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Stakeholders' engagement beyond the EDP
The working-groups on governance and human resources in Eastern Macedonia and Thrace

Smart Specialisation Policy Brief

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Abstract
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The activities described in this policy brief were undertaken as part of a European Parliament Preparatory Action, which ran between September 2014 and November 2015. The Preparatory Action has built on the prior efforts and analysis carried out by the Greek region of Eastern Macedonia and Thrace (REMTh) between 2012 and 2014, with the aim of complementing and reinforcing them. It has revolved around three main aims:
•to facilitate the refinement and implementation of the S3 strategy in a region heavily hit by the crisis;
•to serve as a model for other convergence regions in Greece and Europe.
•to test theories on smart specialisation.

These goals have been pursued through three, overlapping, streams of activity, aimed at:
1.Ongoing mapping, stocktaking and assessment of the development of the S3 strategy and identification of
   actions to ensure its smooth implementation
2.Testing and optimising an entrepreneurial discovery process (EDP) by engaging stakeholders and policy makers
   in participatory excercises
3.Bottom-up capacity-building for a sustainable S3 development and implementation

This brief focuses on the third of these streams. It details the establishment and outcomes of two working groups specifically set up under the preparatory action. The first sought to develop a regional governance system for RIS3 in Eastern Macedonia and Thrace (Governance working group thereafter) and the second a strategy for the region to enhance human resources mobility both within the private and public sector and internationally (Human resources working group).

Stakeholders' engagement beyond the EDP

The working-groups on governance and human resources in Eastern Macedonia and Thrace

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Acknowldgements

1. Introduction

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This brief is organised as follows: section 2 describes the role of stakeholders in innovation-based local development initiatives, section 3 gives an overview of the techno-economic context in REMTh and its RIS3. Section 4 described the REMTh preparatory action and how the need for the two working groups emerged. Section 5 and 6 describe respectively the results of the working groups on governance and mobility. Section 7 concludes with the key lessons.

2 Smart Specialisation Strategies: the role of stakeholders in shaping innovation-based local development

Smart specialisation streagies centre on the development of regional competitive advantages following the bottom-up identification of a set of priorities where regions believe they have potential to obtain a comparative advantage. Stakeholders are at the very core of the S3 process. Priorities are identified through the cyclical and recursive interaction of stakeholders across the quadruple helix of government, industry, academia and society at large in the so called Entrepreneurial Discovery Process (EDP). The EDP is seen as necessary because entrepreneurial knowledge is most often distributed across a regional system.

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[1] Whilst the ongoing mapping, stocktaking and assessment of the S3 strategy underpins the whole project and is hence not covered in a specific publication, the optimisation of the EDP is covered in the Smart Specialisation Policy Brief No.14/2015 (Boden et al, 2015) and, more comprehensively, in Marinelli et al. (forthcoming).

Furthermore, for the EDP to be sustained over time and allow a successful implementation of the S3, an appropriate governance system and adequate human resources need to be secured. The latter need to enable the continuous adaptation of the EDP and S3 to the evolving circumstances. Hence they must be able to capture the needs and knowledge of stakeholders who, rather than being passive actors, must help shape and implement the S3 in a comprehensive way.

Such in-depth participation of stakeholders in innovation-based local development processes represents a novelty in many parts of Europe, where engagement with socio-economic actors is more commonly based on simpler modalities such consultation or information-sharing.

While several authors have examined the scope for stakeholders' participation or collaboration within the S3 community and beyond (Foray & Goenaga, 2013; Hausmann and Rodrik, 2003; Martínez-López & Palazuelos-Martínez, 2014), few experiences of its actual implementation have so far been codified.

This brief examines one such case, examining the approach adopted in the Greek region of Eastern Macedonia and Thrace (REMTh) in building the local S3 governance system and the strategy to enhance human resource mobility. These are seen as critical to institutionally embed the S3 principles and the EDP itself in the local fabric.

3 Eastern Macedonia and Thrace: economic overview and S3

The region of Eastern Macedonia and Thrace lies in the northeastern part of Greece. It is bounded in the east by Turkey, in the north by Bulgaria, in the west by the Region of Central Macedonia, and in the south by the Aegean and Thracian Seas. Its population in 2014 was estimated at 606,225,[2] accounting for 5.6% of the national total.

As set out in the 2015 regional smart specialisation strategy (RIS3)[3], whilst REMTh is one of the most industrialised regions of Greece, it is also characterised by the highest share of primary sector (agriculture). Its service sector is based on non-traded and public services and tourism. The manufacturing sector is dominated by medium to low technology sectors (food industry, textiles and clothing, mining and quarrying, manufacture of pulp, paper and paperboard and tobacco products). Nevertheless there are some more technology-intensive industries, in the chemicals sector as well as in the manufacture of machinery and equipment.

With a GDP per capita of €13,100 in 2011 (at market prices), as compared to the national average of €18,500[4], the region is one of the poorest of the country and is lagging well behind (70%) the EU27 average. The economic crisis has had a significant effect and the unemployment rate increased dramatically between 2008 and 2014 from 8.8% in 2008 to 24.2% in 2014.[5]

In terms of R&D, with only €75.1 spent per inhabitant in 2011, the region is well below the national average of €125.1[6] with a very small private sector contribution. R&D expenditure is concentrated in

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[2] Data source: EUROSTAT Regional Demographic Statistics - Population on 1 January by age, sex and NUTS 2 region.

[3] Available in English at: http://s3platform.jrc.ec.europa.eu/documents/20182/144300/REMTh+RIS3+EN/8ba9bd80-4877-4fa0-b634-e16fc10ec709 .

