understand the regional situation and to overcome the barriers.
- ✓ HEIs ensure mechanisms allowing universities and business in the region to cooperate in curricula design and in jointly delivering education in an innovative way, fostering graduates with regional relevant competences and with transversal skills including entrepreneurial attitude.
- ✓ HEIs map the regional higher education system in terms of their degree-awarding ability, research activities and possible cooperation with regional partners.
- ✓ HEIs assess the connectivity of the universities to the regional public and private sectors to move towards a situation where universities are key players.

- ✓ HEIs select, design and evaluate interventions that strengthen the connectivity of universities in the region to the region, by moving from simple to complex projects.
- ✓ HEIs and their knowledge transfer and information actions measures the provision of vocational training and skills acquisition actions, demonstration activities and information actions. These should be provided for persons engaged in the agriculture, food and forestry sectors, land managers and other economic actors which are SMEs operating in rural areas.
- ✓ HEIs are advisory services for the improvement of the economic and environmental performance as well as the climate-friendliness and resilience of the region addressing the relevant investments.
- ✓ HEIs contribute to achieving the objectives and priorities of regional development policies (e.g. pilot projects; new products, processes and technologies; public-private partnerships; etc.) This also covers support for clusters and networks, and for Operational groups under the European Innovation Partnership where universities could also take part.

6. Conclusions

The document describes the approach and criteria taken to select the best practices that are more relevant for the aim of the project. By applying these criteria, a set of 10 case studies has been elaborated and are included in this report. These case studies, distributed across Europe, correspond to case studies of universities that have successfully integrated the smart specialisation strategies in their strategic orientations (with an especial attention to its impact in educational offer) and that have an active role in the smart specialisation of their region.

Universities dealing with economics, public policy and administration, as well as those dealing with specific policy areas (such as industry, health, agriculture, environment and culture) can provide public authorities and private sectors with strategic advice, as well as experts to work directly on regional development priorities. Universities are a critical 'asset' of the region, mainly in the less developed regions where private sector may be weak or relatively small, with low levels of research and development activity.

There is a range of mechanisms by which universities can contribute to regional innovation systems. Universities can, for instance, stimulate the entrepreneurial spirit of their staff and students, provide advice and services to SMEs, and participate in schemes promoting the training and placement of high level graduates in innovative businesses. They can also host incubators for spin-offs in science and technology parks and provide valuable input to innovative clusters and networks. These mechanisms can be delivered as stand-alone projects or within wider strategies. The latter is the ideal and will ensure maximum impact but is difficult to achieve as there are many barriers to overcome and there are few good practice examples to draw on. Furthermore, Universities and Businesses should directly cooperate in curricula design and curricula delivery to ensure that graduates have the right skills and transversal competences. By having businesses cooperating with the educational side of Universities, talent attraction and retention would be enhanced in the region. Universities can also play an important role in the field of vocational training.

The key stakeholders consulted agree on the fact that there is a natural symbiosis between universities specialization and businesses of the region. The effects of a good match are striking in terms of higher investments, attraction of talent, co-location of (new) business, higher employment rates, higher economic growth, higher standard of living etc. Interestingly, there seems little evidence to more scientific creativity and excellence through thematic focus. Some studies even bring forward an opposite relationship: the more focus and concentration, the bigger the negative long-term impact on scientific creativity and quality. An example is the concentration and focus of Eastern European studies and languages in the Netherlands in the early eighties leading to the closure of many such departments in Dutch universities by the beginning of the nineties when

circumstances suddenly changed. That is why some metropolitan S3 strategies in that region was much more focused on providing the favourable societal (openness & tolerance), political (non-intervention), financial (at least 3% GDP into R&D) and legal (tax reduction, open immigration laws) framework conditions and structures for cooperation, such as regional knowledge board, open innovation eco-systems etc.

As pointed by some of them, the effect of such specialisation and thematic focus may mean an impoverishment of the academic offer, reduction of research-based disruptive and market-creating innovation and, on the long term, decline of scientific creativity and quality though some young universities seem to prosper under such specialisation compared to the suffering excellent research-universities. However, the overall performance of such regions often remains limited to incremental innovation, too much orientation of education and training not always resulting in more attractiveness for talent from world-wide.

As a conclusion, key stakeholders agree that better and bigger participation of HEI in S3 implementation is an example of good practice from local Universities. To acknowledge the participation, they have to face barriers like communication mechanisms between HEI and regional/national authorities; better participation of HEI in Entrepreneurial Discovery and S3 governance; the adjustment of HEI strategies to match S3 (with a special attention to the integration of S3 priorities in the educational offer and teaching/learning processes).

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- Wykaz Regionalnych Inteligentnych Specjalizacji Województwa Łódzkiego oraz wynikających z nich nisz specjalizacyjnych http://www.rpo.lodzkie.pl/images/konkurs_2.3.1_cop_28122015/Wykaz_Regionalnych_Inteligentnych_Specjalizacji.pdf
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- https://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/topics/scc-02-2016-2017.html
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8. Appendices

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8.2. Best practices database format

MOCKUP ON WEBSITE

Good Practices

View Edit

Search Database

Name of region/country: Select from the list

Name of HEI: search by name of HEI

Sections: Select from the list

Type of HEI: Select from the list

Type of regions: Select from the list

Keywords: search by Keywords

Duration: Select from the list

Intervenients: Select from the list

Sort by: Most recent

Name of HEI example Duration: ongoing

Lorem ipsum dolor sit amet, nihil erroribus consequat ex est. Eu voluptua interesset mel, quem vulputate ne sea. Cu eam nemore option urbanitas. Illum accusamus quo ad. Id noster legendos duo, ut qui sale affert maluisset. (Short Resume)

See more [+] *Keywords: word1, word2, word3*

Name of HEI example 1 Duration: ongoing

Lorem ipsum dolor sit amet, nihil erroribus consequat ex est. Eu voluptua interesset mel, quem vulputate ne sea. Cu eam nemore option urbanitas. Illum accusamus quo ad. Id noster legendos duo, ut qui sale affert maluisset. (Short Resume)

See more [+] *Keywords: word1, word2, word3*

Name of HEI example 2 Duration: ongoing

Lorem ipsum dolor sit amet, nihil erroribus consequat ex est. Eu voluptua interesset mel, quem vulputate ne sea. Cu eam nemore option urbanitas. Illum accusamus quo ad. Id noster legendos duo, ut qui sale affert maluisset. (Short Resume)

See more [+] *Keywords: word1, word2, word3*

Name of HEI example 3 Duration: ongoing

Lorem ipsum dolor sit amet, nihil erroribus consequat ex est. Eu voluptua interesset mel, quem vulputate ne sea. Cu eam nemore option urbanitas. Illum accusamus quo ad. Id noster legendos duo, ut qui sale affert maluisset. (Short Resume)

See more [+] *Keywords: word1, word2, word3*

Name of HEI example 4 Duration: ongoing

Lorem ipsum dolor sit amet, nihil erroribus consequat ex est. Eu voluptua interesset mel, quem vulputate ne sea. Cu eam nemore option urbanitas. Illum accusamus quo ad. Id noster legendos duo, ut qui sale affert maluisset. (Short Resume)

See more [+] *Keywords: word1, word2, word3*

Name of HEI example 5 Duration: ongoing

Lorem ipsum dolor sit amet, nihil erroribus consequat ex est. Eu voluptua interesset mel, quem vulputate ne sea. Cu eam nemore option urbanitas. Illum accusamus quo ad. Id noster legendos duo, ut qui sale affert maluisset. (Short Resume)

See more [+] *Keywords: word1, word2, word3*

Tweets by @thinkingSmartEU

thinkingsmart
@thinkingSmartEU
Just setting up my Twitter. #myfirstTweet
23 Feb

Load more Tweets

Embed View on Twitter

Email: info@thinkingsmart.utad.pt

Co-funded by the Erasmus+ Programme of the European Union

DETAIL OF EACH PRACTICE

Name of HEI example1

View Edit

Name of region/country:
Portugal

Type of regions:
Developed

Type of HEI:
Developed

Intervenients:
Academia

Duration: ongoing

BP description:
Lorem ipsum dolor sit amet, nihil erroribus consequat ex est. Eu voluptua interesset mel, quem vulputate ne sea. Cu eam nemore option urbanitas. Illum accusamus quo ad. Id noster legendos duo, ut qui sale affert maluisset. (Short Resume)

Governance:
Lorem ipsum dolor sit amet, nihil erroribus consequat ex est. Eu voluptua interesset mel, quem vulputate ne sea. Cu eam nemore option urbanitas. Illum accusamus quo ad. Id noster legendos duo, ut qui sale affert maluisset. Est at alii tamquam praesent, no ius graece epicuri verterem, mea odio reprimique complectitur cu. Sit veniam eripuit in, stet regione patrioque pri ad. Vix in augue diceret facilisis. Est quidam eirmod ex, pro eu tota commune. Eu mei veniam gubergren, ne per diceret petentium tincidunt.

Entrepreneurial Discovery Process:
Lorem ipsum dolor sit amet, nihil erroribus consequat ex est. Eu voluptua interesset mel, quem vulputate ne sea. Cu eam nemore option urbanitas. Illum accusamus quo ad. Id noster legendos duo, ut qui sale affert maluisset. Est at alii tamquam praesent, no ius graece epicuri verterem, mea odio reprimique complectitur cu. Sit veniam eripuit in, stet regione patrioque pri ad. Vix in augue diceret facilisis. Est quidam eirmod ex, pro eu tota commune. Eu mei veniam gubergren, ne per diceret petentium tincidunt.

Strategic Alignment:
Lorem ipsum dolor sit amet, nihil erroribus consequat ex est. Eu voluptua interesset mel, quem vulputate ne sea. Cu eam nemore option urbanitas. Illum accusamus quo ad. Id noster legendos duo, ut qui sale affert maluisset. Est at alii tamquam praesent, no ius graece epicuri verterem, mea odio reprimique complectitur cu. Sit veniam eripuit in, stet regione patrioque pri ad. Vix in augue diceret facilisis. Est quidam eirmod ex, pro eu tota commune. Eu mei veniam gubergren, ne per diceret petentium tincidunt.

Collaboration:
Lorem ipsum dolor sit amet, nihil erroribus consequat ex est. Eu voluptua interesset mel, quem vulputate ne sea. Cu eam nemore option urbanitas. Illum accusamus quo ad. Id noster legendos duo, ut qui sale affert maluisset. Est at alii tamquam praesent, no ius graece epicuri verterem, mea odio reprimique complectitur cu. Sit veniam eripuit in, stet regione patrioque pri ad. Vix in augue diceret facilisis. Est quidam eirmod ex, pro eu tota commune. Eu mei veniam gubergren, ne per diceret petentium tincidunt.

