Mapping of EU Member States' / regions' Research and Innovation plans & Strategies for Smart Specialisation (RIS3) on Bioeconomy

Task 3

Case Study Report West Region (RO42), Romania

Contract: RTD/F1/PP-03681-2015

29.11.2016

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1. Short Regional Bioeconomy Profile

Name of the case region/country	West Region RO42
Member State	Romania
GDP – Euro per capita (2014)*	7 900
Total ESIF Research & Innovation per capita per year*	7,39
Total H2020 per capita per year*	0,23
Value Chain Approach to the Bioeconomy**	Supply and waste & Processing and conversion & Bio-based products
Thematic Focus of the Bioeconomy Approach**	Agro-Food & Other bio-based industries
Research and Innovation Fields highlighted for the Bioeconomy**	Logistics and Packaging, Processing & Primary Production with quality
Bioeconomy Activity Level**	1
CASE STUDY SUMMARY	
Bioeconomy Approach	Mid-way meeting the innovation from RDI strategic approach and the agriculture/regional development priorities/opportunities
Bioeconomy Ecosystem	Highly active and pro-active on the demand side (business, practice, research community and universities/centres), (s)low reactive on the ESIF (national) management authorities
Bioeconomy Policy Support	Fragmented between programmes but assumed as priority in RIS3 and NP-RDI
Successful initiatives and Good Practices	Good bottom-up structure, project based accumulation, replicable
Main Needs, Gaps and Bottlenecks	Capacity development for research management, financial support for quality projects' preparation, communication/exchange environment for stakeholders

* Source of the data: S3 – Regional Viewer: http://s3platform.jrc.ec.europa.eu/synergies-tool

** Data collected by this Study project in Task 1.

2. Regional Bioeconomy Ecosystem

This chapter describes the general characteristics of the regional bioeconomy ecosystem, its origins, main stakeholders and driving forces. It gives an overview on the recent evolution and trends on bioeconomy-related issues in the area and some of the main activities and initiatives.

2.1 Origin of Interest of the region in the Bioeconomy

The natural resources build on the agro-food vocation of the region, particularly for agriculture as one of the counties (Timis) ranks first nationally in terms of agricultural potential. Compared to other sectors in the region the agro-food, as highlighted in the SWOT of RIS3, had recorded specialisation examples in more than one segment in the export value chain. Another internal factor developed into a comparative advantage for the region points to the mix of low cost labour and the general favourability of the natural conditions. The RDI supplying the needs of the sector in terms of higher education, research and technological transfer is relatively well represented by two public universities of which one with a strong biotechnology orientation. Furthermore, the same university started to develop a specialised M.Sc. in Bioeconomy and addresses a specialised public beyond the boundaries of the region. The multidisciplinary character of the BE is well furnished with expertise by the other public technical universities in the region.

A strong interest for increasing and enhancing the quality of the products and the outputs from the agro-food production and processing and the importance of integration in wider value chains are among the top priorities of strategic development since the EU pre-accession period. A consistent load of driving factors originates in the present orientations and priorities of EU funded programmes for research and innovation. The development of competencies, capacities and specific research infrastructure was supplied by the implementation of numerous national and international projects and counts as preparation for further integration in larger sound EU projects. This development started as punctual and isolated project interest and rapidly built into a network of knowledge feeding further for wider multidisciplinary consortia and projects. A substantial emphasis was given to the creation and fostering of new and existing networks, clusters and technological centres with a clear orientation towards bioeconomy. The climate change threats articulated with the current concerns of enhancing the management of natural resources, particularly the soil and water resources led to specialisation and development of specific competencies relating closely to the BE opportunities for the sector and the region.

