



JRC TECHNICAL REPORTS

Implementing RIS3 in the Region of Eastern Macedonia and Thrace: Towards a RIS3 tool box

JRC S3 Policy Brief Series
No. 20/2016

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2016



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JRC101739

EUR 27956 EN

PDF	ISBN 978-92-79-58909-6	ISSN 1831-9424	doi:10.2791/160115
Print	ISBN 978-92-79-58908-9	ISSN 1018-5593	doi:10.2791/949146

Luxembourg: Publications Office of the European Union, 2016
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How to cite: Mark Boden, Patrice dos Santos, Karel Haegeman, Elisabetta Marinelli, Susana Valero; Implementing RIS3 in the Region of Eastern Macedonia and Thrace: Towards a RIS3 tool box - JRC S3 Policy Brief Series No. 20/2016; EUR 27956 EN; doi:10.2791/160115

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Abstract

This policy brief provides a summary of the approach and outcomes of a European Parliament Preparatory Action centred on the refinement and implementation of the Research and Innovation Smart Specialisation Strategy (RIS3) in the region of Eastern Macedonia and Thrace (REMTh). Implemented, mainly during 2015, by the European Commission (the Joint Research Centre in collaboration with the Directorate General for Regional and Urban Policy) and the Managing Authority of the region, this action also had the explicit aim to draw lessons for other low growth and less developed regions in Europe.

An essential aspect of the preparatory action was the opportunity it offered for stakeholders, the EC and the regional authority to share experiences and build a common understanding of RIS3 and the challenges to its implementation. This centred on a series of stakeholder events, critical for the mutual learning process and trust building among stakeholders. Stakeholders have thus worked together to identify and exploit research and innovation based opportunities for the region as well as tackling the challenges to RIS3 implementation.

The various tools developed and applied in the REMTh preparatory action can, taken together, be seen to constitute a toolbox of approaches for RIS3 implementation. This toolbox and the hands-on approach taken for the implementation of this Preparatory Action, as well as the flexibility to further adapt methodologies to local needs and context, can generate a wide set of tools and lessons on the implementation of regional smart specialisation strategies. These can be of benefit both to less developed regions that have struggled to restructure their economy in spite of considerable investments, and to all regions facing difficulties in implementing RIS3 as a new and largely unknown governance approach.

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Acknowledgement

The implementation of the preparatory action described in this policy brief was made possible through close cooperation between a wide set of partners.

The authors would like to thank the Special Managing Authority¹ of the Region of Eastern Macedonia and Thrace, the Regional Council of Innovation and Entrepreneurship, Innovatia Systems, as well as, the team of local consultants supporting the process, as well as all regional stakeholders from business, research and civil society that were involved in the preparatory action. We would like to thank specifically George Pavlides, Yiannis Kesanlis, Panagiotis Koudoumakis, Vasileios Pitsinigkos, Petros Soukoulis, Michalis Metaxas, Yannis Toliias, Effie Amanatidou and Christos Emmanouilidis, Kostas Kokkinoplitis, and Nicos Komninos and Lena Tspouri. Special thanks also to the Greek national administration for their strong engagement and commitment.

The authors would like to thank DG REGIO for their close collaboration (particularly Unit G.1 Competence Centre Smart and Sustainable Growth and Unit G.5 Cyprus and Greece), as well as Markus Pieper, Member of European Parliament who initiated the Preparatory Action, and his office. Special thanks also to all critical friends: Magdalene Häberle, Antonio Viader Farré, Artur Rosa Pires, Nerea Anacabe Uriarte, Raquel Ortega Argiles, Leyla Radovanova, Javier Revilla Diez. Finally we would also like to thank colleagues from the Joint Research Centre for their cooperation and engagement.

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.

1. Introduction

This policy brief provides a summary of the approach and outcomes of a European Parliament Preparatory Action centred on the refinement and implementation of the Research and Innovation Smart Specialisation Strategy (RIS3) in the region of Eastern Macedonia and Thrace (REMTh). Carried out by the European Commission Joint Research Centre in collaboration with the Directorate General for Regional and Urban Policy between September 2014 and November 2015, this action also had the explicit aim to draw lessons for other low growth and less developed regions in Europe.

Prior to the launch of the preparatory action, activities had already been ongoing in the region since 2012, aiming to develop and implement a RIS3 strategy (Box 1) based on examination of both the existing capacities of the region (particularly in terms of research and research infrastructure, human resources, areas of specialisation, etc.) and the needs of regional stakeholders (business, end-users, etc.).