[4] Data source: EUROSTAT Regional Economic Accounts (esa95) - Gross domestic product (GDP) at current market prices by NUTS 2 regions.

[5] Data souce: EUROSTAT Regional Labour Market Statistics - Unemployment rates by sex, age and NUTS 2 regions (%).

[6] Data source: EUROSTAT Regional Science and Technology Statistics - Total intramural R&D expenditure (GERD) by sectors of performance and NUTS 2 regions.

two public tertiary education institutions: the Demokritos University of Thrace and the Technological Educational Institute of Kavala. The European Regional Innovation Scoreboard ranks East-Macedonia and Thrace (grouped in the mega-region Voreia Ellada) as a modest-medium innovator (the lowest of four performance categories) along with all other Greek regions aside from Attiki. The level of education of the workforce is relatively low with, in 2014, 20.5% of the population aged 25-64 with tertiary education attainment (as compared to 28.1% in Greece)[7].

In REMTh, the definition of the S3 carried out between 2012 and 2014 by the local managing authority, identified broad horizontal and thematic priorities. These are summarised in Table 1. The former cover four critical elements of the local structure that need to be boosted. The latter, are organized around two main pillars:

- the transformation of the agrifood cluster
- the expansion and consolidation of the emerging sectors of the regional economy.

TABLE 1 S3 PRIORITIES IN REMTH – HORIZONTAL AND THEMATIC PRIORITIES

Horizontal priorities - Upgrade of the institutional capacity of the Regional Innovation System and its constituent parts - Development and retention of human capital - Targeted supply of knowledge, strengthening of the absorption of knowledge and induction of the entrepreneurial dynamics - Boosting the intensity and quality of intra-regional and inter-regional networking	
Thematic pillar 1 **Transformation of the Agro-Food Sector**	**Thematic pillar 2** **Supporting the Growth of Emerging Sectors**
1) Modernisation of the agro-food cluster and improvement of the regional added value with the use of technologically-driven innovation 2) Improvement of regional added value through the adaptation and use of mature processes, organisational and promotional innovations, including the use of ICT, aid to sources of uniqueness (e.g. PDO products) and the upgrading of human resources	1) Strengthening of technologically-driven product or process innovation, preferably through KETs in: plastic-rubber products, pharmaceuticals, electronic/electrical equipment, innovative building materials, energy, environment and hybrid technologies. 2) Provision of incentives for the installation of units of the above sectors in REMTh and encouragement of new innovative activity. 3) Expansion of the tourist product through organisational and promotional innovations 4) Development of promotional innovations for the strengthening of the branding of marbles and the expansion of markets. 5) Attraction or support to investments in service enterprises which serve consolidated or emerging sectors of the regional economy such as: - Certification of health claims in foodstuff, design of biofunctional foodstuff. - Information and communication technologies with applications in the primary sector or industrial information technology; - Industrial planning;

Source: authors' elaboration based on the REMTh S3.

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[7] Data source: EUROSTAT Population aged 25-64 with tertiary educational attainment level by sex and NUTS 2 regions

The identification of these areas of intervention represents the necessarry and preliminary step to allow RIS3 implemention.

4 The implementation of the EDP in Eastern Macedonia and Thrace

A core activity of the preparatory action was to support the establishment of a sustainable and effective entrepreneurial discovery process, wherein stakeholder engagement in the identification and refinement of priority areas could directly feed the policy process. This centred on the organisation of a series of "Entrepreneurial Discovery Process Focus Groups", each focused on one of the region's S3 priorities, and aimed at generating innovative ideas through the interaction between business, public and research sectors, but with a set of common aims:

- To bring together relevant stakeholders in the sector, throughout the value chain, to explore and catalyse the dynamics of the entrepreneurial process of discovery;
- To increase the understanding of the need to select a limited number of priorities, and to build trust among stakeholders, including with public authorities;
- To examine key criteria to identify and pursue relevant projects for the region;
- To collect ideas for regional innovation that combine regional strengths with international and emerging trends;
- To shape initial partnerships around those ideas, to foster a culture of collaboration, between stakeholders and with public authorities and to increase awareness of the international context of regional innovation activities; and
- To refine the focus group approach for its future application to other key sectors of the region, and subsequently for other regions.

Preparation of the EDP focus groups generally entailed a desk based analysis of the value chain of each of the sectors under consideration, the identification of likely topics for discussion, together with the identification of relevant regional, national and international participants. The meeting of the focus groups then combined plenary and parallel sessions. Parallel groups were tasked with exploring and refining several promising ideas in selected subsectors of each of the priority areas. These yielded several promising ideas, as well as fostering linkages between actors and ideas across focus groups. The methodological approach to the EDPs has been progressively refined in view of continued replication and adaptation. The process is described further in Boden et al. (2015) and Marinelli et al. (forthcoming). In addition to the numerous ideas generated, the EDP focus groups have, so far, had a number of impacts:

- The novel bottom-up way of contributing ideas, forming partnerships, and thus jointly shaping priorities was considered highly valuable by all stakeholders, and contributed to increased trust.
- The Managing Authority expressed its intention to continue the EDP process, and stakeholders expressed interest in the possibility to continue proposing ideas for new business.
- Network building, not only internationally, but also regionally, has taken place. A number of regional stakeholders appeared unaware of each other's activities, in spite of their geographical and thematic proximity.

