2016-2020 RESTART SEARCH

RESEARCH, TECHNOLOGICAL DEVELOPMENT AND INNOVATION PROGRAMMES

FUNDING SCHEME

«RESTART 2016-2020» Programmes for Research, Technological Development and Innovation

PROGRAMME

«DUAL USE TECHNOLOGIES»

CALL FOR PROPOSALS

DUAL USE/0922

Funded by the European Union
NextGenerationEU

Republic of Cyprus

RESEARCH & INNOVATION FOUNDATION

This Call for Proposals is funded by the Recovery and Resilience Facility of the NextGenerationEU instrument

ΕΙΣΑΓΩΓΗ

The Research and Innovation Foundation (RIF) announces the Call for Proposals for the **"Dual Use Technologies" Programme** within the framework of the «RESTART 2016-2020» Programmes for Research, Technological Development and Innovation (RTDI) and invites potential beneficiaries to submit relevant Project Proposals (Proposals).

The present Call will be financed by the Recovery and Resilience Facility of the NextGenerationEU instrument, in the frame of the action C3.2I4 «Funding schemes to support organisations performing R&D activities on dual technologies, including the creation of new or upgrade of existing laboratories and the development of classified laboratories» of the Cyprus Recovery and Resilience Plan. In the frame of this Action the Programme «Classified Labs – Dual Use Technologies» will be announced as well. The Action is implemented under Policy Axis 3: «Strengthening the Resilience and Competitiveness of the Economy», and specifically the Component 3.2 «Enhanced Research and Innovation».

GENERAL CALL INFORMATION

Pillar	**I. SMART DEVELOPMENT**
Programme	**Dual Use Technlogies**
Call Identifier	**DUAL USE/0922**
Funding Source	**EU Recovery and Resilience Facility**
Call Budget	**2.720.000 Euro**
Maximun Funding Per Project	**388.500 Euro**
Publication Date	**7 September 2022**
Deadline	**9 November 2022, time 13.00**

The English version of the Call, even though an official translation endorsed by the Research and Innovation Foundation, is provided for information purposes only. Only the Greek version of the Call is legally binding and shall prevail in case of any divergence in interpretation.

OBJECTIVES

The "Dual Use Technologies" Programme aims to promote the research and development of dual-use technologies for civilian applications, i.e. for commercial or social purposes, non military purposes. More specifically, the funded projects are expected to promote cooperation between stakeholders of the R&I ecosystem (enterprises or enterprises and research organisations) in order to jointly design activities for the development of new technologies and solutions in the fields of dual-use technologies, which are not serving military or defence purposes.

In addition, from the implementation of the Program, the following are expected:

- enhancing the competitiveness of Cypriot enterprises thus resulting in making a contribution in the country's economy growth, through the development of new products / services / production methods of high added value, or significantly optimised products / services / production methods in dual use technologies which will be commercially used
- the enhancement of knowledge transfer and know-how within the ecosystem with the aim of utilizing existing knowledge for the development of technologies and solutions by and for the Cypriot industry,
- strengthening and encouraging cooperation and cooperation between stakeholders, and
- the development and improvement of the capabilities of Cypriot organisations in the field of dual-use technologies in order to be more competitive and successfully in relevant European programs (EDF, HORIZON, etc.).

DESCRIPTION

The Programme concerns research and innovation projects targeting dual-use products, services and solutions, including software and technologies, as defined in EU law (Annex I of Regulation (EU) No. EU 2021/821)[1] as products and technologies that are commonly used for civilian purposes, but may have military applications.

Under the "Dual Use Technologies" Programme, only research and innovation activities focusing on civilian applications are eligible for funding. Projects with defence or military purposes shall not be funded.

Funded Projects are expected to be implemented by local consortia consisting of at least two organisations, one of which is an Enterprise while the other may be an Enterprise or a Research Organization (two Enterprises or an Enterprise and a Research Organization). Other organisations may participate in the consortium, as deemed necessary for the better implementation of the project.

The proposals submitted should fall under one of the following Thematic Priorities.

Thematic Priorities:

1. Maritime Surveillance

Short Description: Development of surface or underwater system and/or subsystems and/or technologies and/or software based on sensor and actuator networks for the surveillance and protection of critical maritime areas, such as ports.

Innovative technologies could be also applied to existing or future available equipment (COTS-Commercial of the shelf).

Indicative Challenges

[1] Recast of Council Regulation (EC) No 428/2009 of 5 May 2009 establishing a Community system of export controls on the transport, brokering and transit of dual-use items

- Energy efficiency of Sensors and Actuators
- Communication of sensors and actuators with unmanned surface and underwater vehicles or other kind of unmanned robotic devices.
- Protection against different types of threats such as marine vehicles, people, robotic devices.
- Use of Machine Learning.