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

The definition of the S3 by the regional Managing Authority 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 reflection on potential policy tools. Efforts made to identify and interact with stakeholders through survey and working groups also provided a basis for enhanced stakeholder engagement in the RIS3 process.

To complement and reinforce these prior efforts and to support the refinement and implementation of the RIS3 strategy in the REMTh region, the activities undertaken by JRC are described below in Section 2. Section 3 examines the main outcomes and impacts of these activities, while Section 4 outlines the legal, administrative and other barriers to further RIS3 implementation. This brief concludes with a discussion of the way ahead and key lessons emerging for other regions.

2. Key activities

2.1 Mutual learning among stakeholders

An essential aspect of the preparatory action was the opportunity it offered for stakeholders, the EC and the regional MA to share experiences and build a common understanding of RIS3 and the challenges to its implementation. A series of following stakeholder events were organised in the course of the preparatory action. These represented milestones in the mutual learning process and were also critical in building trust among those stakeholders involved.

- The **exploratory visit** of JRC to the region centred on meetings with the regional Managing Authority (MA) and other key stakeholders of the region, enabling JRC to become more familiar with the region and the work conducted so far. This event was thus a critical dialogue on expectations of the preparatory action and the challenges ahead. It included discussion of the draft RIS3, the methodology applied in its elaboration and nature and extent of the involvement of the key stakeholders of the region.
- The **in-depth Peer Review** adapted the approach to peer learning successfully employed by the JRC Smart Specialisation Platform,² whereby selected regions have critically reviewed each other's RIS3s. With peers coming from regions across Europe, an in-depth examination of those issues central to the successful implementation of the RIS3 of Eastern Macedonia and Thrace took place in the region in April 2015.
- The **final events**, in Xanthi in October 2015 and in Brussels in November 2015, gathered together a range of stakeholders from within the region and beyond, to reflect on the outcomes of the preparatory action. The Xanthi event served to reinforce the commitment of the region and its stakeholders to the RIS3 process. The Brussels event looked ahead at the lessons for other regions.
- A "**Board of Critical Friends**" was created specifically to provide external guidance on the approach and outcomes of the preparatory action, giving feedback both to JRC and to the region. It comprised representatives of government, business and academia from other parts of Europe, who had already faced the challenges of setting up a RIS3 strategy. They also played an important role in transmitting lessons emerging from the preparatory action to the wider community. In addition to specifically convened meetings, the critical friends participated in the Peer-Review event and the final event of the Preparatory Action in Brussels in November 2015.

2.2 Optimisation of the Entrepreneurial Discovery Process

The process of entrepreneurial discovery is at the very heart of smart specialisation (e.g. Capello 2014, Foray and Rainoldi 2013). It plays a central role in the generation of a limited set of research and innovation priorities for a regional strategy, clearly placing the focus and logic of public intervention on supporting the discovery process among stakeholders.

In line with this perspective, the establishment of a sustainable and effective entrepreneurial discovery process was central to the success of the preparatory action. Activities have been designed and implemented to catalyse stakeholder engagement in

² <http://s3platform.jrc.ec.europa.eu/s3-design-peer-review>

the identification and refinement of priority areas, directly feeding the policy process. More specifically, this centred on the organisation of two sets of workshops:

- **Entrepreneurial Discovery Process (EDP) focus groups**³ – stakeholder events with a sectoral focus, aimed at generating innovative ideas through the interaction between business, public and research actors.
- **The Project Development Labs (PDL)** – follow-on events aimed at processing the EDP ideas and moving them towards implementation, identifying funding opportunities and concrete action plans for policy.

These activities, described below in further detail, 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 fostering 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 was 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. These have sought to identify and develop more specific topics for future development and eventual funding calls.

Four focus groups were organised under the preparatory action. These 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). The region subsequently applied the methodology for two further priority areas (chemical and polymer materials; and production of electronic and electrical equipment). The common aims of all EDP 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 the sectors under consideration, the identification of likely topics for discussion, together with the identification of relevant regional, national and international participants. An agenda was prepared, combining plenary and parallel sessions, with interventions by regional, national, and international experts. The parallel groups were tasked with exploring and refining promising ideas in selected subsectors of the priority areas.

³ See also Boden, M. et al. (2015).

All events were formally opened by the Governor of the Region, who, together with the MA and the Regional Council of Innovation and Entrepreneurship was strongly committed to the process. This strong and sustained political and organisational commitment to the process was critical to its success. Several promising ideas have emerged from the focus groups, as well as linkages between actors and ideas across focus groups. The main outcomes of the focus groups have been promptly shared with stakeholders through on-line publication. The methodological approach to the EDPs has been progressively refined in view of continued replication and adaptation.