Project Development Labs (PDLs) followed the EDP focus groups and on-line stakeholder consultation. These aimed at further refining ideas from the EDP focus groups and taking them closer towards implementation, identifying funding opportunities and action plans for policy. The first PDL sought to translate stakeholder engagement into policy actions and brought together JRC-IPTS and its expert partners, the Managing Authority, representatives of regional and national government with expertise on S3, ESIF and state-aid regulations, and representatives of regional higher-education and research organisations.

The event foused on the administrative dimensions of the EDP ideas, covering issues related to effectiveness, appropriateness, delivery mechanisms, project selection criteria, fitness to the national RIS3, state aid rules and their implications for launching calls.

Building on the first, the second PDL then sought to examine how stakeholder engagement in the first PDL fed back into the policy process, and included a presentation and discussion of draft calls. It also explored the possibility of financing EDP ideas (or some of their components) from other funding sources, such as Horizon2020. Overall the PDL events had the following main outcomes:

- Further advancement of ideas developed, as well as community building around them.
- Capacity building among stakeholders regarding idea development and the use of different funding sources.
- Increased coordination between regional and national level, through alignment of national and regional plans (and avoiding funding of similar ideas at both levels), and through clarifying technicalities (in terms of state aid, fundability of ideas, coherence with national strategy, etc).
- Paving the way for other regions, especially in terms of implementation details, including related to state aid, thanks to the pioneering role the region has played in clarifying a wide set of technical challenges to implementation.

All the above activities highlighted, for the region, the importance of stakeholders interaction when approaching the issue of knowledge-based development strategically. In particular, in line with the pre-identified RIS3 horizontal priorities, two things became increasingly clear as the EDP unfolded, namely that:.

1. Responsibility for EDP to become a repeated and sustained process could not be taken by local authorities alone, rather it required an instituational setting that would channel and build upon stakeholders' participation.
2. The region needed to better identify and exploit opportunities related to international research and innovation networks, as well as to cross-sectoral collaborations between industy and research. Both these aspects were deemed as crucial to ensure the sustainability of the EDP and hence the implementation of the RIS3 beyond the duration of the Preparatory Action (see Fig 1).

FIGURE 1 BOTTOM-UP ELEMENTS IN RIS3 IMPLEMENTATION
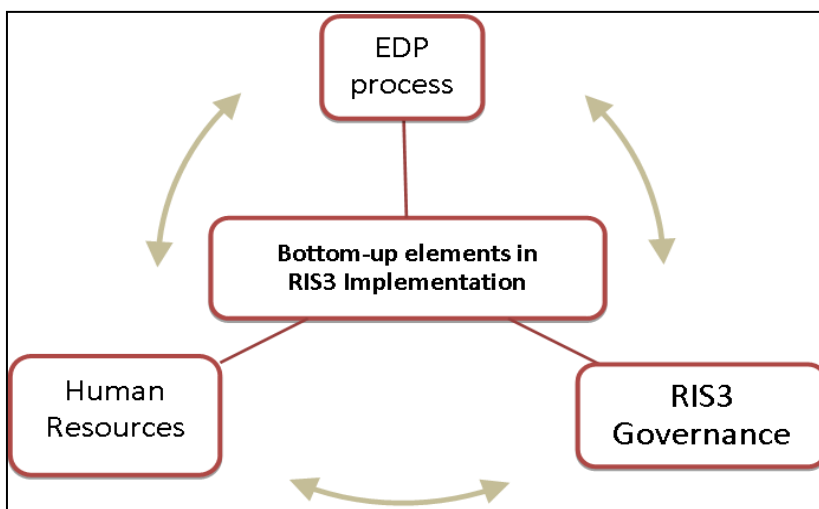
Source: authors' elaboration.

For this reason, as part of the preparatory action, two dedicated working groups were formed to tackle the issue of RIS3 governance and that of human resources respectively. These are described in sections 5 and 6[8].

5 The working group on governance

The Governance working group was set up to define a governance system for the local RIS3, which would aim to be:

- Lean (simple, flexible and non-bureaucratic)
- Realistic
- Effective and
- Informed
- The members of this working group comprised:
    - 6 representatives from academia and research in the region
    - 7 representatives from the Regional Authority of the Region
    - 2 from businesses, and
    - 1 from a societal organisation representing needs of the disabled. [9]

With the support of an expert moderator[10] this working group met physically two times, with a third set of interactions organised by email and phone. During the first meeting, the group discussion centred on the elaboration of the governance system, building on a draft structure presented in one of the preparatory action events (the Peer Review - REF). In particular, it refined the structure, mechanisms and knowledge management principles to be applied within and across the different governance levels. During the second meeting the working group identified in further detail the entities to be created and included in each governance level and priority area, and defined the profiles and criteria for selection of the people to staff each structure. Finally, through online and telephone interaction, the working group discussed the required qualifications and skills for each structure and the education and training needs for the people to staff the proposed governance structures

5.1. The background: the draft RIS3 governance structure, the EDP focus groups and the Peer Review

The working group became operational after three EDP focus groups and the Peer Review workshop on the region's RIS3 had already taken place. This timing critically shaped the dynamics of the group.

The **Entrpreneuial Discovery Process focus groups** highlighted and clarified the role of stakeholders from the quadruple helix in developing the RIS3. They highlighted the need for different sectors to take responsibility for shaping the RIS3 bottom-up by brokering the demand and supply of innovation in given priority areas.

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[8] A more extensive and technical description of the working groups' activities is available in the final report of the project available here: http://publications.jrc.ec.europa.eu/repository/handle/JRC98359. Specically Annex 7 reports the activities of the working group on human resources and Annex 8 on the working group on govenance.

