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| [λογότυπο ΓΓΕΤ](http://www.gsrt.gr/central.aspx?langId=1) | **Ministry of Economy and Development | OPERATIONAL PROGRAMME COMPETITIVENESS, ENTREPRENEURSHIP AND INNOVATION EPAnEk-kinisi | NSRF 2014-2010** |  |

**PROJECT: Monitoring of the progress of the implementation of National Research and Innovation Strategy for Smart Specialisation (RIS3) 2014-2020**

**DELIVERABLE: 2nd Progress report of the “National Research and Innovation Strategy for Smart Specialisation (RIS3) for 2018**

**Executive Summary**

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# Executive Summary

The **2nd** **Progress report of the “National Research and Innovation Strategy for Smart Specialisation (RIS3) 2014-2020"** includes the basic information on the progress of the RIS3 strategy implementation developed by the General Secretariat for Research and Technology (GSRT) until 2018 and more specifically:

(a) The overall progress of the RIS3 strategy during the period until 2018.

(b) The interaction of the RIS3 strategy with other national, regional, European, etc. policies.

(c) The progress regarding the achievement of the objectives and indicators for monitoring the RIS3 strategy.

(d) Proposals for amendments and acceleration of the implementation of the RIS3 strategy as well as recommendations on its revision.

The strategic objective of the Operational Programme (OP) “Competitiveness, Entrepreneurship and Innovation” is the contribution to the proposed shift in the growth model of the Greek economy from non-tradable into tradable sectors, and cluster development of innovative and out turned sectors with a sustainable competitive advantage. A crucial aspect of the OP is its articulation with the Regional OPs regarding the support of priorities identified through national/regional smart specialisation strategies (RIS3) at the appropriate level. **The national RIS3 strategy is implemented through the OP,** and its purpose is the focused productive reconstruction of Greece underpinned chiefly by research, technological development and innovation to redress regional inequalities and to foster sustainable employment with respect to humans and society, the environment and culture. Moreover, the RIS3 strategy is expected to contribute to the creation of stable employment relationships and, generally, in creating suitable conditions for the efficient use of national human resources.

**For the OP, the Thematic Objective 1 "Strengthening research, technological development and innovation" and the Investment Priorities 1a[[1]](#footnote-1) and 1b[[2]](#footnote-2) are those directly linked to the implementation of the RIS3 strategy,** in which case they are monitored to assess the implementation of this strategy. The following Priority Axes of the OP are related to the above Investment Priorities:

* **PA1**: ”Entrepreneurship development with sectoral priorities",
* **PA1S**: "Entrepreneurship development with sectoral priorities (Central Greece, South Aegean)",
* **PA3:** “Development of mechanisms to support entrepreneurship”,
* **PA3S:** "Development of mechanisms to support entrepreneurship (Central Greece, South Aegean)",

and include the Specific Objectives **1.1** “Enhancement of business initiatives and partnerships for the development of innovative entrepreneurship in accordance with the National RIS3" and **3.1** "Upgrading and/or Development of research and innovation infrastructures for the development of the country's innovative capacity to support entrepreneurship ".

Regarding the **Investment Priority 1a, until 31.12.2018,** **3 calls for proposals** were published 2 of which concerned the strengthening of research and technology infrastructures (2 cycles) and the other one the reinforcement of high research and scientific level and the exploitation of the results that will occur from them. The budget of the above calls amounted €124,860,000. Half of the budget goes to the less developed regions (44.90%). The percentage of the projects selected for co-funding is considered satisfactory, as it is the 97.5% of the budget of the calls for proposals. The largest percentage of the budget of these projects concerns the more developed regions (54,14%). During the reference period there were no registered expenditure in the Monitoring Information System (MIS).

The projects selected for co-funding in the context of the above calls for proposals, are in accordance with the horizontal components of the RIS3 strategy referring to the creation of research and innovation infrastructures which facilitate the development of innovative products and services, the production of New Knowledge, the interconnection of science with society and international cooperation. Also, these projects correspond to the Strategic Choice 1” Investing in creating and disseminating New Knowledge” of RIS3 strategy[[3]](#footnote-3).

Regarding the public expenditure budget of the Investment Priority 1a, the percentage of the absorbed expenditure of the Special Account for Research Grants (SARG) was up to 28.3% (21.4% for the strengthening of research and technology infrastructures (2 cycles) and 48.1% for KRIPIS action). The regions of Crete, Attica and Thessaly have the highest percentages of expenditure absorption (31.4%, 29.6% and 28.3% respectively). The absorption percentage for the KRIPIS action is 50% for the regions of Attica, Western Greece and Crete.