2.2 Bioeconomy Stakeholders

The leadership in promoting the bioeconomy activities in the region is shared between private and public structure. In this respect the most active promoters are the business sector representatives, usually large companies followed by associations, consortia and clusters. The structured forms such as Tehimpuls Association act as a leading interface for the regional innovators including specific RDI facilitation with emphasis on public research and private integration. The RO-BOOST SMEs consortia focuses on business consulting and legal advice activities for innovative entrepreneurs and research and innovation partnerships' facilitation. The ROSENC cluster acts as main promoter of the region as leader in the field of renewable energies, energy efficiency and sustainable energies. The Agro Food Banat Crisana cluster has as central objective the increase of the competitiveness of the agro-food sector and regional development by innovation and technological transfer. The public support structures such as ADETIM, the Economic and Social Development Agency of County of Timis, an association of the County Council, the Municipality of Timisoara and the Chamber of Trade, Industry and Agriculture, acted over the past two decades as reliable institutional partner in international projects (currently partner in FARINN - Facilitating Responsible Innovation in South East Europe countries) as well as facilitator at local, regional and national level advocating for the development vocation of the county and the region. The universities in the region, particularly in Timisoara have completed the public interventions, being the most flexible in integrating bioeconomy orientations as strategic priorities. Beside the level of knowledge and competencies, research infrastructure and a positive history of multidisciplinary cooperation the academic environment acts as knowledge base, research platform and innovation vector.

2.3 Bioeconomy – strategies, plans and projects

The West Region (RO42) has developed its third Regional Innovation Strategy following a tradition started in the pre-accession period as part of the Regional Development approach. The first developed document covers the period of 2004-2008, followed by the regular programming equivalent document for 2009-2013. Worth mentioning that while the first programming document contains no traces of bioeconomy (BE) and no use of the specific terminology related to it, the second strategy introduces agro & biotechnologies very much in respect to BE listing it as a domain for innovation offered by the RDI units in the region. The internal factors at the level of the 2nd strategy (2009-2013) identifies internal structural issues linked to obsolete research infrastructure and the quality of the human resources coupled with the acute lack of financial support. The external factors as mentioned in the same reference point to the reduced capacity of research results absorption in the business sector coupled with the low level of interest for expenditure/investments in RDI for the same actors.

The current strategy RIS3 (2014-2020) highlights that the innovation represents a strategic priority at regional level backed by the large number of RDI entities in the region and the experience of the parks, clusters, associations and consortia in the field of innovation transfer. Also, the experience of strategic planning in innovation and the presence of the regional structures supporting and encouraging the technological transfer and the innovation builds on the strengths of the region.

The first axis of RIS3 aims at Increasing the Research and Innovation Capacity of the Region being supported by the research infrastructure development, human resources development, the partnerships (networks, consortia and spin-offs) and development of intellectual property. The second priority axis targets the Development of Productive and Competitive Businesses at Global Level and relays on: advanced non-financial services (ICT, design, eco-innovation, mentoring and coaching), cooperation and networking (certification, supply chains, clusters and excellency centres) and internationalisation (products, markets, new partners, fairs, matchmaking, brokering). The third axis focuses on Transforming the RDI Results in Successful Business and Increase the Cooperation between the Local and Regional Actors Responsible for RDI based on: technological services as technological transfer. The fourth axis targets the Improved Access to Financing the RDI Activities and the fifth axis aims the Specialisation by supporting the key sectors, where the agro-food sector is one of the four identified sectors.

The National Programme for RDI 2014-2020 identifies among the programme specific objectives to be supported the bioeconomy as smart specialisation priority. As priority of smart specialisation and domains of national interest, the bioeconomy comes first under the A1and listing 15 directions of support.

Tradition to cooperate in international projects at EU level or interregional/cross-border led to creation of Excellence Centres and Laboratories such as the EUSDR projects leading to SIRA, Smart and Innovative Rural Areas linking five Competence Centres in agro-food and related sciences throughout the Danube Region. FARINN project does a complete screening of Responsible Innovation in South East Europe in close cooperation and with integrating results for the activity of ROSENC cluster. Tehimpuls Association and the Agro Food Banat Crisana cluster act as facilitators and multipliers of knowledge well connected with the researchers from the region's universities: Banat's University of Agricultural Sciences and Veterinary Medicine, Politechnica University, West University and Medicine and Pharmacy University.

3. Bioeconomy Policy Support

This chapter gives a brief account of the existing policy instruments and action lines to support the bioeconomy in the area. It highlights the most important value chain approaches to promote the bioeconomy, the thematic focus of the Bioeconomy-related research and innovation, as well as some of the research fields that are relevant for further deployment of the bioeconomy.