The focus groups achieved good visibility in the region, with increasing numbers of regional stakeholders, including a significant proportion of entrepreneurs attending each successive event. A questionnaire was sent to the participating experts, with generally positive responses. Although some respondents felt 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.

These thematic events were also widely attended by Managing authorities from other regions in Greece and beyond. The Greek region of Thessaly has implemented a similar process. Interest in replicating the EDP focus group approach has also been expressed from Bulgaria and the Turkish region of Easter Marmara.

Project development labs

The project development labs (PDLs) comprised two consecutive workshop events an on-line stakeholder consultation. Essentially, these aimed at moving ideas from the EDP focus groups closer towards implementation. The PDLs were originally conceived to centre on stakeholder mobilisation, training and participation, although their focus evolved in the planning process to place greater emphasis on more technical reflection on funding opportunities, with reduced stakeholder engagement. 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, thus represented a first step to translate stakeholder engagement into policy actions. Bringing together JRC, the Special Managing Authority, representatives of regional and national government, and representatives of regional higher-education and research organisations, the event explored exclusively the administrative dimensions of the EDP ideas. The issues covered included 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 of the

preceding EDP focus groups. A detailed mapping of the delivery instruments envisaged to be used by the Special Managing Authority provided a bridge between EDP ideas and the formal policy process in place, assessing how and whether the EDP ideas matched with the instruments.

PDL1 was followed by an on-line stakeholder consultation of the EDP ideas, carried out via the S3 Platform, and aiming to identify those ideas most appropriate for further development through analysis of stakeholder interests. In total 134 stakeholders, including representatives of 29 companies, participated in the consultation. Highest levels of interest were in ideas related to tourism (86 stakeholders), followed by wine (62), dairy & meat (56) and marble (27). Those specific ideas with highest interest from stakeholders were prioritised for further examination in PDL2.

For PDL2, it was envisaged that stakeholders would further examine the more practical dimensions of taking forward selected ideas, such as training needs, knowledge management, international positioning of the idea, the role of ICT, and exploration of various possible funding sources. The presentation at PDL2 of draft calls for tender to be launched under Thematic Objectives 1 to 3 of the Regional Operational Programme gave the event further more practical orientation. Feedback and questions from stakeholders centred on a number of detailed technical issues on call implementation, including the need for clarity on their compatibility with State Aid rules.

The possibility of financing EDP ideas (or some of their components) from other funding sources, particularly Horizon2020, was also explored together with specifically invited Greek H2020 National Contact Points. Group discussions centred on questions related to H2020 eligibility and selection criteria. As well as improving general familiarity with H2020, PDL2 outcomes included a series of "project fiches" which served as an input to a set of case studies (described in below).

The evolution of the PDL concept, which continued during its very implementation, was influenced greatly by the ongoing RIS3 approval process and administration, as well as by the serious political and economic uncertainty of Greece in 2015. The urgency of short-term issues related to RIS3 administration can eclipse concern for the longer term sustainable development of the strategy and the engagement of stakeholders. Nevertheless, the PDL events had a number of positive impacts, including:

- The further advancement of ideas, as well as strengthening the communities around them.
- Capacity building among stakeholders for idea development and the use of different funding sources.
- Increased coordination between the regional and national levels, through alignment of national and regional plans, avoiding double funding of similar ideas,
- The clarification of various technicalities, such as state aid rules, fundability of ideas, coherence with national strategy,
- Paving the way for other regions, especially in terms of steps towards concrete implementation.

2.3 Capacity building

In parallel to the EDP focus group and PDL activity, two dedicated working groups were established: one centred on issues of **human resources mobility** and one on **the**

governance of RIS3 in the region. In both cases, relevant stakeholders, working with expert moderators, discussed and formulated plans on how to tackle the challenges at stake.

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), with a focus on opportunities to enhance human resources and their mobility. The group comprised stakeholders from the public, private and research sectors in the region. Their 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. The importance of international networking and collaboration as a way to improve human resources was also emphasised.

The approach of the working group (taking inspiration from the "theory of change")⁴ was to agree on a set of short (improved supply and flows of knowledge) and longer term objectives (improved competitiveness of the region). The group members 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. It was structured around two main issues:

1. **The integration of the regional research and enterprise sectors in global knowledge networks** through improved and increased formal and informal relationships with high-ranking research universities and research centres, either by outward or by inward mobility schemes and through increased co-authored publications and international collaborations in competitive research projects (e.g. Horizon2020).
2. **The improvement of the linkages between the regional research and enterprise sectors** through intersectoral mobility programmes, spin-offs, or other tools to align the supply and demand of skills between research and business. These would have the aim to increase employability, maximise the impact of investment in research and support the development of a knowledge based economy.

