

Research and Innovation Strategy for Smart Specialisation

RIS3 West Macedonia

Assessment of RIS3 draft document submitted on 12 March 2015

**A report to the European Commission, Directorate General for Regional
Policy, Unit I3 - Greece & Cyprus**

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01. The draft RIS3 of West Macedonia submitted (March 2015) comprises three files: the extended summary (33 pages), the RIS3 document (8 sections, 178 pages) and the Annexes with documentation (205 pages). Overall, the RIS3 of West Macedonia is presented in an extended document of 417 pages, which should be reduced substantially to make the main messages clear to the relevant regional, national and EU authorities.

Our recommendation is to present the RIS3 in document of approx. 100 pages, very focused on the main challenges of smart specialisation, and corresponding to the assessment template defined by DG Regio (see, last page of this report), which will contain:

- The production and innovation system of the region (approx. 25 pages)
- The entrepreneurial discovery process per priority sector (approx. 15 pages)
- The objectives and intervention logic (approx. 10 pages)
- The action plan, budgeting and implementation with respect to OPs (approx. 30 pages)
- The monitoring and assessment (approx. 10 pages)
- The system of governance (approx. 10 pages)

The submitted document comprises many sections that can easily be removed, such as the very extended summary, legal documents, RIS3 concepts, detailed reference to authorities involved in RIS3 (GS Competitiveness, GSRT, etc.), 2000-2007 and 2007-2013 innovation policy, previous research and innovation projects (e.g. Smart+ Jeremie, ICT4Growth), tables that can be combined, EU regions typology, and other material that is peripheral to the core logic of RIS3.

02. The present assessment report focuses on the most important chapters of the Research and Innovation Strategy for Smart Specialisation (RIS3) of West Macedonia, namely (1) the selection of priority sectors and activities, (2) the entrepreneurial discovery processes, (3) the setting of objectives and the corresponding intervention logic, and (4) the action plan and implementation of the proposed actions.

For each chapter, the scope and the assessment criteria are noted, as defined in the RIS3 Guide (European Commission, March 2012). Then comments are made referring to the RIS3 documents submitted. At the end, a Table codifies the assessment per strategic planning stage and task, with indication of the areas that need further elaboration or revision.

1. Analysis and selection of sectors and / or activities

1.1. The scope of analysis and selection of activities is to “identifying sectors that can achieve critical mass should take into account the principles of regional embeddedness and relatedness: existence of industries that are in tune with the relevant socio-economic conditions and the diversification of firms into related areas based on new innovative techniques or processes.” (RIS3 Guide, p. 15)

Four criteria that can justify the prioritisation of activities are (1) the existence of critical mass in terms of GDP or employment; (2) the trends showing the dynamism of the sectors in the region, (3) the export activity, and (4) the existence of innovative companies in the sector.

1.2 The productive specialisation of West Macedonia is clearly presented and documented by data. The agricultural sector has a significant share in the economy and employment contributing to 6.8% of the GDP (cereals, production of apples and beans; 32% of the country's pulses, 28.8% of soft grain and 19.2% of apples). Energy is the dominant sector with a share of 52% to 55% of total electricity production, making West Macedonia the energy center of Greece. Industry is characterized by the lignite-power circuit (Axis Kozani - Ptolemais -

Amyntaio - Florina) and the sector of fur (Kastoria - Siatista). Recently a new orientation is the transformation of quality agricultural products.

However, in the setting of production priorities for RIS3 it is not clear which sectors and activities are at the centre of the RIS3. The documents submitted make reference at many sectors and activities (pp. 40/73, and 60-62/73), such as:

- The primary sector, agricultural products, saffron, and cattle breeding
- Energy, lignite production, renewable energy, tele-heating
- Traditional manufacturing sectors (fur industry, transformation of agricultural products, agrofood, and beverage, metal products)
- Tourism
- Intelligent transport systems
- ICT for energy, health, industry, and tourism
- Integrated management of waste and recycling.

Are all these sectors and activities the priority areas for RIS3 of West Macedonia? This should be made quite clear and the selection to be justified by data.

