JOINT RESEARCH CENTRE

Institute for Prospective Technological Studies (IPTS)

European Parliament Preparatory Action:
"Actual and desired state of the economic potential
in regions outside the Greek capital Athens"

**ADMINISTRATIVE AGREEMENT (AA) No. 2014CE160AT056
BETWEEN DG REGIONAL POLICY (REGIO)
AND DG JOINT RESEARCH CENTRE (JRC)**

FINAL REPORT

December 2015

Executive Summary

The European Parliament Preparatory Action: "Actual and desired state of the economic potential in regions outside the Greek capital Athens" has provided "hands-on" support to the refinement and implementation of the RIS3 strategy in the Greek Region of Eastern Macedonia and Thrace (REMTh), as well as generating potentially useful lessons for other regions. This has entailed the following activities:

- **Mutual learning** - this has been a core activity of the preparatory action, and has offered a unique and valuable opportunity to all the stakeholders involved to share experiences and build a common understanding of RIS3, its potential and the real challenges to its implementation.
- **Optimisation of the Entrepreneurial Discovery Process (EDP)** – the design, implementation and adaptation of a systematic participatory methodology for the EDP has centred on a series of thematic focus groups. These events enabled the generation and articulation of innovation ideas and initiated the first necessary steps towards concrete collaborative projects.
- **Capacity building** - two dedicated working groups were organised: one centred on issues of human resources mobility and the other on RIS3 governance. Selected stakeholders worked together to formulate action plans to tackle the different challenges at stake.
- **Identification of bottlenecks and systemic failures in RIS3 implementation** - the region has good potential for innovative activities, but faces a wide set of legal and administrative barriers. These need to be addressed to enable the allocation of structural funds and other resources to support RIS3 implementation in an optimal way.
- **Communication and codification of activities** - with the aim of replicating or adapting the activities of the preparatory action and the emerging learning opportunities for other regions, outcomes of all the events have been published on-line, as have methodological guidelines for the EDP process. Further publications from these activities are foreseen.
- **Supporting tools for internationalisation and collaboration** - the preparatory action has developed a set of online resources aimed at guiding the region in increasing its international outlook on RIS3 and collaboration between research and industry.

The preparatory action generated some very concrete impacts on the region, which include:

- The **mobilisation** of a critical mass of researchers and business people. The total participation in the EDP focus groups, PDLs and other events of the preparatory action has exceeded 600. This bottom-up process has increased mutual **trust**, created a **'momentum'** in initiating change and increased the **understanding of** what **RIS3** can contribute to this change.
- The appreciation of **networking and research-business collaboration** across stakeholders and especially between research and business. Indeed, some informal networks have been organised, for instance in the wine and marble sectors.
- The creation of **action plans** for both **RIS3 governance and mobility of human resources.**
- Both the Special Managing Authority and wider community of regional stakeholders have better access to **international counterparts**, both in governance of RIS3 and in performing research and innovation.

- The preparatory action has stimulated and accelerated a discussion between the European Commission, regional and national authorities which has help to clarify – for the whole of Greece – several implementation-related aspects of RIS3 and Structural Funds.
- The preparatory action has significantly influenced the approach to the design and implementation of the strategy for the region by engaging all relevant stakeholders from the outset.
- The experience of a close collaborative working relationship with the **European Commission** appears a positive one.

Whilst the Preparatory Action has helped to advance the implementation of RIS3, many legal, administrative and other challenges still persist.

- Among them, there have been perceived **ambiguities in the legal framework** concerning the remit of the region to issue calls for TO1 (directly or via the Ministry of Development) where State Aid regulation applies. A state aid guide has been developed by the Greek national administration in view of this. Still, improved clarity, more generally, in the role and implementation of **State Aid regulations in RIS3 implementation** is needed, and could be desirable at European level.
- Both the national and regional **RIS3 governance systems** have been in the process of being formally established over the course of the preparatory action.
- Of paramount importance, within this context, is the **exploitation of synergies with other ESIF funds, especially the Rural Development Fund, Fisheries Fund and European Territorial Collaborations.**

In summary, the lessons of the preparatory action point towards a number of key developments for the future:

- **Stakeholders**, now more committed to the RIS3 concept, need to be more **actively and continuously engaged in a sustained EDP process.**
- Mechanisms to **feed new ideas over and beyond those discussed in the EDP focus groups** should be identified and pursued. The new regional governance structure should be well placed to deal with these aspects and identify and implement appropriate mechanisms.
- At national level, further **clarification on the legal framework** can enable regions to issue calls, together with more **clear guidelines**, including from the EC, on State Aid regulation.
- The European Commission's S3 platform can play a role in promoting a shared **learning process,** across regions in approaches to **translate EDP ideas a**nd priority areas **into** efficient **calls for proposals.**
- Further efforts are needed in order to **move towards a fully international research and innovation ecosystem.**
- All in all, these efforts need to converge and should be reflected in the creation and implementation of a proper **monitoring and evaluation system.**

It must be noted that the preparatory action did not explicitly address the implications of the financial situation in Greece, and Europe more generally, at the time of the preparatory action (capital controls, heavy taxation and difficulties in access to finance) on RIS3. Uncertainty about the future should be adequately tackled in subsequent activities.

ACKNOWLEDGEMENTS

AUTHORS

This report has been prepared by the JRC-IPTS project team: Mark Boden, Patrice dos Santos, Karel Haegeman, Elisabetta Marinelli and Susana Valero.

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[1] It concerns the Special Managing Authority of the Operational Programme of the Eastern Macedonia and Thrace Region. Hereafter we refer to it as Managing Authority or MA.

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GLOSSARY OF KEY TERMS

CERN	European Organisation for Nuclear Research
DAC	Digital Agenda Community
DG REGIO	Directorate-General for Regional and Urban Policy
EC	European Commission
EDP	Entrepreneurial Discovery Process
EIN	Innovation and Entrepreneurship Networks - see also IEN
EP	European Parliament
ERDF	European Regional Development Fund
ESIF	European Structural and Investment Fund
ETC	European Territorial Cooperation
FP7	7th Framework Programme for Research and Technological Development
FTE	Full Time Equivalent
GSRT	General Secretariat for Research and Technology
H2020	Horizon 2020
ICT	Information and Communication Technology
IEN	Innovation and Entrepreneurship Networks
IPTS	Institute for Prospective Technological Studies
JRC	Joint Research Centre
KET	Key Enabling Technologies
MA	Special Managing Authority of the Operational Programme of the Eastern Macedonia and Thrace Region
NCA	National Coordinating Agency
NCP	National Contact Point
PC	Programme Committees
PDL	Project Development Lab
RDI	Research Development and Innovation
REMTh	Region of Eastern Macedonia and Thrace
RIS3	Research and Innovation Strategies for Smart Specialisation
ROP	Regional Operational Programme
S3	Smart Specialisation Strategies
S3P	Smart Specialisation Platform
TO1	Thematic Objective 1

1. Introduction

This report describes the approach and outcomes of the European Parliament Preparatory Action "Actual and desired state of the economic potential in regions outside the Greek capital Athens." This activity has centred on the refinement and implementation of the Research and Innovation Smart Specialisation Strategy (RIS3) in the region of Eastern Macedonia and Thrace (REMTh), with the explicit aim to draw lessons for other convergence regions in Greece and Europe.[2]

Since 2012, a set of activities have been undertaken in REMTh with the aim to develop and implement a RIS3 strategy. Carried out between September 2014 and November 2015, this preparatory action builds on the previous efforts and analysis, and has aimed to complement and reinforce them (see Box 1). It takes as a starting point, the existing capacities available in the region (particularly in terms of research and research infrastructure, human resources, areas of specialisation, etc.) as well as the needs of regional stakeholders (business, end-users, etc.).