3.1 General support framework

The general framework support regarding the RO42 Region is drawn by the RIS3 the third generation of Regional Intelligent Specialisation Strategy but much needed supplements from the Operational Programme for Competitiveness, Regional Operational Programme (as RIS3 is a specialised sub-iteration of it), National Strategy for Research-Development-Innovation (and its respective Programme) and partially by the National Rural Development Programme. The complement of national programmes is critical to the strategy since the financial support originates in their programmed resources. Furthermore, the National Sectoral Plan for Research and Development in Agriculture and Rural Development of the Ministry of Agriculture and Rural Development for the period 2015-2018 (ADER) has programmed transversal resources to support the research and innovation in bio-economy. Specific input is expected from the implementation of the project (nationally funded) "Research regarding the identification of development priorities for bio-economy in Romania for the period 2016-2030". An initiative for the foundation of a National Board/College for Bio-Economy generated and supported by the Academy of Agricultural Sciences and Forestry, Romanian Academy and the Agricultural Universities from Romania is still in process with a difficult to foresee outcome. Further inputs are expected from H2020 resources that research institutes and centres, universities and SMEs from the region can attract. Most public research institutions have this target in their development plans and emphasis is given to those involved in bio-economy research and innovation deployment.

3.2 Bioeconomy Policy Support

The specific policy instruments to support the Bioeconomy at regional level are reaching a medium maturity level after three programming exercises. The national level still lacks a dedicated programme for BE and the current efforts are retrieved within specific axes/measures of different programmes despite the identified potential. The National Strategy for RDI identifies and for the first time uses the Bioeconomy as a priority yet the programme was developed based on assessment of previous achievements and potential rather than prospective analysis as highlighted

in the Stairway to Excellence Country Report. As result of the multi-layered top-down programming the most probable output of the approach would lead to a streamed support for R&I institutions, universities included, responsible to reach and motivate the relevant stakeholders and further involve them as partners. Participation in H2020 projects could generate an immediate boost of visibility particularly for SMEs however their experience in projects involving large international consortia might prove limited.

3.3 ESIF and H2020 resources for the Bioeconomy

The country report Stairways to Excellence depict very accurate the Romanian system regarding R&I yet does not make a clear demarcation between the support for different sectors or programmed approaches unless by supporting programmes. It has however a very comprehensive analysis regarding the enhancement or the limitation of the synergies. The influence factors as identified by the analysis are: Coordination between ESIF (country level) and the EU (level) programmes, Interoperability, data sharing and open access and prospective coordinated calls, eligibility and funding rules.

The overall National RDI Programme (PN-CDI) addresses the level of financial support based on key indicators with overall targets for the reference years 2017 and 2020 highlighting the intended contribution of the programme. The thematic projects of the programme as component, will represent 50-70% of the total available for the programme, 5-25% of the total programme allocations are going for the international priority (cooperation by bilateral projects and participation to/in international bodies and structures and 20-40% of the allocated amounts are designated for the institutional component of the programme and 2-10% of the programme funds go for the indirect support actions. The allocations for the Priority 3 - Development of RD Capacity and Infrastructure (45% of programme allocation), Action 3.1 Large RD Infrastructure concentrates on the four Smart Specialisation Domains (SSD), including the Bioeconomy, but no explicit or directed allocation is found earmarked for BE in the programme document. Also, the Priority 4 - Creating synergies with H2020 (15% of programme allocation), Action 4.2 Attracting advanced competencies staff from abroad for consolidating the RD capacity mentions the focus on the four SSD and explicitly the BE still no particular allocation for each domain is presented in the programme.

The Operational Programme Competitiveness POC has thematic funding within the Action 1.1.3 “Creating synergies with the H2020 RDI actions and with other international programmes” (under PA1, Specific Objective 1.2 “Increase the participation in EU research”). The funding scheme will support ESIF projects for (1) ERA Chairs, (2) “Teaming” and (3) creating support centres for drafting H2020 (or other international programmes) project proposals.