1.3 The description of the regional system of innovation (sections 2.2, 2.3, and 2.4, pp. 48-68/68) focuses exclusively on the innovation weaknesses of West Macedonia at to the national and European context. Equally important is the identification of regional knowledge resources, skills, and research activities that can support the productive differentiation of the region and the rise of new sectors of economic activity in areas such as renewable energy, ICT, transport, biomass, and other emerging activities.

1.4 The chapter of analysis should conclude with the clear definition of priority sectors and activities for the RIS3, taking into account the existing critical mass, exports, and emerging innovative activities. These activities should be the areas where the region of West Macedonia can excel.

2. Entrepreneurial discovery

2.1 The scope of entrepreneurial discovery is the “deep involvement of entrepreneurial actors in the strategy design process. Entrepreneurial actors are not only firms, but also any individuals and organisations who have some entrepreneurial knowledge. This analysis aims to build a systematic understanding of the areas in the economy and society that have the greatest potential for future development, and that are ready to be tapped (or need to be encouraged and extracted).” (RIS3 Guide, p. 21)

Criteria for assessing the process of entrepreneurial discovery are (1) the various forms of open consultation with entrepreneurial actors, and (2) the identification of promising areas of innovation in terms of products, processes, technologies and niche markets.

2.2. Information on the entrepreneurial discovery processes and consultation is missing. The RIS3 document and annexes do not describe activities relating to consultation with regional stakeholders, the academic, and business community. Consultation would contribute to bringing up business and innovation opportunities in technologies, products, and new markets to the benefit of the regional economy.

2.3. The study and analysis of supply chains in the priority sectors could be a starting point to entrepreneurial discovery. It is stated, for instance, that the supply chain linking the Public Energy Provider (DEH) to local businesses did not bring the desired results in the development of entrepreneurship. Also, the development of production, packaging and marketing of quality goods, certified and organic agricultural and livestock products might

support the ever diminishing primary sector. Such analysis and documentation of opportunities should provide a framework of business opportunities and areas of potential growth.

2.4 Entrepreneurial discovery should be realised for each of the RIS3 priority sectors. Conclusions can be codified in SWOT tables per mature or emerging RIS3 sector or activity.

3. Setting of objectives – intervention logic

3.1. According to the RIS3 Guide “It is of crucial importance that RIS3 governance bodies focus on a limited number of innovation and research priorities in line with the potential for smart specialisation detected in the analysis phase that is anchored in entrepreneurial discoveries. These priorities will be the areas where a region can realistically hope to excel.” (RIS3 Guide, p. 23)

Criteria for effective setting of RIS3 objectives are (1) the productive diversification scenario proposed, (2) the use of result indicators for defining quantitatively the objectives, and (3) the definition of the governance structure for the approval and revision of objectives and intervention logic.

3.2. The objectives of the research and innovation strategy for smart specialisation in the RWM are described on pages 41-56/73. However, the text does states clearly the RIS3 objectives. Initially, nine thematic fields and 33 objectives are described (TF1-4 objectives, TF2-3 objectives, TF3-6 objectives, TF4-2 objectives, etc.), but it is not clear whether these all objectives are adopted by the RIS3 of West Macedonia. Then, the Vision for the Region is described making reference to two set of policies: the upskilling of human capital, enhancing the links to global value chains, and the strengthening of knowledge absorption by companies. Again, it is not clear which objectives are set for the RWM.

3.3. The intervention logic, including the assessment of policy instruments used in the past, is described on pages 14-31/73. Again the text does not make clear what is literature and what is adopted by the RIS3 of West Macedonia. The intervention logic should make clear how the objectives set will be achieved.

3.3. Central concern in this chapter dealing with objectives and intervention logic should be the continuity between (1) SWOT analysis and objectives, and (2) objectives and intervention logic, and (3) intervention logic and actions (next stage action plan).

3.4. This flow from SWOT to objectives to intervention logic to actions should be given for each sector of priority taking into account the detailed SWOT analysis and entrepreneurial discovery for the sector.

3.5. Objectives should be qualitative and quantitative, defining - where feasible - the progress that should be expected from the RIS3 and the indicators that can capture this progress.

3.6. Overall, the chapter of objectives and intervention has to be rewritten and make quite clear the logic and principle of the RIS3 action.