Box1: The draft RIS3 – a good starting point for the preparatory action

The definition of the S3 by the regional MA between 2012 and 2014 identified broad horizontal priorities and thematic pillars.

Horizontal priorities
- Upgrade of the institutional capacity of the Regional Innovation System and its constituent parts
- Upgrade 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 Pillars
- Transformation of the Agro-Food Sector
- Supporting the Growth of Emerging Sectors (including tourism, marble, plastic-rubber products, pharmaceuticals, electronic/electrical equipment, innovative building materials, energy, environment and hybrid technologies

The draft strategy built on a solid techno-economic assessment of the infrastructure and private sector demography of the region, as well as a on a clear understanding of the challenges ahead and a solid reflection on potential policy tools. Whilst attempts had been made to identify and interact with stakeholders through survey and working groups, the level and nature of their participation in the RIS3 process could offer potential for enhancement.

To support the refinement and implementation of the RIS3 strategy in the REMTh region, the activities undertaken can be grouped into the following main categories:

- **Mutual learning** - this was as essential aspect of the whole exercise, and offered the opportunity to stakeholders, the EC and the regional MA to share experiences and build a common understanding of what RIS3 is, what it can offer, and as well as the challenges to its implementation.

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[2] This has been implemented through the Administrative Agreement (AA) No. 2014CE160AT056, signed between DG Regional Policy (REGIO) and the Joint Research Centre (JRC) of the European Commission

- **Optimisation of the Entrepreneurial Discovery Process (EDP)** - the preparatory action has included the design, implementation and ongoing adaptation of a systematic participatory methodology for the EDP, organising, in the first instance, four focus groups. These events enabled the generation and articulation of innovation ideas and initiated the first necessary steps to integrate them into the policy process.
- **Capacity building** - within the preparatory action two dedicated working groups were organised: one centred on issues of human resources mobility and one on RIS3 governance. In both of these working groups, relevant stakeholders, working with an expert moderator, discussed and formulated plans on how to tackle the different challenges at stake.
- **Identification of bottlenecks and systemic failures in RIS3 implementation** - the region has good potential for innovative activities, but faces legal and administrative barriers, bringing difficulties for the allocation of structural funds and other resources to support RIS3 implementation in an optimal way.
- **Communication and codification of activities** - with the aim of replicating or adapting the activities of the preparatory action and the emerging learning opportunities for other regions, outcomes of all the events have been published on-line, as have methodological guidelines for the EDP process. Further publications and other dissemination activities building on these activities are foreseen.
- **Supporting tools for internationalisation and collaboration.** The preparatory action has developed a set of online resources that aim at guiding the region in increasing its international outlook to RIS3 and its collaboration between research and industry.

Section 2 of this report describes the core activities of the preparatory action in further detail. Section 3 examines the impacts of the preparatory action, and section 4 focuses on the legal, administrative and other barriers to RIS3 implementation. Finally, section 5 concludes and identifies key steps forward. In addition, a series of annexes to provide substantial additional details.

- **Annex 1: Regional profile of REMTh – facts and figures**

This annex summarises the data and metadata collection activities and sources used to profile the region. It includes:
  - The report *Review and Summary of the RIS3 in the Region of Eastern Macedonia and Thrace,* which was commissioned from the consulting company Innovatia Systems at the beginning of the preparatory action. The report also contains a reference/bibliography session with other relevant reference material.
  - The report *S&T & FP7 Facts & figures,* which provides statistical and financial information relating to the use of FP7 and structural funds dedicated to Research and innovation during the financial period (2007-2013). This allows the identification of specialisation areas emerging from FP7 participation and examines their correspondence with RIS3 priorities.

- **Annex 2: Entrepreneurial Discovery Process Focus Groups**

Bringing together stakeholders from industry, academia and national and regional administrations, this series of four events aimed at identifying potential avenues for innovation activities in the

region. Presentations from national and international experts on relevant topics stimulated structured discussions. The results are a set of potential innovative ideas aligned with the RIS3. This annex contains a description of the methodology of the EDP focus groups, the agendas and summaries of the outcomes of the first four EDP events, focused on wine, meat and dairy products, tourism and marble/non-metallic minerals.

- **Annex 3: Project Development Labs**

This annex contains a description of the methodology and summaries of the outcomes of the two project development labs (PDLs) organised. These events aimed to further push forward the entrepreneurial discovery process of the region, developing the ideas from the EDP focus groups and assessing the various funding possibilities.

- **Annex 4: Peer Review**

This is a detailed summary of the focused peer review of the Region of Eastern Macedonia and Thrace, organised on 12 and 13 February 2015 in the city of Alexandroupolis. The event brought together invited peers and regional stakeholders, to share experiences, both in the context of the implementation of the REMTh RIS3, and with a view to generating lessons for other regions.

- **Annex 5: Board of Critical Friends**

This annex summarises the role and activities of the "Board of Critical Friends" established to provide guidance and to share experience relevant for the preparatory action.

- **Annex 6: RDI guide**

This annex contains information on the online RDI guide, which provides summary information on the national and regional sources of funding relevant for the implementation of the RIS3 in Eastern Macedonia and Thrace. It aims to be a quick and accessible reference point for all stakeholders, describing the characteristics, indicative actions and financial amounts available under each relevant scheme.

- **Annex 7: Human Resources Mobility**

This annex comprises two reports:

- o **Exploring Options for University-Industry Mobility Programmes in REMTh**, prepared for JRC-IPTS by Mr Michalis Metaxas, Innovatia Systems, to serve as a background for the working group on the mobility of human resources.
- o **A Roadmap for Improving Human Capital Mobility in Anatoliki Makedonia-Thrake** on the outcomes of the working group on human mobility, prepared for the JRC-IPTS by Dr Yiannis Tolias, Innovatia Systems.

- **Annex 8: RIS3 Governance System**

This annex comprises two reports summarising the activities and outcomes of the working group on RIS3 governance: the first proposes a RIS3 governance structure, whilst the second assesses the skills required to implement it.

- **Annex 9: Final events**

This annex summarises the main outcomes of the two final events of the preparatory action. The first, held in Xanthi on the 21st of October 2015, took stock of the achievements of the preparatory action and reflected on the key challenges for the future. The event was conceived as a way to listen to the concerns of stakeholders, in order to reflect on how to best support local development and resilience in times of uncertainty, as now faced by the region. The second, held in Brussels on the 18th of November 2015, drew together wider stakeholders and experts to review the outcomes and future prospects for work on other lagging regions.

- **Annex 10: Publications**

This annex lists the current and forthcoming publications authored by JRC-IPTS arising from work carried out in relation to the preparatory action.

- **Annex 11: Case studies**

This annex contains a series of eight case studies which develop ideas generated during the EDP focus groups and explored further during the PDL workshops. These case studies take into account opportunities for sources of funding beyond ERDF, they identify the role of ICT as Key Enabling Technologies, as well as relevant international networking platforms and consortia.

- **Annex 12: Collaboration Spotting Tool: Tim Browser**

This annex summarises the outcomes of preliminary exploration of potential added value of the collaboration spotting tool TimBrowser. Still under development, this tool generates a graphic description of scientific networks across fields, allowing the identification of key actors across sectors.

- **Annex 13: Evaluation of the Preparatory Action**

A short evaluation exercise was foreseen to reveal the main outcomes of the preparatory action (e.g. results, success or failure factors, lessons learnt, actions proposed for Greek and other lagging EU regions). A number of evaluation activities have been undertaken and their outcomes are summarised in this annex.

- **Annex 14: ICT Capacities**

This annex comprises three reports exploring the potential of ICT, as a key enabling technology, for the development of Eastern Macedonia and Thrace.

