



HELLENIC REPUBLIC  
MINISTRY OF DEVELOPMENT AND INVESTMENTS  
GENERAL SECRETARIAT FOR RESEARCH AND INNOVATION  
**HELLENIC FOUNDATION FOR RESEARCH AND INNOVATION**

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## **PRE-PUBLICATION NOTICE**

### **Basic Research Financing (Horizontal support for all Sciences)**

National Recovery and Resilience Plan (Greece 2.0)

The H.F.R.I., as the Implementation Institution of Subproject 1 “Basic Research Financing (Horizontal Support of all Sciences)”, which is included in the component 4.5 “Promote Research and Innovation” of the National Recovery and Resilience Plan (“Greece 2.0”), informs basic funding beneficiaries of its actions as well as Faculty Members and Researchers that the relevant Call under the aforementioned Subproject is going to be published in the near future.

The Subproject aims to support Basic Research through two separate Sub-actions, as follows:

#### **Sub-action I. Funding New Researchers**

This Sub-action aims to fund Faculty Members and Researchers of the Academic and Research Institutions in Greece, who are in the first stages of their career and do not have a permanent work relationship with their Institution (under a term of office). Through this Sub-action, the beneficiaries shall have the opportunity to fund and implement their research ideas in all sciences, without any

thematic or geographical restrictions, including in their team, for example, PhD candidates or/and postdoctoral researchers.

The Host Institutions of the Research Projects may be Higher Educational Institutions, Research Centres - Institutes (RC-I), University Research Institutes (U.R.I.), University Research Centres (U.R.C.) and Higher Military Educational Institutions in Greece, as well as the Hellenic Foundation for European & Foreign Policy (ELIAMEP).

The total available budget of this Sub-action amounts to 14 million euros approximately. The duration of funded projects may extend from 24 to 30 months, while their budget may range from €140,000.00 to €207,000.00, depending on the Scientific Area in which they will be submitted, according to Table 1 below.

**Table 1.** Upper budget limits per project and scientific area as well as number of projects expected to be funded per Scientific Area under Sub-action I. “Funding New Researchers”

<b>Sub-action I. Funding New Researchers</b>		
<b>Scientific Area</b>	<b>Upper Budget Limit per Project (€)</b>	<b>Number of Funded Projects (estimation)</b>
<b>SA1. Physical Sciences</b>	200.000,00€	10
<b>SA2. Engineering Sciences &amp; Technology</b>	190.000,00€	18
<b>SA3. Life Sciences (Medicine &amp; Health Sciences)</b>	207.000,00€	12
<b>SA4. Agricultural Sciences – Food Science &amp; Technology</b>	170.000,00€	8
<b>SA5. Mathematics &amp; Information Sciences</b>	170.000,00€	6
<b>SA6. Social Sciences</b>	140.000,00€	12
<b>SA7. Humanities &amp; Arts</b>	170.000,00€	6
<b>SA8. Environment &amp; Energy</b>	165.000,00€	5
<b>SA9. Management &amp; Economics of Innovation</b>	160.000,00€	2
<b>Total</b>		<b>79</b>

## **Sub-action II. Funding Projects in Leading-Edge Sectors**

This Sub-action aims to fund basic research projects, interdisciplinary as per case, in leading-edge sectors of five (5) Thematic Areas, as analysed below. In this context it is also possible to fund collaborative projects that will include more than one laboratories or research teams of the same or different beneficiary institutions in Greece.

The Principal Investigators (PIs) of the projects may be Faculty Members and Researchers of Academic and Research Institutions in the country. In the case of collaborative projects, Principal Investigators will also assume the role of coordinator.

The participating beneficiary Institutions of the Research Projects may be Higher Educational Institutions, Research Centres - Institutes (RC-I), University Research Institutes (U.R.I.), University Research Centres (U.R.C.) and Higher Military Educational Institutions in Greece, as well as the Hellenic Foundation for European & Foreign Policy (ELIAMEP).

### **Thematic Area 1. Physical Sciences, Engineering Sciences & Technology, Environment & Energy**

The research proposals should constitute collaborative projects of basic research and involve at least two partners from different laboratories or research teams, irrespective of institution. The interdisciplinary character of projects combining two or more of the Scientific Areas in question, namely “Physical Sciences”, “Engineering Sciences & Technology”, “Environment & Energy”, will be positively assessed during the evaluation. Research proposals should cover one of the following topics of scientific, technological and social/financial interest.

