

RIMA is funded by the European Union's Horizon 2020 Research and Innovation Programme
under the Grant Agreement n° 824990

Three decorative circles: an orange circle, a dark grey circle, and a light grey circle.

GUIDE FOR APPLICANTS

RIMA 1st Open Call (September 2019)

Submission of applications starts on 4th of September 2019, at 00:00 (CEST)

Submission deadline: 19th of December 2019, 16:00 (CET)

Version 11/07/2019



Table of Contents

●	I GENERAL OVERVIEW	5
1	Overview and summary of the Open Call	5
1.1	Why should you apply to this call?.....	5
1.2	What types of proposals will be eligible?.....	6
1.3	What are the defined domains?.....	7
1.4	What challenges can be addressed in the applications for this domain?.....	10
1.5	What happens after the proposals are submitted?.....	10
1.6	What are the next steps?	10
2	Financial support provided.....	11
●	II APPLICATION AND EVALUATION	13
3	Eligibility criteria	13
3.1	Types of Beneficiaries.....	13
3.2	Eligible countries	13
3.3	Types of activities	14
3.4	English language.....	14
3.5	Multiple submissions.....	14
3.6	Submission system	14
3.7	Deadline.....	15
3.8	Absence of conflict of interest	15
3.9	Other	15
4	Preparation and submission of the proposals	16
5	Summary of evaluation process	17
●	III FINAL STATEMENTS	23
6	Applicants communication flow	23
6.1	General communication procedure	23
6.2	Appeal procedure	23
7	Obligations of FSTP beneficiaries	23
8	Implementation of the programme.....	24
9	Intellectual Property Rights (IPR)	25
9.1	IPR ownership of the sub-granted projects.....	25
9.2	Communication obligations	25
10	Support for the applicants.....	25
11	Schedule	26
12	Applicable law.....	26



13	Glossary	27
•	Annex 1: Informed consent form	30
•	Annex 2: Processing of personal data	30
•	Annex 3: Information sheet.....	30
•	Annex 4 : Call Announcement	30
•	Annex 5: Challenges definition	30
•	Annex 6: RIMA equipment, facilities and competences.....	30
•	Annex 7: DIH services	30

I

• I GENERAL OVERVIEW

1 Overview and summary of the Open Call

Inspection and Maintenance (I&M) represents a huge economic activity (450 Bn€ market) spanning across sectors such as energy, transport and civil engineering. EU hosts over 50% of I&M robotics offer but there is a bottleneck connecting it to the market and high potential applications. **RIMA is a 4-year project aiming to establish a network of 13 Digital Innovation Hubs (DIH)** on robotics sharing best practices and providing services to facilitate uptake of I&M technologies.

Our challenge is to reinforce this connection and to provide education and training on robotics I&M and to connect the value chain - research, technology companies, service providers, end users and investors - for accelerating economic growth in the field:

- building upon the network pioneered by SPRINT Robotics extending it to all relevant sectors across the value chain;

- encompassing network:

- leading research organizations supporting one DIH per region aligned with regional policies and industry sectors,
- sectorial associations that will make a bridge with end users and industries;

- offering the key services to achieve acceleration including support to testing and technology transfer, coaching and training on robotics for I&M, identification of tracks to optimize processes and communication;

- advising on funding opportunities relying on the S3 Thematic Platform on robotics for I&M federating the common ambition of EU-13 regions;

- ensuring network sustainability by adopting the SPRINT business model.

In two Open Calls, in 2019 and 2020, RIMA will select 50 experiments among which there will be 15 Technology Transfer Experiments ¹ & 35 Technology Demonstrators. Start-ups that are small & medium-sized companies (SMEs) or slightly bigger companies can apply. A total of €8.1M funding will be distributed to support these experiments during the project.

Successful candidates will receive equity-free funding to conduct their experiments. In addition, they will get access to acceleration services e.g. training, business mentoring and technical support from RIMA network.

1.1 Why should you apply to this call?

There are several good reasons why SMEs or slightly bigger companies should apply to the 1st call:

- if you are a Technology Developer you have the opportunity to bring your innovative **technology closer to the market (from TRL 5 to 7)**,
- if you are a Services/Product Provider in the field of Inspection and Maintenance for Infrastructures you can **develop new products or services or to innovate the existing ones**,
- if you are a System Integrator you have the opportunity to **enlarge your application field**,

¹ All terms are defined in the Glossary that is at the end of the document.

- as a micro-consortium you can receive **financial support up to € 300K** for innovative proposals,
- you can **find complementary companies** among Technology Developers, Service/Product Providers and System Integrators to develop your innovative business together,

the RIMA consortium will assist you free of charge during the execution of your experiment with **Technical Services** (consultancy, lab facilities etc), **Business Services** (organisation, finance, ethics, legal etc.) and **Mentoring Services** to facilitate a smooth path to bring your innovation onto the market.