- **Annex 15: Note on FDI governance**

This document provides an overview of the framework that governs major investments in Greece, covering both the regional and the national scale.

2. Key activities

2.1 MUTUAL LEARNING AMONG STAKEHOLDERS

At the heart of preparatory action was the development and exploitation of opportunities for mutual learning. All the actors involved (stakeholders, the EC and the regional managing authority) had the opportunity to share experiences and build a common understanding of RIS3, what it can offer, and the challenges to its implementation.

Within this context, the following events represent milestones in this learning process. They were also critical in building trust among the stakeholders involved.

- The **exploratory visit** of JRC- IPTS to region. This centred on meetings with the regional Managing Authority (MA) and other key stakeholders of the region, taking place in September 2014. This enabled JRC-IPTS to become more familiar with the region and the work conducted so far. In particular, the draft RIS3 was discussed, as well as the methodology applied in its elaboration and the key stakeholders of the region. It was the first step towards building trust among the actors involved and allowed a dialogue on the expectations on the preparatory actions and the challenges ahead.
- The in depth **Peer Review,** held in February 2015, developed the traditional approach to peer learning successfully employed by the JRC Smart Specialisation Platform, whereby selected regions meet to critically review each other's RIS3s. With peers coming from regions across Europe, an in-depth examination of issues central to the successful implementation of the RIS3 of Eastern Macedonia and Thrace took place. A summary is included in Annex 4, as well as on the Preparatory Action website.
- The **final events** in **Xanthi,** held in October 2015, and **Brussels** in November 2015, provided opportunities to reflect on the outcomes of the preparatory action with a range of stakeholders, from within the region and beyond. The Xanthi event served to reinforce the commitment of the region and its stakeholders to the RIS3 process. The Brussels event also looked ahead at the lessons for other regions. Summaries of both events are provided in Annex 9.

Mutual learning was reinforced by the support received from the **Board of Critical Friends**, created to provide external guidance on the approach and outcomes of the preparatory action, giving feedback on its activities and contributing lessons both to JRC-IPTS and to the region. The board comprises seven members including representatives of government, business and academia from other parts of Europe. They had, in different capacities, already faced the challenges of setting up a RIS3 strategy and could thus offer precious advice to REMTh, while also transmitting lessons emerging from the preparatory action to the wider community. Details of this group and their main activities are provided in Annex 5.

The board first met together with the JRC-IPTS, as well as members of the REMTh MA at a specially convened meeting in Barcelona in January 2015. The board helped to refine the methodology for implementing the entrepreneurial discovery process, for building an adequate governance structure and for developing a mobility roadmap. Some appropriate thematic support was provided by board members based on their respective backgrounds and experience. The critical friends also participated in the Peer-Review event and the final event of the Preparatory Action in Brussels in November 2015.

In addition, the preparatory action provided opportunities to the region for mutual learning, by encouraging participation in relevant international events of the S3 Platform, including a workshop

on EDP in Pisa (September 2014), one on monitoring in November 2014, a high-level event on RIS3 in Seville (March 2015) and an event on the role of Universities in RIS3 in Barcelona (June 2015).

2.2 OPTIMISATION OF THE ENTREPRENEURIAL DISCOVERY PROCESS

A core activity of the preparatory action has been to contribute to establishing a sustainable and effective entrepreneurial discovery process, in which stakeholders' engagement in the identification and refinement of priority areas could feed directly into the policy process. To this end, the preparatory action has implemented through two sets of workshops:

- **The Entrepreneurial Discovery Process (EDP) focus groups** –a set of four events, with a sectoral focus, aimed at generating innovative ideas through the interaction between business, public and research sectors.
- **The Project Development Labs (PDL)** – a set of two further events aimed at processing the EDP ideas and moving them towards implementation, identifying funding opportunities and action plans for policy.

These are described, in turn, below. These activities have provided concrete support to the region's stakeholders, encouraging and strengthening their engagement in and commitment to the process of entrepreneurial discovery, as well as in the development of concrete collaborative projects.

Entrepreneurial Discovery Process Focus Groups

Following initial engagement with key stakeholders during the exploratory visit to the region in September 2014, a successful programme of events has been implemented to test and optimise the EDP in the region. This has centred on the organisation, at various locations around the region, of six EDP focus groups targeted at selected sectors under the broader RIS3 strategy of the region, which have sought to identify and develop priorities for project calls.

The first four focus groups focused on the wine sector (Drama, November 2014), meat and dairy products (Komotini, January 2015), tourism (Alexandropoulos, February 2015), and marble and non-metallic minerals (Drama, May 2015) and on selected activities which contribute to their future development. The common aims of all four focus groups were:

- 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 for 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 (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 focus groups generally entailed a desk based analysis of the value chain of each the sectors under consideration, the identification of likely topics for discussion, together with the identification of relevant regional, national and international participants. Attempting to capture

different elements of the value chain proved valid and more detailed analysis could enhance future events.

With each event usually taking place over the course of two days, the focus group approach combines plenary and parallel sessions, with interventions by regional, national, and international experts. All these events have achieved good visibility in the region, with increasing numbers of regional stakeholders, including a significant proportion of entrepreneurs attending each successive event. All have been opened by the Governor of the Region, who, together with the MA and the Regional Council of Innovation and Entrepreneurship has been strongly committed to the process. This strong and sustained commitment to the process is critical to its success.

Within the focus groups, each parallel group was tasked with exploring and refining several promising ideas in selected subsectors of each of the priority areas examined to date. These have been particularly productive activities, with several promising ideas emerging, as well as linkages between actors and ideas across focus groups. The main outcomes of the first four EDP focus groups were promptly shared with stakeholders through on-line publication[3], together with all the presentations. Summaries are also provided in Annex 2. The methodological approach to the EDPs has been progressively refined in view of continued replication and adaptation. A summary is provided in Policy Brief 1 (see Annex 10).

It has been recommended, and subsequently planned by the MA, that similar workshops be organised across all RIS3 priorities. Following the EDP Focus groups organised within the preparatory action the region has applied the methodology for two further priority areas (chemical and polymer materials; and production of electronic and electrical equipment). Furthermore, the Greek region of Thessaly is currently implementing a similar process, whereas interest has been expressed from Bulgaria and the Turkish region of Easter Marmara to replicate the EDP focus group approach. These thematic events were also widely attended by Managing authorities from other Greek regions.

In order to evaluate the focus groups a questionnaire was sent to the experts that participated. The results are shared, among the others, in Policy Brief 1 (Annex 10). Overall, they were positive, although pointed out that the participation of the private sector could have been enhanced.

In summary, the EDP focus groups have led to the following 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.
- Hundreds of ideas were collected and refined, leading to 55 grouped ideas and related partnerships.
- The MA 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.

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[3] http://s3platform.jrc.ec.europa.eu/edp-focus-groups

Project development labs

The project development labs (PDLs) comprised two consecutive events, organised either side of an on-line stakeholder consultation, aimed at moving ideas from the EDP focus groups closer towards implementation. The approach to this set of events was the subject of a complex discussion among the JRC-IPTS and the Special Managing Authority and its eventual implementation evolved from the original idea. Whilst the PDLs were first conceived to be centred on stakeholder mobilisation, training and participation, greater emphasis was eventually given to a combination of a thorough technical reflection on funding opportunities and a smaller-scale stakeholder engagement, as described below. This evolution reflects the real challenges of aligning the concept of RIS3, the actual dynamics of stakeholder engagement and the administrative context.

PDL1, held in May 2015, assumed a technical focus and represented a first step to translate stakeholder engagement into policy actions. The participants comprised JRC-IPTS and its subcontractors, the Special 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 explored exclusively 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. A significant portion of the discussion was also devoted to clusters, since they were suggested in all four EDP focus groups.