Links:
www.loremipsum.com
www.loremipsum.com
www.loremipsum.com

Keywords: word1, word2, word3

Email: info@thinkingsmart.utad.pt

Co-funded by the Erasmus+ Programme of the European Union

NEW FORM ENTRY

Name of region/country *

Select from the list

Type of regions *

Select from the list

Name of HEI *

Enter a name

Type of HEI *

Select from the list

BP description *

Insert text

Duration *

Select from the list

Section Governance

Insert text

Short description

Entrepreneurial Discovery Process

Insert text

Short description

Strategic Alignment

Insert text

Short description

Collaboration

Insert text

Short description

Keywords *

Enter a name

Maximum of 3 words

Intervenients *

Select from the list

8.3. Key Stakeholders: guide and answers collected

THINKING SMART

Toolkit for the engagement of HEI in regional growth

Key Stakeholder Interview Template

[ ] Regional Representative: ……..

[ ] University Representative/Educational Expert: …….

[ ] Business Representative: …….

Date and Place of Interview: …….

utad UNIVERSIDADE DE TRÁS-OS-MONTES E ALTO DOURO
Newcastle University
POLITECNICO DI MILANO
SGROUP EUROPEAN UNIVERSITIES' NETWORK
spi Sociedade Portuguesa de Inovação
STEINBEIS-EUROPA-ZENTRUM
University of LODZ
UNIVERSITAT POLITÈCNICA DE VALÈNCIA

"Thinking Smart" is developed within EACEA (the Education, Audiovisual and Culture Executive Agency) through the Erasmus + programme with the aim of promoting Higher Education Institutions in regional growth project.

Through this interview we are trying to collect information on the different ways in which universities, alone and/or in partnership with industry, government, and social actors (the so-called Quadruple-Helix) contributed to Smart Specialization and integrate it in their strategic directions.

1. Name, region and role of the interviewed key Stakeholder

…

2. Did you ever take part in S3 design or implementation in a region/country?

[ ] Yes

[ ] No

3. If your answer has been "Yes" to the previous question, can you let us know in what region and at least one priority topic of that region matched by the thematic orientation/specialisation of at least some university at your region? characterises the S3 of that region / country?

In what region: ……..

At least one priority topic of that region matched by the thematic orientation/specialisation of at least some university at that region: …….

The HEIs of that region that matched the mentioned priority topic :…….

…

4. Are you aware of any change in your region / country because of the presence of Universities with certain thematic orientations / specialisations?

[ ] Yes

[ ] No

5. If your answer has been "Yes" to the previous question, can you provide more details on that?

…

6. If your answer has been "No", can you explain the reason why? More than one answer is possible.

[ ] Lack of interest from the S3 designers (regional or national government officials)

[ ] Lack of knowledge / information on what the local Universities do

[ ] The whole S3 design process has not involved the academic community

[ ] The S3 priority areas were too far from the local University orientations / specialisations

[ ] The academic community heavily influenced the S3 priority setting

[ ] Other…

7. Are you aware of any change in one or more local Universities' thematic orientations / specialisations as a result of your region / country S3 priorities?

[ ] Yes

[ ] No

8. If your answer has been "Yes" to the previous question, can you provide more details on that?

…

9. If your answer has been "No", can you explain the reason why? More than one answer is possible.

[ ] Lack of interest from the University representatives

[ ] Lack of knowledge / information on what the S3 is about

[ ] The whole S3 design process has not involved the academic community

[ ] The S3 priority areas were too far from the local University orientations / specialisations

[ ] The academic community heavily influenced the S3 priority setting

[ ] Other…

10. From the following list, what are in your opinion the key areas where local Universities can operationally implement the S3 priorities of your region / country? Use the following convention: 1=not at all, 2=not much, 3=don't know/neutral, 4=somehow, 5=very much

	1	2	3	4	5
Generation, Scouting and Development of Innovative Ideas					
Seed Capital					
Banks, Equity, Corporate Venturing					
Support to Enterprise Growth					
Research-Industry Collaboration					
Open Innovation					
Public Private Partnerships					
Social Innovation					
Student Engagement in Research and Innovation					
Other (go to next question)					

11. If you answered "other", can you explain what you had in mind?

…

12. From the same list, what are the areas where you have seen a (re)alignment of local Universities to the S3 priorities of its region / country? Use the following convention: 1=not at all, 2=not much, 3=don't know/neutral, 4=somehow, 5=very much

	1	2	3	4	5
Generation, Scouting and Development of Innovative Ideas					
Seed Capital					
Banks, Equity, Corporate Venturing					
Support to Enterprise Growth					
Research-Industry Collaboration					
Open Innovation					
Public Private Partnerships					
Social Innovation					
Student Engagement in Research and Innovation					
Other (go to next question)					

13. If you answered "other", can you explain what you had in mind?

...

14. From the same list, what are the areas where you see value in an online toolkit that collects good practice examples? Use the following convention: 1=not at all, 2=not much, 3=don't know/neutral, 4=somehow, 5=very much

	1	2	3	4	5
Generation, Scouting and Development of Innovative Ideas					
Seed Capital					
Banks, Equity, Corporate Venturing					
Support to Enterprise Growth					
Research-Industry Collaboration					

Open Innovation					
Public Private Partnerships					
Social Innovation					
Student Engagement in Research and Innovation					
Other (go to next question)					

15. If you answered "other", can you explain what you had in mind?

...

16. Considering the various steps of the S3 development process, in which of them the contribution of local Universities has been more prominent in your opinion? Use the following convention: 1=not at all, 2=not much, 3=don't know/neutral, 4=somehow, 5=very much

	1	2	3	4	5
Analysis of the specialisation potential of the region/country (for example: HEI carrying out original studies, surveys, or other research in support of S3 design)					
Governance process (for example: HEI promoting the formation and animation of a Quadruple-Helix structure in support of regional/national S3, together with e.g. other universities, research centres, industrial clusters, individual enterprises or SMEs, government bodies or agencies, civil society and business associations / innovation intermediaries, etc.).					
Entrepreneurial Discovery (for example: HEI's education/research/entrepreneurship promotion areas and activities of excellence have been considered by the policy makers while shaping the S3 priority domains)					
Visioning (for example: HEI's new initiative / decision or policy change at the level of e.g. Rectorate, or Departments to align with the regional/national S3 priorities in the domain(s) of e.g. education,					

research, entrepreneurship promotion or other "third mission" areas and activities).					
Other (go to next question)					

17. If you answered "other", can you explain what you had in mind?

...

18. Additional, forthcoming steps of the S3 are listed below, where do you think the contribution of local Universities system can be more prominent in the near future? Use the following convention: 1=not at all, 2=not much, 3=don't know/neutral, 4=somehow, 5=very much

	1	2	3	4	5
Implementation (for example: a local University participating in the regional/national calls for proposal to be launched under ERDF's Thematic Objective 1).					
Monitoring (for example: a local University contributing to the definition and implementation of Operational Programme indicators and/or the elaboration of follow-up studies).					
Upgrade and re-design of the whole S3, which is or should be a sort of permanent process according to the European recommendations					
Other (go to next question)					

19. If you answered "other", can you explain what you had in mind?

...

20. From the following list, what are the topic areas where you can mention an example of good practice from local Universities? More than one answer is possible.

[ ] Improved communication mechanisms between HEI and regional/national authorities

[ ] Incentives to participation of HEI in Entrepreneurial Discovery and S3 governance

[ ] Better participation of HEI in S3 implementation

[ ] Successful adjustment of HEI strategies to match S3 (with a special attention to the integration of S3 priorities in the educational offer and teaching/learning processes)

[ ] The drivers behind / barriers against successful engagement of HEI in S3

[ ] How to achieve an effective self-assessment of HEI capacities

[ ] Other…

Any link to information sources regarding the above will be appreciated.

21. Do you agree for publishing your personal information in the projects documents?

[ ] Yes

[ ] No

Thanks for your time and interest. If you would like to be informed about the results of this survey, please contact our project website http://thinkingsmart.utad.pt and/or leave a contact email address here below: ……

THINKING SMART

Toolkit for the engagement of HEI in regional growth

Key Stakeholder Interview Template

[ ] Regional Representative: ……..

[X] University Representative/Educational Expert: VICE-PRESIDENT SEFI

[ ] Business Representative: …….

Date and Place of Interview: Valencia, 20 DECEMBER 2016

utad UNIVERSIDADE DE TRÁS-OS-MONTES E ALTO DOURO · Newcastle University · POLITECNICO DI MILANO · SGROUP EUROPEAN UNIVERSITIES' NETWORK · spi Sociedade Portuguesa de Inovação · STEINBEIS-EUROPA-ZENTRUM · University of LODZ · UNIVERSITAT POLITÈCNICA DE VALÈNCIA

"Thinking Smart" is developed within EACEA (the Education, Audiovisual and Culture Executive Agency) through the Erasmus+ programme with the aim of promoting Higher Education Institutions in regional growth project.

Through this interview we are trying to collect information on the different ways in which universities, alone and/or in partnership with industry, government, and social actors (the so-called Quadruple-Helix) contributed to Smart Specialization and integrate it in their strategic directions.

1. Name, region and role of the interviewed key Stakeholder

Vice President SEFI - European Society for Engineering Education, based in Brussels in Belgium, and Full Professor at Universitat Politècnica de València (Spain). In the rest of the questionnaire when asked about "your" region, the answers refer to Valencia.

2. Did you ever take part in S3 design or implementation in a region/country?

[] Yes

[X] No

3. If your answer has been "Yes" to the previous question, can you let us know in what region and at least one priority topic of that region matched by the thematic orientation/specialisation of at least some university at your region? characterises the S3 of that region / country?

4. Are you aware of any change in your region / country because of the presence of Universities with certain thematic orientations / specialisations?

[X] Yes

[ ] No

5. If your answer has been "Yes" to the previous question, can you provide more details on that?

There is a natural symbiosis between universities specialization and businesses of the region. For instance the fact of bringing a Ford factory in the past might be facilitated by many circumstances some of which might have been the existence of specialized labour, which in turn has brought out a relevance of Mechanical Engineering degrees, Industrial Organization, etc.

Another influences may be the improvement in Agriculture, wine industry, service sector, accounting and finances, etc.

6. If your answer has been "No", can you explain the reason why? More than one answer is possible.

[] Lack of interest from the S3 designers (regional or national government officials)

[] Lack of knowledge / information on what the local Universities do

[] The whole S3 design process has not involved the academic community

[] The S3 priority areas were too far from the local University orientations / specialisations

[ ] The academic community heavily influenced the S3 priority setting

[] Other…

7. Are you aware of any change in one or more local Universities' thematic orientations / specialisations as a result of your region / country S3 priorities?