1.2 What types of proposals will be eligible?

RIMA will support the development and deployment of robotics I&M applications with grants for two types of eligible actions: Technology Transfer Experiments (TTE) and Technology Demonstrators (TD).

Technology Transfer Experiments (TTE) consist of developing, testing and validating the technical and economic viability of a robotic-based representative model or prototype system to be applied in ‘Target Use Domain’ operational environment.

Technology Demonstrators (TD) consist of validating the technical and economic viability of a new or improved Robotic-based technology, product, process, service or solution in a ‘Target Use Domain’ operational environment, whether industrial or other, involving where appropriate a larger scale prototype or demonstrator.

Type of Action	Technology Transfer Experiment (TTE)	Technology Demonstrator (TD)
Type of Activities	Developing, testing and validating the technical and economic viability of a robotic-based representative model or prototype system to be applied in a ‘ Target Use Domain ’ operational environment.	Validating the technical and economic viability of a new or improved Robotic-based technology, product, process, service or solution in a ‘ Target Use Domain ’ operational environment, whether industrial or otherwise, involving where appropriate a larger scale prototype or demonstrator.
Beneficiaries	SMEs (or slightly bigger companies ²) from ‘Target Use Domain’ value chains SMEs (or slightly bigger companies) - technology suppliers	
Nº Beneficiaries	Minimum 2 independent entities - micro-consortium (it’s compulsory to have one ‘Service/Product Provider’ and one ‘Technology Supplier’)	
Beneficiaries location	EU Member States or Associated Countries	

² in accordance to the [EU recommendation 2003/361](#). Slightly Bigger Companies are defined as organizations with a staff headcount below 500 employees and a turnover below €100M

Support	Max. € 300K EU Funding per TTE <ul style="list-style-type: none"> · Jury Day mini grant: € 1,000 (lump sum) · Technology Development Stage: fixed lump sum of € 100,000 · Technology Experimentation Stage: fixed lump sum of € 100,000 · System Prototype Demonstration Stage: fixed lump sum of € 99,000 	Max. € 100K EU Funding per TD <ul style="list-style-type: none"> · Jury Day mini grant: € 1,000 (lump sum) · System Prototype Demonstration Stage: fixed lump sum of € 99,000
TRL	Beneficiaries are expected to improve their technologies from TRL 5 to TRL 7	Beneficiaries are expected to improve their technologies from TRL 6 to TRL 7
Duration	14 months	6 months

1.3 What are the defined domains?

Although the RIMA network aims to select a portfolio of proposals that will result in a balanced outcome among the different application domains, the final decision as to proposals approved per domain will be made based on the quality and potential of the submitted applications. A minimum number of 1 TTE and 2 TDs per Target Application Domain will be selected, among the 50 experiments that will be funded. A full detailed procedure of selection is described below. This selection process is based on a very strict adoption of standards with respect to transparency, equal treatment, conflict of interest and confidentiality.

Proposals for Technology Transfer Experiments (TTE) and Technology Demonstrators (TD) should fit in at least one of the RIMA Target Use Domains that are:

- Water supply and sanitation
 - Energy generation and distribution
 - Oil & gas
 - Nuclear
 - Road, rail and infrastructure connected with cities
 - Transport hubs (ports, airports, stations, etc.)
- **Water Supply and Sanitation**

Water infrastructures such as wastewater pipes, large diameter tunnels, underground storage tanks, long-haul stretches, inverts, crowns, culverts, and manholes are difficult to access and hazardous environments for operators in charge of inspection and maintenance activities. Other assets, such as drinking water reservoirs, are easier to access but require significant manpower for regular inspection and water quality control. However, keeping an accurate and updated knowledge of the condition of these assets is necessary to deploy appropriate asset management plans and to prevent failures or disruptions of the water services. The challenges related to these activities include a wide range of assets to be inspected, from very small ones to large ones (including large reservoirs), confined spaces with GPS-denied environments, the presence of debris, the risks of highly hazardous

and corrosive chemicals, the presence of pressurized water, etc. The surface accessibility to these underground assets for the I&M activities –diagnosis, repair, renewal - is also a key issue considering its impact on surrounding environment (traffic disruption, noise, ...) and the risk of disease for workers (lifting of manhole covers, pavement cutting, etc.). This topic concerns both civil and industrial infrastructures.

Robotic devices can navigate in such harsh environments over extended time periods, producing CCTV, 3D reconstructions and defect profiling with ground penetrating radars, laser sensors and sonars, and potentially adapt to pipes with different sizes, shapes and materials to accurately estimate the remaining intact material for end-of-life estimations.