The bridging of the EDP ideas to the formal policy process was organised through a detailed mapping of the delivery instruments that the Special Managing Authority intended to use. This was accompanied by an evaluation of whether and how the EDP ideas would fit under those instruments (as illustrated in Table 5). In some case, this required segmenting EDP ideas that fell under different investment priorities in the Regional and National Operational Programmes. This first PDL was followed by an on-line stakeholder consultation of the ideas carried out via the S3 Platform (http://s3platform.jrc.ec.europa.eu/ideas-for-pdl2). This consultation aimed to identify those ideas most appropriate for further development through analysis of stakeholder interests. In total 134 stakeholders (out of which 29 companies) participated in the consultation. Most interest was expressed in ideas related to tourism (86 stakeholders), followed by wine (62), dairy & meat (56) and marble (27). The specific ideas in each area with most interest from stakeholders were prioritised to be discussed at the PDL2.

For PDL2, the original intention was for stakeholders to work together in groups to further develop selected ideas on a set of dimensions (research aspects, training needs, innovation/knowledge management, international positioning of the idea, budgeting (private vs public), and the potential role of ICT as KET, mobility solutions, exploration of various possible funding sources, etc.). The event thus had two main groups of objectives:

- To show how the stakeholders' engagement in PDL1 fed back into the policy process by presenting and to discuss the draft calls to be launched under Thematic Objectives 1 to 3 of the ROP (morning session);
- To explore the possibility of financing the EDP ideas (or some of their components) from other funding sources, particularly from Horizon2020 (afternoon session).

Following a detailed presentation and discussion of the draft calls, the event included contributions on the linkages between regional and national RIS3 and the various forms of support. Feedback and questions from stakeholders centred on a number of detailed technical issues. These included: the inclusion of managerial adequacy and efficiency among the selection criteria of the calls; compatibility of the calls with State Aid rules; how the specific needs of tourism as a sector and academia as a stakeholder are addressed; and whether there would be any mechanisms for proposals to H2020 which passed the thresholds but did not receive funding to subsequently receive ERDF funds. During the afternoon of the event stakeholders, with the support of Greek H2020 NCPs explored the potential to fund (components of) EDP ideas under Horizon 2020.[4] This was done by discussing in group a set of questions related to H2020 eligibility and selection criteria. The exercise proved more difficult than envisaged and needed to be simplified on the spot, not least because the regional stakeholders are unfamiliar with H2020 and with the high degree of innovation it requires. The outcomes were a series of project fiches which served as an input to the case studies (described in below and in Annex 11).

The evolution of the PDL concept and implementation was influenced by the timing of the RIS3-approval process and administration, as well as by the serious political and economic uncertainty of Greece in May-June 2015. The deviations in the eventual organisation of the PDLs reflect different needs and expectations. For the region, there was a need to place emphasis on short-term issues related to the administration of the ROP, rather than the long-term sustainable development of the strategy and the engagement of stakeholders. It is likely that this trade-off is common beyond REMTh and demands attention to ensure that strategic development does not fall victim of short-term concerns. Annex 3 provides the summary reports for the two events, which are also available online. These reflections are in line with the results of the evaluation questionnaires sent to the three H2020 NCPs.

Overall the PDL events had the following main impacts:

- Further advancement of ideas developed, as well as of 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.

2.3 CAPACITY BUILDING

Within the preparatory action two working groups were organised, one focused on **human resources mobility** and the other on **RIS3 governance**. In each case, relevant stakeholders, discussed

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[4] Prior to PDL2, the most voted ideas in the online consultation were discussed with three National Contact Points for H2020, who selected a sub-set of potentially eligible ideas.

and formulated plans on how best to tackle the different challenges at stake. Each group was moderated by an independent expert, who also produced a report on the outcomes (see Annexes 7 and 8 respectively).

The **human resources mobility** working group was set up with a view to better adapting skills to the needs of the smart specialisation concept (e.g. entrepreneurship, collaboration, creativity). The group comprised stakeholders from the public, private and research sectors to discuss opportunities to enhance human resources and their mobility. The outcomes of the group's discussions included an assessment of good practices across the EU to engage and train academia to work with industry and to adapt skills in support of RIS3 implementation. Furthermore, the group benefited from a series of reflections embedded across all the events of the Preparatory Action, particularly the PDLs, which stressed the importance of international networking and collaboration as a way to improve human resources.

The approach of the working group (based in the "theory of change") was to establish a set of goals. The participants then worked together to identify concrete steps towards their achievement (Figure 1). A clear action plan was formulated involving universities and businesses, with distinctions made between fast wins, and actions for the medium and long term.
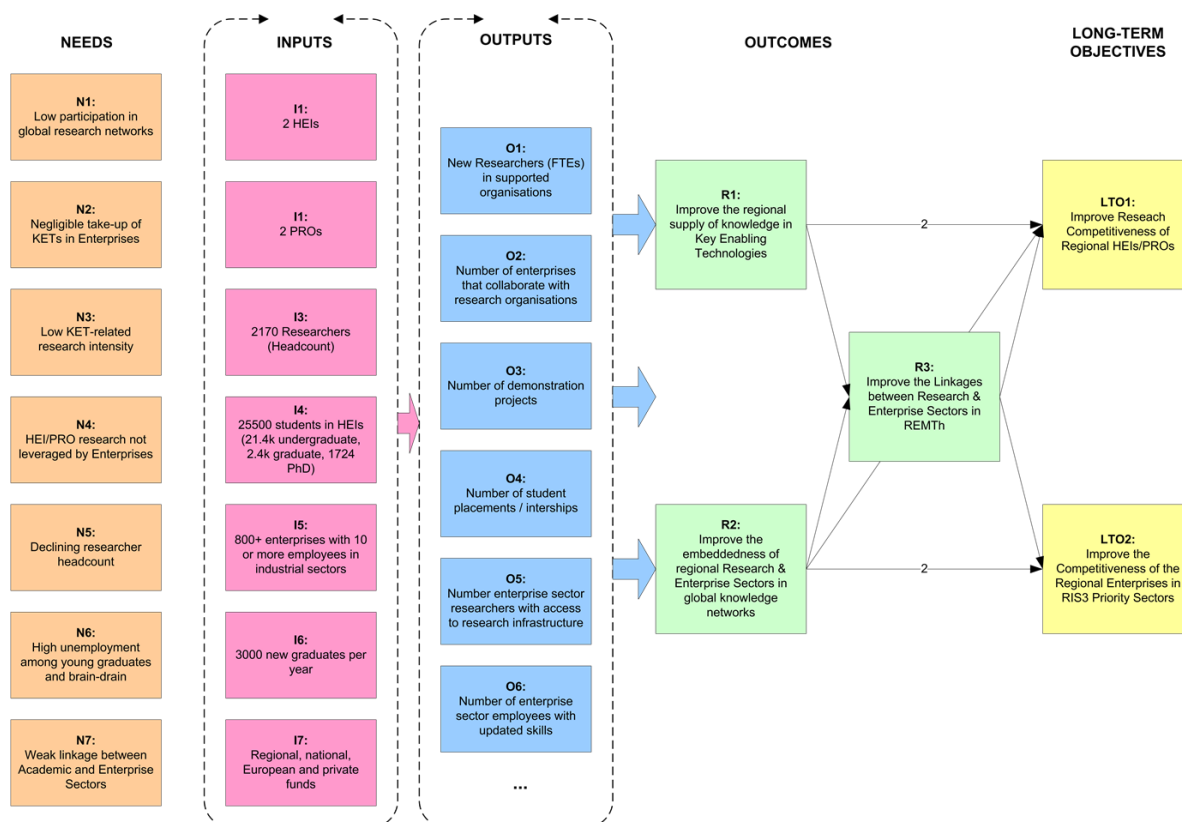

Figure 1: Objectives and their relation to inputs required for mobility in REMTh

The **governance working group** comprised 16 members, drawn from the public, research and private sectors in the region. In considering how best to manage the sustainable implementation of

the RIS3, there was an identified need for enhanced alignment between the technological infrastructure of the region and its business needs.