[X] Yes

[ ] No

8. If your answer has been "Yes" to the previous question, can you provide more details on that?

As mentioned there is a natural symbiosis between universities specialization and businesses of the region. For instance the existence of degrees in Tourism, Textile Engineering in the past, masters in Enology, Relevance of Agricultural studies, etc

9. If your answer has been "No", can you explain the reason why? More than one answer is possible.

[ ] Lack of interest from the University representatives

[ ] Lack of knowledge / information on what the S3 is about

[ ] The whole S3 design process has not involved the academic community

[] The S3 priority areas were too far from the local University orientations / specialisations

[ ] The academic community heavily influenced the S3 priority setting

[] Other…

10. From the following list, what are in your opinion the key areas where local Universities can operationally implement the S3 priorities of your region / country? Use the following convention: 1=not at all, 2=not much, 3=don't know/neutral, 4=somehow, 5=very much

	1	2	3	4	5
Generation, Scouting and Development of Innovative Ideas					X
Seed Capital				X	
Banks, Equity, Corporate Venturing				X	
Support to Enterprise Growth				X	
Research-Industry Collaboration					X
Open Innovation					X
Public Private Partnerships		X			
Social Innovation				X	
Student Engagement in Research and Innovation					X
Other (go to next question)					

11. If you answered "other", can you explain what you had in mind?

.

12. From the same list, what are the areas where you have seen a (re)alignment of local Universities to the S3 priorities of its region / country? Use the following convention: 1=not at all, 2=not much, 3=don't know/neutral, 4=somehow, 5=very much

	1	2	3	4	5
Generation, Scouting and Development of Innovative Ideas					x
Seed Capital	x				
Banks, Equity, Corporate Venturing	x				
Support to Enterprise Growth				x	
Research-Industry Collaboration					x
Open Innovation				x	
Public Private Partnerships		x			
Social Innovation		x			
Student Engagement in Research and Innovation		x			
Other (go to next question)					

13. If you answered "other", can you explain what you had in mind?

14. From the same list, what are the areas where you see value in an online toolkit that collects good practice examples? Use the following convention: 1=not at all, 2=not much, 3=don't know/neutral, 4=somehow, 5=very much

	1	2	3	4	5
Generation, Scouting and Development of Innovative Ideas					X
Seed Capital	x				
Banks, Equity, Corporate Venturing	x				
Support to Enterprise Growth				x	
Research-Industry Collaboration					x

Open Innovation					X
Public Private Partnerships	X				
Social Innovation					X
Student Engagement in Research and Innovation					X
Other (go to next question)					

15. If you answered "other", can you explain what you had in mind?

.

16. Considering the various steps of the S3 development process, in which of them the contribution of local Universities has been more prominent in your opinion? Use the following convention: 1=not at all, 2=not much, 3=don't know/neutral, 4=somehow, 5=very much

	1	2	3	4	5
Analysis of the specialisation potential of the region/country (for example: HEI carrying out original studies, surveys, or other research in support of S3 design)	x				
Governance process (for example: HEI promoting the formation and animation of a Quadruple-Helix structure in support of regional/national S3, together with e.g. other universities, research centres, industrial clusters, individual enterprises or SMEs, government bodies or agencies, civil society and business associations / innovation intermediaries, etc.).			x		
Entrepreneurial Discovery (for example: HEI's education/research/entrepreneurship promotion areas and activities of excellence have been considered by the policy makers while shaping the S3 priority domains)				X	
Visioning (for example: HEI's new initiative / decision or policy change at the level of e.g. Rectorate, or Departments to align with the regional/national S3 priorities in the domain(s) of e.g. education,				x	

research, entrepreneurship promotion or other "third mission" areas and activities).					
Other (go to next question)					x

17. If you answered "other", can you explain what you had in mind?

Contributing to a highly qualified population, lighthouse of innovation and application to industry as well as basic research

18. Additional, forthcoming steps of the S3 are listed below, where do you think the contribution of local Universities system can be more prominent in the near future? Use the following convention: 1=not at all, 2=not much, 3=don't know/neutral, 4=somehow, 5=very much

	1	2	3	4	5
Implementation (for example: a local University participating in the regional/national calls for proposal to be launched under ERDF's Thematic Objective 1).					X
Monitoring (for example: a local University contributing to the definition and implementation of Operational Programme indicators and/or the elaboration of follow-up studies).					X
Upgrade and re-design of the whole S3, which is or should be a sort of permanent process according to the European recommendations					X
Other (go to next question)					

19. If you answered "other", can you explain what you had in mind?

...

20. From the following list, what are the topic areas where you can mention an example of good practice from local Universities? More than one answer is possible.

[X] Improved communication mechanisms between HEI and regional/national authorities

[X] Incentives to participation of HEI in Entrepreneurial Discovery and S3 governance

[X] Better participation of HEI in S3 implementation

[ ] Successful adjustment of HEI strategies to match S3 (with a special attention to the integration of S3 priorities in the educational offer and teaching/learning processes)

[X] The drivers behind / barriers against successful engagement of HEI in S3

[ ] How to achieve an effective self-assessment of HEI capacities

[ ] Other…

Any link to information sources regarding the above will be appreciated.

21. Do you agree for publishing your personal information in the projects documents?

[X] Yes

[ ] No

Thanks for your time and interest. If you would like to be informed about the results of this survey, please contact our project website http://thinkingsmart.utad.pt and/or leave a contact email address here below: ……

LMSR@upv.es

THINKING SMART

Toolkit for the engagement of HEI in regional growth

Key Stakeholder Interview Template

[ ] Regional Representative: ……..

[X] University Representative/Educational Expert: FULL PROFESSOR, University of Pisa

[ ] Business Representative: …….

Date and Place of Interview: Pisa, 20 November 2016

utad UNIVERSIDADE DE TRÁS-OS-MONTES E ALTO DOURO · Newcastle University · POLITECNICO DI MILANO · SGROUP EUROPEAN UNIVERSITIES' NETWORK · spi Sociedade Portuguesa de Inovação · STEINBEIS-EUROPA-ZENTRUM · University of LODZ · UNIVERSITAT POLITÈCNICA DE VALÈNCIA

"Thinking Smart" is developed within EACEA (the Education, Audiovisual and Culture Executive Agency) through the Erasmus + programme with the aim of promoting Higher Education Institutions in regional growth project.

Through this interview we are trying to collect information on the different ways in which universities, alone and/or in partnership with industry, government, and social actors (the so-called Quadruple-Helix) contributed to Smart Specialization and integrate it in their strategic directions.

1. Name, region and role of the interviewed key Stakeholder

TUSCANY

FULL PROFESSOR, UNIVERSITY OF PISA

2. Did you ever take part in S3 design or implementation in a region/country?

[xxx] Yes

[ ] No

3. If your answer has been "Yes" to the previous question, can you let us know in what region and at least one priority topic of that region matched by the thematic orientation/specialisation of at least some university at your region? characterises the S3 of that region / country?

In what region: ……TUSCANY……..

At least one priority topic of that region matched by the thematic orientation/specialisation of at least some university at that region: ……MANUFACTURING 4.0…….

The HEIs of that region that matched the mentioned priority topic :……SCUOLA SUPERIORE SANT'ANNA, UNIVERSITY OF PISA, UNIVERSITY OF FLORENCE, UNIVERSITY OF SIENA ……..

4. Are you aware of any change in your region / country because of the presence of Universities with certain thematic orientations / specialisations?

[xxx] Yes

[ ] No

5. If your answer has been "Yes" to the previous question, can you provide more details on that?

At political/ decision making level

5.1 Inclusion of Sant'Anna School among the few HEIs involved in the design and management of national strategy in Manufacturing 4.0, together with Politecnico of Milan, Politecnico of Turin, University of Bologna and Politecnico of Bari.

5.2 Re-design of the regional infrastructure for the design and management of Manufacturing 4.0 initiatives (eg merger of technological centres, creation of Advisory Board, coordination between Research, Innovation and Human capital policies)

5.3 Systematic use by the Regional government of the results of a study on the impact of Manufacturing 4.0 on value chains in the regional industry (by IRPET and QUINN)

At operational level

5.3 Launch of dedicated Call for research and innovation in Manufacturing 4.0 (December 2016)

6. If your answer has been "No", can you explain the reason why? More than one answer is possible.

[ ] Lack of interest from the S3 designers (regional or national government officials)

[ ] Lack of knowledge / information on what the local Universities do

[ ] The whole S3 design process has not involved the academic community

[ ] The S3 priority areas were too far from the local University orientations / specialisations

[ ] The academic community heavily influenced the S3 priority setting

[ ] Other…

7. Are you aware of any change in one or more local Universities' thematic orientations / specialisations as a result of your region / country S3 priorities?

[XXX] Yes

[ ] No

8. If your answer has been "Yes" to the previous question, can you provide more details on that?

Regional Calls for research and innovation are a major source of funding for universities, particularly in Engineering. Choice of priorities might orient preferences of universities in thematic issues.

In the past, the Regional government has also supported large scale research projects (e.g. hydrogen technology), sometimes with limited success.

9. If your answer has been "No", can you explain the reason why? More than one answer is possible.

[ ] Lack of interest from the University representatives

[ ] Lack of knowledge / information on what the S3 is about

[ ] The whole S3 design process has not involved the academic community

[ ] The S3 priority areas were too far from the local University orientations / specialisations

[ ] The academic community heavily influenced the S3 priority setting

[ ] Other…

10. From the following list, what are in your opinion the key areas where local Universities can operationally implement the S3 priorities of your region / country? Use the following convention: 1=not at all, 2=not much, 3=don't know/neutral, 4=somehow, 5=very much

	1	2	3	4	5
Generation, Scouting and Development of Innovative Ideas					X
Seed Capital				X	
Banks, Equity, Corporate Venturing	X				
Support to Enterprise Growth		X			
Research-Industry Collaboration					X
Open Innovation				X	
Public Private Partnerships				X	
Social Innovation			X		
Student Engagement in Research and Innovation					X
Other (go to next question)					

11. If you answered "other", can you explain what you had in mind?

…

12. From the same list, what are the areas where you have seen a (re)alignment of local Universities to the S3 priorities of its region / country? Use the following convention: 1=not at all, 2=not much, 3=don't know/neutral, 4=somehow, 5=very much

	1	2	3	4	5
Generation, Scouting and Development of Innovative Ideas	X				
Seed Capital		X			
Banks, Equity, Corporate Venturing	X				
Support to Enterprise Growth	X				
Research-Industry Collaboration				X	
Open Innovation	X				
Public Private Partnerships				X	
Social Innovation	X				
Student Engagement in Research and Innovation		X			
Other (go to next question)					

13. If you answered "other", can you explain what you had in mind?

...

14. From the same list, what are the areas where you see value in an online toolkit that collects good practice examples? Use the following convention: 1=not at all, 2=not much, 3=don't know/neutral, 4=somehow, 5=very much

	1	2	3	4	5
Generation, Scouting and Development of Innovative Ideas	X				
Seed Capital	X				
Banks, Equity, Corporate Venturing	X				
Support to Enterprise Growth	X				
Research-Industry Collaboration					X

Open Innovation					X
Public Private Partnerships					X
Social Innovation				X	
Student Engagement in Research and Innovation					X
Other (go to next question)					

15. If you answered "other", can you explain what you had in mind?

...