The percentage of the registered expenditure in the Monitoring Information System (MIS) in the total budget of all the projects under Investment Priority 1a is only 6.9% (2.3% for the 1st and 2nd cycle of Infrastructure Development action and 20.3% for KRIPIS). The registered expenditures for every region, does not exceed the 7.5%. For the regions of South Aegean and central Greece, there are not selected projects for co-funding

Regarding the **Investment Priority 1b, until 31.12.2018,** **7 calls for proposals** were published:a) *Action "Research – Create – Innovate",* b) action for *Greek bodies that have participated successfully in joint calls for proposals of the European ERA NETS Networks (2 calls for proposals),* c) 4 calls for proposals for the action Bilateral, Multilateral and Regional S&T Cooperation between Greece and Germany, Russia, Israel and China. The budget of the above calls amounted €442,600,000. Half of the budget goes to the less developed regions (47.78%). The percentage of the projects selected for co-funding is 73.32% of the total budget of the calls for proposals. 576 projects were selected for co-funding in the context of the *Action "Research – Create – Innovate",* as well as 33 projects of the action Bilateral, Multilateral and Regional S&T Cooperation between Greece Russia and Israel.

The absorption of budget of the projects selected for co-funding is at a satisfactory level, as the payments of Special Account for Research Grants (SARG) in relation to the Investment Priority amounts to 23.83%, with the less developed regions having the largest share in these payments (51.99%). When compared to the Monitoring Information System (MIS) registered expenditure, this percentage is lower (23.83%).

It is important to be noted that the progress of the projects’ implementation under the Investment Priority 1a depends basically on the Action "Research-Create-Innovate", as the budget of its projects selected for co-funding is the 95.12% of the total budget of the projects of the Investment Priority, while the respective percentages of payments of Special Account for Research Grants (SARG) and of Monitoring Information System (MIS) amount to 93.8% and 98.55%.

The projects that were submitted and selected for co-funding in the above calls for proposals, are in accordance with the horizontal components of the RIS3 strategy referring to the development of innovative products and services, the exploitation of the opportunities offered by emerging technological sectors, the production of New Knowledge, excellence, research. Also, these projects correspond to the Strategic Choice 1” Investing in creating and disseminating New Knowledge” and Strategic Choice 2” Investing in Research and Innovation” of RIS3 strategy.

As far as it concerns the RIS3 strategy’s priority sectors, the largest number of projects selected for co-funding refers to the “Agri-food” sector (139 projects) and the smallest to the “Transport and logistics” sector (33 projects). In four of the eight RIS3 priority sectors (Agriculture, Life Sciences / Health & Medicines, Information and Communication Technologies and Culture - Tourism -Cultural and Creative Industries), the average number of projects selected for co-funding is 100, while these sectors contribute with the about same percentage to the total budget of the projects (17% in average).

The largest percentage of the budget of the projects selected for co-funding for each category of regions are included in the above-mentioned priority sectors, amounting to 67% of the total budget of the projects selected for co-funding. For the most developed regions, the largest percentage of the budget of the projects refers to the priority sector of ​​"Life Sciences / Health & Medicines" (26.86%), for the regions in transition and for the less developed regions in the priority sector of "Agri-food" (19.36% and 20.68% respectively).

In July 2017, α Call for Proposals was launched for **3** **specific actions in the fields of Aquaculture, Industrial Materials and Open Innovation in Culture**, with a budget of € 24,250 million. Funding proposals could be submitted by partnerships among research and knowledge dissemination organizations, existing businesses and cultural entities, promoting research, technology and innovation through various activities like feasibility studies, promotion / dissemination activities of results, participation in national and international conferences, promotion of innovation for SMEs. There was a high demand for these actions:

* Action: “Open Innovation in Culture (€13 million budget): 104 proposals were submitted of €73.3 million budget (public expenditure).
* Action: 'Aquaculture' (€ 5.25 million budget): 49 proposals were submitted of €12.4 million. budget (public expenditure).
* Action: "Industrial Materials" (€6 million budget). 101 proposals were submitted of €45.8 million budget (public expenditure).

Moreover, during the reference period there are **flagship initiatives** undertaken by the Greek Ministry of Education and Religious Affairs which are connected to the implementation of the RIS3 strategy, the management and the monitoring of which are under the GSRT. In this context, 3 national networks are being implemented in the fields of a) Agri-food, for the promotion of the qualitative characteristics of traditional products (olive, vine, bee), b) Climate change, for the study and the valid information In tackling extreme natural phenomena, c) Medical precision in oncology and cardiovascular diseases, for more effective and reduced cost of molecular medicine therapies, accessible to citizens by the public health system.