[9] Other societal organisations were invited yet unable to attend.

[10] Dr Effie Amanatidou, from the University of Manchester, was engaged to moderate the group and organise the interaction.

The **Peer Review** provided the opportunity, for the first time, to tackle the issue of RIS3 governance with international peers and experts. The experts and the regional stakeholders discussed a draft governance structure based on the following three levels:

1. **A coordination level** run by the Regional Coordination Committee comprising the Regional Council for Research and Innovation and representatives of other societal organisations (thus representing all sectors of the "quadruple" helix). This level would be tasked with overseeing the whole RIS3 governance and communicating with the political level (Regional Council and Governor).
2. **A management level**, composed by a core team of regional officials with relevant experience in managing development programmes, tasked with the administrative implementation of the RIS3
3. **An stkeholders' engagement level composed by the so-called IENs** (Innovation and Entrepreneurship Networks): bottom-up, autonomous, self-organised and self-governed informal partnerships among potential beneficiaries of RIS3 actions, representing all stakeholders of the quadruple helix, and tasked with assisting the management level in running the EDP process in order to collectively produce ideas for investments under the RIS3 or other funding frameworks.
4. Several key characteristics of the desired governance structures emerged durng the peer review discussions. In particular it was stressed that:

   - The governance of RIS3 should embed elements of evaluation by allowing regular feedback loops, (including independent advice from people outside the region), and corrective actions.
   - IENs, as the most innovative element , require leadership potentially through an innovation moderator with the aim to raise awareness, and mobilise stakeholders
   - A wide set of competences, internal and external to the region, need to be marshalled to make the structure work (especially in relation to fundraising)
   - Several tools exist to facilitate the interaction between universities and business and they should be used comprehensively. These go from simple information sharing, to perfecting technology transfer mechanisms to target SMEs more precisely, to introducing regional business priorities into the teaching and research agenda of universities.

5.2 The working-group general discussion

The working group participants acknowledged the importance of creating a RIS3 governance system in a bottom-up way as well as of including all the sectors of the quadruple helix in the system. For them, one of the key issues in RIS3 was communication: the governance system should make sure that RIS3 was duly explained to market actors in such a way as to produce true engagement and trust as well as mechanisms for feedback and evaluation. The impacts of the Entrepreneurial Discovery Process (EDP) focus groups that were ongoing were seen to be of great value in this regard. The working groups emphasised that expectations had now been created, and the momentum was built to further mobilise users and market actors in exploiting RIS3. The working group stressed that being part of the governance structure, and in particular of the IENs, entailed a strong responsibility. Participants were expected to be effective 'multipliers' and 'communicators' within their organisations and to others in their sectors, accompanying the networking effort with an effective dissemination of results to sustain and broaden stakeholder engagement.

In building such a governance system, however, the difficulties faced by Greece and the existence of issues that could not be dealt with at the regional level must not be underestimated. The working group participants saw that, on the one hand, scope for improvement of issues such as red tape, payment delays, or difficulties in getting loans or tax certificates in an era of financial crisis was limited. On the

other, while the private sector faces a series of problems due to the financial crisis, the academia and research sectors face shortages of public funds and reduction of personnel within a highly uncertain context of development.

To conclude, whilst wide consultation is not a new practice in the region, as it has also been recommended and applied under the Structural Funds guidelines for a number of years, the design and operation of this working group appeared to bring new elements in place, allowing not only the participation of societal organisations but also the breaking down of sectoral barriers. The working group was perceived as a valuable tool to enhance communication and collaboration across society.

5.3 The proposed governance system

Before agreeing on a final proposal for the governance system, the working goup reflected on the variation of the original system proposed at the Peer Review event. The addition of a "**Strategic dimension**", composed of the political representatives (Regional Council and Regional Governor) was deemed necessary by the Coordinator of the group to ensure that the framework accommodates room for manoeuvre at the lower level of governance whilst connecting the regional dimension to the national and European ones.

The group ultimately converged towards a modified 3-layered system, as indicated in the synopsis below.

TABLE 2 EVOLUTION OF THE GOVERNANCE SYSTEM PROPOSALS

Draft governance system	Modified governance system	Final governance system
Peer Review	Working group meetings	Working group outcome
1. Coordination 2. Management 3.Stakeholders' Engagement	1. Strategy (+) 2. Coordination 3. Management 4.Stakeholders' Engagement	1. Strategy 2.Coordination & Management 3.Stakeholders' Engagement

While there was consensus on the importance of the strategic level, it was suggested that the Coordination and Management functions be unified into a single governance level, operationalised through the creation of a Coordination and Monitoring Team for Research, Innovation and Entrepreneurship (CoMTRIE) replacing the Management Team initially defined. The creation of thematic groups was also advised within the CoMTRIE to utilise thematic expertise located in the other Directorates of the Regional Authority like the Dir. for Agricultural Economy and Veterinary or Industry and Energy, etc.

The CoMTRIE would be also instrumental, at the early stages, to stimulate the creation of IENs, the most complex and new entities within the governance system. The group discussed the possibility for CoMTRIE to utilize available funds under the Technical Assistance of R.O.P. to launch calls for proposals for the creation of the first such networks in three pilot sectors: i.e. agro-food, non-metallic minerals and tourism.