⁴ 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 to be necessary for those goals to be met. See, for example: Leeuw, F.L. (2003), Taplin, D.H. and Rasic, M. (2012), and Weiss, C. H. (1995).

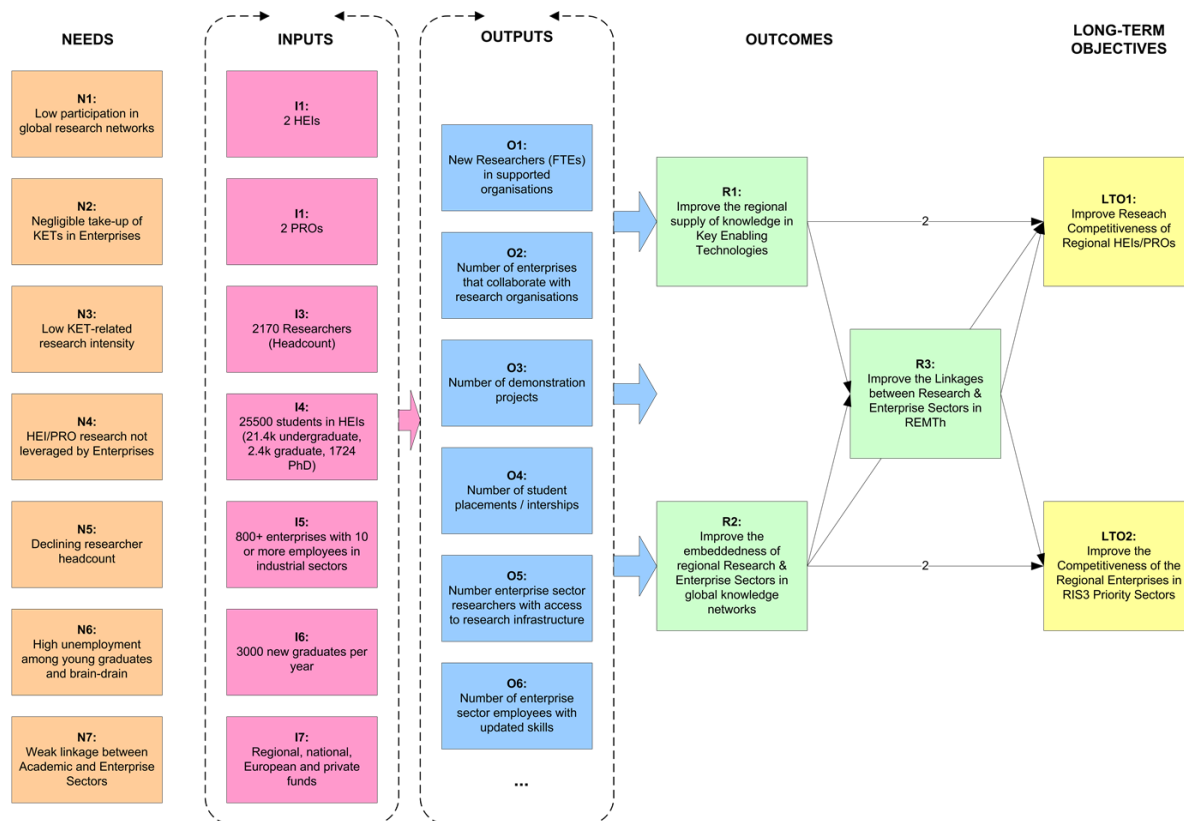


Figure 1: Objectives and their relation to inputs required for mobility in REMTh

Source: Tolia, 2015

The **governance working group** comprised 16 members, drawn from public, research and private organisations in the region. Its remit was to consider how best to manage the sustainable implementation of the RIS3, ensuring the necessary type and degree of alignment between the technological infrastructure of the region and its business needs.

Starting with a review of the existing governance system, participants shared expectations and concerns, working towards the creation of a common basis of understanding and subsequent action plan for future activities. Three distinct governance levels (strategic, coordination and monitoring, and documentation) were identified, as were entities operating at each of these levels, including Entrepreneurship and Innovation Networks (EINs) for each of the priority areas (see Figure 2). The action plan included an implementation roadmap and a list of difficulties anticipated to arise during implementation together with proposed solutions. The MA of REMTh subsequently announced that the region's governance structure for RIS3 would be implemented in line with this action plan.