16. Considering the various steps of the S3 development process, in which of them the contribution of local Universities has been more prominent in your opinion? Use the following convention: 1=not at all, 2=not much, 3=don't know/neutral, 4=somehow, 5=very much

	1	2	3	4	5
Analysis of the specialisation potential of the region/country (for example: HEI carrying out original studies, surveys, or other research in support of S3 design)				X	
Governance process (for example: HEI promoting the formation and animation of a Quadruple-Helix structure in support of regional/national S3, together with e.g. other universities, research centres, industrial clusters, individual enterprises or SMEs, government bodies or agencies, civil society and business associations / innovation intermediaries, etc.).		X			
Entrepreneurial Discovery (for example: HEI's education/research/entrepreneurship promotion areas and activities of excellence have been considered by the policy makers while shaping the S3 priority domains)		X			
Visioning (for example: HEI's new initiative / decision or policy change at the level of e.g. Rectorate, or Departments to align with the regional/national S3 priorities in the domain(s) of e.g. education,					X

research, entrepreneurship promotion or other "third mission" areas and activities).					
Other (go to next question)					

17. If you answered "other", can you explain what you had in mind?

...

18. Additional, forthcoming steps of the S3 are listed below, where do you think the contribution of local Universities system can be more prominent in the near future? Use the following convention: 1=not at all, 2=not much, 3=don't know/neutral, 4=somehow, 5=very much

	1	2	3	4	5
Implementation (for example: a local University participating in the regional/national calls for proposal to be launched under ERDF's Thematic Objective 1).				X	
Monitoring (for example: a local University contributing to the definition and implementation of Operational Programme indicators and/or the elaboration of follow-up studies).		X			
Upgrade and re-design of the whole S3, which is or should be a sort of permanent process according to the European recommendations		X			
Other (go to next question)					

19. If you answered "other", can you explain what you had in mind?

...

20. From the following list, what are the topic areas where you can mention an example of good practice from local Universities? More than one answer is possible.

[ ] Improved communication mechanisms between HEI and regional/national authorities

[ ] Incentives to participation of HEI in Entrepreneurial Discovery and S3 governance

[XXX] Better participation of HEI in S3 implementation

[ ] Successful adjustment of HEI strategies to match S3 (with a special attention to the integration of S3 priorities in the educational offer and teaching/learning processes)

[ ] The drivers behind / barriers against successful engagement of HEI in S3

[ ] How to achieve an effective self-assessment of HEI capacities

[ ] Other…

Any link to information sources regarding the above will be appreciated.

21. Do you agree for publishing your personal information in the projects documents?

[XXX] Yes

[ ] No

Thanks for your time and interest. If you would like to be informed about the results of this survey, please contact our project website http://thinkingsmart.utad.pt and/or leave a contact email address here below: ……

THINKING SMART

Toolkit for the engagement of HEI in regional growth

Key Stakeholder Interview Template

[ ] Regional Representative: ……..

[X] University Representative/Educational Expert: CESAER EXPERT

[ ] Business Representative: …….

Date and Place of Interview: BRUSSELS, 24th NOVEMBER 2016

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Through this interview we are trying to collect information on the different ways in which universities, alone and/or in partnership with industry, government, and social actors (the so-called Quadruple-Helix) contributed to Smart Specialization and integrate it in their strategic directions.

1. Name, region and role of the interviewed key Stakeholder

David Bohmert 1) Secretary General of the Conference of European Schools for Advanced Engineering Education and Research (CESAER) based in Leuven in Belgium and2) Member of the Executive Board of ESFRI and Swiss ESFRI Delegate.

2. Did you ever take part in S3 design or implementation in a region/country?

[X] Yes

[ ] No

3. If your answer has been "Yes" to the previous question, can you let us know in what region and at least one priority topic of that region matched by the thematic orientation/specialisation of at least some university at your region? characterises the S3 of that region / country?

In what region: Throughout my career, I have been involved several times in the development of S3 strategies, notably in the Amsterdam region and North Netherlands, but also *Lac Leman*. Moreover, I have mentored several Master theses on this topic, participated in several European and regional conferences as well as trained Regional Cluster Lobbyists operating between their regions and Brussels. Finally, I have a large network of regional lobbyists in Brussels and I am well aware of the link between knowledge institutions and S3 strategies. My answers thus do NOT address ONE single case, but rather testify my knowledge and experience at large.

At least one priority topic of that region matched by the thematic orientation/specialisation of at least some university at that region: The very essence of my work and interventions has always been to make sure that the topics chosen in a region actually match not only those of universities, but also other knowledge institutions such as Vocational Education and Training (VET) colleges, Research Performing Organisations (RPO) and Research & Technology Organisations (RTO). The general political context for such work originated in the EC communication A Europe of Knowledge (1997) essentially underpinning the change through the third wave of globalisation from post-industrial and information societies towards knowledge societies. Importantly, this drive at European level throughout the first ten years of the 21st century seemed to not only to weaken the influence and power of nation states in literally all areas of policy – including education- but was moreover accompanied by a strengthened role of regions. Essentially, the European and regional levels aligned cornering the nation states.

Interestingly, I would claim that rural, isolated and suburban regions somehow were able to more easily focus on specific topics linked to their local knowledge institutions than metropolitan areas. Moreover, the differences between local and national governments a) focussing primarily on re-industrialisation (via clusters), b) focussing on effective links with knowledge and c) even designing full-grown S3 strategies, including providing adequate societal, political, legal and financial frameworks in my view are striking. Overall, I would claim that North-West European regions (such as Amsterdam, Stockholm, London, Munich, Zurich, Lac Leman, Copenhagen, Leuven, Helsinki and so on) have been much more successful in realising creative, open and innovative societies than Eastern and Southern European regions despite their evident growth in prosperity, peace and overall development- with view exceptions in Spain (Barcelona and Valencia), Italy (Piermont & Lombardi), Czech Republic (Brno) and Estonia – generally are continue to lag behind.

The HEIs of that region that matched the mentioned priority topic: In this sense, prominent examples of perfect matches I experienced from close by in rural areas were:

- Energy and healthy ageing in Northern Netherlands;
- Electronics and superconductors in the Eindhoven area;
- Biotechnology and health ICT in Lac Leman;
- Nano-electronica and health in Eastern Netherlands;
- Petrochemical industry and maintenance in South Western Netherlands;
- Etc. etc.

4. Are you aware of any change in your region / country because of the presence of Universities with certain thematic orientations / specialisations?

[X] Yes

[ ] No

5. If your answer has been "Yes" to the previous question, can you provide more details on that?

Of course, the effects of a good match are striking in terms of higher investments, attraction of talent, co-location of (new) business, higher employment rates, higher economic growth, higher standard of living etc. Interestingly, there seems little evidence to more scientific creatitivy and excellence through thematic focus. Some studies even bring forward an opposite relationship: the more focus and concentration, the bigger the negative long-term impact on scientific creativity and quality. In some cases, such focus and concentration even lead to devastating effects. A well-known example is the concentration and focus of Eastern European studies and languages in the Netherlands in the early eighties leading to the closure of many such departments in Dutch universities. After the fall of the wall and by the beginning of the nineties, the Dutch government had to invest a multitude of the cut investments into re-erecting such departments in order to enable Dutch companies to penetrate the new Eastern European countries.

That is why all my work in metropolitan S3 strategies - such as in Amsterdam and Zurich - was much more focused on providing the favourable societal (openness & tolerance), political (non-intervention), financial (at least 3% GDP into R&D) and legal (tax reduction, open immigration laws) framework conditions and structures for cooperation, such as regional knowledge board, open innovation eco-systems etc.

6. If your answer has been "No", can you explain the reason why? More than one answer is possible.

[X] Lack of interest from the S3 designers (regional or national government officials)

[X] Lack of knowledge / information on what the local Universities do

[X] The whole S3 design process has not involved the academic community

[X] The S3 priority areas were too far from the local University orientations / specialisations

[ ] The academic community heavily influenced the S3 priority setting

[X] Other… To me the biggest omissions in failing regions are a) corruption, b) old-fashioned and clientele-relationships between local businesses and local authorities, c) lack of recognition and esteem for academia, d) backward and conservative morals and ethics, e) mistaken focus on re-industrialisation of outdated sectors (such as automotive, nuclear energy etc.) and f) serious underinvestment in education, research and innovation and outdated and g) lack of reform in labour law and employment conditions.

7. Are you aware of any change in one or more local Universities' thematic orientations / specialisations as a result of your region / country S3 priorities?

[X] Yes

[ ] No

8. If your answer has been "Yes" to the previous question, can you provide more details on that?

As stated, overall the effect of such specialisation and thematic focus is an impoverishment of the academic offer, reduction of research-based disruptive and market-creating innovation and on the long term decline of scientific creativity and quality. Interestingly, VET colleges, RTO and Universities of Applied Sciences initially seem to prosper under such specialisation compared to the suffering excellent research-universities and RPO. However, the overall performance of such regions often remains limited to incremental innovation, too much orientation of education and

training on outdated skills and generally do not resulting in more attractiveness for talent from world-wide.

9. If your answer has been "No", can you explain the reason why? More than one answer is possible.

[ ] Lack of interest from the University representatives

[ ] Lack of knowledge / information on what the S3 is about

[ ] The whole S3 design process has not involved the academic community

[X] The S3 priority areas were too far from the local University orientations / specialisations

[ ] The academic community heavily influenced the S3 priority setting

[X] Other… In essence, it is an ideological problem leading to wrong political and economic choices. Even the neo-liberal third way and Europe 2020 approaches `subjected` academia and knowledge to economic impact (so-called knowledge economy) through top-down prioritisation (focus and mass) effectively serving vested economic and political interests in existing markets. The European Regional Development Policy notably through the European Structural and Investment Funds, cluster approaches and focus on thematic priorities in S3 have also contributed to such omissions.

10. From the following list, what are in your opinion the key areas where local Universities can operationally implement the S3 priorities of your region / country? Use the following convention: 1=not at all, 2=not much, 3=don't know/neutral, 4=somehow, 5=very much

	1	2	3	4	5
Generation, Scouting and Development of Innovative Ideas					X
Seed Capital	X				
Banks, Equity, Corporate Venturing	X				
Support to Enterprise Growth			X		

Research-Industry Collaboration				X	
Open Innovation					X
Public Private Partnerships		X			
Social Innovation					X
Student Engagement in Research and Innovation					X
Other (go to next question)					X

11. If you answered "other", can you explain what you had in mind?

The essences of the universties contributions to S3 strategies is to push towards the unknown and breakthroughs therewith boosting regional development towards bottom-up research-based disruptive and market-creating innovation, promoting a fundamental and coneptual understanding and support to science and knowledge, enlightenment and liberalisation of the citizens, teach respect for the rule of law and human rights and peace etc.

