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Mapping and understanding the innovation potential of
bio-economy businesses in the partner regions.
The case of W. Macedonia, Greece, focused in Agri-Food.

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Structure of the mapping report

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W. Macedonia at a glance

- Sparsely populated area due to its mountainous and semi-mountainous nature. Most of the inhabitants live in villages or small towns; largest town is Kozani (60 th. residents)
- Hosts 2,5% of total Greece's population, ~300 th.; gradually decreasing population and ageing inhabitants due to domestic / overseas migration (brain drain) and poor birth rates - last census held in 2011
- Unemployment rates exceeding 30% on a constant basis; latest data as of 2nd trimester of 2016 suggests 31%, yet it rose up to 33% in the 1st
- Accounts for 2.3% of the country's GDP (2014), equal to ~4 bl. € out of which ~0,3 bl. in primary sector, ~1,7 in secondary and ~2 in tertiary
- Ranks 4th among the 13 Greek regions in terms of GDP per capita and below the EU28 average (66%) as of 1st semester of 2016
- Rich in natural resources such as lignite and metallic minerals; specialization in coal mining activities; by far the most important electric energy producing centre in Greece, accounting for ~50% of the total domestic demand



Main financial instruments supporting entrepreneurship and RTDI

- National Funds, under the Investment Laws
- Regional Funds, under the Local Development Programme of W. Macedonia
- Structural Funds, by EU, under the following:
 - Operational Programme Competitiveness, Entrepreneurship and Innovation (EPAnEK) 2014 – 2020
 - Regional Operational Programme 2014 - 2020
 - Community Led Local Development – CLLD (LEADER)

Regional innovation performance (1/2)

Average innovation performance is measured using composite indicators.

The RIS 2016 uses the classification scheme used in the European Innovation Scoreboard:

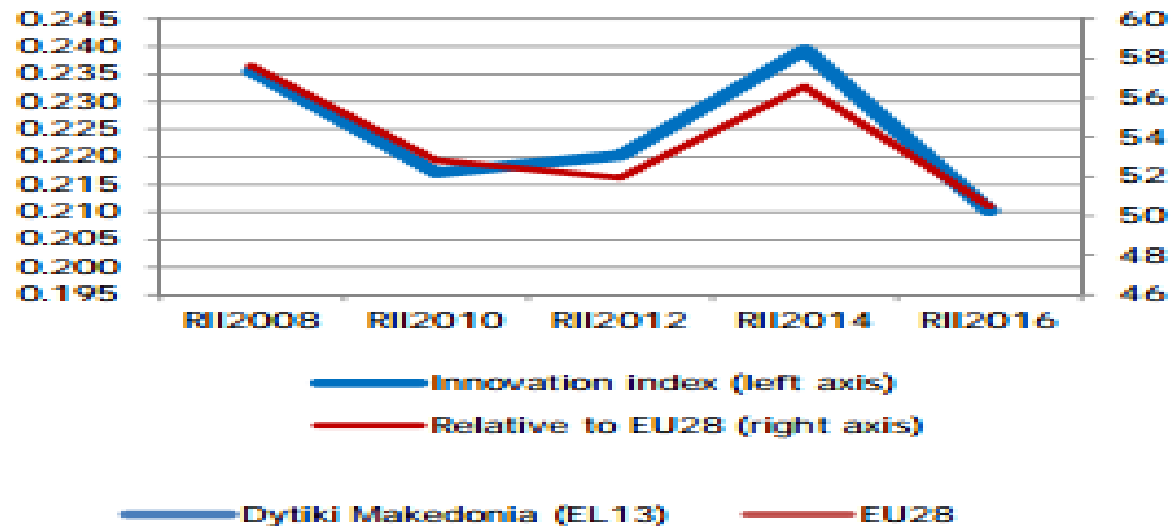
- Innovation Leaders are those regions with a relative performance, as measured by the Regional Innovation Index, of 20% or more above that of the EU28 average;
- Strong Innovators are those regions with a relative performance, as measured by the Regional Innovation Index, less than 20% above but less than 10% below that of the EU28 average;
- Moderate Innovators are those regions with a relative performance, as measured by the Regional Innovation Index, more than 10% below but less than 50% below that of the EU28 average;
- Modest Innovators are those regions with a relative performance, as measured by the Regional Innovation Index, of 50% or less of that of the EU28 average.

Source: Regional Innovation Scoreboard 2016 methodology report

Regional innovation performance (2/2)

According to the EU Innovation Scoreboard (2016), the region of Western Macedonia is a Moderate Innovator. Although innovation performance has been improved between 2004 and 2010, the region still lacks the resources, networks and measures needed for its up growth.

In overall, then and now, W. Macedonia is one of the less dynamic regions in Greece in terms of R&D and innovation activities.