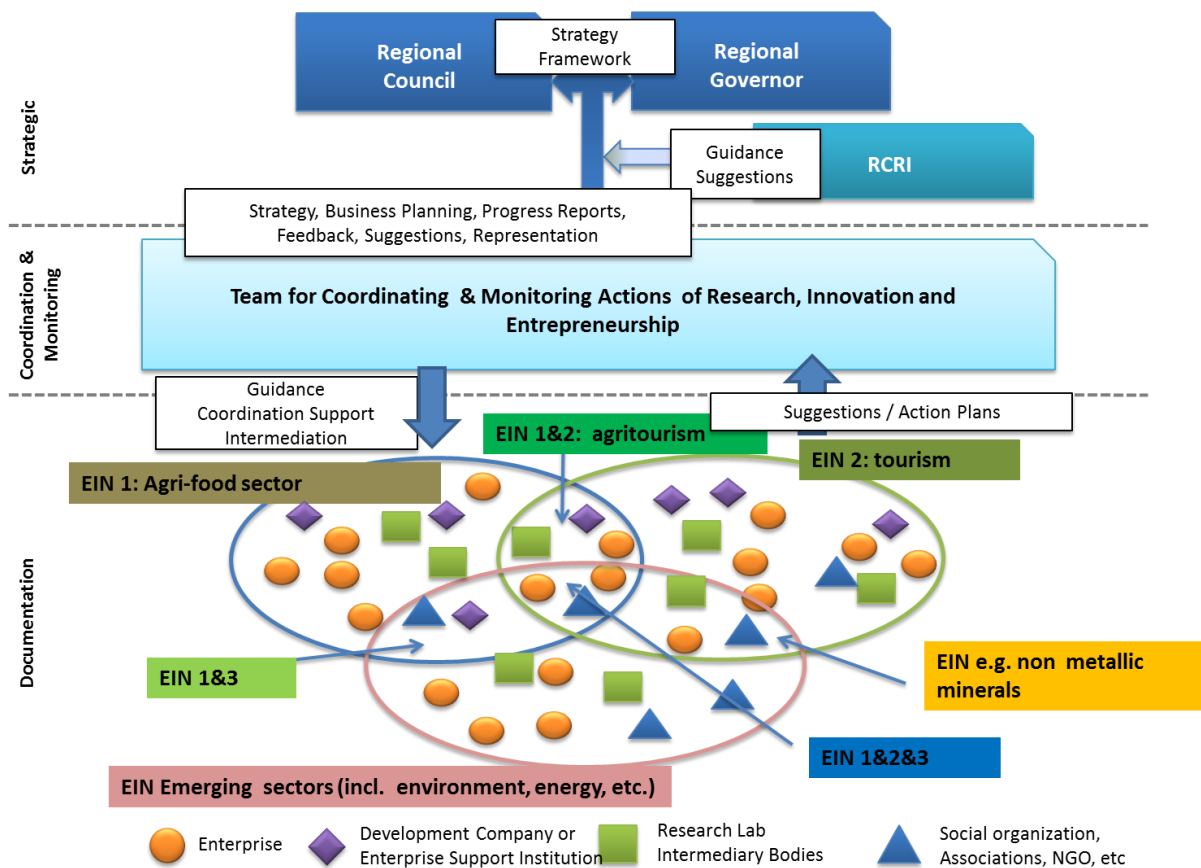


Figure 2: Proposed governance structure for the implementation of RIS3 in REMTh

Source: Amanatidou, 2015

2.4 Supporting further idea development: internationalisation, collaboration and the role of ICT

It emerged from the EDP process that stakeholders in the research and business sectors of the region were largely unused to collaboration. They did not, in general, explore international business opportunities or opportunities offered by international networks. As a consequence, a variety of approaches has been used to help exploration of the opportunities offered by cross-sectoral collaboration and internationalisation.

A dedicated on-line **RDI funding guide**, including a comprehensive list of different funding sources available for projects launched in the region at EU, national and regional levels, has been developed in both English and Greek. This aimed to be a readily accessible reference point for all stakeholders, providing information on the key characteristics, indicative actions and financial amounts available under relevant funding schemes at regional, national and European levels. A first public version of this guide was shared with stakeholders at PDL2.