Structures	Functions
STRATEGIC LEVEL **Regional Council, Governor and Regional Council for Research and Innovation**	The strategic level includes the Regional Council and the Governor which are supported by the Regional Council for Research and Innovation (RCRI). The RCRI is to be created following the provisions of Law 4310/2014. The Governor and RCRI can also be supported by advisors external to the region to ensure 'neutrality' and 'objectivity' to the degree possible.
COORDINATION & MANAGEMENT LEVEL **Coordination and Monitoring Team for Research, Innovation and Entrepreneurship (CoMTRIE)**	CoMTRIE will be responsible for • preparation of the the regional strategy for research and innovation to be approved by the Governor and Regional Council; • coordination of actions across the regional, national and EU levels; • translation of strategic into operational objectives, preparation of RIS3 and associated actions in consultation with the 3rd level (IENs); • support of the RCRI and consultation with RCRI in issues of its responsibility; design and implementation of corrective actions; • representation of the RIS3 at the regional, national and EU levels; • networking/collaboration with other regions on issues of common interest; • search of funding in regional and national sources and beyond; preparation of applications addressing the region as the beneficiary in collaboration with other relevant teams of the Regional Authority; • launch of calls (directly or indirectly through intermediary organisations like Development Agencies, etc.); • collection of monitoring data and preparation of progress reports and identification of issues that need attention by the Governor and the Council and in consultation with RCRI; • assistance for the creation and operation of IENs at the stakeholders' engagement level and coordination of their actions; • assignment and supervision of evaluation and impact assessment studies of RIS3 actions; • dissemination activities in relation to RIS3 and the implementation of EDP. The above responsibilities will be shared among officials from the Dir. Development Planning of the Region and the Managing Authority. The management and control of RIS3 actions will be the responsibility of the relevant (Sectoral or Regional) Managing Authority depending on the financial instrument utilised and will follow the ESIF regulations and Monitoring and Control System valid in each programmatic period.
STAKEHOLDERS' ENGAGEMENT LEVEL **Innovation and Entrepreneurship Networks (IENs)**	IENs will be informal networks of stakeholders to that will assist the CoMTRIE in the preparation of actions to be integrated in the RIS3 or other national or European programme. As a pilot phase, IENs in the agro-food sector, non-metallic minerals and tourism can be created through launching relevant call for proposals under the R.O.P Technical Assistance.

Source: authors' elaborations .

Operationally, as a follow-up to the governance definition, the working group developed a risk assessment of the activities involved, a tentative roadmap for implementation and an analysis of skills required to put the whole system in place.

Figure 2 below gives a more intuitive visual representation of the governance system.

FIGURE 2 THE RIS3 GOVERNANCE SYSTEM IN REMTH
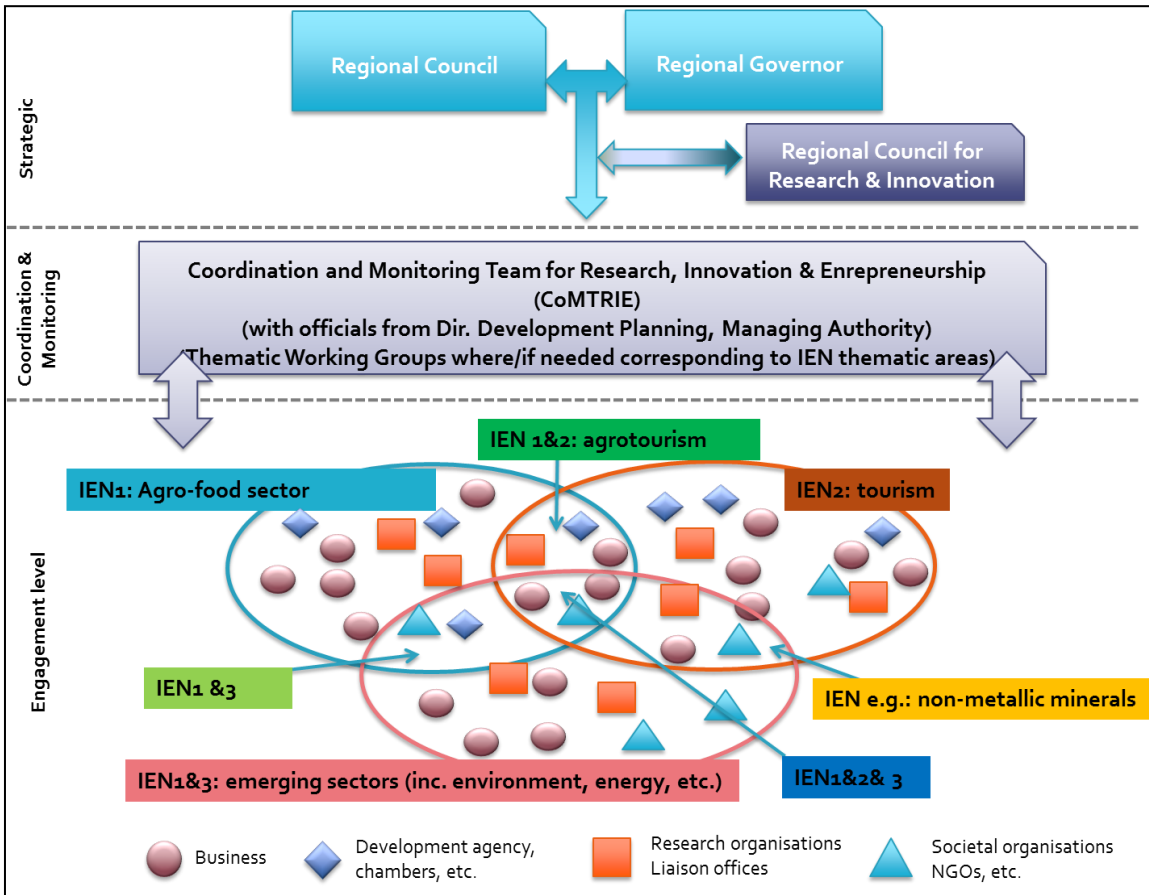
Source: authors' elaboration.