2. Communication Networks

Short Description: Development of mobile, resilient and secured wireless communication networks. Includes the development of either systems and/or subsystems and/or technologies and/or software (applications).

Innovative technologies could be also applied to existing or future available equipment (COTS-Commercial of the shelf).

Indicative Challenges

- Use of SDR (Software defined radio) technology, cognitive radios technology, technology advances in dynamic electromagnetic spectrum management.
- Achievement of high data transmission rates for voice, text and video data.
- Make use of new generation 5G technology and IoT.
- Support operation without the need of fixed infrastructure (Make use of Mobile Ad Hoc Networks technology).
- Use of innovative encryption key distribution technologies, and make use of technology advances on strong encryption techniques.

3. Unmanned Vehicles (Drones/UAVs and USVs / UUVs)

Short Description: Development of MICRO[2], MINI[1] and SMALL[3] UAVs (single rotor or multirotor or fixed wing) or/and small[4] Unmanned Surface Vehicles (USV) / Unmanned Underwater Vehicles (UUV) or/and systems/subsystems/technologies aimed to be used for search and surveillance purposes. Includes among others, the platform, sensors, communications, software, ground station etc of the Unmanned Device.

Innovative technologies could be also applied to existing or future available equipment (COTS-Commercial of the shelf).

Indicative Challenges

- Endurance and energy efficiency
- Operation in complex operational environment - Ability to operate in bad weather conditions
- Anti -Jamming capabilities
- Avoid physical obstacles – Obstacle avoidance capabilities
- Swarm Operation Ability
- Alternative navigation methods in case of GNSS denied environment

2 MINI, MICRO (<3Kg, έως 5Km Line of Sight)
3 small (<25Kg, max 5000ft AGL, max 20KM Line of Sight)
4 Small USVs / UUVs (<5m length)

- Autonomous and Remote Control
- Fast deployment and redeployment

4. Active protection of Critical infrastructure against aerial (drones/UAVs) threats

Short Description: Development of either systems/subsystems/technologies (civil Hard-Kill methods) for the active protection of maritime and/or land critical infrastructure against unmanned aerial threats, through neutralization.

Indicative Challenges

- Avoiding collateral damages through Hard Kill (Non-kinetic) neutralization methods, using for example High Power Microwave or Laser and/or civil type kinetic methods such as Hit to Kill drone.

5. Advance staff training through simulation

Short Description: Development of innovative systems / subsystems / simulation technologies (interface- simulation -graphics) that make use of the technological advances in virtual reality and/or mixed reality aimed to achieve optimal and more realistic levels of training, preparing the operational staff through realistic simulation to carry out real-world missions and implement planned scenarios efficiently and safely.

Innovative technologies could be also applied to existing or future available equipment (COTS-Commercial of the shelf). Development of simulation equipment is not mandatory.

Indicative Challenges

- Supports high level of realistic training with the use of real equipment (small arms or specialized firefighting equipment, etc.) and/or haptic devices.
- Simultaneous collective training of multiple users in the same virtual simulation environment.
- Use of realistic projected simulation and artificial intelligence.
- Simulation training takes into account the cognitive, psychological, and physical preparation of the staff.

6. Artificial intelligence applications

Short Description: Development of innovative systems / subsystems /artificial intelligence technologies based on AI algorithms capable of automatically detecting and identifying the presence of significative and interesting entities in the data provided by deployed sensors, in order to reduce the analysis load for human operators. Proposals could also include the latest advances in artificial intelligence for the identification of patterns and anomaly behaviours to effectively support situational awareness and decision-making process.

Indicative Challenges

- Ability to process and analyze large amounts of data of several format (for ex. images, videos, etc.) provided by several types of deployed sensors (For example, unmanned aerial vehicle sensors, ground sensors, marine sensors, and other types of sensors).

- High probability of correct object recognition and correct predictions of patterns and anomalies.

MANAGEMENT & EXPLOITATION OF INTELLECTUAL PROPERTY

Ownership of background and foreground Intellectual Property (IP), as well as relevant conditions for the use of IP, shall be settled accordingly through bilateral or other agreements among Consortium Partners.