- **Collaboration Spotting**, a tool under development by the JRC and CERN 5, generates a graphic description of scientific networks across fields based on publication data. It allows the identification of key actors across sectors. Selected ideas from the two project development labs have been used to test the potential added value of the tool, with a view to its wider application in the future.
- **Case studies**, based on the EDP ideas and the funding guide, have tackled eight of the ideas developed in the EDP and PDL focus groups, exploring the opportunities offered by the different funding streams. They identify potential extensions to the original ideas, relevant international networks and project consortia that can further inform idea development. These case studies effectively seek to increase internationalisation and collaboration within the RIS3 framework.
- Analysis of **the ICT Capacities** of the region was undertaken to optimise the use of ICTs in the implementation of the RIS3. This included an ex-ante assessment of potential ICT-enablers in priority areas, with a particular focus on potential ICT contributions along the whole value chain of non-metallic minerals. More detailed analysis was also carried out at the level of specific ideas and potential calls, how ICT expertise could best be integrated, as well as examination of funding possibilities.

2.5 Communication and codification of activities

The implementation of the preparatory action 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 findings accessible, efforts were made to provide outputs of the activities online. A dedicated website⁶ was developed and hosted by JRC. This site went live at the beginning of the preparatory action, and was regularly updated with details of all preparatory action events in both English and Greek. This site also hosted a stakeholder consultation to further refine ideas before PDL2.

3. Impacts of the preparatory action

Overall, the range of activities undertaken during the preparatory action reflected its initial objectives, and with a number of positive impacts both for the region and for the understanding of RIS3 more generally. Impacts of direct relevance to the region include:

- **Increased trust among stakeholders** involved, partially due 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 events managed to mobilise a significant part of the research and business communities in the region, with total participation in the events exceeding 600. In turn, this created high **expectations on the side of stakeholders**, notable given the economic climate.

⁵ <http://collspotting.web.cern.ch/>

⁶ <http://s3platform.jrc.ec.europa.eu/remth>

- Members of the **business community**, in particular, appreciated the earnest interest of the public administration in their work and the opportunity for interaction in a systematic, structured and constructive way.
- The opportunities offered by the EDP focus groups to create **links with the research world** were also appreciated by the business community. As consequence of the EDP focus groups has been some **network formation** among stakeholders.
- A specific proposal for **human resources mobility** was jointly agreed by representatives of the academic and business communities in the region. Implementation of this proposal began with the establishment of a common unit across the academic institutions of the region that will be responsible for mobility activities.
- Regional stakeholders also benefitted from **international networking** with other regions, experts and critical friends, allowing the exchange of experiences, good practices, tested methodologies, and so forth. The MA, in particular, 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.
- The capacity to reproduce and sustain the impacts of the **EDP focus group approach** was also an important learning outcome. The continuous nature of the EDP was reinforced, while further EDP events have since been beyond the preparatory action, in REMTh and in other Greek regions.
- 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. The MA also **expressed its commitment to implementing the proposed RIS3 governance system**.
- The preparatory action has stimulated and accelerated discussion between the EC, regional and national authorities to clarify – for the whole country – several aspects of the implementation of RIS3 and the use of Structural Funds.
- The codification of the methodologies adopted in REMTh, and the material available online to support stakeholders, allow for the creation of a "**tool box**" that can be adapted to support other regions. Table 1 presents this tool box. Experiences from other regions can also further enrich and adapt the set of tools presented.

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		
Support to international cooperation	Board of critical friends	International group of experts from different backgrounds (peers, business, academia) reflect on methodology, thematic priorities and related implementation issues
	Collaboration spotting	Quantitative visualisation tool for

	tool (developed through CERN-JRC collaboration)	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

Reflecting on the outcomes of the preparatory action, the preparatory action can be seen to have had a positive impact on RIS3 implementation in REMTh. However, significant legal and administrative challenges to full implementation remain.⁷ These are summarised below, together with the steps necessary to address them.

Legal framework and RIS3	
Description of the issue	<p>At national level the governance of the different operational programmes is defined by Law 4314/2014 on <i>the implementation and management of development interventions during the programming period 2014-2020</i>. This law defines, <i>inter alia</i>, the roles of Managing Authorities (MAs), Programme Committees (PC) and National Coordination Authorities (NCA).</p> <p>Article 47 of this law deals with State Aid actions included in Regional Operational Programmes (including those related to R&D – TO1). It posits that, in such cases the Minister of Development can issue calls for projects following a proposal from the responsible Regional Governor.</p> <p>Law 4310/2014 covers the research sector. In Article 8, it specifies that GRST is responsible for issuing calls. In article 23, it specifies the funding resources of public spending. It also provides the legal basis for the establishment of the Regional Innovation and Entrepreneurship Councils.</p>
Implications for RIS3 implementation	<p>There appears some ambiguity between laws 4314/2014 and 4310/2014. Whilst the former 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.</p> <p>While this ambiguity persists, the MA cannot (even indirectly) issue calls on TO1, even though it is best placed to do so.</p>
Actions taken	This issue has been addressed during the consultation between national governmental and regional MA's.
Future steps	The issue needs to be solved at the national level and a revision of law 4310/2014 has been envisaged.