I&M in the water sector requires multi-sensing and autonomous robots able to navigate in GPS-denied environment and to adapt to various shapes and sizes of infrastructures, as well as the manipulation and actuation capability. Often, such robots must be amphibious, i.e. they have to be able to operate in partially and fully water submerged pipes and canals. Robotic devices are also required to support operators for the lifting of heavy manhole covers and to reduce risks and nuisances related to surface maintenance works. The technologies need to be safe, efficient, robust, easy to use and low cost to operate. These robots will perform operations in a variety of locations, some of them of difficult access. For this reason, it will be important to take aerial robots into consideration. Furthermore, these robots can cover larger distances to inspect water infrastructures compared to ground robots.

- **Energy generation and distribution**

Energy generation and distribution include wind, solar, hydro, coal, and power distribution. The maintenance of solar panels and solar thermal collectors has an important influence on the electricity generation. This is the reason why a great effort on alternative means of electric power generation in the EU has been wind power. The industry hopes that wind energy can satisfy 20% of total EU electricity demand by 2020 and 33% by 2030. This requires a drastic reduction of I&M costs of the towers and blades of wind turbines. Energy distribution involves electrical power lines and substations, involving many thousands of kilometres and difficult or high-priced access.

Robots can navigate in such harsh environments over long-endurance missions, with perception systems (cameras, lidars and other sensors), and potentially adapt to different energy power stations of different sizes and shapes. Furthermore, a robot or a team of robots, could produce 3D reconstructions, defect profiling, and perform maintenance tasks. It will be vital to use robots that can reach high altitude locations.

- **Oil & gas**

Extraction, refining and distribution, including offshore infrastructure and decommissioning, is important in oil and gas plants. The benefits and demand for robotics are vast to secure the safety of people working within inspection and maintenance, reduce environmental risks and the cost of downtime. Robotics solutions often need to conform to regulations for operations in explosive atmospheres (such as ATEX). The inspection and maintenance include both the plants facilities and the distribution of the resources. For the plants, it will be important to be able to inspect every single location, including process piping and fixed equipment. These parts of the plants can be located in high altitudes, underwater or offshore. For distribution, solutions that are able to inspect large distances need to be considered.

The cost of I&M of oil and gas industries is more than 2 billion in the world and 600 million in 101 refineries in Europe. In addition to inspection and maintenance cost of operational plants, hundreds of offshore oil and gas platforms, including 250 fixed installations, 3,000 pipelines and 5,000 wells, will be decommissioned from the North Sea involving a cost of tens of billions over the next 25 years.

- **Nuclear**

Nuclear Infrastructure encompasses:

- nuclear power plants,
- nuclear reprocessing facilities,
- facilities for mining and processing of radioactive ore
- any other nuclear facilities, including the waste disposal and the decommissioning of aforementioned nuclear infrastructures.

Inspection & maintenance activities/tasks within the domain of nuclear infrastructures are in many cases executed manually and thereby require extensive personnel protection measures, engineering controls and detailed work-planning/-monitoring to achieve required high safety levels that could be streamlined with the assistance of robotics solutions within the process .

Robotic applications are expected to exploit remotely operated technologies coupled with state-of-the-art technologies for measurements, handling of tooling, etc. The applications are challenged to cope with areas of potentially irradiated or contaminated materials/environments. Furthermore, consideration should be made in some cases for remote control to be applied behind thick walls of reinforced concrete.

Finally, the application is preferably tested in practice at nuclear facilities or under equivalent conditions.

- **Road, rail and infrastructure connected with cities**

Road, Rail and Civil infrastructure involve all the road-related and rail-related components that exist inside and outside the cities, as well as any other civil infrastructure within the city. The only exceptions to this list are the transportation hubs such as stations, transportation warehouses, ports, airports etc. Apart from the open roads and rails, which are the obvious infrastructure in this domain, there are also others, including all the peripheral infrastructure that is connected to them, such as traffic-lights, tolls, tunnels, bridges, lane separation structures, road lights, tunnel fans, power cables, signals and signs. The infrastructure in this domain is divided into three different categories, each one with specific needs and challenges. These categories, in the order of interest for this domain, are:

- Road & Rail Bridges
- Road & Rail Tunnels
- Open Road & Rail

- **Transport hubs (ports, airports, stations, etc.)**

A transport hub is a place where passengers and cargo are exchanged between vehicles or/and between transport modes. In this call Transport Hubs include ports, airport, railway and interchanges.

The infrastructure-related to Transport Hubs and Railway encompasses a few generic challenges and specific challenges. The most stringent challenges have been set out in challenges 1 to 6, and one open call (challenge 7).