4. Action plan and implementation of actions

4.1. “An action plan is a way of detailing and organising all the rules and tools a region needs in order to reach the prioritised goals, and it should provide for comprehensive and consistent

information about strategic objectives, timeframes for implementation, identification of funding sources, tentative budget allocation.” (RIS3 Guide, p. 24)

Criteria for the assessment of the action plan refer to actions included in the plan. Each action should be assessed with respect to (1) alignment to priority sectors selected, (2) alignment to entrepreneurial discovery findings, (3) the leverage potential of private investment, (4) the scale of intervention and expected impact, and (5) budget and funding.

4.2. The action plan of WM RIS3 is well designed and extensively presented (pp. 57-73/73, 3-25/71, 46-205 annex 3). The allocation of the 34 actions per Thematic Objective, Investment Priority, and OPs is provided. The budget of each action has been estimated and clearly the actions have been designed in consultation with stakeholders. All these are well described. What is missing is a sectoral perspective and how the proposed actions contribute to the differentiation / modernisation of each priority sector selected. Seeds of this intervention logic are given on pages 57-62/73, but it needs to be further developed.

4.3. Each action -to be included into the action plan- should be assessed with respect to criteria of (1) alignment to the objectives and features of the priority sectors, (2) innovation expected by each action, (3) the potential of the action to leverage private investment, and (4) the expected impact the action in the differentiation / modernisation of the priority sectors. This ex-ante assessment exercise might be done by a group of experts or by the members of the regional innovation council.

My assessment of the 34 proposed actions, based on the technical documents provided in the annex) is given below. I have used a scale 1 (low) to 5 (high) in all variables of this ex-ante assessment, and at the end a priority for the inclusion of the action into the RIS3 Action Plan is given (Low, Middle, and High, as an average of the scores).

Table 1: An assessment of actions included into the RIS3 Action Plan

N	Group of actions	Appro x. budget	Action	Align to the objectives of the priority sector	Innovation from the action	Potential to leverage private investments	Potential impact on production differentiation	Priority for inclusion in the Action Plan
Research priority 1.1: Enhancing research and innovation infrastructure (R & I) and excellence in research and innovation and the promotion of centers of competence, in particular the centers of European interest								
1	Ενίσχυση ερευνητικών μονάδων για την αναβάθμιση & ενσωμάτωση νέων Ερευνητικών Υποδομών για την προώθηση της	2.000.000	Αναβάθμιση του υφιστάμενου εργαστηριακού εξοπλισμού και πιστοποίηση ΙΔΕΠ-Πρότυπο Κέντρο στη Δυτική Μακεδονία	5 (sector of energy)	3	1	2	Middle
2	εφαρμοσμένης έρευνας σε τομείς περιφερειακού ενδιαφέροντος	1.500.000	Ίδρυση Κέντρου Ενεργειακής Απόδοσης, Εξοικονόμησης Ενέργειας και Ανανεώσιμων Πηγών	5 (sector of energy)	3	1	2	Middle
3		1.500.000	Εργαστήριο Οικολογικής και Ενεργειακής Πιστοποίησης Υλικών	1 (sector of construction materials)	3	1	2	Low

Research priority 1.2: To promote business investment in R&I, linkages and synergies between businesses, research and development centers and higher education, particularly by promoting investment in product and service development, technology transfer, social innovation, eco innovation, and								
4	Χρήση καινοτόμων μηχανισμών οικονομικής στήριξης της έρευνας (Living Labs)	500.000	Χρήση καινοτόμων μηχανισμών οικονομικής στήριξης της έρευνας (Living Labs)	2 (undefined sector)	2	1	2	Low
Research priority 2.2: Developing ICT applications for e-government, e-learning, e-inclusion, e-culture, e-health								
5	Ανάπτυξη ειδικών πληροφοριακών συστημάτων - εφαρμογών εξυπηρέτησης πολίτη και επιχειρήσεων	2.000.000	Σύνταξη εδαφολογικών χαρτών στην Περιφέρεια Δυτικής Μακεδονίας	2	1	1	1	Low
6		850.000	Πilotική εφαρμογή πρακτικών γεωργίας ακριβείας σε καλλιέργειες ροδάκινων στην περιοχή του Βελβεντού Κοζάνης	5	3	3	4	High
7		700.000	Περιφερειακό Vortal Αγροτικής Ενημέρωσης & Προώθησης Γεωργίας Ακρίβειας	5	2	1	2	Low
8		1.000.000	Γεωγραφικό Σύστημα Πληροφοριών (G.I.S.) ΠΔΜ	1	1	1	1	Low
9		1.000.000	Πλήρης Καταγραφή, Ανάλυση και Παρακολούθηση των χαρακτηριστικών (εδαφολογικών, γενετικών, οινικών, κ.λ.π.) της Οινικής Ζώνης Αμυνταίου-Φλώρινας, καθώς και της ζώνης ΠΟΠ Αμυνταίου για βελτιστοποίηση παραγωγικής διαδικασίας και ενίσχυση ανταγωνιστικότητας παραγόμενων αμπελοοινικών προϊόντων	5	3	1	1	Middle
10		1.500.000	Αξιοποίηση πολιτιστικού αποθέματος της Δυτικής Μακεδονίας για την ανάπτυξη εργαλείων στήριξης τουριστικών	5	1	1	2	Low