⁷ The barriers identified at this stage focus on RIS3 rather than innovation in general. The preparatory action did not explore aspects such as: the limits imposed on universities to collaborate with businesses, the working conditions for researchers, R&D taxation, etc.

State Aid and Competition Regulation	
Description of the issue	State Aid and Competition regulations (EU regulation 651/2014) have a significant bearing on the use of funds for research and innovation, and particularly SMEs. During the preparatory action, the MA raised questions about those aspects of the regulation that affect innovation (e.g. SMEs, Cluster, and Research Infrastructure). Specific examples were discussed during the Peer Review. However, the overarching concern was the need for clarification of the definitions of this regulation.
Implications for RIS3 implementation	There are ambiguities in the RIS3 guidelines and ERDF regulations with regard to State Aid. 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 RIS3 implementation.
Actions taken	<p>The peer review event provided an opportunity for the REMTh MA to engage both with the State Aid unit of the central government and DG COMP of the European Commission. While some doubts were resolved, uncertainties remained and, in the absence of further guidelines from DG COMP and DG REGIO, the Greek National Coordination Authority needed to interpret the regulation based on their experience.</p> <p>Spurred on, at least partially, by the REMTh preparatory action, a national document providing guidance on State Aid and RIS3 has been developed for distribution to the Managing Authorities. This includes indications on how to issue calls.</p>
Future steps	Distribution of dedicated guidance.

Tax Legislation	
Description of the issue	Companies with tax debts (the vast majority) are only eligible to receive ERDF funding money once the tax debt has been paid.
Implications for RIS3 implementation	This generates a vicious cycle, which is very difficult to solve and which could hamper 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 address similar issues.

Capacity building for RTDI policy	
Description of the issue	For the first time, responsibilities for RTDI policy have been placed at the regional level.

Implications for RIS3 implementation	As the region builds capacity, learning for RIS3 development and implementation is necessary.
Actions taken	The region has been proactive in its interaction with the central government and the EC (JRC), which <i>inter alia</i> has entailed becoming familiar with the RIS3 concept and practice as well as with RTDI policies. The region has already considerably enhanced its capacity.
Future steps	Sustain this learning process, building on activities started during the preparatory action, including: implementing the revised R&I governance structure and the actions devised by the working groups, sustaining the EDP and promoting networking for businesses, universities and policy makers.

Transitional RIS3 governance structure at the regional level	
Description of the issue	Law 4310/2014 envisages the implementation of a revised governance structure for Greek regions, with explicit responsibility for RIS3 and including Regional Councils for Research and Investment. Full implementation has been slow.
Implications for RIS3 implementation	The MA assumed (temporary) responsibility for RIS3 governance and development, going beyond both its remit of managing the funds and its human resources. With this consequent focus the administration of ERDF funds, the RIS3 could lose its long-term developmental nature.
Actions taken	<p>The MA has, throughout the RIS3 development and with the support of the preparatory action, addressed the design of the governance structure.</p> <p>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.</p>
Future steps	<p>While law 4310/2014 is still under revision, the region has envisaged setting up its governance structure under the current legal framework and then to implement any necessary change once the law is revised.</p> <p>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.</p>

Formal governance structure at the national level	
Description of the issue	The national RIS3 strategy defines the governance at the national level. This new structure has taken time to be formalised.
Implications for RIS3 implementation	The transition of the governance structure at national level has not always made it easy to identify key interlocutors and to obtain answers to implementation questions for REMTh.
Actions taken	<p>Informal interactions, however, have taken place between REMTh and key actors at the national level.</p> <p>Some elements of the governance structure, such as the <i>Sectoral and Regional Network of OPs for Smart Specialisation</i>, were already active.</p> <p>The highest level of the governance structure- the National RIS3 Council – became operational in July 2015.</p>
Future steps	<p>Following the approval of the national strategy, the full implementation of the governance system was envisaged to take place shortly afterwards.</p> <p>Another key element is the implementation of an appropriate monitoring system with relevant indicators to confirm (or call for a change of) the national strategic RDI choices.</p>

Need for strategic dialogue between governance bodies of ESIF funds (e.g. Rural and Fisheries Fund and ECT)	
Description of the issue	<p>The mission of the National Coordination Authority, as defined by Law 4314/2014, is to link relevant national and regional authorities with the appropriate parts of the European Commission, to coordinate the activities of the relevant bodies established at the national and regional levels and promote the harmonised implementation of EU and Greek law.</p> <p>In the case of REMTh, it was seen of particular importance that its RIS3 should exploit synergies with Rural and Fisheries Fund and various European Territorial Cooperation (ETC) programmes.</p>
Implications for RIS3 implementation	Rural and Fisheries Funds are related to the Agro-food sector, a fundamental priority for all Greek Regions. Smooth collaboration and coordination with these funds is essential for the successful implementation of RIS3.