Starting with a review of the existing governance system, the participating stakeholders shared expectations and concerns, working towards the creation of a common understanding on which to base future activities. They then worked to identify the entities relevant for each of three distinct governance levels and priority areas (see Figure 2, below). The Working Group also developed an action plan with a roadmap for its implementation, as well as a list of difficulties that may arise during implementation together with proposed solutions. The MA of REMTh announced at the final event in Xanthi that the governance structure will be implemented in line with this proposal.
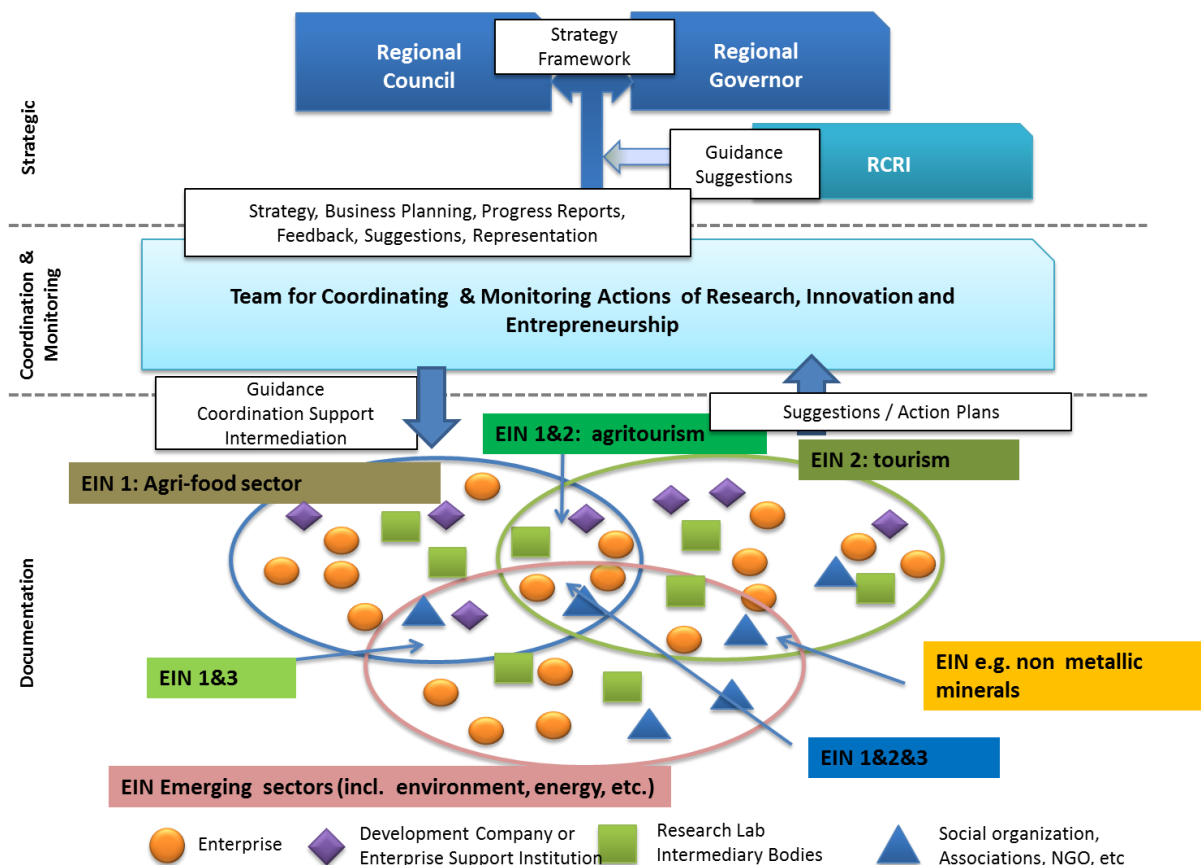
Figure 2: Proposed governance structure for the implementation of RIS3 in REMTh

2.4 SUPPORTING TOOLS FOR FURTHER IDEA DEVELOPMENT: INTERNATIONALISATION, COLLABORATION AND THE ROLE OF ICT

One of the key findings of the EDP process was that stakeholders in the region were not used to collaborations between the research and business sectors, nor did they tend to explore opportunities offered by international networks or to focus on international business opportunities.

This finding led to the development of a series of resources, made available on the preparatory action web-page which serve as guidance in exploring the opportunities offered by cross-sectoral collaboration and internationalisation. These include:

- The **RDI funding guide**, which includes a comprehensive list of the different funding sources available for projects launched in the region at EU, national and regional levels, in both English and Greek (see Annex 6).

- The exploration of potential added value of the collaboration spotting tool **TimBrowser**. This tool generates a graphic description of scientific networks across fields, allowing the identification of key actors across sectors. The tool is currently under development and only available in beta version. Selected ideas from the project development labs have been used to test the potential added value of the tool (Annex 12). In the course of 2016 the tool is expected to be mature enough to be applied more widely.

- Further assessment of the region's research activities has been carried out, with the production of a **regional profile using data[5] from FP7 and Structural funds** dedicated to Research and innovation for the previous financial period (2007-2013) (Annex 1).

- While the **attraction of FDI** and the **promotion of exports** can complement the implementation of the RIS3, these issues fall outside the policy remit of the MA. Nevertheless, these issues have been covered in the various debates around the internationalisation of RIS3 and explicitly addressed in the funding guide, through two explanatory notes on the governance of FDI in Greece (see Annex 6).

- **Case studies,** based on the EDP ideas and the funding guide, tackle eight of the ideas developed in the EDP and PDL focus groups, exploring the opportunities offered by the different funding streams. They identify potential extension to the original ideas, relevant international networks as well international project consortia that can inform further thoughts on individual ideas. The case studies also explore how ICT, as a key enabling technology, can exploit the potential of the idea. The case studies effectively identify concrete proposals on how to increase internationalisation and collaboration within the RIS3 framework. They have been made available online[6] and are set out in Annex 11.

- The **ICT Capacities** of the region and the role of ICT in RIS3 have also been examined (see Annex 14). In the RIS3 of the region information and communication technologies (ICTs) were identified as important key enabling technologies for the region. In order to optimise the use of ICTs in the implementation of the RIS3, analytical work was commissioned regarding the role of ICT in the following areas:
  - o An ex-ante assessment of potential ICT-enablers in each of the four priority areas for which an initial EDP focus group took place;
  - o Overview of potential ICT contribution along the whole value chain of non-metallic minerals, together with ICT supported functions, expected benefits/prospects, as well as other knowledge supply synergies;
  - o An overview of potential ICT contributions and knowledge mapping at the level of individual ideas collected in each of the priority areas;
  - o A more detailed analysis on the role of ICT and partners to involve in a selected set of ideas, discussed during PDL2;
  - o Linkages of those ideas to specific funding sources;

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[5] The information provides a perspective on the overall position of the Region within the country in terms of: FP7 budget awarded; Structural funds dedicated to R&I managed at regional level; the specialisation areas emerging from FP7 participation; correspondence of those areas with the ones chosen in the smart specialisation strategy; the main R&I stakeholders involved in EU programmes, regional specificities compared to national and European level; and the main European collaboration axes of the Region in the EU framework programme.