12. From the same list, what are the areas where you have seen a (re)alignment of local Universities to the S3 priorities of its region / country? Use the following convention: 1=not at all, 2=not much, 3=don't know/neutral, 4=somehow, 5=very much

	1	2	3	4	5
Generation, Scouting and Development of Innovative Ideas					
Seed Capital					
Banks, Equity, Corporate Venturing					
Support to Enterprise Growth					
Research-Industry Collaboration					
Open Innovation					
Public Private Partnerships					
Social Innovation					
Student Engagement in Research and Innovation					
Other (go to next question)					

13. If you answered "other", can you explain what you had in mind?

As stated, I have seen universities aligning in both directions with described effects.

14. From the same list, what are the areas where you see value in an online toolkit that collects good practice examples? Use the following convention: 1=not at all, 2=not much, 3=don't know/neutral, 4=somehow, 5=very much

	1	2	3	4	5
Generation, Scouting and Development of Innovative Ideas					X
Seed Capital	X				
Banks, Equity, Corporate Venturing	X				
Support to Enterprise Growth	X				
Research-Industry Collaboration	X				
Open Innovation					X
Public Private Partnerships	X				
Social Innovation					X
Student Engagement in Research and Innovation					X
Other (go to next question)					X

15. If you answered "other", can you explain what you had in mind?

... see 11.

16. Considering the various steps of the S3 development process, in which of them the contribution of local Universities has been more prominent in your opinion? Use the following convention: 1=not at all, 2=not much, 3=don't know/neutral, 4=somehow, 5=very much

	1	2	3	4	5

Analysis of the specialisation potential of the region/country (for example: HEI carrying out original studies, surveys, or other research in support of S3 design)		X			
Governance process (for example: HEI promoting the formation and animation of a Quadruple-Helix structure in support of regional/national S3, together with e.g. other universities, research centres, industrial clusters, individual enterprises or SMEs, government bodies or agencies, civil society and business associations / innovation intermediaries, etc.).					X
Entrepreneurial Discovery (for example: HEI's education/research/entrepreneurship promotion areas and activities of excellence have been considered by the policy makers while shaping the S3 priority domains)				X	
Visioning (for example: HEI's new initiative / decision or policy change at the level of e.g. Rectorate, or Departments to align with the regional/national S3 priorities in the domain(s) of e.g. education, research, entrepreneurship promotion or other "third mission" areas and activities).			X		
Other (go to next question)					X

17. If you answered "other", can you explain what you had in mind?

Teaching new skills such as digital literacy, democratic citzenship, European values and identity etc.

18. Additional, forthcoming steps of the S3 are listed below, where do you think the contribution of local Universities system can be more prominent in the near future? Use the following convention: 1=not at all, 2=not much, 3=don't know/neutral, 4=somehow, 5=very much

	1	2	3	4	5

Implementation (for example: a local University participating in the regional/national calls for proposal to be launched under ERDF's Thematic Objective 1).					X
Monitoring (for example: a local University contributing to the definition and implementation of Operational Programme indicators and/or the elaboration of follow-up studies).					X
Upgrade and re-design of the whole S3, which is or should be a sort of permanent process according to the European recommendations					X
Other (go to next question)					

19. If you answered "other", can you explain what you had in mind?

...

20. From the following list, what are the topic areas where you can mention an example of good practice from local Universities? More than one answer is possible.

[X] Improved communication mechanisms between HEI and regional/national authorities

[X] Incentives to participation of HEI in Entrepreneurial Discovery and S3 governance

[X] Better participation of HEI in S3 implementation

[ ] Successful adjustment of HEI strategies to match S3 (with a special attention to the integration of S3 priorities in the educational offer and teaching/learning processes)

[X] The drivers behind / barriers against successful engagement of HEI in S3

[ ] How to achieve an effective self-assessment of HEI capacities

[ ] Other…

Any link to information sources regarding the above will be appreciated.

21. Do you agree for publishing your personal information in the projects documents?

[X] Yes

[ ] No

Thanks for your time and interest. If you would like to be informed about the results of this survey, please contact our project website http://thinkingsmart.utad.pt and/or leave a contact email address here below: ……

Personally I am rather pessimist about the course Europe is taking in this respect, actually at the highest level: The Juncker Commission not even refers to knowledge-economy anymore, completely subjects academia to its ten political priorities, cuts budgets for research, innovation and education in favour of ESIF, re-focuses on re-industrialisation and effectively prevents the European institutions from pushing the Europe of knowledge forward. The current trends of re-nationalisation, populism, degradation and destruction of environment, climate change, separatism and ethical stagnation and reversion pose high threats to the further development of many European regions and their universities.

In my view, a fundamental re-orientation towards teaching values, bottom-up research-driven disruptive innovation, distortion of vested market interests (such as Diesel motors and nuclear power stations), much higher public and more leveraging of private investments into education, research and innovation, increase and safeguard of academic freedom and institutional autonomy and so on are needed to successfully further combat the disparities amongst the people and regions in Europe and the growing discontent of our people with their governors, to tackle the societal challenges, to realise sustainable growth, to save the planet and to safeguard the security, peace, prosperity and competitiveness of Europe.

If the European Regional Development Policy and its programmes continue doing business as usual - including thematic prioritisation via S3 strategies - beyond their interim evaluation and more importantly beyond 2020, they will very soon lose the political support within the paying nations and - more importantly – amongst the citizens of Europe. If the ESFI continue to serve the vested economic and political interests rather than the citizens, we may expect considerable cuts in the future ESIF in the future. We universities have a crucial role in turning the tide.

THINKING SMART

Toolkit for the engagement of HEI in regional growth

Key Stakeholder Interview Template

[ ] Regional Representative: ……..

X] University Representative/Educational Expert: …….

[ ] Business Representative: …….

Date and Place of Interview: ……15 nov 2016…….

utad UNIVERSIDADE DE TRÁS-OS-MONTES E ALTO DOURO
Newcastle University
POLITECNICO DI MILANO
SGROUP EUROPEAN UNIVERSITIES' NETWORK
spi Sociedade Portuguesa de Inovação
STEINBEIS-EUROPA-ZENTRUM
University of LODZ
UNIVERSITAT POLITÈCNICA DE VALÈNCIA

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Through this interview we are trying to collect information on the different ways in which universities, alone and/or in partnership with industry, government, and social actors (the so-called Quadruple-Helix) contributed to Smart Specialization and integrate it in their strategic directions.

1. Name, region and role of the interviewed key Stakeholder

Guy HAUG, formerly in the region of Champagne-Ardenne (France), now in the region of Valencia (Spain), expert in Higher Education, former CEO of various international companies with headquarters in Europe.

2. Did you ever take part in S3 design or implementation in a region/country?

[ ] Yes

[X] No, but I was involved in projects and institutions that were somewhat comparable to S3.

3. If your answer has been "Yes" to the previous question, can you let us know in what region and at least one priority topic of that region matched by the thematic orientation/specialisation of at least some university at your region? characterises the S3 of that region / country?

In what region: ……..

At least one priority topic of that region matched by the thematic orientation/specialisation of at least some university at that region: …….

The HEIs of that region that matched the mentioned priority topic :…….

…

4. Are you aware of any change in your region / country because of the presence of Universities with certain thematic orientations / specialisations?

[X] Yes

[ ] No

5. If your answer has been "Yes" to the previous question, can you provide more details on that?

The region Champagne-Ardenne in France is strongly export-oriented and needed a strong and highly internationalised management school; this led to the creation of the biggest double-degree programme in Europe, linking universities in France, UK, Germany, Spain and later on also Ireland, Netherlands, Italy, Mexico, China, etc. The Reims Management School was the main initiator of this highly innovative programme.

6. If your answer has been "No", can you explain the reason why? More than one answer is possible.

[ ] Lack of interest from the S3 designers (regional or national government officials)

[ ] Lack of knowledge / information on what the local Universities do

[ ] The whole S3 design process has not involved the academic community

[ ] The S3 priority areas were too far from the local University orientations / specialisations

[ ] The academic community heavily influenced the S3 priority setting

[ ] Other…

7. Are you aware of any change in one or more local Universities' thematic orientations / specialisations as a result of your region / country S3 priorities?

See my answer to question 5.

[x] Yes

[ ] No

8. If your answer has been "Yes" to the previous question, can you provide more details on that?

The double-degree programme that was developed from Reims was a forerunner to ERASMUS and served as a source of inspiration for the EU programme for student mobility.

9. If your answer has been "No", can you explain the reason why? More than one answer is possible.

[ ] Lack of interest from the University representatives

[ ] Lack of knowledge / information on what the S3 is about

[ ] The whole S3 design process has not involved the academic community

[ ] The S3 priority areas were too far from the local University orientations / specialisations

[ ] The academic community heavily influenced the S3 priority setting

[ ] Other…

10. From the following list, what are in your opinion the key areas where local Universities can operationally implement the S3 priorities of your region / country? Use the following convention: 1=not at all, 2=not much, 3=don't know/neutral, 4=somehow, 5=very much

	1	2	3	4	5
Generation, Scouting and Development of Innovative Ideas				X	
Seed Capital		X			
Banks, Equity, Corporate Venturing		X			

Support to Enterprise Growth				X	
Research-Industry Collaboration					X
Open Innovation			X		
Public Private Partnerships				X	
Social Innovation				X	
Student Engagement in Research and Innovation					X
Other (go to next question)				x	

11. If you answered "other", can you explain what you had in mind?

The new intertnational programme contributed to giving na innovative image to the region and was visited and later replicated in other regions and countries.

12. From the same list, what are the areas where you have seen a (re)alignment of local Universities to the S3 priorities of its region / country? Use the following convention: 1=not at all, 2=not much, 3=don't know/neutral, 4=somehow, 5=very much

	1	2	3	4	5
Generation, Scouting and Development of Innovative Ideas			X		
Seed Capital		X			
Banks, Equity, Corporate Venturing		X			
Support to Enterprise Growth				X	
Research-Industry Collaboration				X	
Open Innovation			X		
Public Private Partnerships				X	
Social Innovation				X	
Student Engagement in Research and Innovation				X	
Other (go to next question)	X				

13. If you answered "other", can you explain what you had in mind?

...

14. From the same list, what are the areas where you see value in an online toolkit that collects good practice examples? Use the following convention: 1=not at all, 2=not much, 3=don't know/neutral, 4=somehow, 5=very much

	1	2	3	4	5
Generation, Scouting and Development of Innovative Ideas			X		
Seed Capital		X			
Banks, Equity, Corporate Venturing		X			
Support to Enterprise Growth			X		
Research-Industry Collaboration				X	
Open Innovation			X		
Public Private Partnerships			X		
Social Innovation				X	
Student Engagement in Research and Innovation				X	
Other (go to next question)	X				

15. If you answered "other", can you explain what you had in mind?

...