The National Rural Development Programme is programming the amount of 1.958.334,49 EUR total public and private investments at national level for Energy from Renewable Sources for the Priority/DI 5C Facilitating the production and the use of renewable energy sources, sub-products, wastes, residues and other non-food raw materials for bioeconomy.

4. Successful Initiatives and Good Practices

This chapter highlights successful initiatives and good practices to promote research and innovation in bioeconomy-related fields.

4.1 FARINN Project - Facilitating Responsible Innovation in SEE countries

The project partnership involves 8 partners from 7 SEE countries: Centre for Innovation and Economic Development: www.ciseonweb.it; Development Centre of the Heart of Slovenia: www.razvoj.si; Timis County Economic and Social Development Agency: www.adetim.ro; University of Szeged: www.u-szeged.hu/english; Chamber of Samos: www.samoscci.gr; North Aegean Region: www.pvaigaiou.gov.gr; Regional Development Agency for Bjelasica, Komovi & Prokletije: www.bjelasica-komovi.me; Sarajevo Economic Region Development Agency: www.serda.ba; Resolvo Srl Technical and managerial support: www.resolvo.eu. The project is supported by the South-East Europe Interreg Territorial Cooperation Programme for 24 months with the aim of: promoting exchanges among regions in the SEE programme area on experiences, constraints and good practices related to responsible innovation; define and reach a joint understanding of the necessary framework conditions for responsible innovation; analyse and compare the current status, threats and opportunities in partner countries in terms of framework conditions; strengthen the capacity of innovation actors to design and implement responsible innovation strategies; design, apply and test elements of a responsible policy model for innovation in different areas of the SEE programme area; design local and transnational action plans, with relative recommendations for the future of policies and initiatives; transfer lessons learned on responsible innovation. The project generated a Report on Framework Conditions and Key Elements of Responsible Innovation, a Comparative Analysis on Responsible Innovation in FaRInn partner areas, a Comparative Analysis of partners Work Plans for Responsible Innovation application and testing, and a final FaRInn report on Responsible Innovation in South East Europe.

4.2 BIOEN - Founding and Implementing the Euro-regional Centre for research in energy bio-resources of vegetal origin

The BIOEN project was funded by the Cross-Border Cooperation Programme between Romania and Serbia in 2009 (RO 2006/018-448.01.01.09). The lead partner Banat's University of Agricultural Sciences and Veterinary Medicine from Timisoara joined the partnership of Regional Economic Chamber of Zrenjanin (Serbia), Politehnica University from Timisoara and the Association "Timis-Torontal". The project targeted the creation of a database for oleic crops (area, productions, technologies, possibilities to capitalise and generate forecasts), train 40 farmers, 180 graduates from faculties of Agriculture and Horticulture and 50 researchers and

academic staff in the oleic crops management for non-polluting resources supporting the socio-economic and agricultural development of the region Banat-Srednje Banatski; foundation and implementation of the Euro-regional Research Centre for Energetic Bio-Resources of Vegetal Origin, including a Pilot Station for biodiesel; promotion of partnerships and collaborations between institutions, professional associations and actors; transfer of knowledge and information from research to practice. The BIOEN Centre was developed as an organisational and technological model for implementing medium sized facilities for extraction and processing the vegetal oils.

4.3 ROSENC - The Romanian Sustainable Energy Cluster - Good Practice

The Romanian Sustainable Energy Cluster is a NGO Association founded in 2011 by 23 members, persons, businesses and public or private institutions, reaching today a total of 63 members of which: 49 SMEs, 3 large enterprises, 8 universities and research institutions and 3 public authorities. The central objective of the association is represented by the promotion of the West Region on long term as leader in renewable energy, energy efficiency and new sustainable energies. The cluster itself was the result of an ESIF funded project "Development of the Innovative Cluster ROSENC" and in January 2016 received the Silver Label Certificate of the European Secretariat for Cluster Analysis. Presently the Cluster implements the InnoCatalist project/approach as model for Collaborative Innovation, bridging innovation and practice. This type of approach and especially the constant animation efforts cover for one of the most demanding element in innovation transport, bridging the research and practice levels. The model is not only tested and therefore replicable but highly recommended for regions where the innovation is lagging in reaching the relevant actors and fails to generate the expected outcomes. The approach proves valuable especially from the stakeholders' perspective with regard to their access and involvement in supporting the policy adjustments.