[6] http://s3platform.jrc.ec.europa.eu/ideas-for-pdl2

This work can support stakeholders in further developing their ideas, especially in terms of how ICT could support and enable successful implementation of the ideas. It is also useful as background to support the Special Managing Authority in the region in designing calls for proposals and other actions in implementing the RIS3, in particular in how to support and advance the role of ICT in each priority area. Emerging from this analysis is a proposal to develop a Regional Digital Growth Agenda. Such a regional agenda can be broken down to specific Digital Growth Agenda priorities for each thematic area, supported by theme-specific communities and a horizontal ICT-specific Digital Agenda Community (DAC).

2.5 COMMUNICATION AND CODIFICATION OF ACTIVITIES

The implementation of the preparatory action has relied on close collaboration and communication among the parties involved, and cuts across all strands of activity, engaging relevant organisations and individuals both within and beyond the region.

Furthermore, with the aim of making the finding accessible, a timely effort has been made to provide outputs of the activities online. The preparatory action webpage (http://s3platform.jrc.ec.europa.eu/remth) is developed and hosted by JRC as a dedicated section of the S3 platform. The site has been live since the beginning of the preparatory action, and contains regularly updated details of activities in both English and Greek.

Its design has evolved in line with progress in the preparatory action activities, enabling information on all relevant activities to be easily located. It has published the main outcomes of all preparatory action events, including summaries of the four EDP Focus Groups and the two Preparatory action Development Labs, as well as the in-depth peer review workshop. The website hosted a stakeholder survey before PDL2 to further refine ideas. This included a presentation of ideas collected during the different focus groups (http://s3platform.jrc.ec.europa.eu/ideas-for-pdl2) as well as the recent extensive case studies.

Finally, a number of publications draw on work carried out in the preparatory action. These include: policy briefs, a series of conference presentations and journal articles. Annex 10 sets out existing and planned publications.

3. Main impacts of the preparatory action

Overall, the wealth of activities conducted obtained the objectives that were set up at the beginning of the preparatory action. During the final events, reflection took place on the main impacts of the preparatory action (also see Annex 9).

Impacts of direct relevance to the region include:

- Throughout the preparatory action trust between the wide range of stakeholders involved has increased drastically, partially thanks to the creation of 'momentum' in initiating change, and an increased understanding of what RIS3 can contribute to this change.

- **The mobilisation of a critical mass of researchers and business people**. The EDP events managed to mobilise a significant part of the research and business communities in the region, with total participation in the events exceeding 600. The business community was particularly surprised by this success and stressed that, for the first time, they felt that the public administration was seriously interested in their work and interacted in a systematic, structured and constructive way.

- This in turn created high **expectations on the side of stakeholders**, which is in itself notable given the current pressures on the business community.

- Overall there was appreciation of the **business community** of the opportunities the EDP offered to create **links with the research world**. As a side effect of the EDP focus groups, there is already some concrete evidence of **network formation** among stakeholders.

- Learning how to **apply the EDP methodology** was also seen as relevant. It was widely acknowledged that the EDP is a continuous process and, as noted above, the MA has already progressed with organising two more EDP events.

- The MA **expressed its commitment to implementing the suggested RIS3 governance system**. The governance system is now at the stage of being formally approved and the new structures are to be in place shortly.

- Stakeholders appreciated the formation of a specific proposal for **human resources mobility** that was jointly agreed by representatives of the academic and business communities. Implementation of this proposal is underway with the establishment of a common unit across the academic institutions of the region that will be responsible for mobility activities.

- The MA has increased its **international connectivity with counterparts** and experts around Europe, and now has easy access to a wide body of knowledge and experience on design and implementation of RIS3.

- Regional stakeholders also benefitted from **international networking** with other regions, experts and critical fiends, allowing the exchange of experiences, good practices, tested methodologies, etc. However, there is still a long way to go towards internationalisation of the research and innovation ecosystem.

- The preparatory action has stimulated and accelerated a discussion between the EC, regional and national authorities clarify – for the whole country – several aspects of the implementation of RIS3 and the use Structural Funds.

- The preparatory action has significantly influenced the design and implementation of the development strategy for the Region by involving all the relevant stakeholders from the outset.

Broader impacts, relevant for the EC and other lagging regions, include:

An enhanced understanding, within the European Commission, of the complexities involved in implementing a novel strategic approach to regional development such as the RIS3.

- The codification of the methodologies adopted, and the material available online to support stakeholders, allow for the creation of a tool box, that can support other regions in implementing similar exercise. A first version of such a tool box is presented in Table 1 below. The tools presented have been tested in REMTh, and would benefit from further testing in other regions. Experiences from other regions can also further enrich and adapt the set of tools presented.

- The experience of a close collaborative working relationship with the **European Commission** appears a positive one.

Objective	Tool	Description
Idea generation, trust building and support quadruple helix cooperation	EDP focus group methodology	Step-by-step approach to identify or refine RIS3 priorities involving the quadruple helix
Open up to wider (online) communities	Online stakeholder engagement	Online tool for spreading information to wider groups of stakeholders. Can be used for idea prioritisation, partnership formation, online idea development, etc.
Address brain drain, build skills and	Mobility Working Group	Bottom-up approach to develop a joint strategy and roadmap for increasing cross-sectoral and international mobility. It can also be widened to cover other types of skill development. Critical elements include both joint development and joint implementation by all actors involved.
Increase coordination between national and regional level	Methodology PDL1	Coordinated approach to analyse fundability, duplication and administrative and legal and state aid issues of business ideas involving relevant national and regional level administrations
Widen funding sources to draw on for idea implementation	Methodology PDL2	Specific advice from national contact points on the use of alternative funding sources for specific ideas
	Online RDI Funding Guide	Online overview of available funding sources
	Case descriptions	Examples of further developed ideas illustrating the potential use of different funding sources to support implementation
Implement or optimise a RIS3 governance structure	Governance working group	Bottom-up approach to develop or refine a joint strategy and roadmap for a RIS3 governance structure. Critical elements include both joint development and joint implementation by all actors involved.
Support ongoing stakeholder engagement	Stakeholder round table discussions	Well-orchestrated stakeholder discussions centred on specific discussion topics. Such discussions were applied in the kick-off event and in the Xanthi final event.
Identification of barriers and systemic failures and possible solutions	Tailored peer review events	Adaptation from the traditional approach to peer learning. Peer regions critically review one specific region, based on an identification of key bottlenecks in RIS3 implementation
Mutual learning		
	Board of critical friends	International group of experts from different backgrounds (peers, business, academia) reflect on methodology, thematic priorities and related implementation issues
Support to international cooperation		
	Collaboration spotting tool (developed through CERN-JRC collaboration)	Quantitative visualisation tool for identifying potential international R&D partners in specific cooperation areas
Develop the potential of KETs in RIS3	KET value chain analysis	Analysis of the potential contribution of KETs along the whole value chain of a thematic area, including supported functions, expected benefits and other knowledge supply synergies. Example developed for ICT along the value chain of non-metallic minerals
	KET contribution and knowledge mapping at idea level	Analysis at detailed level of granularity of KET potential and required related knowledge and partners. Example developed for ICT for a series of business ideas.