16. Considering the various steps of the S3 development process, in which of them the contribution of local Universities has been more prominent in your opinion? Use the following convention: 1=not at all, 2=not much, 3=don't know/neutral, 4=somehow, 5=very much

	1	2	3	4	5
Analysis of the specialisation potential of the region/country (for				X	

example: HEI carrying out original studies, surveys, or other research in support of S3 design)					
Governance process (for example: HEI promoting the formation and animation of a Quadruple-Helix structure in support of regional/national S3, together with e.g. other universities, research centres, industrial clusters, individual enterprises or SMEs, government bodies or agencies, civil society and business associations / innovation intermediaries, etc.).		X			
Entrepreneurial Discovery (for example: HEI's education/research/entrepreneurship promotion areas and activities of excellence have been considered by the policy makers while shaping the S3 priority domains)			x		
Visioning (for example: HEI's new initiative / decision or policy change at the level of e.g. Rectorate, or Departments to align with the regional/national S3 priorities in the domain(s) of e.g. education, research, entrepreneurship promotion or other "third mission" areas and activities).				X	
Other (go to next question)	X				

17. If you answered "other", can you explain what you had in mind?

...

18. Additional, forthcoming steps of the S3 are listed below, where do you think the contribution of local Universities system can be more prominent in the near future? Use the following convention: 1=not at all, 2=not much, 3=don't know/neutral, 4=somehow, 5=very much

	1	2	3	4	5
Implementation (for example: a local University participating in the regional/national calls for proposal to be launched under ERDF's Thematic Objective 1).				X	

Monitoring (for example: a local University contributing to the definition and implementation of Operational Programme indicators and/or the elaboration of follow-up studies).				X	
Upgrade and re-design of the whole S3, which is or should be a sort of permanent process according to the European recommendations			X		
Other (go to next question)					

19. If you answered "other", can you explain what you had in mind?

...

20. From the following list, what are the topic areas where you can mention an example of good practice from local Universities? More than one answer is possible.

[x] Improved communication mechanisms between HEI and regional/national authorities

[ ] Incentives to participation of HEI in Entrepreneurial Discovery and S3 governance

[x] Better participation of HEI in S3 implementation

[x] Successful adjustment of HEI strategies to match S3 (with a special attention to the integration of S3 priorities in the educational offer and teaching/learning processes)

[ ] The drivers behind / barriers against successful engagement of HEI in S3

[ ] How to achieve an effective self-assessment of HEI capacities

[ ] Other…

Any link to information sources regarding the above will be appreciated.

21. Do you agree for publishing your personal information in the projects documents?

[ ] Yes

[ ] No

I do not OBJECT to the publishing, but would prefer it NOT to be published

Thanks for your time and interest. If you would like to be informed about the results of this survey, please contact our project website http://thinkingsmart.utad.pt and/or leave a contact email address here below

THINKING SMART

Toolkit for the engagement of HEI in regional growth

Key Stakeholder Interview Template

[ ] Regional Representative: .....

[ ] University Representative/Educational Expert: .....

[ ] Business Representative: .....

Date and Place of Interview: .....

utad UNIVERSIDADE DE TRÁS-OS-MONTES E ALTO DOURO
Newcastle University
POLITECNICO DI MILANO
GLOBAL UNIVERSITIES NETWORK
spi Sociedade Portuguesa de Inovação
STEINBEIS-EUROPA-ZENTRUM
LODZ
UNIVERSITAT POLITÈCNICA DE VALÈNCIA

"Thinking Smart" is developed within EACEA (the Education, Audiovisual and Culture Executive Agency) through the Erasmus + programme with the aim of promoting Higher Education Institutions in regional growth project.

Through this interview we are trying to collect information on the different ways in which universities, alone and/or in partnership with industry, government, and social actors (the so-called Quadruple-Helix) contributed to Smart Specialization and integrate it in their strategic directions.

1. Name, region and role of the interviewed key Stakeholder

...

2. Did you ever take part in S3 design or implementation in a region/country?

   [✓] Yes

   [ ] No

3. If your answer has been "Yes" to the previous question, can you let us know in what region and at least one priority topic of that region matched by the thematic orientation/specialisation of at least some university at your region? characterises the S3 of that region / country?

   In what region: Wales

   At least one priority topic of that region matched by the thematic orientation/specialisation of at least some university at that region: Life Sciences + Health; Low Carbon Energy; ICT + Digital; Advanced Engineering + Materials;

   The HEIs of that region that matched the mentioned priority topic : Cardiff University; Swansea University; Aberystwyth University; University of South Wales; Glyndwr University; Bangor University

...

4. Are you aware of any change in your region / country because of the presence of Universities with certain thematic orientations / specialisations?

[X] Yes

[ ] No

5. If your answer has been "Yes" to the previous question, can you provide more details on that?

... RIS3 developed around key ~~S~~ R&D expertise in Wales, complementing existing industrial strengths.

6. If your answer has been "No", can you explain the reason why? More than one answer is possible.

[ ] Lack of interest from the S3 designers (regional or national government officials)

[ ] Lack of knowledge / information on what the local Universities do

[ ] The whole S3 design process has not involved the academic community

[ ] The S3 priority areas were too far from the local University orientations / specialisations

[ ] The academic community heavily influenced the S3 priority setting

[ ] Other...

7. Are you aware of any change in one or more local Universities' thematic orientations / specialisations as a result of your region / country S3 priorities?

[ ] Yes

[X] No

8. If your answer has been "Yes" to the previous question, can you provide more details on that?

...

9. If your answer has been "No", can you explain the reason why? More than one answer is possible.

[ ] Lack of interest from the University representatives

[ ] Lack of knowledge / information on what the S3 is about

[ ] The whole S3 design process has not involved the academic community

[ ] The S3 priority areas were too far from the local University orientations / specialisations

[ ] The academic community heavily influenced the S3 priority setting

[ ] Other... too early to see at present.

10. From the following list, what are in your opinion the key areas where local Universities can operationally implement the S3 priorities of your region / country? Use the following convention: 1=not at all, 2=not much, 3=don't know/neutral, 4=somehow, 5=very much

	1	2	3	4	5
Generation, Scouting and Development of Innovative Ideas					✓
Seed Capital	✓				
Banks, Equity, Corporate Venturing	✓				
Support to Enterprise Growth		✓			
Research-Industry Collaboration				✓	
Open Innovation			✓		
Public Private Partnerships		✓			

Social Innovation		✓			
Student Engagement in Research and Innovation				✓	
Other (go to next question)					

11. If you answered "other", can you explain what you had in mind?

...

12. From the same list, what are the areas where you have seen a (re)alignment of local Universities to the S3 priorities of its region / country? Use the following convention: 1=not at all, 2=not much, 3=don't know/neutral, 4=somehow, 5=very much

	1	2	3	4	5
Generation, Scouting and Development of Innovative Ideas		✓			
Seed Capital		✓			
Banks, Equity, Corporate Venturing		✓			
Support to Enterprise Growth		✓			
Research-Industry Collaboration		✓			
Open Innovation		✓			
Public Private Partnerships		✓			
Social Innovation		✓			
Student Engagement in Research and Innovation		✓			
Other (go to next question)		✓			

13. If you answered "other", can you explain what you had in mind?

...

14. From the same list, what are the areas where you see value in an online toolkit that collects good practice examples? Use the following convention: 1=not at all, 2=not much, 3=don't know/neutral, 4=somehow, 5=very much

	1	2	3	4	5
Generation, Scouting and Development of Innovative Ideas		✓			
Seed Capital		✓			
Banks, Equity, Corporate Venturing		✓			
Support to Enterprise Growth		✓			
Research-Industry Collaboration		✓			
Open Innovation		✓			
Public Private Partnerships		✓			
Social Innovation		✓			
Student Engagement in Research and Innovation		✓			
Other (go to next question)					

15. If you answered "other", can you explain what you had in mind?

...

16. Considering the various steps of the S3 development process, in which of them the contribution of local Universities has been more prominent in your opinion? Use the following convention: 1=not at all, 2=not much, 3=don't know/neutral, 4=somehow, 5=very much

	1	2	3	4	5
Analysis of the specialisation potential of the region/country (for example: HEI carrying out original studies, surveys, or other research in support of S3 design)				✓	
Governance process (for example: HEI promoting the formation and animation of a Quadruple-Helix structure in support of			✓		

regional/national S3, together with e.g. other universities, research centres, industrial clusters, individual enterprises or SMEs, government bodies or agencies, civil society and business associations / innovation intermediaries, etc.).					
Entrepreneurial Discovery (for example: HEI's education/research/entrepreneurship promotion areas and activities of excellence have been considered by the policy makers while shaping the S3 priority domains)			✓		
Visioning (for example: HEI's new initiative / decision or policy change at the level of e.g. Rectorate, or Departments to align with the regional/national S3 priorities in the domain(s) of e.g. education, research, entrepreneurship promotion or other "third mission" areas and activities).		✓			
Other (go to next question)					

17. If you answered "other", can you explain what you had in mind?

...

18. Additional, forthcoming steps of the S3 are listed below, where do you think the contribution of local Universities system can be more prominent in the near future? Use the following convention: 1=not at all, 2=not much, 3=don't know/neutral, 4=somehow, 5=very much

	1	2	3	4	5
Implementation (for example: a local University participating in the regional/national calls for proposal to be launched under ERDF's Thematic Objective 1).			X		
Monitoring (for example: a local University contributing to the definition and implementation of Operational Programme indicators and/or the elaboration of follow-up studies).		✓			
Upgrade and re-design of the whole S3, which is or should be a sort of					

Brexit-

permanent process according to the European recommendations			✓		
Other (go to next question)					

19. If you answered "other", can you explain what you had in mind?

...

20. From the following list, what are the topic areas where you can mention an example of good practice from local Universities? More than one answer is possible.

[ ] Improved communication mechanisms between HEI and regional/national authorities

[ ] Incentives to participation of HEI in Entrepreneurial Discovery and S3 governance

[ ] Better participation of HEI in S3 implementation

[ ] Successful adjustment of HEI strategies to match S3 (with a special attention to the integration of S3 priorities in the educational offer and teaching/learning processes)

[ ] The drivers behind / barriers against successful engagement of HEI in S3

[ ] How to achieve an effective self-assessment of HEI capacities

[ ] Other...

Any link to information sources regarding the above will be appreciated.

21. Do you agree for publishing your personal information in the projects documents?

[ ] Yes

[x] No

Thanks for your time and interest. If you would like to be informed about the results of this survey, please contact our project website http://thinkingsmart.utad.pt and/or leave a contact email address here below: .....

8.4. Stakeholders for Case Studies interview template

THINKING SMART

Toolkit for the engagement of HEI in regional growth

Stakeholder Interview Template

Concerning HEI: ……(hereafter simply HEI)

[ ] University Representative: ……..