1. Removal and regeneration of plastic waste in soil and/or sea
2. Composite materials recycling; recovery and reuse of reinforcements, such as fibres
3. CO<sub>2</sub> Capture and transformation into fuels and chemical materials
4. Green hydrogen production for industrial, chemical and energy applications
5. Advanced hydrogen storage materials
6. Green materials for special applications (e.g. domestic, construction, transport etc.)
7. Lightweight materials development for reducing energy consumption
8. Development of non PGM (Platinum Group Metals) catalysts for all fuel cell and water electrolysis technologies
9. Science and Technology development for high energy storage systems
10. Novel approaches/technologies for the development of solar electricity production stations with concentrating mirrors (CSP technologies)
11. 3D additive manufacturing for composite material development
12. 3D/4D printing for component manufacturing
13. Data mining and optimisation of algorithms based on engineering principles
14. Development of high resolution earth system models for global and regional climate change projection
15. Novel material development for new solid-state batteries
16. The contribution of forest and aquatic ecosystems management to the climate action: pathways, trade offs and co benefits.

The duration of the projects shall range from 24 to 30 months and the maximum requested budget per project is set to €600,000.00. The total budget for this Thematic Area amounts to 15 million euros approximately.

### **Thematic area 2. Life Sciences (Medicine & Health Sciences)**

The research proposals should constitute collaborative projects of basic research and involve at least two partners from different laboratories or research teams, irrespective of institution. Furthermore, they should have an interdisciplinary nature combining the thematic area of “Life Sciences (Medicine & Health Sciences)” with one of the other H.F.R.I. Scientific Areas and cover one of the following fields of scientific, technological and social/financial interest.

1. Biomedical Sciences
2. Marine Biology.

The duration of the projects shall range from 24 to 30 months and the maximum requested budget per project is set to €600,000.00. The total budget for this Thematic Area amounts to 9.7 million euros approximately.

### **Thematic area 3. Agricultural Sciences – Food Science & Technology**

The proposed projects of basic research should cover one of the following topics of scientific, technological and social/financial interest:

1. Antimicrobial resistance of microorganisms (AMR) in food and feed
2. Use of omics in Qualitative Microbial Risk Assessment (QMRA) - increasing resolution of insights by moving from the deterministic response of populations to the stochastic behavior of single cell
3. Integration of Big Data (biological and non-biological) as well as of Information and Communication Technology Tools (ICT)
4. System biology serving agri-food sector (farm to fork)
5. Synthetic microbial ecology
6. Introduction of nanotechnology for the evaluation (and improvement) of quality and safety in the food and animal feed sector
7. The effect of climate change: from primary production and food safety
8. Risk based food processing design
9. Impact of the consumer behaviour on food safety
10. Emerging risks: natural, biological, chemical, environmental pollutants & plastics, from primary production to the consumer’s plate
11. Methods to assess allergenicity

The duration of the projects shall range from 24 to 30 months and the maximum requested budget per project shall be set to €170,000.00. The total budget for this Thematic Area amounts to 3 million euros approximately.

#### **Thematic area 4. Mathematics & Information Sciences**

The proposed projects of basic research should cover one of the following topics of scientific, technological and social/financial interest:

1. Artificial intelligence and robotics
2. Next generation networks and the internet of things
3. High performance computing and large-scale data
4. Security and privacy
5. Quantum computing
6. Large-scale infrastructure
7. Cyber physical systems
8. Differential equations/differential geometry
9. Numerical algebraic geometry.

The duration of the projects shall range from 24 to 30 months and the maximum requested budget per project shall be set to €170,000.00. The total budget for this Thematic Area amounts to 3.3 million euros approximately.