Source: EU Regional Innovation Scoreboard 2016

Regional agri–food sector characteristics

Not far away from the nationwide status, the agri-food sector characteristics in the Region are as follows:

- The agricultural holdings are small and fragmented
- Agriculture and animal husbandry represents a significant portion of the regional economic activity, with sizable growth potential, if combined with modern ICT tools
- Livestock is one of the most important sectors in the region, the animal capital, as well as the milk production that ranks among the first in Greece, despite the fact that the livestock producers' income is continuously declining the last decade
- Amyntaio plateau is considered as one of the most important vine-producing zones in Greece. The viniculture zone is known as the zone of Appointed Origin of Superior Quality (AOSQ)
- The manufacturing base is in traditional sub-sectors, including renowned regional products such as saffron (Krokus Kozani), fruits, wines
- Standardization of agri-food products still lacks behind
- Several agri-food products have registered as PDO /PGI (Protected Designation of Origin & Protected Geographical Indication)
- The number of holdings practicing organic farming has increased
- The cultivation and manufacturing of aromatic plants due to the Region's unique nature, flora and fauna has also increased significantly

RIS3 2014 – 2020 policy in W. Macedonia



According to the approved by EC Strategy, the RIS3 priorities comprise a mix of sectors and subsectors as follows:

- Energy / RES – District Heating
- Integrated waste management
- Traditional sectors of Agricultural Development and Manufacturing
 - Manufacturing – Standardization of characteristic agricultural products
 - Fur farming - leather products
 - Agri-food, drinks / beverages, metal constructions
- Tourism

RIS3 policy progress in the Region (1/2)

In the period September – December 2015, three (3) Thematic Workshops were organized and took place focusing in the Fur farming - leather products, the winery and viticulture and Agri-food.

Specifically for the winery and viticulture, the main topics of interventions were:

- Support of the winery and viticulture sector (creation of integrated information system of innovative techniques for Precision Agriculture in the zones of grapes cultivation, provision – by implementing innovative measurements – of superior quality first raw materials etc.)
- Networking and Development of wine – tourism (genotyping of local vine varieties, production of high quality sparkling wines, identification of appropriate viticulture techniques etc.)
- Creation of Insects Observatory (development of strategies and methods for plant-protection in the zones of grapes cultivation etc.)

Regarding the Agri-food, the workshop suggested the following:

- Creation of an exemplar for demonstration innovative agro-farm (operating in parallel as agro-touristic centre for networking and promotion of agro-tourism products etc.)
- Creation of Cooperative Enterprises on local sectors of employment (i.e. beekeeping)
- Improvement of cultivation techniques (i.e. exploitation of Sideritis – type of tea, exploitation of herbs and cosmetic plants etc.)

RIS3 policy progress in the Region (2/2)



The Steering Committee of ROP 2014 – 2020 decided (24/10/2016) that the open call for RIS Actions with beneficiaries the enterprises of W. Macedonia will be launched during the current year (2016). Nevertheless there is strong skepticism referring to the speed-up of the procedure (calls, etc.) but also to the capability of the beneficiaries - enterprises of W. Macedonia to meet the requirements of the calls. Finally, the need for networking among along RIS actors and stakeholders, administrative and others, in terms of governance, was highlighted along with the clearance of roles and communication – collaboration terms, along with the use of financial investment instruments.

Methodology of the mapping (1/3)

The primary source for acquiring info was the **Europe Enterprise Network** (EEN), hosted by ANKO (www.anko-eunet.gr).

As the mapping was based on 5 predefined criteria, other sources being extensively used are:

- ANKO's database and studies, especially for Axis 3 & 4 of the RDP 2007-2013 (1st criterion)
- Ministry of Economy, Development and Tourism, regarding the Investment Laws (criteria 1-3)
- Regional authority of Western Macedonia, for projects funded by ROP 2007-2013 (criteria 1-3)
- Hellenic Industrial Property Organization – "OBI" for detecting companies that applied for patents / IPR the last 3 years (4th criterion)
- PRAXIS Network, National Contact Point for HORIZON 2020 and EEN-Hellas coordinator, for detecting companies that applied for Phase I/II of the SME Instrument (5th criterion)

Methodology of the mapping (2/3)

Additionally to the survey related directly to the 5 criteria, the mapping used useful info from:

- The TEI of Western Macedonia (TEIWM) for getting specific info on bio economy companies and infrastructures in the region.
- The outcomes of EU funded programmes 2007-2013 implemented in the region by several stakeholders, related to agri-food sector and the SMEs performance.
- The Experts' Team Review "Smart Specialization Strategies in Greece" –Regional assessment Dytiki Makedonia
- Official statistics, both from national and EU sources.