During the period 2014-2017, two actions – coherent to the scope of RIS3 strategy – were implemented by the **Hellenic Foundation for Research and Innovation (HFRI-ELIDEK)** funded by the European Investment Bank. A call for proposals was published by the GSRT in 2016, regarding grant scholarships to doctoral candidates for the elaboration of their doctoral thesis in universities and/or in research centres collaborating with universities in Greece. The budget (public expenditure) amounted to €8.5 million. A total number of 582 projects were approved for co-funding of €12.14 million budget, i.e. 43% more than the budget of the call for proposals. Additionally, in 2017, a second call for proposals was launched, with a budget of €9 million aiming to support the implementation of selected research projects of high scientific quality in which scientific managers are postdoctoral researchers. A total number of 186 projects were selected for co-funding of €12.14 million budget, i.e. far more the initial budget of the call for proposals.

As far as it concerns **other sources of funding that contribute to achieving the RIS3** objectives, except for the OP “Competitiveness, Entrepreneurship and Innovation”, it is mentioned the following programmes:

* The **Horizon 2020** program: In total, 1,725 projects with Greek participation in the H2020 projects with a total budget of €966 million were approved, of which €894.8 million constitute European participation. 2,956 Greek projects have been approved by 688 different stakeholders. H2020 program attracts high-level participants from the higher education, research and private sectors and from a wide range of fields and subject areas. The main beneficiaries of Horizon 2020 are higher education and research organizations, which together received 68.2% of Greece's funding, while the private sector received 28.6%.
* The **Operational Program "Development of Human Resources Education and Lifelong Learning"** (OP ANAD EDBM): The State Scholarship Foundation, under the Operational Program "Human Resources Development, Education and Lifelong Learning" (NSRF 2014-2020) with priority axes 6, 8, 9, co-financed by the European Social Fund, implements subprojects on three (3) scientific fields (Natural Sciences and Engineering Sciences, Life Sciences, Social and Humanities) for the purpose of doctoral dissertation and postdoctoral research in Greece. A total of 3,345 valid applications were submitted in the three scientific fields, out of which 1,112 were funded.
* **LIFE Program**: Until 2018, 40 projects with Greek participation have been approved, of which 20 have a Greek coordinating body. These projects number 103 Greek contributions from 75 different entities, which receive a total budget of €24.34 million.
* **URBACT Initiative**: 12 Greek participants, were funded by URBACT III in 8 approved projects, with a total sum of €633,315.09. RIS3 approach to addressing and responding to global challenges is open to all research and innovation actors, such as cities and regions, which could act as 'innovation workshops/hubs' to implement new ideas and concepts. This is where the RIS3 connection to this program comes from. 50% of approved projects are directly related to RIS3 domains. More specifically, 2 approved projects are included in the field of urban transport, one (1) in agri-food and one (1) in the field of culture.

The analysis of the findings of participants in the other sources of funding are in fact less entrepreneurial than initially envisaged. With limited exceptions, most projects are led by universities and research organisations rather than local business firms, leave alone subsidiaries of large multinational corporations. Furthermore, civil society organisations are underrepresented. In general terms though, the findings demonstrate a link of Horizon2020 project proposals and projects funded by the other initiatives with the relevant RIS3 priorities, as required.

As far as it concerns the **strategy output indicators,** there is already a significant overlap of target values ​​for the majority of the programme's indicators. For the support of investments, the percentage of the coverage of the target value of the indicators referring to the number of companies receiving support (CO01) or grants (CO02) and to the number of new start-ups (CO05) is 146%, 160% and 161% respectively. For the reinforcement of the research and innovation, the percentage of the coverage of the target value of the indicators referring to the number of new researchers in supported entities (CO24), the number of researchers working on improved research infrastructure facilities (CO25) and the number of companies collaborating with research institutes (CO26), is 84%, 160% and 121% respectively. In contrast to the preceding ones, the percentage of the coverage of the target value of the indicator relating to the number of joint R&D projects with other countries (with or without EU coordination) (T4204) is 27%. Finally, the target value of the 'Research Infrastructure Reinforced' indicator (T4225 / SO033) has been covered 100%.

For the **strategy outcome indicators**, the expenditure on innovative business activities with product innovation and/or process (as a percentage of GDP), as well as the intensity of Research & Development costs increased from 2014 to 2017 by 0.28% and 0.3% respectively. The gross value added in high value-added industries, shows a gradual reduction in the years 2015 and 2016, but an increase in 2017. The number of scientific publications in international journals are relative steady, while the average reporting per publication of Greek researchers has gradually increased in the periods of 2010-2014, 2011-2015, 2012-2016.