In addition, the following specific provisions will apply to the present Call regarding the management and exploitation of the generated IP:

- In order to export the outcomes of the projects to an organisation abroad, the HO must obtain the approval of the Competent Authorities (Ministry of Defence).
- The Ministry of Defence (MoD) will have the right to require the granting of a license to use the intellectual property rights (IPR) generated through the Project, at zero licensing cost or under conditions that are reasonable under the circumstances, to the extent that IPR is required by the MoD to meet national security needs of the Republic of Cyprus.
- In case of participation of a Foreign Research Organisation (FRO), the HO is obliged to ensure that the FROs comply with the provisions binding the Consortium Partners concerning IPR, as these are described in the present Call. Alternatively, FROs may participate without ownership of the generated intellectual property. All of the above are expected to be properly addressed through bilateral agreements between the HO and the FRO.
- It is also expected that Consortium Partners from industry will have the possibility to use research results for the development and production of innovative products and services (i.e. through exclusive or non-exclusive licenses). Additionally, in case of participation of a Research Organisation, the Host Organisation (HO) should be granted a right for first refusal on generated IP, including the right to use data generated through the project.

BENEFICIARIES

Research Organisations (A.1, A.2), Enterprises (B.1, B.2, B.3) and Other Private Sector Organisations (C.1).

SPECIFIC PARTICIPATION RESTRICTIONS AND CONDITIONS

The Host Organisation (HO) must be an Enterprise. (B.1, B.2, B.3).

The consortium must include at least one Partner Organisation which can be an Enterprise or a Research Organisation.

Research Organisations (A), Enterprises (B) or Other Private Sector Organisations (C1) may participate as additional Partner Organisations.

It is noted that according the relevant Work Programme, in the cases where a minimum Consortium is required, it must consist of legal entities, independent of one another, none of them being under the direct or indirect control of the other or under the same direct or indirect control.

At least 50% of the project budget must be allocated to Enterprises (Type B) that participate in the Consortium.

Participation of STARTUP Companies is not allowed except for those with marketable products / services, with a record for sales and turnover and audited financial statements for at least two (2) years.

The participation of Foreign Research Organisations (FRO) is permitted.

PROJECT ACTIVITIES

The projects must necessarily include Experimental Development activities. They may also include Industrial Research activities.

Projects must fall within Technology Readiness Levels (TRL) 4-7 in compliance with the relevant definitions adopted by the EU[5].

DURATION OF PROJECT IMPLEMENTATION

18-24 Months

BUDGET

€ 2.720.000.

MAXIMUM FUNDING PER PROJECT

€ 388.500

ELIGIBLE COSTS

[5] TRL 1 - observation of basic principles
TRL 2 - formulation of a technological concept
TRL 3 - experimental proof of concept
TRL 4 - laboratory-validated technology
TRL 5 - technology validated in a relevant environment
TRL 6 - demonstration of technology in a related environment
TRL 7 - demonstration of prototype system in an operational environment
TRL 8 - complete and specialized system
TRL 9 - real system, functional in an operational environment (competitive production in the case of basic technologies)

Personnel costs, Costs for Foreign Research Organisations, Instruments and Equipment Costs, Costs for External Services, Costs for Travelling Abroad, Consumables, Other Specific Costs, Overheads.

It is noted that, all beneficiaries that have not previously participated in the RESTART 2026-2020 Programmes, should make use of the simplified cost Method «Standard Scales of Unit Costs» for the calculation of personnel costs.

SERVICES OF THE CENTRAL KNOWLEDGE TRANSFER OFFICE (KTO)

Aiming at enhancing the projects' potential for exploitation of research results, all Project Consortia funded under the present Call will be required to contact the Central Knowledge Transfer Office (KTO) for the preparation of a specialised Service Delivery Plan.

Acceptance of the Service Delivery Plan by the Project Consortia and utilization of the central KTO services will be optional.

RESTART 2016-2020 WORK PROGRAMME

All general rules and procedures for the participation of organisations and individuals, the eligible activities and costs, as well as the specific information regarding the «Innovation Vouchers» Programme, as well as the other RESTART 2016-2020 Programmes, are included in the **RIF's Work Programme for the «RESTART 2016-2020» Programmes for Research, Technological Development and Innovation – Programmes for the Period 05/2022 – 09/2022**, which is the main reference document and an important information source for interested parties and can be found on the Research and Innovation Foundation's **IRIS (Innovation Research Information System) Portal** (**https://iris.research.org.cy/#/documentlibrary**).

SPECIFIC CONDITIONS

In the frame of the present Call, the following specific conditions apply:

- Projects to be funded must have a start date by June 1st, 2023 at the latest.
- The Ministry of Defence, if it deems appropriate, could support the continuation of a research project, which has been selected through this Call, through a pre-commercial procurement procedure or through any other appropriate procedure, in order to develop it into the next stage of technological maturity.
- Each Organisation can receive funding as Host Organisation for a maximum of two (2) projects and up to one per Thematic Priority (in case that more than 2 proposals of a Host Organsiation have been ranked 1st in their thematic priority, the 2 with the highest score will be selected).