#### **Thematic area 5. Social Sciences, Arts & Humanities, Management & Economics of Innovation**

Proposed projects of basic research in this thematic area shall be submitted in one of the following leading-edge sectors and, depending on the sector, they will be interdisciplinary or not. The duration of the projects shall range from 24 to 30 months and the total budget of the thematic area shall amount to 12.3 million euros approximately. The maximum requested budget of the projects depends on the leading-edge sector the project relates to, as specified below:

1. Studying the promotion of societies with no exclusions, inclusive societies and societies with social cohesion by investigating more specific issues, such as migration and its effects on individuals and societies, precarious employment and its impact on various dimensions of life, poverty, development of ideologies (e.g. populism) and their impact on democracy and intergroup relations, rights and respect of gender, race, sexuality and religion diversity etc. The maximum requested budget per project is set to €140,000.00.
2. Communication, mass media and social influence, including trust issues towards institutions, experts etc., the development and impact of fake news, the communication of expert and non-expert opinions and the effects of these phenomena etc. The maximum requested budget per project is set to €140,000.00.
3. Digital Humanities and Social Sciences with an emphasis on the following fields:
  - i. Digital classics
  - ii. Computational linguistics
  - iii. Digital applications in the study and teaching of ancient and modern languages
  - iv. Digital applications in Archaeology and Cultural Heritage
  - v. Digital applications in historical research
  - vi. Digital applications in the history of religions
  - vii. Digital art forms

- viii. Understanding the potential worlds and communities as well as the services they provide
- ix. Use and effects of social media
- x. Tele-education and teleworking: applications and effects etc.
- xi. Critical approach of the digital world.

The maximum requested budget per project is set to €300,000.00. The projects in this leading-edge sector should be interdisciplinary combining the field of “Humanities & Arts” or “Social Sciences” and one of the remaining H.F.R.I. Scientific Areas.

- 4. Development of innovative applications and sustainable business models that can be implemented either in existing organisations (businesses, industries, industrial fields) or aiming at developing new small and medium-sized enterprises (including spin-off companies), with an emphasis on sustainable solutions having a technological, financial and environmental dimension and with the purpose to support Research and Development. These may also include actions relating to the utilisation of Information and Communication Technologies as well as the process of digitalisation through knowledge dissemination and feedback platforms and through the connection of natural systems and computer models in the context of developing innovative applications for industries/businesses. The maximum requested budget per project is set to €160,000.00.
- 5. Developing policies and governance models of innovation and improving methodological contexts related to the encouragement and evaluation of innovative actions, as well as studying the impact and the dissemination mechanisms of innovative applications/technologies in a large scale. Actions involving the dissemination/promotion of research projects/actions/applications related to either the circular or social economy in the wider society or to specific social groups (e.g. to pupils of Primary and Secondary Education, young scientists, socially vulnerable groups) and/or to remote geographical areas through innovative, original approaches are included. The maximum requested budget per project is set to €300,000.00. Projects in this leading-edge sector should be interdisciplinary, including at least two H.F.R.I. Scientific Areas, one of which should be “Management & Economics of Innovation” or “Social Sciences”.

Table 2 below presents the upper budget limit per project and the number of projects expected to be funded in each Thematic Area.

**Table 2.** Budgets and number of projects per Thematic Area under Sub-action II. “Funding Projects in Leading-Edge Sectors”

<b>Sub-action II. Funding Projects in Leading-Edge Sectors</b>		
<b>Thematic Area</b>	<b>Upper Budget Limit per Project (€)</b>	<b>Number of Funded Projects (estimation)</b>
<b>1. Physical Sciences, Engineering Sciences &amp; Technology, Environment &amp; Energy</b>	600.000,00€	25
<b>2. Life Sciences (Medicine &amp; Health Sciences)</b>	600.000,00€	16
<b>3. Agricultural Sciences – Food Science &amp; Technology</b>	170.000,00€	18
<b>4. Mathematics &amp; Information Sciences</b>	170.000,00€	20
<b>5. Social Sciences, Humanities &amp; Arts, Management &amp; Economics of Innovation</b>	(140.000,00€ to 300.000,00€) depending on the sector	60
<b>Total</b>		<b>139</b>

The participation terms and conditions shall be specified in the Call, which is expected to be published in the near future on H.F.R.I.’s website: [www.elidek.gr](http://www.elidek.gr), as well as on the following websites: [www.gsrt.gr](http://www.gsrt.gr) and <https://greece20.gov.gr>.