6 The working group on human resources

In paralle to the goverance group, the working group on human resources was organised to examine and agree on modalities to enhance human capital and human capital mobility within and outside the region, both between research and business and between different research organisations.

The region is affected by severe brain drain towards other parts of Greece and abroad and, as part of the preparatory action, a report[11] was commissioned to analyse thoroughly the current situation and examine options for intervention, taking into account available funding sources, human resources and best practice. This report represented the basis for discussion for the working group.

Supported by an expert moderator[12], the working group, comprised a core of 5 people, two from the local higher education institutions, a leading local entrepreneur (also Chairman of the regional innovation and entrepreneurship council) and one representative from the Special Managing Authoriy of the Regional Operational Programme. The working group also benefitted from the contribution of numerous other representatives from the research, higher education and business sectors. The members of the MWG considered HR mobility as an opportunity to:

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[11] See Annex 7 of the final report of the Preparatory action.
[12] Dr Yannis Tolias from Innovatia Systems.

- attract talented researchers from other regions to improve both the headcount and the quality of research produced in REMTh;
- expose the regional pool of researchers to cutting-edge research carried out abroad;
- expose the regional pool of enterprises to innovative processes, tools, techniques and organisation methods that will eventually lead to their adoption;
- improve the degree of understanding of business needs by the research sector;
- improve the exploitation of the knowledge and the research results by the enterprise sector;
- provide young (or forthcoming) graduates with the opportunity to put their skills into work in a real-life context.

The working group met three times. At the first meeting the main issues at stake were introduced with feedback provided by international experts. The second meeting was devoted to defining the intervention logic by applying a participatory methodology rooted in the Theory of Change[13]. The third meeting was finally dedicated to defining a road-map with short-term and long-term objectives. In between the meetings, seveal interactions between the coordinator and the members allowed to identify funding opportunities for mobility programmes and evaluate mobility related policy instruments.

The core participants to the working groups had all previously participated in **EDP focus groups**. This experience had provided strong illustrations of how the region could exploit much more the potential of its private sector and research base by, on the one hand increasing collaborations and exchanges of staff/students locally, on the other by accessing relevant networks operating at the EU level.

6.1 The working group approach

The first meeting of the working group coincided with the **Peer Review** event. The **Peer Review** included two roundtable meetings on human resources mobility, exposing the working group members to a number of ideas and best practices shared by an international panel of experts. The Peer Review roundtables agreed that the region should adopt a pragmatic approach, pursuing options that are relatively easy to tackle, including short-term and informal exchanges across scientific institutions , as networking and short-term mobility are a key pre-condition to achieve a sustained inflow of international scholars willing to come up for a longer time frame. As for intersectoral mobility, the tables discussed the viability of traditional instruments (such as student placements) or more innovative ones (such as "student contests" to solve a problem raised by a given firm), keeping in mind that measures offer real and concrete support to firms.

In the **second meeting of the working group**, an analysis of the current state of mobility practices within the region was reviewed and verified. This analysis had also been developed under the preparatory action and and had applied the Theory-of-Change mapping technique to elaborate the intervention logic for mobility-related actions in REMTh. As summarised in Figure 2, the meeting was devoted to defining:

- long-term objectives,
- mid-term outcomes,
- the preconditions for moving from outcomes to objectives

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[13] Theory of Change is a rigorous participatory process where groups and stakeholders in a planning process articulate their long-term goals and identify the conditions they believe have to unfold for those goals to be met. See Weiss, C. H. (1995), Leeuw, F.L. (2003), Taplin, D.H. and Rasic, M. (2012).