- During the submission of proposals, legal entities of the private sector participating in the proposal (Host Organisation and Partner Organisations), should submit to the RIF an official proof for the registration of the updated data regarding their ultimate beneficial owners in the Competent National Registry / Archive (including the registration number), as per «The prevention and suppression of money laundering and terrorist financing Law of 2007 (188(I)/2007)» described in Chapter 4.4 – Contract Preparation, of Section III, of the relevant Work Programme. Organisations requesting funding more then 150.000 Euros, should also submit the data (Name and Surname, ID / Passport Number and Date of Birth) of their ultimate beneficial owners.
- Funded Projects should comply with the «Do No Significant Harm» principle, according to which they must not include or support activities that could cause significant harm to any of the six environmental objectives, as per Article 17 of Regulation (EU) No 2020/852, on the establishment of a framework to facilitate sustainable investment, as Described in Chapter 8 – Broader Legal Framework, of the present RESTART 2016-2020 Work Programme Document. According to the above, in the frame of the present Call activities which fall under non-eligible activities as these are described in the aforementioned Chapter of the Work Programme, are excluded.
- According to the Technical guidance on the application of “do no significant harm” under the Recovery and Resilience Facility Regulation (2021/C 58/01), the following activities are not eligible for this call for projects
    - Activities related to fossil fuels, including downstream use. Except projects under this measure in power and/or heat generation, as well as related transmission and distribution infrastructure, using natural gas, that are compliant with the conditions set out in Annex III of the Technical Guidance 2021/C58/01.
    - Activities under the EU Emission Trading System (ETS) achieving projected greenhouse gas emissions that are not lower than the relevant benchmarks. Where the activity supported achieves projected greenhouse gas emissions that are not significantly lower than the relevant benchmarks an explanation of the reasons why this is not possible shall be provided. Benchmarks established for free allocation for activities falling within the scope of the Emissions Trading System, as set out in the Commission Implementing Regulation (EU) 2021/447.
    - Activities related to waste landfills, incinerators and mechanical biological treatment plants. For incinerators, this exclusion does not apply to actions under this measure in plants exclusively dedicated to treating non-recyclable hazardous waste, and to existing plants, where the actions under this measure are for the purpose of increasing energy efficiency, capturing exhaust gases for storage or use or recovering materials from incineration ashes, provided such actions under this measure do not result in an increase of the plants’ waste processing capacity or in an extension of the lifetime of the plants; for which evidence is provided at plant level. For mechanical biological treatment plants, this exclusion does not apply to actions under this measure in existing mechanical biological treatment plants, where the actions under this measure

are for the purpose of increasing energy efficiency or retrofitting to recycling operations of separated waste to compost bio-waste and anaerobic digestion of bio-waste, provided such actions under this measure do not result in an increase of the plants' waste processing capacity or in an extension of the lifetime of the plants; for which evidence is provided at plant level

- Activities where the long-term disposal of waste may cause harm to the environment.

SUBMISSION

Proposals are submitted through the Research and Innovation Foundation's **IRIS Portal** (**https://iris.research.org.cy**).

The Project Coordinator and all local participating organisations in the Project Consortium, should register in advance on the IRIS Portal.

Potential applicants are advised to use the **«Guide for Applicants»**, which contains guidelines and clarifications regarding the Submission procedure and the **«IRIS Portal User Manual»** which can be found on the IRIS Portal (**https://iris.research.org.cy/#/documentlibrary**).

The Research and Innovation Foundation encourages in all its Calls for Proposals:

- *the participation of women as Project Coordinators, and*
- *the gender-balanced formation of projects.*

The Project Proposal consists of the following parts:

1. Part A – General Information & Budget (electronic form (fields) to be completed online through the IRIS Portal).
2. Part B – Technical Annex (document to be uploaded as an Annex on the IRIS Portal in PDF format). *It is noted that the template provided for this Call must be submitted, without any differentiation. The Part B template can be found on the IRIS Portal, under the relevant Call for Proposals (Call Documents).*
3. Annex I – Curricula Vitae (document to be uploaded as an Annex on the IRIS Portal in PDF format and includes the CVs of the Coordinator and the key personnel of the project team – Optional Submission).
4. Annex II – Call Specific Information (documents to be uploaded as an Annex on the IRIS Portal in PDF format):

   (α) Official Proof for the registration of updated data of their ultimate beneficial owners in the Competent National Registry / Archive (for private sector organisations).

(β) Declaration regarding the ultimate beneficial owners of applicants in the Call of the funding Programme (where applicable).