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11		2.000.000	Πληροφοριακό Σύστημα Επιχειρηματικότητας Δυτ.Μακ.	5	1	1	2	Low
Research priority 3.1: To promote entrepreneurship, in particular by facilitating the economic exploitation of new ideas and fostering the creation of new firms, including business incubators								
1 2	Ενίσχυση επιχειρήσεων & συστάδων επιχειρήσεων με εξωστρεφή προσανατολισμό με έμφαση στα τοπικά προϊόντα και τις υπηρεσίες (π.χ. μεταποίηση & εμπορία τοπικών προϊόντων, ενέργεια – ΑΠΕ κ.α)	1.060.000	Περιφερειακή Δομή Ανάπτυξης της Επιχειρηματικότητας Δυτικής Μακεδονίας	5	1	1	3	Middle
1 3	Δημιουργία Θερμοκοιτίδων (Incubators)	500.000	Δημιουργία «Φυτωρίου» νεοφυών & καινοτόμων επιχειρήσεων (micro-incubator)	5	4	4	4	High
Research priority 3.2: Support for SMEs capacity to grow at regional, national and international markets, and to participate in innovation processes								
1 4	3.2.1. Ενίσχυση δράσεων εξωστρέφειας και διασυννοριακής συνεργασίας επιχειρήσεων	750.000	Πληροφοριακό Σύστημα Διαχείρισης Προορισμού (DMS) Δυτικής Μακεδονίας	5	3	2	3	Middle
1 5	3.2.2. Ενίσχυση ανάπτυξης νέων προϊόντων ή διαφοροποίηση προϊόντων με έμφαση στην ποιοτική αναβάθμιση, την τυποποίηση και την πιστοποίηση των προϊόντων και επιχειρήσεων	1.100.000	Περιφερειακή Δομή Πιστοποίησης Ποιότητας τοπικών προϊόντων Δυτικής Μακεδονίας	5	3	3	3	High
1 6	Εξάγωγες στην πράξη στη Δυτική Μακεδονία	350.000	Εξάγωγες στην πράξη στη Δυτική Μακεδονία	5	3	3	3	High
1 7	3.2.3. Ενίσχυση επιχειρήσεων & συστάδων επιχειρήσεων με εξωστρεφή προσανατολισμό με έμφαση στα τοπικά προϊόντα και τις υπηρεσίες	3.000.000	Προώθηση του Επιχειρηματικού ή Συνεργατικού Σχηματισμού των Επιχειρήσεων Μετάλλου (Clusters) Δυτικής Μακεδονίας	?	(Is metal production a priority sector?)	4	4	High (if priority sector)
1 8	3.2.4. Ενίσχυση οργανωμένων δράσεων για την πιστοποίηση προϊόντων μέσω φορέων (ινστιτούτα,	630.000	Cluster τροφίμων – ποτών της Δυτικής Μακεδονίας	5	4	4	4	High
1 9		1.200.000	Συνεργατικός σχηματισμός ανάπτυξης καινοτόμων τεχνολογικών εφαρμογών	?	(Is water management a priority sector?)	4	4	High (if priority sector)