Methodology of the mapping (3/3)

In parallel, to detect all information needed to better shape the innovation capacity of regional companies in agri-food sector, a number of meetings was planned and carried out as follows:

- Contacts with regional stakeholders at ANKO premises after an official invitation
- Interviews with executive staff of sectoral companies
- Direct communication with entrepreneurs of the agri-food sector

Mapping results

Criteria	Number of businesses that answered positively	Industries to which these businesses belong (add statistical identification)
(1) Bio-economy businesses that have received public support (as appliers or part of a partnership) for innovative products development and which have invested for the product development during the last 3 years. (Input-Output indicator)	13	(10.39) (10.51) (10.61) (10.72) (10.84) (10.86) (11.02) (21.20)
(2) Bio-economy businesses that have utilised advanced research services (e.g. material research measurements) during the last 3 years; single, short term cooperation. (Output indicator)	14	(10.39) (10.51) (10.61) (10.72) (10.84) (10.86) (11.02) (21.20)
(3) Bio-economy businesses that have been developing products through Research2Business innovation partnerships during the last 3 years; long term, comprehensive cooperation. (Output indicator)	10	(10.39) (10.51) (10.61) (10.72) (10.84) (10.86) (11.02) (21.20)
(4) Bio-economy businesses that have applied for patents (biotechnology) and /or IPR during the last 3 years. (Output indicator)	9	(10.39) (10.51) (10.61) (10.72) (10.84) (10.86) (11.01) (11.02) (21.20)
(5) Bio-economy businesses that have applied for Phase 1 SME or Phase 2 SME Instrument (TRL 6 and higher). (Performance indicator).	4 (Phase I) 3 (Phase II)	(10.XX) (11.XX)

Statistical information (NACE rev. 2 class description)

- 10.39 Other processing and preserving of food and vegetables
- 10.51 Operation of dairies and cheese making
- 10.61 Manufacture of grain mill products
- 10.72 Manufacture of rusks and biscuits; manufacture of preserved pastry goods and cakes
- 10.84 Manufacture of condiments and seasonings
- 10.86 Manufacture of homogenized food preparations and dietetic food
- 11.01 Distilling, rectifying and blending of spirits
- 11.02 Manufacture of wine from grape
- 21.20 Manufacture of pharmaceutical preparations

Analysis of the mapping (1/3)

What are the actual bio-economy strengths and do they form an economic base deserving an industrial policy commitment?

Agri-food as economic base but also as policy priority, has been formed as a policy commitment through Operational Programme EPANEK 2014 - 2020, in national level, and also as priority of RIS3 policy in W. Macedonia.

The role of the domestic food sector is fundamental for the Greek manufacturing industry. It is a dynamic, competitive and extrovert segment of the national economy, with significant investment activity in Greece, the Balkans and throughout Europe.

As RIS3 policy document highlights, the agri-food sector in W. Macedonia exhibits:

- Significant contribution in the Regional GDP
- High interconnection with other productive sectors
- Remarkable employment figures
- Production of quality and competitive products
- Contribution by 13,5% in the Region's exports
- Food and Biotechnology accounting for 31% of the total regional RTDI projects.

Analysis of the mapping (2/3)

Key findings: Agri-food sectoral identification

The enterprises of the agri-food sector that meet specifically the 5 criteria of BRIDGES mapping are operating in the following sub-sectors:

- Dairy products
- Wine
- Bakery products
- Drinks & Beverages
- Fruits
- Legumes, namely lentils, beans of various kinds and chickpeas.
- Gourmet delicacies and spices
- Aromatic & medicinal plants and similar products

Analysis of the mapping (3/3)

Key findings: Strategic orientation

Generally, the key findings concerning the profile of the enterprises highlighted by the Mapping are summarized in the following:

- Production of biological and organic products.
- Production of Protected Designation of Origin (P.D.O.) products
- Development of Patents and Trade Marks
- Endorsement of Quality Management Standards (ISO) and Certification
- Collaboration with Universities and Laboratories, outside the area of W. Macedonia, for research and development of new products and for monitoring safe and quality production
- Collaboration and participation in Networks
- Adoption of Greek Mediterranean Diet framework
- Exports in Europe and USA and other third countries

Also, a wine-cluster has been established to better handle and to promote the wine sector, while a successful joint venture of Krokus products highlights the growing potential of the Agri-food in the Region.

Conclusions

Based on the Regional Profile of Agri-food and the main priorities that RIS3 policy sets for W. Macedonia, concerning the:

- Enhancement of competitiveness of existing SMEs,
- Promotion of innovative start-up SMEs or/and new products,
- Promotion of RTDI among SMEs and enhancement of their extroversion,
- Development of incubators, clusters or/and networks of congener SMEs,
- Creation of Structures supporting SMEs and Entrepreneurship, considering also the lack of Competence Center

...this mapping report sets the basis for the forthcoming BRIDGES Action Plan for Agri-food sector in the Region of Western Macedonia.



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European Union
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Thank you!

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