- the most appropriate monitoring indicators.
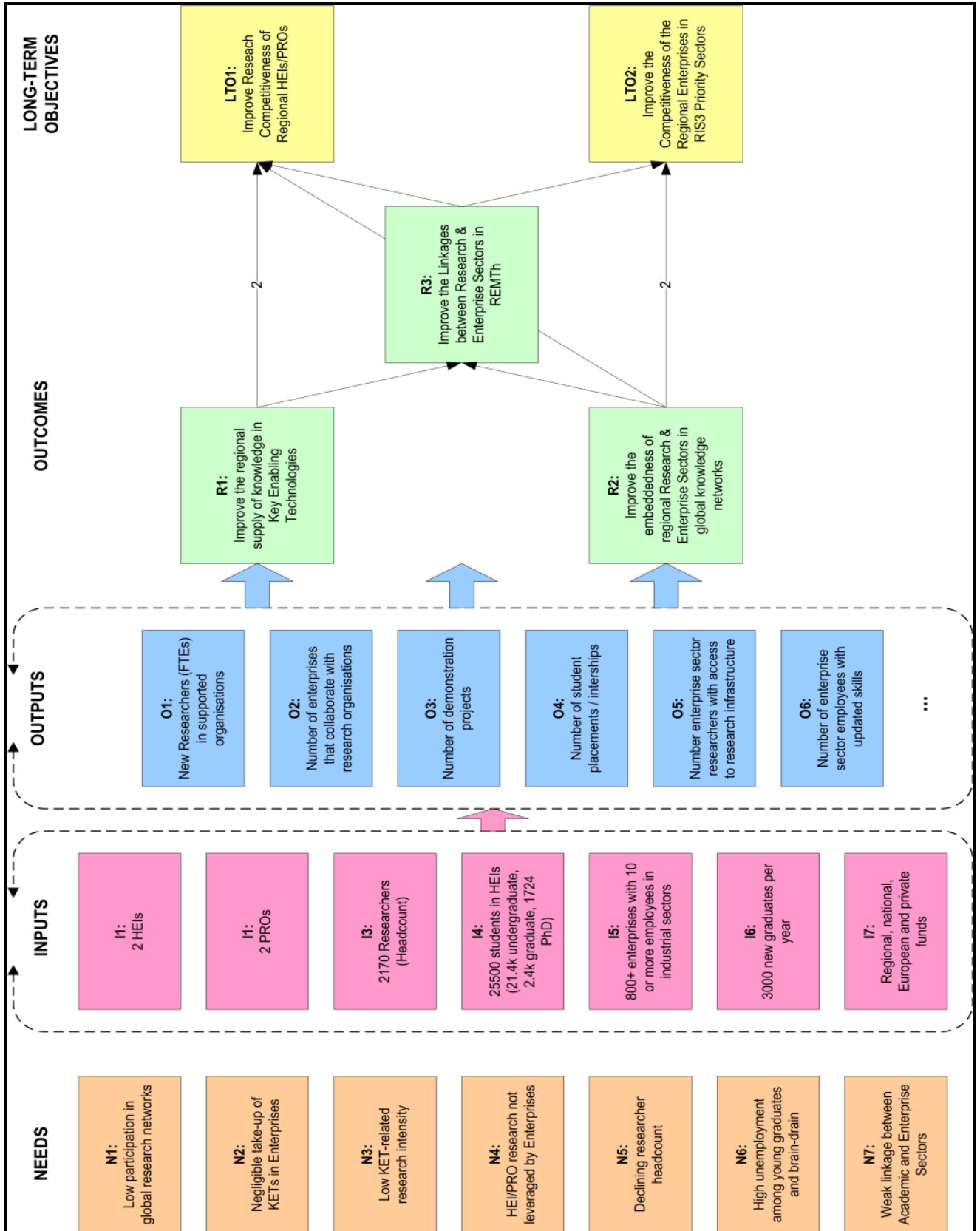
Source: authors' elaborations.

In the third meeting, the working group reviewed the outcomes of its second meeting in the light of a detailed mapping of mobility-related funding opportunities offered by regional, national and European programmes. The roadmap was also finalised. The meeting aimed to define policy interventions, capacity building interventions and projects in line with the intervention logic and compatible with the available funding sources.

6.2 Outcomes

The working group structured its roadmap around two main issues:

1. **Integration of the regional research and enterprise sectors in global knowledge networks:** the regional research base will be better integrated in international research networks if local researchers build formal and informal relationships with their peers in high-ranking research universities / centres, either by outward or by inward mobility schemes. Better integration results at a medium term more co-authored publications and international collaborations in competitive research projects (i.e., Horizon2020).

2. **Improvement of the linkages between the regional research and enterprise sectors:** Intersectoral mobility programmes, spin-offs, or other tools to align the supply and demand of skills between research and business aim to increase employability, maximise the impact of investment in research and support the development of a knowledge based economy.

The establishment of a Joint Technology Transfer & HR Mobility Committee (JTT&HRC) was envisaged by the four regional public research actors to co-ordinate policy initiatives within institutions, joint projects, shared resources / data and monitoring of technology transfer and mobility through a common set of indicators in all four institutions. Members will be at the level of Vice-Rector of Research or equivalent. As they are all already represented in the Regional Innovation and Entrepreneurship Council, the setting is consistent with the top tier of the RIS3 Governance Structure in REMTh. Implementation of mobility-related interventions having HEIs and PROs as beneficiaries will be co-ordinated by the Heads of Research Committees at the two HEIs, and their peers at the PROs. Some of the actions will address specific priority sectors (e.g., EAFRD funding for mobility in agriculture and forestry), while others will be horizontal or even competitive (funding of the fittest, especially for MSCA and Erasmus+). Where actions are horizontal, there are possible implications for governance: the link of the JTT&HRC with the top tier of the RIS3 governance system is apparent and execution will have to be delegated to the second tier, under strong co-operation with the Heads of Research Committees at the two HEIs, and their peers at the PROs.

For both action-areas, the working group identified both **short term** and **long-term steps** to be taken, as well as monitoring and impact indicators to continuously assess progress (see Table 4 below).