	σύλλογοι, ΝΠΙΔ κ.λπ.) με έμφαση στους τομείς προτεραιότητας		διαχείρισης, επεξεργασίας και ορθολογικής αξιοποίησης υδατικού πόρων (ΣΣ-ΔΥΠ)					
20	3.2.5. Ενίσχυση υφιστάμενων και υπό ίδρυση επιχειρήσεων για δημιουργία συνεργατικών σχημάτων (clusters) καθώς και για ανάπτυξη έρευνας και καινοτομίας (συνεργασία μεταξύ επιχειρήσεων και πανεπιστημιακών ιδρυμάτων – ερευνητικών φορέων)	3.941.000	Ερευνητική φάρμα παραγωγής γουνοφόρων ζώων αναπαραγωγής-Εργαστήρια γενετικής βελτίωσης ζώων αναπαραγωγής και έρευνα για τη βελτίωση της υγιεινής και καλής διαβίωσης των ζώων με στόχο την ποιοτική αναβάθμιση της παραγωγής του κλάδου	5	4	4	4	High
21		530.000	Αναβάθμιση και επέκταση βιολογικού καθαρισμού (έργα διαχείρισης και ασφαλούς διάθεσης ιλύος-κομποστοποίησης ιλύος) της Μακεδονικής Βιομηχανίας Κρέατος ΜΑΒΙΚ της Δυτικής Μακεδονίας	The action concerns infrastructure of a private company. Main beneficiaries of the action are the private enterprise "Macedonian Meat Industry (MAVIK SA)", the research institute CErTH / IDEP, and the TEI of West Macedonia.				
22		1.050.000	Αξιοποίηση παραπροϊόντων ορυχείων και λατομείων μάρμαρου της δυτικής Μακεδονίας για την παραγωγή καινοτόμων/έξυπνων υλικών υψηλής προστιθέμενης αξίας φιλικών προς το περιβάλλον	1 (Is marble extraction a priority sector?)	2	1	1	Low
23		1.000.000	Δημιουργία Κέντρου για την «Έξυπνη» Ανάπτυξη	5	4	4	4	High
Research priority 4.1: Support for energy efficiency, smart energy management and renewable energy use in public infrastructure, including public buildings, and in housing								
24	Ανάπτυξη - αναβάθμιση δικτύων τηλεθέρμανσης (Περιλαμβάνεται και η αξιοποίηση εφαρμογών ΑΠΕ	8.650.000	Ανάπτυξη δραστηριοτήτων Cluster Βιοενέργειας και Περιβάλλοντος (CLUBE) Δυτικής Μακεδονίας	5	4	4	4	High

2 5	& καινοτόμων τεχνολογιών (βιομάζα / βιοαέριο, βιοκαύσιμα, συστήματα αξιοποίησης χαμηλής θερμότητας, υποπροϊόντα, απόβλητα, υπολείμματα και	2.000.000	Πιλοτική μονάδα διυλιστηρίου αποβλήτων προς βελτιστοποίηση διαλογής υλικών και εναρμόνιση με τις αρχές της βιομηχανικής συμβίωσης.	? (Is recycling a priority sector?)	2	4	3	Middle
2 6	λοιπές πρώτες ύλες εκτός των τροφίμων)	5.000.000	Εγκατάσταση ηλιακών θερμικών υψηλού βαθμού συγκέντρωσης για παραγωγή θερμικής ενέργειας για την τηλεθέρμανση και ηλεκτρικής ενέργειας	5	5	3	5	High
2 7		1.100.000	Έρευνα και μελέτη των γεωθερμικών πεδίων στην περιοχή της Δυτικής Μακεδονίας. Προοπτικές εκμετάλλευσής τους	5	2	1	3	Middle
2 8		93.000.000	Τοπικά συστήματα τηλεθέρμανσης οικισμών με αξιοποίηση βιομάζας	1	1	1	1	Low
Research priority 4.2: Promoting research and innovation in low carbon technologies, carbon dioxide, and their adoption								
2 9	Ανάπτυξη συστημάτων δέσμευσης και αποθήκευσης διοξειδίου του άνθρακα συμπεριλαμβανομένης και της δυνατότητας παραγωγής καυσίμου (με χρήση ΑΠΕ, αεριοποίησης)	11.700.000	Εγκατάσταση πιλοτικής μονάδας δέσμευσης του CO ₂ σε υφιστάμενη θερμοηλεκτρική μονάδα καύσης λιγνίτη στην Περιφέρεια Δυτικής Μακεδονίας	5	5	3	4	High
3 0		1.600.000	Καλλιέργεια μικροφυκών του γένους Chlorella για την παραγωγή ανανεώσιμων πηγών ενέργειας (βιοκαυσίμων) και φαρμακευτικών προϊόντων/ συμπληρωμάτων διατροφής	5	4	2	4	High
3 1		1.100.000	Έρευνα διόδων διαφυγής του CO ₂ στη λεκάνη της Φλώρινας και πιθανή επίδρασή του	1	1 (Study)	1	1	Low