Table 1: Tool box for implementation and refinement of RIS3 strategies

4. Challenges to implementation

In a little over one year, the preparatory action has contributed to progress in RIS3 implementation. Nevertheless, various obstacles still remain. These are set out below, based on a review of the outputs of the preparatory action (especially the Peer Review and PDL1) and a discussion with Greek government officials and the MA.[7]

Legal framework	
Description of the issue	At the **national level** the governance of the different operational programmes is defined by **Law 4314/2014** on *the implementation and management of development interventions during the programming period 2014-2020.* This law defines, among other things, the role of the Programmes **Managing Authorities (MAs)**, that of the **Programme Committees (PC)** and of the **National Coordination Authorities (NCA)**. In article 47 the law discusses State Aid actions included in Regional Operational Programmes (such as some related to R&D, hence TO1). It posits that, in such cases the Minister of Development can issue calls following a proposal from the responsible Regional Governor. Another relevant legislative element in the implementation of RIS3 is law **4310/2014** which covers the research sector and hence is relevant for TO1 In article 8, it specifies that GRST is responsible for issuing calls. In article 23, it specifies the funding resources of public spending. The Law, among other things establishes the Regional Innovation and Entrepreneurship Councils.
Implications for RIS3 implementation	There is ambiguity between laws 4310/2014 and 4314/2014. Whilst the latter states that the Regional Governor can indirectly (via the Minister of Development) issue calls that imply State Aid operation (which includes R&D aspects, hence TO1), the latter puts all research and innovation actions under the responsibility of GSRT. Unless the ambiguity is clarified, the MA cannot (even indirectly) issue calls on TO1, even though –having developed the RIS3- it is the best placed to do so.
Actions taken	The issue has been addressed during the consultation between (central) governmental and regional MA's.
Future steps	The issue needs to be solved at the national level and a forthcoming revision of law 4310/2014 is expected to take place shortly and tackle this aspect.

State Aid and Competition Regulation	
Description of the issue	State Aid and Competition regulations (EU regulation 651/2014) have a

[7] The barriers identified at this stage focus on RIS3 rather than innovation in general. The preparatory action has not so far explored critical aspects such as: the limits imposed on universities to collaborate with businesses, the working conditions for researchers, R&D taxations, etc.

	significant bearing on the use of funds for Research and Innovation as well as SMEs. During the events of the preparatory action the MA raised questions about the aspects of the regulation that apply to innovation (i.e. SMEs, Cluster, and Research Infrastructure). Some specific examples were discussed during the Peer Review, however the overarching concern is that the definitions of the regulation 651/2014 needed further clarification (see Annex 4) .
Implications for RIS3 implementation	There are unsolved ambiguities in the RIS3 guidelines and ERDF regulations as far as State Aid is concerned. To ensure that the EDP is duly reflected in the calls for proposals requires further clarity on how to proceed when the State Aid Regulation applies. This uncertainty also delays the implementation of RIS3.
Actions taken	During the Peer Review the REMTh MA has engaged with the State Aid Unit of the central government as well as representatives from DG COMP. Whilst some doubts were clarified, many uncertainties remained and, in the absence of further guidelines from DG COMP and DG REGIO, the Greek National Coordination Authority has needed to interpret the regulation based on their experience. A national document with Guidance for state aid in RIS has been developed and is going to be distributed to the Managing Authorities shortly. This includes indications on how to issue calls. The REMTh preparatory action was instrumental to this development, somehow accelerating the learning process and providing input for the development of prototype calls.
Future steps	Guidance will be distributed shortly.

Capacity building for RDTI policy	
Description of the issue	It is the first time that responsibilities for RTIDI policy have been placed at the regional level.
Implications for RIS3 implementation	As the region needed to build capacity, the RIS3 development needed a learning phase.
Actions taken	The region has been proactive in its interaction with the central government and the EC (JRC-IPTS) undergoing a strong learning process to familiarise with the RIS3 concept and practice as well as with RTDI policies. The region has hence improved considerably its capacity.
Future steps	To sustain and build on the learning process, following up on the activities started during the preparatory action. These include: setting up the governance structure and implementing the actions devised by the Human Resources working group, sustaining the EDP and promoting networking for businesses, universities and policy makers.

Transitional RIS3 governance structure at the regional level	
Description of the issue	The region has a preliminary governance structure in place, however, this cannot be finalised because **Law 4310/2014,** establishing the Regional Councils for Research and Investment (which would be an element in the governance system), is currently under review.
Implications for RIS3 implementation	The MA has so far taken responsibilities for the RIS3 governance and development (not last by managing the preparatory action) which go beyond its remit of managing the funds and beyond the human resources

	available. Without a dedicated governance structure, the RIS3 may lose its long-term developmental nature and be confined to the administration of ERDF funds for TO1, for which the MA is responsible.
Actions taken	The MA has, throughout the RIS3 development and with the support of the preparatory action, addressed the design of the governance structure. The proposed system comprises the entire quadruple helix and stakeholders are aware of their role and the need for them to be proactive once the system is in place.
Future steps	Whilst waiting for the review of law 4310/2014, the region will proceed to set up the governance structure under the current legal framework and implement any necessary change once the law is revised. Another key element is the implementation of an appropriate monitoring system with relevant indicators to confirm and /or call for a change of the RDI strategic choices of the Region. DG REGIO, responding to the needs of stakeholders, has planned a seminar in early 2016 addressing these issues.

Delayed formal governance structure at the national level	
Description of the issue	The national RIS3 strategy defines the governance at the Greek level. As the strategy has only recently been approved, the appropriate governance system is currently being formalised.
Implications for RIS3 implementation	In the past months, the lack of governance structure at the National level may have made it difficult to identify key interlocutors and define answers to implementation questions for REMTh.
Actions taken	Whilst the formal governance structure was not yet in place, informally it has been possible for REMTh to interact with the key relevant actors at the National level. Furthermore, some of the lower-level elements of the governance structure, such as the *Sectoral and Regional Network of OPs for Smart Specialisation*, have been active for some time. Likewise, the National Council of the RIS3 –which is at the top level of the governance structure- has been established since July 2015 and its first meeting was held also in July
Future steps	As the strategy has been approved the governance system will be fully implemented shortly. Another key element is the implementation of an appropriate monitoring system with relevant indicators to confirm and /or call for a change of the RDI strategic choices of the country.

Need to ensure strategic dialogue between governance bodies and MAs of different ESIF funds – especially Rural and Fisheries Fund and ECT	
Description of the issue	The National Coordination Authority, defined by Law 4314/2014, has the mission to link the relevant national and regional authorities with the appropriate European Commission bodies, to coordinate the activities of the relevant bodies set at the national and regional levels and promote the harmonised implementation of the EU and the Greek law. It is critical that such coordination among OPs is implemented

	strategically. In the case of REMTh it is especially important for RIS3 to exploit synergies with Rural and Fisheries Fund and various ETC programmes. Indeed the ETC programmes have taken into consideration the priorities of the regions concerned and they have included innovation to their operations related to entrepreneurship (furthermore, the case studies developed by JRC- IPTS – Annex 11, exemplify some preparatory action-based potential synergies). Formally, each MA of a ROP is the member of the Programme Committee for relevant ETC programmes. However, so far an explicit discussion to exploit synergies has not taken place. In pursuing such synergies, however, it must be noted that the funds of the ROP and of the ETC programmes are of very different order of magnitude (the ROP being significantly smaller).
Implications for RIS3 implementation	Rural and Fisheries Funds are related to the Agro-food sector which is fundamental priority for all the Greek Regions. The smooth collaboration and coordination with these Funds is key for the successful implementation of RIS3. The ETC programmes offer the opportunity to think internationally and benefit from international networks. At the same time, the funds are easier to access than for other EU funds (such as H2020). They can significantly help enhancing the RIS3.
Actions taken	Whilst no formal structure is in place, informally, the REMTh MA has participated in meetings of ETC Operational Programmes.
Future steps	The Operational Programmes for Rural development and Fisheries need to be approved by the Commission before starting delivering related actions. OP Fisheries was approved in October 2015 while the Rural is delayed. The importance of an international outlook for the region cannot be overstated. It is suggested that once the governance system is in place, the relevant bodies explore opportunities for interaction and synergies with ETC Managing Authorities.

Communication with the EC	
Description of the issue	The MA felt that the requirements for approval set by the European Commission were not always communicated clearly. This made it difficult to address EC comments and requests.
Implications for RIS3 implementation	The approval of the RIS3 required several interactions.
Actions taken	Throughout the Preparatory Action the region and various parts of the European Commission have had the opportunities to discuss and clarify various issues.
Future steps	The learning process occurred throughout the Preparatory Action and the increased familiarity with EC institutions and modes of work will hopefully facilitate communication between REMTh and the EC in the future.