Based on the **Innovation Union Scoreboard (IUS),** Greece is a moderate innovator. For the reference period, although the country has high performance in some indicators relative to the EU average (EU-28) (e.g. SMES introducing marketing innovations or organisational innovations as a percentage of SMES, innovative SMES cooperating with others as a percentage of SMES, etc.), there are a number of indicators which have low values, with different degrees of divergence from the EU average (e.g. venture capital as a percentage of GDP, revenues from licenses and patents from abroad as a percentage of GDP, etc.)

Finally, the current report provides some **critical success factors for the successful implementation of the RIS3 strategy’s Actions,** particularly for those that are part of the EPANEK. The main challenges and ways of dealing with them include management issues (Special Issues Concerning the Environment of Actions, the Operational Capacity of Intermediates Bodies and Beneficiaries, the Maturity of Planning and/or Implementation of Actions & Technical-Business Issues) and quality aspects of the implementation of the comparative actions.

In a nutshell some indicative challenges analyzed are the following:

* The current economic environment and the lack of liquidity making it difficult for the (beneficiaries) to pre-finance their projects.
* The operational capacity of the two Intermediate Bodies to manage a multitude of actions that will increase in the future, together with the number of beneficiaries-enterprises to be supported in project monitoring.
* The operational capacity of the beneficiaries to meet the management obligations specified in the financing decisions and the Management and Controlling System.
* The proper scheduling for launching relevant calls so that there is no overlapping with consimilar 'competing' actions that have been announced or have being implemented, which would discourage potential beneficiaries from participating.
* The implementation of a proper monitoring mechanism that will guide the adaptation of corrective actions at both the target level and the process level for the development and implementation of RIS3.
* The effective involvement of businesses in the process of EDP and the dissemination of results of successful examples in the country are key factors in the success of RIS3 strategy
* The RIS3 strategy needs to be flexible and adapt to its goals continuously, due to constantly occurring changes.
* The avoidance of the research actors’ activity to be entrapped in the sectoral specialization and to mobilize them so as to combine the priority sectors with RDI and to increase the synergies between public and private investment.

Aiming at the encountering of the challenges identified above but also at making some recommendations for the revision of RIS3 strategy foreseen in 2019, the following points are underlined:

* The monitoring and evaluation system of the RIS3 strategy is proposed to include indicators for monitoring the management competence of the bodies responsible for monitoring and evaluating the RIS3.
* The proper scheduling of invitations and the avoidance of duplication of similar proposals by the Regional Operational Programmes will enable candidates who do not have the management competence to submit many proposals and to better structure the objectives and the concept of their project.
* The call for proposals texts and the implementation guides should be 'lighter' focusing on the achievement of the objectives and the allocation of funds.
* Clarity / Appropriateness of strategy regarding the needs and challenges in the fields of environment, employment, social protection and welfare - Relevance to policies at European level. The RIS3 strategy should include special sectors that have been included as priorities in European programs in which there was Greek participation.
* The design of a smart tool for strategy development will provide an overview of the strategy's priorities enabling other key stakeholders (SMEs, start-ups, researchers) to be placed and look for potential partners for cooperation, to promote innovative product players, to allow comparisons of RIS3 priorities across Europe so as to better understand how other regions and countries develop their innovation strategies.
* The introduction and promotion of innovation intermediaries (innovation support services) that will connect innovation bodies (SMEs, researchers, NGOs, etc.) to an idea that can be turned into innovation. They help identify and refine innovative ideas, find suitable partners and funding tools, and identify potential roles for each partner.

1. 1a "Enhancing research and innovation (R&I) infrastructure and capacities to develop R&I excellence, and promoting centres of competence, in particular those of European interest" [↑](#footnote-ref-1)
2. 1b "Promoting business investment in R&I, developing links and synergies between enterprises, research and development centres and the higher education sector, in particular promoting investment in product and service development, technology transfer, social innovation, eco-innovation, public service applications, demand stimulation, networking, clusters and open innovation through smart specialisation, and supporting technological and applied research, pilot lines, early product validation actions, advanced manufacturing capabilities and first production, in particular in key enabling technologies and diffusion of general purpose technologies” [↑](#footnote-ref-2)
3. It is noted that in the context of these calls for proposals, there was no reference to sectors of the RIS3 strategy. [↑](#footnote-ref-3)