Date and Place of Interview: ……

"Thinking Smart" is developed within EACEA (the Education, Audiovisual and Culture Executive Agency) through the Erasmus + programme with the aim of promoting Higher Education Institutions in regional growth project.

Through this interview we are trying to collect information on the different ways in which universities, alone and/or in partnership with industry, government, and social actors (the so-called Quadruple-Helix) contributed to Smart Specialization and integrate it in their strategic directions.

1. Did you personally take part in S3 design or implementation in your region/country?

   [ ] Yes

   [ ] No

2. Considering the various steps of the S3 development process in the region/country, in which of them has the contribution of your university been more prominent in your opinion? Use the following convention: 1=not at all, 2=not much, 3=don't know/neutral, 4=somewhat, 5=very much

	1	2	3	4	5
Analysis of the specialisation potential of the region/country (for example: HEI carrying out original studies, surveys, or other research in support of S3 design)					
Governance process (for example: HEI promoting the formation and animation of a Quadruple-Helix structure in support of regional/national S3, together with e.g. other universities, research centres, industrial clusters, individual enterprises or SMEs, government bodies or agencies, civil society and business associations / innovation intermediaries, etc.).					
Entrepreneurial Discovery (for example: HEI's education/research/entrepreneurship promotion areas and					

activities of excellence have been considered by the policy makers while shaping the S3 priority domains)					
Visioning (for example: HEI's new initiative / decision or policy change at the level of e.g. Rectorate, or Departments to align with the regional/national S3 priorities in the domain(s) of e.g. education, research, entrepreneurship promotion or other "third mission" areas and activities).					
Other (go to next question)					

3. If you answered "other", can you explain what you had in mind?

...

4. Additional, forthcoming steps of the S3 in the HEI region/country are listed in the following, where do you think the contribution of your university can be more prominent in the near future? Use the following convention: 1=not at all, 2=not much, 3=don't know/neutral, 4=somewhat, 5=very much

	1	2	3	4	5
Implementation (for example: a local University participating in the regional/national calls for proposal to be launched under ERDF's Thematic Objective 1).					
Monitoring (for example: a local University contributing to the definition and implementation of Operational Programme indicators and/or the elaboration of follow-up studies).					
Upgrade and re-design of the whole S3, which is or should be a sort of permanent process according to the European recommendations					
Other (go to next question)					

5. If you answered "other", can you explain what you had in mind?

...

6. Are you aware of any change in your university's thematic orientations / specialisations as a result of the region's S3 priorities?

[ ] Yes

[ ] No

7. If your answer has been "Yes" to the previous question, can you provide more details on that?

...

8. If your answer has been "No", can you explain the reason why? More than one answer is possible.

[ ] Lack of interest from the University representatives

[ ] Lack of knowledge / information on what the S3 is about

[ ] The whole S3 design process has not involved the academic community

[ ] The S3 priority areas were too far from the local University orientations / specialisations

[ ] The academic community heavily influenced the S3 priority setting

[ ] Other…

9. From the following list, what are in your opinion the key areas where your university can operationally implement the S3 priorities of the region / country? Use the following convention: 1=not at all, 2=not much, 3=don't know/neutral, 4=somewhat, 5=very much

	1	2	3	4	5
Generation, Scouting and Development of Innovative Ideas					
Seed Capital					
Banks, Equity, Corporate Venturing					
Support to Enterprise Growth					
Research-Industry Collaboration					
Open Innovation					
Public Private Partnerships					
Social Innovation					
Student Engagement in Research and Innovation					
Other (go to next question)					

10. If you answered "other", can you explain what you had in mind?

...

11. From the same list, what are the areas where you have seen a (re)alignment of your university to the S3 priorities of its region / country? Use the following convention: 1=not at all, 2=not much, 3=don't know/neutral, 4=somewhat, 5=very much

	1	2	3	4	5
Generation, Scouting and Development of Innovative Ideas					
Seed Capital					
Banks, Equity, Corporate Venturing					
Support to Enterprise Growth					
Research-Industry Collaboration					
Open Innovation					
Public Private Partnerships					
Social Innovation					
Student Engagement in Research and Innovation					
Other (go to next question)					

12. If you answered "other", can you explain what you had in mind?

...

13. From the same list, what are the areas where you see value in an online toolkit that collects good practice examples? Use the following convention: 1=not at all, 2=not much, 3=don't know/neutral, 4=somewhat, 5=very much

	1	2	3	4	5
Generation, Scouting and Development of Innovative Ideas					
Seed Capital					
Banks, Equity, Corporate Venturing					
Support to Enterprise Growth					
Research-Industry Collaboration					
Open Innovation					
Public Private Partnerships					
Social Innovation					
Student Engagement in Research and Innovation					
Other (go to next question)					

14. If you answered "other", can you explain what you had in mind?

15. From the following list, what are the topic areas where you can mention an example of good practice from your university? More than one answer is possible.

[ ] Improved communication mechanisms between HEI and regional/national authorities

[ ] Incentives to participation of HEI in Entrepreneurial Discovery and S3 governance

[ ] Better participation of HEI in S3 implementation

[ ] Successful adjustment of HEI strategies to match S3 (with a special attention to the integration of S3 priorities in the educational offer and teaching/learning processes)

[ ] The drivers behind / barriers against successful engagement of HEI in S3

[ ] How to achieve an effective self-assessment of HEI capacities

[ ] Other…

Any link to information sources regarding the above will be appreciated.

16. Do you agree for publishing your personal information in the projects documents?

[ ] Yes

[ ] No

Thanks for your time and interest. If you would like to be informed about the results of this survey, please contact our project website http://thinkingsmart.utad.pt and/or leave a contact email address here below: ……..

THINKING SMART

Toolkit for the engagement of HEI in regional growth

Stakeholder Interview Template

Concerning HEI: ……(hereafter simply HEI)

[ ] Regional Representative: ……..

Date and Place of Interview: ……

"Thinking Smart" is developed within EACEA (the Education, Audiovisual and Culture Executive Agency) through the Erasmus + programme with the aim of promoting Higher Education Institutions in regional growth project.

Through this interview we are trying to collect information on the different ways in which universities, alone and/or in partnership with industry, government, and social actors (the so-called Quadruple-Helix) contributed to Smart Specialization and integrate it in their strategic directions.

1. Considering the various steps of the S3 development process in the HEI region/country, in which of them the contribution of HEI has been more prominent in your opinion? Use the following convention: 1=not at all, 2=not much, 3=don't know/neutral, 4=somewhat, 5=very much

	1	2	3	4	5
Analysis of the specialisation potential of the region/country (for example: HEI carrying out original studies, surveys, or other research in support of S3 design)					
Governance process (for example: HEI promoting the formation and animation of a Quadruple-Helix structure in support of regional/national S3, together with e.g. other universities, research centres, industrial clusters, individual enterprises or SMEs, government bodies or agencies, civil society and business associations / innovation intermediaries, etc.).					
Entrepreneurial Discovery (for example: HEI's education/research/entrepreneurship promotion areas and activities of excellence have been considered by the policy makers while shaping the S3 priority domains)					
Visioning (for example: HEI's new initiative / decision or policy change at the level of e.g. Rectorate, or Departments to align with the regional/national S3 priorities in the domain(s) of e.g. education,					

research, entrepreneurship promotion or other "third mission" areas and activities).					
Other (go to next question)					

2. If you answered "other", can you explain what you had in mind?

...

3. Additional, forthcoming steps of the S3 in the HEI region/country are listed in the following, where do you think the contribution of local University system can be more prominent in the near future? Use the following convention: 1=not at all, 2=not much, 3=don't know/neutral, 4=somewhat, 5=very much

	1	2	3	4	5
Implementation (for example: a local University participating in the regional/national calls for proposal to be launched under ERDF's Thematic Objective 1).					
Monitoring (for example: a local University contributing to the definition and implementation of Operational Programme indicators and/or the elaboration of follow-up studies).					
Upgrade and re-design of the whole S3, which is or should be a sort of permanent process according to the European recommendations					
Other (go to next question)					

4. If you answered "other", can you explain what you had in mind?

...

5. Are you aware of any change in one or more local Universities' thematic orientations / specialisations as a result of the region's S3 priorities?

[ ] Yes

[ ] No

6. If your answer has been "Yes" to the previous question, can you provide more details on that?

…

7. If your answer has been "No", can you explain the reason why? More than one answer is possible.

[ ] Lack of interest from the University representatives

[ ] Lack of knowledge / information on what the S3 is about

[ ] The whole S3 design process has not involved the academic community

[ ] The S3 priority areas were too far from the local University orientations / specialisations

[ ] The academic community heavily influenced the S3 priority setting

[ ] Other…

8. From the following list, what are in your opinion the key areas where local Universities can operationally implement the S3 priorities of the HEI region / country? Use the following convention: 1=not at all, 2=not much, 3=don't know/neutral, 4=somewhat, 5=very much

	1	2	3	4	5
Generation, Scouting and Development of Innovative Ideas					
Seed Capital					
Banks, Equity, Corporate Venturing					
Support to Enterprise Growth					
Research-Industry Collaboration					
Open Innovation					
Public Private Partnerships					
Social Innovation					
Student Engagement in Research and Innovation					
Other (go to next question)					

9. If you answered "other", can you explain what you had in mind?

...

10. From the same list, what are the areas where you have seen a (re)alignment of HEI to the S3 priorities of its region / country? Use the following convention: 1=not at all, 2=not much, 3=don't know/neutral, 4=somewhat, 5=very much

	1	2	3	4	5
Generation, Scouting and Development of Innovative Ideas					
Seed Capital					
Banks, Equity, Corporate Venturing					
Support to Enterprise Growth					
Research-Industry Collaboration					
Open Innovation					
Public Private Partnerships					
Social Innovation					
Student Engagement in Research and Innovation					
Other (go to next question)					

11. If you answered "other", can you explain what you had in mind?

...

12. From the same list, what are the areas where you see value in an online toolkit that collects good practice examples? Use the following convention: 1=not at all, 2=not much, 3=don't know/neutral, 4=somewhat, 5=very much

	1	2	3	4	5
Generation, Scouting and Development of Innovative Ideas					
Seed Capital					
Banks, Equity, Corporate Venturing					
Support to Enterprise Growth					
Research-Industry Collaboration					
Open Innovation					
Public Private Partnerships					
Social Innovation					
Student Engagement in Research and Innovation					
Other (go to next question)					

13. If you answered "other", can you explain what you had in mind?

14. From the following list, what are the topic areas where you can mention an example of good practice from HEI? More than one answer is possible.