	The ETC programmes offer the opportunity to and benefit from international networks. ETC can be 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	<p>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 development OP was delayed.</p> <p>The importance of an international outlook for the region cannot be overstated. It is proposed that once the new governance system is in place, relevant bodies further explore opportunities for interaction and synergies with ETC Managing Authorities.</p>

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 Preparatory Action has contributed to increased familiarity with EC institutions and modes of work. This learning process will hopefully further facilitate future communication between REMTh and the EC.

Other challenges	
Description of the issue	<p>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.</p> <p>There is a limited culture of collaboration between businesses and researchers inside the region which also hamper international collaboration.</p> <p>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.</p>
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. The way forward

A key outcome of the preparatory action has been its role as an exercise in trust building, understanding and commitment towards RIS3, both within the Region of Eastern Macedonia and Thrace and beyond. 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 emphasis on the EDP, through the organisation of focus groups and project development labs, has 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.

5.1 Implementing RIS3 in the region of Eastern Macedonia and Thrace

Over the duration of the preparatory action, the focus of RIS3 activities in REMTh moved from refinement to implementation. This required effort by all stakeholders in addressing the identified challenges, making the new governance system operational, taking forward human resource mobility actions and launching calls for proposals. Also seen as necessary was the implementation of an appropriate system for monitoring and evaluation to understand the evolution of RIS3 and to guide stakeholders in subsequent steps of RIS3 implementation. The main recommendations of the preparatory are summarised in Box 2.

Chambers of commerce and universities need to become more proactive in sustaining the EDP, while also ensuring broadest possible 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 having deeper knowledge of its members and their capacities.

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

With regards to internationalisation, the preparatory action has actively promoted participation in wider networks. However, a fully international research and innovation ecosystem requires further steps to be taken. Internationalisation can focus on research, innovation and marketing activities of stakeholders, as well as on alignment of strategies with those of other regions, nations or cities.

The importance for the region to maximise the impact of Key Enabling Technologies, in particular ITC, was also examined. The development of a synergetic Digital Agenda for Growth is a prime example for the region, where business density is lower.

In terms of interaction with the national level, clarifications on the legal framework emerged as essential for the region to issue calls. This needs to be accompanied by clearer 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.

Box 2: Key recommendations for an effective RIS3 Implementation

- Build on **existing innovation capacity and infrastructure**, identifying unexplored opportunities.
- **Sustain the EDP process** throughout the programming cycle, establishing feedback channels among stakeholders in the quadruple helix, focusing on value-chains rather than sectors.
- Identify mechanisms **to feed stakeholder engagement back to policy**, avoiding that technical bottlenecks jeopardise stakeholder 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 Beyond REMTh: Towards a tool box

Since the end of the preparatory action, the activities in REMTh have helped in advancing the RIS3 process elsewhere in Greece and beyond. The EDP focus group approach has already been successfully adopted by other Greek regions, such as Thessaly and Attica, while issues arising in the course of the REMTh preparatory action have led to activities at national level.

As outlined above, the various tools developed and applied in the REMTh preparatory action can, taken together, be seen to constitute a first version of a toolbox of approaches for RIS3 implementation. This toolbox will continue to serve this region as well as other regions in Europe. Wider application will offer scope for further testing of existing tools as well as the creation of new tools. Possible areas in which additional tools could be developed include:

- Ongoing implementation of EDP processes and sustained and enhanced stakeholder engagement;
- Common approaches to address common barriers, for example in the area of state aid, and in alignment between national and regional level RIS3 activities;
- Support for increased internationalisation of the regional research and innovation ecosystem; Monitoring and evaluation of RIS3; and
- The acquisition of new skills and competences.

The hands-on approach taken for the implementation of this Preparatory Action, as well as the flexibility to further adapt methodologies to local needs and context, can generate a wide set of lessons on the implementation of regional smart specialisation strategies. These can be of benefit both to less developed regions that have struggled to restructure their economy in spite of considerable investments, and to all regions facing difficulties in implementing RIS3 as a new and largely unknown governance approach.

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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
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
REMTTh	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

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