			στο οικοσύστημα					
3 2		1.200.000	Βελτιστοποίηση Αξιοποίησης Προϊόντων Αεριοποίησης και Αναερόβιας Χώνευσης σε Μηχανές Εσωτερικής Καύσης με σκοπό στη Χρησιμοποίηση τους σε Αποκεντρωμένες Μονάδες Συμπαγωγής Μικρής Ισχύος.	1 (Sector of machine construction)	1 (Study and measurement)	1	1	Low
3 3		400.000	Ανάπτυξη συστήματος αποθήκευσης ενέργειας μεγάλης κλίμακας στην περιοχή της Δ. Μακεδονίας	5	1 (Study and model)	1	2	Low
3 4		500.000	Ανάπτυξη τεχνολογίας μικρών ανεμογεννητριών και υδροστροβίλων για αστικές εφαρμογές	5	1 (Study and model)	1	2	Low

OVERALL ASSESSMENT: RIS3 OF WEST MACEDONIA

Areas that need further attention (in red)

Both for the needs of the GSRT and the final submission provide a short document of 100 p.

STRATEGIC PLANNING STAGE	TASKS	NEED OF REVISION (Yes-No)	Quick revision for GSRT	REMARKS
1. ANALYSIS	1. THE PRODUCTIVE AND INNOVATION SYSTEMS	YES		Refer explicitly to R&D and innovation potential which may support the emergence of new production sectors and activities.
	2. SWOT ANALYSIS	OK		
	3. TRENDS, FORESIGHT OR OTHER FUTURE ANALYSIS	OK		
	4. RIS3 GOVERNANCE AND DECISION MAKING STRUCTURE	OK		
2. OBJECTIVE SETTING	1. PRIORITISATION OF SECTORS	YES	YES	Make clear the selection of sectors for prioritisation, the selection criteria, and the justification data
	2. OPEN CONSULTATION ABOUT PRIORITY SECTORS	?		Is not described
	3. ENTREPRENEURIAL DISCOVERY PER PRIORITY SECTOR	YES		To be realised in the coming months
	4. SETTING OF RIS3 OBJECTIVES	YES	YES	Clear definition of priority sectors. Quantitative objectives.
	5. IMPACT INDICATORS PER RIS3 OBJECTIVE	YES		Indicators capturing the progress.
3. ACTION PLAN	1. OVERALL BUDGET ESTIMATION OF THE RIS3 ACTION PLAN	OK		
	2. INTERVENTION LOGIC / SELECTION OF POLICY MIX	YES		To be developed per priority sector
	3. ACTION PLAN STRUCTURE AND LIST OF ACTIONS	YES	YES	Ex ante assessment of 34 actions by an external panel of experts. Remove actions of low priority.
	4. SUMMARY PROFILE PER ACTION	OK		
	5. BUDGET ESTIMATION PER ACTION	OK		
	6. OUTPUT INDICATORS PER ACTION	OK		
4. MONITORING & MEASUREMENT	1. GOVERNANCE OF MEASUREMENT / MONITORING	YES		To be defined in collaboration to the GSRT
	2. MONITORING SYSTEM / FOLLOW –UP OF INDICATORS CHANGE	YES		
	3. PROGRESS REPORTS	OK		
5. RIS3 ENDORSEMENT	1. INITIAL DECISION APPROVAL OF RIS3	OK		
	2. RECOMMENDATION FROM THE INNOVATION COUNCIL	OK		
	3. GOVERNANCE AND UPDATE OF RIS3 AND ACTION PLAN	OK		