[ ] Improved communication mechanisms between HEI and regional/national authorities

[ ] Incentives to participation of HEI in Entrepreneurial Discovery and S3 governance

[ ] Better participation of HEI in S3 implementation

[ ] Successful adjustment of HEI strategies to match S3 (with a special attention to the integration of S3 priorities in the educational offer and teaching/learning processes)

[ ] The drivers behind / barriers against successful engagement of HEI in S3

[ ] How to achieve an effective self-assessment of HEI capacities

[ ] Other…

Any link to information sources regarding the above will be appreciated.

15. Do you agree for publishing your personal information in the projects documents?

[ ] Yes

[ ] No

Thanks for your time and interest. If you would like to be informed about the results of this survey, please contact our project website http://thinkingsmart.utad.pt and/or leave a contact email address here below: ……

8.5. Case studies

THINKING SMART

Toolkit for the engagement of HEI in regional growth

Case Study

University Name

UNIVERSIDADE DE TRÁS-OS-MONTES E ALTO DOURO
Newcastle University
POLITECNICO DI MILANO
SGROUP EUROPEAN UNIVERSITIES' NETWORK
spi Sociedade Portuguesa de Inovação
STEINBEIS-EUROPA-ZENTRUM
University of LODZ
UNIVERSITAT POLITÈCNICA DE VALÈNCIA

The "Thinking Smart" project is funded by EACEA (the Education, Audiovisual and Culture Executive Agency) through the Erasmus+ programme with the aim of promoting the role of Higher Education Institutions (HEIs) in regional growth and development.

This case study has been identified, described and analysed within "Thinking Smart" as one of 10 EU case studies that demonstrate the contribution of Universities to regional development and Smart Specialisation strategies. This means to view mainly from the HEI side, the different ways in which universities, alone and/or in partnership with industry, government, and social actors (the so-called Quadruple-Helix) contributed to Smart Specialisation and integrate it in their strategic directions.

Abstract

Describe the basic features of the HEI, the key reasons to select this case study and its main conclusions, focussing on how this University has contributed to Smart Specialisation and/or integrated it in its strategic direction, and the room for future collaboration with the regional/national government body in charge during the implementation and monitoring phases. [200 words]

Index

Provide an index of sections / subsections, of figures and tables.

1. About the Region/Country [Name]

General description of the region/country the HEI belongs to: geography, population, economic situation, statistics, etc. Also describe the innovation and entrepreneurship capacities of the area (including e.g. science and technology parks, incubators, etc.). Mention the situation of the regional government with respect to the central government regarding autonomy in planning and/or dependence from the national policies as far as research and innovation are concerned. [200 words]

2. About the HEI [Name]

General description of the University in focus: year of foundation, faculties/departments, students and staff, other features and characteristics relevant for the case study. Mention the degree of autonomy or dependence of the HEI from regional/national policies and finance. Frame the description in the broader context of the education, research and innovation system of the region/country. [200 words]

Name and role of the person(s) interviewed for the preparation of the case study. Examples: Rector, Head of Faculty – and/or other stakeholders (e.g. regional/national government officials in charge of the HEI policy in general and/or the Smart Specialisation in particular).

3. About the Smart Specialisation Strategy of the HEI region/country

3.1 Smart Specialisation and the HEI region/country

Include the information and opinion of Stakeholders related with this Section 3 (Questions 4 to 14 of Interview Univ Stakeholder CS)

Mention the priorities included in the Smart Specialisation Strategy of the region/country the HEI belongs to (e.g. industries like forestry, steel manufacturing, information technology, etc. and/or priority domains such as agrifood, energy, culture and creativity, etc.). Describe the benefits and other results obtained from the implementation of the Smart Specialisation Strategy, as well as the limitations to reach its strategic goals. Overview the level of engagement of regional/national stakeholders in the identification of investment priorities and in the definition, implementation and monitoring of related instruments (Entrepreneurial Discovery). [200 words]

3.2 Case study stakeholders opinion

Include the information and opinion of Stakeholders related with this Section 3 (Questions 4 to 14 of Interview Univ Stakeholder CS)

4. Best Practices: Contribution to Smart Specialisation.

Add at least 3 Best Practices on the Case Study with the following subheadings for any best Practice.

[Find an informative and attractive title for the contribution and best practice – e.g. "Leveraging excellent research capacities for the direction of Smart Specialisation"]

4.1. Best Practice 1 (Repeat as many times as needed)

4.1.1. Overview of the Best Practice

Summarize the role played by the HEI in the regional/national Smart Specialisation Strategy and why it is relevant, for instance: because of a major contribution to its formation process, or subsequent alignment to its provisions, or any other form of innovative, Quadruple Helix collaboration during e.g. entrepreneurial discovery or priority setting. [200 words]

4.1.2. Analysis of the Specialisation potential

Describe any contribution of the HEI to the prioritisation of domains. In particular, mention any studies, surveys, or other research carried out in support of policy design. Otherwise, explain the reasons why there has been no specific contribution from the HEI to evidence gathering in support of Smart Specialisation, and the lessons we can draw from this. [200 words]

4.1.3. Governance process

Describe any contribution of the HEI to the formation and animation of a Quadruple-Helix structure in support of regional/national Smart Specialisation. Mention the key stakeholders involved in this effort (e.g. other universities, research centres, industrial clusters, individual enterprises or SMEs, government bodies or agencies, civil society and business associations / innovation intermediaries, etc.). Otherwise, explain the reasons why there has been no specific contribution from the HEI to the governance of Smart Specialisation, and the lessons we can draw from this. [200 words]

4.1.4.Entrepreneurial Discovery

Describe any contribution of the HEI to the Entrepreneurial Discovery process[1] realised within the regional/national Smart Specialisation. Mention the University's education/research/entrepreneurship promotion areas and activities of excellence and the way they have been considered while shaping the priority domains. Otherwise, explain the reasons why there has been no connection between the HEI profile and the Smart Specialisation priority setting, and the lessons we can draw from this. [200 words]

4.1.5.Strategic alignment

Describe any subsequent new initiative / decision or policy change at the various levels of the HEI (e.g. Rectorate, Departments) as a result of the regional/national Smart Specialisation publication and implementation. Thematically, this may have affected the University's education, research, entrepreneurship promotion or other "third mission" areas and activities. Process wise, it may have some relation with the HEI's participation in the governance structure supporting Smart Specialisation described above. Otherwise, explain the reasons why there has been no change or strategic alignment, and the lessons we can draw from this. [200 words]

4.1.6.Future opportunities

Describe any potential space for future collaboration with the regional/national government body in charge of the Smart Specialisation Strategy during the implementation and monitoring phases of the same. Operationally, this may regard the HEI's participation in the regional/national calls for proposal launched under ERDF's Thematic Objective 1. Strategically, it may concern the HEI's involvement in the Smart Specialisation's monitoring and evaluation structure set up to the purpose. Otherwise, explain the reasons why nothing of the above is expected, and the lessons we can draw from this. [200 words]

4.4 Case study stakeholders opinion

Include the information and opinion of Stakeholders related with this Section 4 (Questions 19 to 22 of Interview Univ Stakeholder CS)

[1] By Entrepreneurial Discovery we mean "an inclusive and interactive bottom-up process in which participants from different environments (policy, business, academia, etc.) are discovering and producing information about potential new activities, identifying potential opportunities that emerge through this interaction, while policymakers assess outcomes and ways to facilitate the realisation of this potential" (Source: http://s3platform.jrc.ec.europa.eu/entrepreneurial-discovery-edp)

5. Lessons learnt

Specify the implications from the above scenario worth considering at broader European level.

Topics to be covered:

5.1. Communication
How to improve the communication mechanisms between HEIs and regional/national authorities;

5.2. Participation of HEIs in Entrepreneurial Discovery
How to promote participation of HEIs in Entrepreneurial Discovery and the governance process of Smart Specialisation;

5.3. Participation of HEIs in RIS3
How to promote participation of HEIs in the implementation of Smart Specialisation;

5.4. Successful adjustment of HEI's strategies
Successful adjustment of HEIs' strategies to match Smart Specialisation (with a special attention to the integration of Smart Specialisation priorities in the educational offer and teaching/learning processes);

5.5. Enables and Barriers
The drivers behind / barriers against successful engagement of HEIs in Smart Specialisation;

5.6. HEI capacities self-assessment
How to achieve an effective self-assessment of HEI capacities.

5.7. Case study stakeholders opinion
Include the information and opinion of at least 2 Stakeholders related with this Section 5. Lessons learnt (Questions 15 to 18 and 23 to 25 of Interview Univ Stakeholder CS)

6. References

List the documents, websites and any other sources of information used or relevant to complement this document.

7. Appendices

Annex: Stakeholders interview guideline.

Provide the questionnaire used for the interview(s)

Stakeholders interviews for CS.

Attach the answers and transcriptions of the interviews.

THINKING SMART

Toolkit for the engagement of HEI in regional growth

Document Title

Case Study RECAP Template

November 2016

utad UNIVERSIDADE DE TRÁS-OS-MONTES E ALTO DOURO
Newcastle University
POLITECNICO DI MILANO
SGROUP EUROPEAN UNIVERSITIES' NETWORK
spi Sociedade Portuguesa de Inovação
STEINBEIS-EUROPA-ZENTRUM
University of LODZ
UNIVERSITAT POLITÈCNICA DE VALÈNCIA

1. About REGION

BRIEF DESCRIPTION.

2. About HEI

BRIEF DESCRIPTION.

3. About RIS3 IN THE REGION

BRIEF DESCRIPTION.

4. BEST PRACTICES

(REPEAT AS MANY TIMES AS BP YOU HAVE IN YOUR CS)

BP_1 NAME

- ***Brief***: TEXT
- ***Area***: Choose One
  - Understanding the role of universities in regional development
  - Enhancing regional innovation through research activities
  - Promoting enterprise, business development and growth
  - Contributing to the development of regional human capital and skills
  - Improving social equality through community development and 'place making'

- ***Potential impact for regional development***: choose as many as related with your BP

Tapping into the knowledge base about the role of universities in regional

Why universities are important for regional development

Universities and regional innovation

Human capital and skills

Social and economic development

The university drivers

1Building regional capacity

The mechanisms by which universities can and do contribute to regional development

Consultancy Services

Innovation Vouchers

Knowledge Transfer Partnerships

Science and Technology Parks

Research and Technology Centers

Graduate Enterprise (training, placements, new firms)

University Spin Outs

Network and Cluster Development

Encouraging Intellectual Property Development

International Linkages

Workforce Development (skills development programs)

Increasing Mobility of Staff and Students (internship and placement)

Talent Attraction and Retention (incoming mobility, fellowship)

Student Volunteering and Community Work

Widening Student Participation to under-represented social groups

5. Lessons learnt and conclusions

✓ ***2-3 paragraphs to recap*: Brief description (repeat as many times as needed)**

6. Sources

BE AS BRIEF AS YOU CAN. MAX 3 PAGES.

PLEASE DELETE WORDS IN BLUE AND IN RED. THANKS