TABLE 4 ACTION-PLAN TO SUPPORT HUMAN RESOURCES IN REMTH

	Short-term actions	Long-term actions	Indicators
Embeddedness in global networks	• Introduce a policy for quotas for inbound researchers in funded research projects. • Raise awareness and stimulate participation in *Marie Skłodowska-Curie actions* (MSCA) instruments. • Submission of 2 MSCA proposals with the participation of the enterprise sector. • Post all newly created research positions on EURAXESS. • Pursue opportunities through LIFE, CoFASP and COST multiannual projects	• Sustain and promote ERASMUS+ programmes and ERASMUS for Young Entrepreneurs. • Promote MSCA focussing on Innovative Training Networks (ITN); Research and Innovation Staff Exchanges (RISE) and Individual Fellowships (IF). • Develop short-term farm and forest management exchanges/ visits • Promotion of TEIEM[14] postgraduate programme in Middle East & Africa. • Enforce the policy for inbound researchers in ERDF/ESF cofounded projects at the regional or the national level.	**MONITORING** • Number of publications with international co-authors. • Number of patent applications with international co-inventors. • Number of international research projects. • Number of international innovation projects. **IMPACT** • Research funding to regional HEIs/PROs from non-Greek sources. • Average number of citations per publication. • Number of patents granted by international (ie, non-Greek) patent offices. • Gross Value Added in current prices in RIS3 priority sectors. • Value of exports in current prices in RIS3 priority sectors.
Links between regional Research and Iindustry	• Establishment of a Joint Technology Transfer & HR Mobility Committee (JTT&HRC). • Introduce new procedures for HEIs to capture firms' innovation and skills needs. • Encourage undergraduate student participation in research projects. • Organise a Researchers' Night type of event and Technology transfer roadshow for promoting HEI/PRO intellectual property, mature research outcomes, services and infrastructure to regional enterprises. • The Regional Operational Programme (Axis 1, Special Objective 2) is considered a key source of funding.	• Examine options for regionally-tailored Life-Long Learning & Vocational Training structures in partnerships between education and business • Introduction of Industrial MSc Degrees partially funded by ROP innovation vouchers. • Explore opportunities for ERASMUS+ KA2 Cooperation for Innovation • Explorations of other sources of funds: including OP Rural Development, Sub-measure 1.2, 16.2; OP Development of HR, Education and Lifelong Learning[15], Axis 7, special objective 10.4.ii.1 and 10.4.ii.2. ROP/REMTh, Axis 1, special objective 3.	**MONITORING** • Number/Value of new research contracts paid by industry. • Number/Value of new collaborative research contracts. • Number/Value of new consulting/service between research and business. • Number of new HEI/PRO spin-offs. • Number of new jobs for PhD holders in enterprises. • Number of job offerings to interns/apprentices following internship/apprenticeship **IMPACT** • Research funding to regional HEIs/PROs from Greek enterprises. • Gross Value Added in current prices in RIS3 priority sectors. • Value of exports in current prices in RIS3 priority sectors.

Source: authors' elaborations.

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[14] Technological Educational Institute of Anatoliki Makedonia-Thrace

[15] This programme supports the development of the operation of existing MOKE units at HEIs, aiming to train all types of students in the fields of entrepreneurship and innovation.

A further outcome of the working group was to show that the RIS3 stategy can potentially act as a catalyser beyond what was originally conceived. Indeed the working group provided the opportunity for the local HEIs and PROs to build capacity in strategic planning as a key actor for local development. Whilst, in the past, HEIs and PROs had been consulted in the elaboration of regional operational plans, this level of engagement had never been achieved, nor had a structured participatory approach (such as ToR) been applied.

The roadmap is both technically sound (as it is supported by a thorough analysis of policy and funding options) and feasible (due to the participatory nature of the project and the methodology applied). However, the participants preferred a more pragmatic approach, building on what is more readily available and possible, mainly through national funding and addressed some of the opportunities, especially EU funds, with great caution. Furthermore more the HEIs/PROs have now a common understanding on how everything fits in the region's development narrative and how each project contributes to the greater picture.

7. Lessons and Conclusions

This report has presented two complementary bottom-up initiatives which, as a key component of a wider "toolbox" of support activities, can ensure the long term sustainability of the Entrepreneurial Discovery Process in the region, hence allowing for the full implementation of the RIS3.

The first consisted of the establishment of a working group to design an appropriate RIS3 governance system. The group members, many of whom had taken part in the EDP activities organised as part of the same action, were quick to grasp the need for a structure that would allow similar activities to be repeated. A notable element of the new governance structure is the creation of IENs, Innovation and Entrepreneurship Networks (IENs). These are entities composed of stakeholders active in given fields or priority areas. Such stakeholders take responsibility for implementing the EDP at the bottom-up level, ensuring dialogue among peers oriented towards innovation. The governance structure proposed is compatible with the nationally established architecture as well as with the new approach to EDP pursued in the region. The fact that the private and societal sectors interacted with the public sector under the guidance of an expert, also allowed for a more realistic assessment of the risks at stake in the process as well the financial needs and human resources required to implement such structure.

The second was the creation of a working group on human resources to develop a roadmap for increased mobility between university and business and greater integration in international research sectors. The working-group members were also involved in the EDP focus groups, which were geared towards stressing the importance of intersectoral mobility and international presence, and which allowed them a clear perspective on the types of actions that would benefit REMTh. Based on a "theory of change" methodology it was possible to discuss a long-term vision and work backwards to determine the short and medium to long term steps required to pursue it. As for the governance working group, the presence of the public sector and the coordinator allowed for a thorough analysis of the funds available to pursue such steps. This ensured that the roadmap was grounded in the complex reality of the region, for which access to funds is a serious challenge.

Comparing the two experiences allows the identification of some key characteristics which were instrumental to their success. In both cases participants had already been involved in complementary activities of the preparatory action and could see the working group as embedded in a bigger picture. Second, both working groups were led by independent experts, with strong expertise in the EU approach to local development, as well as a sound knowledge of the local context. Their roles were

critical, as mediators of knowledge between the EU, national and local level, ensuring that the RIS3 approach was flexibly adapted to the very local requirement, thereby ensuring ownership by local stakeholders. Third, the working groups had, since the beginning, clear objectives and mandates, with the activities geared towards clear action points.

Both experiences provide examples of how bottom-up initiatives can be pursued to support the entrepreneurial discovery process and RIS3 implementation. Whilst much attention has been paid to developing these ambitious yet realistic roadmaps, the day to day reality of Greece in the aftermath of the financial crisis, is such that many issues, relevant to implementation, are beyond the control of the region or the local stakeholders.

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