PROJECT SELECTION

Evaluation Procedure

For the evaluation of Proposals to be submitted under the «Dual Use Technologies» Programme, a Proposal Preliminary Check and a remote scientific evaluation procedure by three (3) independent evaluators (with a Consensus Report) will be followed, as described in the relevant Work Programme. **It is noted that in case a thematic priority is not selected the proposal will be deemed ineligible during the preliminary check.**

Prior to the scientific evaluation of each Proposal according to the evaluation criteria, evaluators are requested to assess the Proposal's compatibility with:

- Compatibility with the Objectives of the Programme
- Compatibility with the Objectives of the Call for Proposals.
- Compatibility with the proposed Technology Readiness Levels (TRLs)
- Compatibility with the selected priority area
- Compatibility of the proposed type(s) of research activities
- Compatibility with the «Do No Significant Harm» principle

The evaluator will not proceed with the assessment of the evaluation criteria should the Proposal fail the compatibility assessment.

Evaluation Criteria

1. Excellence – Weight 25%

- Degree of Innovation and Originality of the Project in relation to the existing knowledge (state-of- the-art) at international level.
  - Rationale for the selection of the proposed project.
  - Identification and scientific / technical justification of the project's innovation in relation to the existing knowledge at international level and the relevant field of application in industry.
- Quality of Project Objectives.
  - Justification of the ability to address the general needs and challenges of the sector of the dual use technologies and the indicative challenges as described in the selected thematic priority, under which the proposal has been submitted
  - Clarity, completeness, quality, scientific / technical justification.
  - Relevance to the Programme's objectives.
- Soundness, credibility and feasibility of the proposed idea.

- Relevance of the proposed research activities (industrial research and experimental development) with the Project's, Programme's and specific Call's objectives (activities falling under Technology Readiness Levels (TRLs) 4-7)

2. Added Value and Benefit – Weight 45%

- Scientific and/or technological and/or social and/or economic impact and measures to maximize it.
  - Quantitative justification that the activities and results of the proposed project will have a substantial impact on the selected thematic priority and the competitiveness of the involved organizations and the Cyprus economy through the joint development and application of existing knowledge and knowhow and its transfer among the consortium.
  - Development of new and application of existing know-how and knowledge and their exploitation for the production of new cost-effective products / services / processes.
  - Commercial perspective of the results, taking into account parameters related to the market (size, growth, etc.).
- Effectiveness of the proposed measures for the exploitation (including management of Intellectual Property Rights) and dissemination of results for achieving maximum Project visibility.
  - Reliability of proposed Commercialization Plan and exploitation of project results.
  - Degree to which the proposed innovation is expected to have other positive effects (employment, social, environmental, scientific)
  - Dissemination plan of the project's results in Cyprus and abroad.
  - Management and protection of intellectual property rights that may arise from the implementation of the project and its relevance to the objectives of the project and the Programme, including the "right of first refusal" to the Host Organization, in case of the participation of a research organization.

3. Implementation – Weight 30%

- Completeness and appropriateness of the Work Packages' content, the allocation of the various activities, the timetable and the budget*.
  - Relevance of the proposed budget to the content and the actual needs of the proposed project.
  - Completeness and reliability of the Contingency Plan in the context of the implementation of the project.
- Effectiveness of the proposed methodology for the implementation of the Project Proposal (deliverables).

- Completeness, quality and capacity of the Consortium (at the level of organizations and/or persons) for the implementation of the Project Proposal and achievement of the proposed objectives.
  - Adequate participation of all consortium members.
  - Ability and experience of the consortium in the implementation of research and innovation projects, particularly related to the subject of the proposed project.
- The suitability and contribution of the organizations and individuals in the Consortium (including Foreign Research Organizations, where applicable) to the implementation of the project according to their specialization and real capabilities.
  - Adequacy of the project's research team: qualifications and research experience of the Project Coordinator and of the other members of the research team.
  - The adequacy of the existing/proposed infrastructure to achieve the levels of technological maturity (TRL 4-7).
  - The ability and motivation of the team members to exploit the results of the project.

Selection

Projects are selected for funding as follows:

- the top ranked (1st) eligible proposal, out of the proposals submitted in the same Thematic Priority, and
- The selection of the rest of the proposals for funding will be made according to their ranking until the exhaustion of the Total Call Budget.

It is noted that there should be an available budget covering 100% of the requested funding in order to invite a proposal for Contract Preparation.

INFORMATION – CONTACT DETAILS

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The Research and Innovation Foundation may at its discretion, proceed to the extension or revocation of the present Call by applying the same publication procedure.