4.4 ADETIM - Economic Development Agency of County of Timis - Good Practice

The Economic Development Agency of County of Timis was founded in 1995 as an association of County Council of Timis, Municipality of Timisoara and the Chamber of Trade, Industry and Agriculture of Timis County. At its creation, the structure was the first of its type in Romania specialised in local and regional economic and social development based on a coherent concept of generating and feeding the regional development policies. Aside from its public policy specific contributions the Agency also promotes and supports the development programmes and the implementation of projects by public authorities and SMEs, stimulates and implements the mechanisms of public-private partnerships and contributes to the foreign capital mainstreaming in the region. The agency was the regional partner in the FARINN project and stands as a good and replicable model for other local and regional

authorities aiming to play an active role in implementing innovation, particularly as a strategic element for the relevant territory in perspective.

Worth mentioning that the two structures introduced as good practices cooperate very well together.

5. Needs, Gaps and Bottlenecks to Deploy the Bioeconomy

This chapter describes the main needs of the area to further deploy the bioeconomy in the near future, as perceived by the regional stakeholders and in the revised documents. In particular, the gaps and bottlenecks that hamper the development of research and innovation for specific bioeconomy-related business areas are described.

The interest for bioeconomy has increased in the region and has a growing trend on both sides of the R&I stakeholders, highly demanding, and universities/research centres highly outputting. The RIS3, completed with the input of the World Bank consultancy, highlights a consistent perspective at the programmed horizon that could be the base for the future BE programmes as particular instrument of national/regional interest. The process of regionalisation is still to be completed in Romania and the respective level authorities do not dispose of appropriate instruments in programming or deploying the bioeconomy. The involvement of the relevant stakeholders in designing the programmes and the specific policy instruments or levels of allocations for bioeconomy resumed until present to participation to public consultations. This participation does not reflect the level of interest but rather the authorities' readiness for having the relevant actors' contributions integrated in the process. The coordination between national ESIF authorities has still to be improved as collaboration between different Managing Authorities fail to bring results and even functionality. The administrative capacity of ESIF national/regional structures has improved during the 2007-2013 programming period but requires further efforts in consolidating openness and transparency. The R&I generators, the knowledge brokers and the business sector have serious needs in terms of capacity building for research management. Parallel to project management and research administration skills training and coaching for improving the quality of project proposals' quality is required. Most researchers have learned on-the-fly accumulating experience from previous projects yet this knowledge does not self-disseminate and the needs are still large at regional scale. The financial support to participate in preparation of major projects (ESIF and H2020) must be supplied by the regional/national programmes using specific instruments as the internal capacity of the regional actors is often overrun financially. Better communication and exchange support including dedicated platforms and/or social media are needed to facilitate the relevant information exchange between the concerned actors.

The contacted key actors for interviews reflected the maturity level of the strategy, with detailed knowledge and correct perspective related to bioeconomy opportunities from the side of the researchers, clusters, associations and other sector actors while administration required more explanatory and refined questions related to bioeconomy.

6. Information Sources

Literature and Documents:

- Monitoring report Implementation Status of RIS 2009-2013
- National Programme RDI 2014-2020
- National Rural Development Programme 2014-2020 Romania
- Proposal for POS Competitiveness 2014-2020
- RIS 2004-2008 West Region Romania
- RIS 2009-2013 West Region Romania
- RIS3 West Region Romania
- Regional Development Strategy of West Region Romania 2007-2013
- Regional Operational Programme 2014-2020 Romania
- Stairway to excellence. Country Report: Romania
- Stairway to excellence. Romania - facts and figures
- Stairway to excellence. Romania - facts and figures. Complementary Regional Indicators

Relevant websites:

http://www.cdi2020.ro
http://rosenc.ro/en/
http://www.adrvest.ro
http://www.farinn.eu/about-project.html

Interviews and Contact details:

Name	Position	Institution/ Organisation	Phone	Email	Interview Date
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