Tax Legislation	
Description of the issue	A crucial issue is related to tax legislation. Companies that have debts with the tax authority (which are the vast majority), whilst eligible to receive public money, would first need to refund the tax debt should they be beneficiaries of any ERDF funding.

Implications for RIS3 implementation	This generates a vicious cycle, which is very difficult to solve and which hampers the potential development of RIS3.
Actions taken/Future Steps	The issue is currently beyond the remit of the region. It is nevertheless suggested to explore how other countries are addressing similar issues.

Other challenges	
Description of the issue	There is some history of lack of trust-building among stakeholders, putting high pressure on the current exercise to succeed in order to maintain the trust that has been created. There is a limited culture of collaboration between businesses and researchers inside the region which also hamper international collaboration. Last but not least, the region –as well as Greece as a whole- is facing a very complex and unstable economic time. The environment is not favourable to investment and to business practice in general.
Implications for RIS3 implementation	Due to the current situation, the challenges faced by local stakeholders in their day-to-day business are paramount and, whilst put pressure and expectation on the success of RIS3 as an exercise also hamper its development. In this context, the opportunities offered by internationalisation and collaboration, become even more important.
Actions taken	The preparatory action has promoted of a culture of internationalisation as well as collaboration among stakeholders.
Future steps	Once the governance for RIS3 is in place, the Regional Council for Innovation and Entrepreneurship should reflect on ways to increase participation in international consortia, especially in RIS3 priority areas.
Actions taken	The preparatory action has promoted of a culture of internationalisation as well as collaboration among stakeholders. Regarding human resources the Mobility Working Group has devised an action plan for the short, medium and longer term.
Future steps	Once the governance for RIS3 is in place, the Regional Council for Innovation and Entrepreneurship should reflect on ways to increase participation in international consortia, especially in RIS3 priority areas, and monitor the implementation of the Mobility Roadmap.

5. Conclusions: the way forward

5.1 CONCLUSIONS FOR THE REGION OF EASTERN MACEDONIA AND THRACE

To conclude, the various activities of the preparatory action have formed an important and valuable exercise in trust building, understanding and commitment towards RIS3.

Over its 15 month duration, the preparatory action has developed an enhanced understanding of the realities of the RIS3 process, and how it relates to the political and economic context, at regional, national and EU levels. The focus groups and subsequent preparatory action development labs have been important for the mobilisation and engagement of regional stakeholders to explore opportunities, gaps and barriers. It has also been very much a shared learning process, through which to catalyse closer collaboration and build trust in the stakeholder community with concrete outcomes. This has contributed to the development of a codified methodology to support EDP, for wider replication and adaptation.

The end of the preparatory action marks the beginning of a new phase for the RIS3 in REMTh, one in which the challenges identified need to be dealt with and the RIS3 finally deployed through the implementation of the governance system, the human resources mobility actions and the calls for proposals. In so doing, it is also necessary to implement an appropriate monitoring and evaluation system, building on the results of the preparatory action and on the discussions taking place during the Peer Review. Appropriate regional indicators should be identified and monitored to help understand the evolution of RIS3 and guide all stakeholders in subsequent steps of implementation.

The challenges identified above, need to be dealt with by all stakeholders involved. Chambers of commerce and universities need to become more proactive in sustaining the EDP and ensuring the broadest participation in the process, including civil society and social organisations. This requires, as pointed out during the final events, sustained efforts in intelligence building from the business sector aimed at knowing in more depth its members and its capacities.

At the level of RIS3 governance, it is critical, also according to stakeholders, to identify mechanisms to generate and disseminate new ideas over and beyond those discussed in the focus groups. More generally, the governance system should ensure that the RIS3 approach is internalised and mainstreamed. This should also lead to an increased financial involvement of private funds in research and innovation activities, through the appropriate provisions of incentives and risk-sharing.

It is anticipated that the new regional governance structure will deal with these aspects and identify appropriate mechanisms. With regards to internationalisation, the region can now benefit from a wider network, but steps still need to be taken towards a fully international research and innovation ecosystem. Such internationalisation can focus on research, innovation and marketing activities of stakeholders, as well as on alignment of strategies with other regions, nations or cities and possibly move towards jointly programming those activities internationally.

Within this context, it is important for the region to maximise the impact of Key Enabling Technologies. The development of a synergetic Digital Agenda for Growth is a prime example for the region, where business density is lower.

At the national level, it is desirable that clarifications on the legal framework unblock the possibility for regions to issue calls, together with more clear guidelines, from the EC, on State Aid regulation.

A final caveat is that the preparatory action did not explicitly address the implications of the current financial situation (capital controls, heavy taxation and difficulties in access to finance) on RIS3. This creates uncertainty about the future which should be adequately tackled in future activities.

Box 2: Key recommendations for an effective RIS3 Implementation

- Build on **existing innovation capacity and infrastructure**, identifying unexplored opportunities that such assets may have.
- **Sustain the EDP process** throughout the programming cycle, establishing feedback channels among stakeholders in the quadruple helix and focussing on value-chains rather than sectors.
- Identify mechanism **to feed stakeholders' engagement back to policy**, avoiding that technical bottlenecks jeopardise stakeholders' participation, this is critical to **build trust and give legitimacy** to the whole process.
- Ensure that the opportunities offered by **Internationalisation and Collaboration** are not missed. This can be done by sharing experiences of international experts, reflect on relevant international consortia and networking platforms and invite stakeholders to reflect on and apply to other EU funds. The case studies developed within the preparatory action provide relevant examples.
- **Internationalisation** must also be pursued in terms of **market outlets**: it is critical to understand the commercial potential of innovations in the region.

5.2 CONCLUSIONS FOR OTHER GREEK REGIONS AND LESS DEVELOPED EU REGIONS

REMTh as well as national level actors can continue to play a leading role in advancing the RIS3 process in Greece, benefitting, in turn, other regions though mutual learning activities. Relevant topics for such activities include the translation of EDP ideas and priority areas into efficient calls for proposals, the identification of other instruments that could complement such calls, the establishment of an ongoing and sustainable EDP process as well as a monitoring and evaluation system.

The activities of the preparatory action are particularly relevant for "low density economies," such as more rural areas. These areas offer specific opportunities and development trajectories, and also require strong support as stakeholders are fewer, with and less developed structures that favour interaction.

The Preparatory Action has resulted in a first version of a toolbox of approaches for RIS3 implementation that have been tested in REMTh. This toolbox will continue to serve this region as well as other regions in Europe. This will offer scope for further testing of existing tools as well as the creation of new tools to complement the toolbox. Possible areas in which further tools could be developed include:

- tools and approaches that support increased internationalisation of the regional research and innovation ecosystem
- approaches to implement an ongoing EDP processes and for ongoing stakeholder engagement
- tools supporting the acquisition of new skills and competences
- approaches for monitoring and evaluation of RIS3
- common approaches to address common barriers, for example in the area of state aid, and in alignment between national and regional level RIS3 activities.

5.3 CONCLUSIONS FOR ADVANCING THE THEORY ON SMART SPECIALISATION

The hands-on approach taken for the implementation of this Preparatory Action, as well as the flexibility to adapt methodologies to local needs and context, have resulted in a wide set of lessons on the details of implementing regional smart specialisation strategies. Methodological lessons have already partially been codified in a number of publications, and can be of benefit to both less developed regions that have failed to restructure their economy in the past in spite of considerably investments, as well as to all regions that face difficulties in implementing RIS3 as a new and largely unknown governance approach.