1.4 What challenges can be addressed in the applications for this domain?

As described above, there are two types of actions, namely Technology Transfer Experiments and Technology Demonstrators with different duration and scope. Each proposal that will be created by a micro-consortium should apply to one type of action in one specific Target Application Domain. Nevertheless, within the same Target Application Domain, the proposal can address one or more challenges, as long as the project's content is solid. The detailed description of the challenges is provided in Annex 5.

1.5 What happens after the proposals are submitted?

Immediately after the first Open Call submission deadline (19th of December 2019, 16:00 CET - Brussels Time), the evaluation process will begin (as described in detail in Section 4 of this Guide). In order to be eligible for Expert's evaluation phase, applications will be checked for compliance against the eligibility criteria.

Experts will evaluate proposals submitted through the online system and score them adequately to the quality of the content presented. The goal of the process in the first Open Call is to select a total number of up to 21 promising experiments that will be divided, according to TRL starting point and experimentation timeframe, into up to 6 Technology Transfer Experiments [TTE] (start in TRL5 - 14 months for execution) and up to 15 Technology Demonstrators [TD] (start in TRL6 - 6 months for execution).

1.6 What are the next steps?

Once your proposal is evaluated by 2 (two) independent and confidential evaluators, 'Evaluation Panel Committees' (one for each application domain) will select, among those above the threshold, the best proposals that will be invited to the Jury Day. Your proposal will have an individual slot in which you will present it and have an interview with the members of the Selection Committee. After the Consensus Meeting, Ethical Committee will review all selected projects. Before the Sub-Grant Agreement signature, a Feasibility Plan will be defined by each TTE and TD under the supervision of a DIH and with LMS (RIMA Project partner) support. It will describe the technical and market potential of the Robotics solutions proposed within TTE/TD, as well as milestones and KPIs to be achieved by them during the Technology Transfer/Technology Demonstrator Program. Once all these formalities are executed, the Consortium will sign the 'RIMA Sub-grant Agreement' with the final beneficiaries of FSTP. The applicants who undersign the Sub-Grant Agreement will be declared the winners of the 1st RIMA Open Call. This is the beginning of the program. The whole Technology Transfer/Technology Demonstrator Program will last up to 14 months.

2 Financial support provided

The maximum amount of financial support to be granted to each micro-consortium selected in the first Open Call will be up to € 300.000 in the case of Technology Transfer Experiments and up to € 100.000 in the case of Technical Demonstrators.

Technology Transfer Experiments (TTE) may receive up to **€ 300K EU Funding per TTE** (duration 14 months, amount per consortium) on the following stages of the Program:

- Jury Day mini grant: fixed lump sum of € 1,000
- Technology Development Stage: fixed lump sum of € 100,000
- Technology Experimentation Stage: fixed lump sum of € 100,000
- System Prototype Demonstration Stage: fixed lump sum of € 99.000

Technology Demonstrators (TD) may receive up to **€ 100K EU Funding per TD** (duration 6 months, amount per consortium) on the following stages of the Program:

- Jury Day mini grant: fixed lump sum of € 1,000
- System Prototype Demonstration Stage: fixed lump sum of € 99,000

The amount will be granted to each TTE/TD as the result of being positively evaluated and approved to participate in the next stage of the Program, following a lump sum approach. Each TTE/TD must be implemented by a micro-consortium. A micro-consortium must be formed by a minimum of 2 independent SMEs or slightly bigger companies that will carry out the TTE/TD. The micro-consortium must be composed of one Service/ Product Provider and one Technology Supplier. The amount granted to each micro-consortium will be transferred to the organization acting as coordinator of the micro-consortium as per the Sub-grant Agreement. The coordinator is obliged to transfer the appropriate parts of the grant to other members of a micro-consortium according to a separate arrangement within the micro-consortium. The total amount granted to one entity within different projects granted under RIMA Project cannot exceed the amount of 300.000 EUR.

Grant will be paid in several tranches upon the delivery of the agreed milestones/KPI's. Payment schedule will be described in detail in the Sub-grant agreement.

For participation in the Jury Day the mini-grant will be paid. This mini grant is a lump sum of € 1,000 that will be paid to each micro-consortium attending the Jury Day. The amount of mini grant granted to each micro-consortium will be transferred to the organization acting as the coordinator of the micro-consortium as per the Sub-grant Agreement. The coordinator is obliged to transfer the appropriate parts of the mini grant to other members of a micro-consortium.

II

• II APPLICATION AND EVALUATION

3 Eligibility criteria

All applicants will have to abide by all general requirements described in Sections 3.1 to 3.9 of this Guide for Applicants in order to be considered eligible.

3.1 Types of Beneficiaries

Beneficiaries Of The Technology Transfer Experiments (TTEs) and Technology Demonstrators (TD) will be SMEs or slightly bigger companies.

Micro-consortium must be composed of the following types of applicants:

- ‘Service or product provider’ related to one of the RIMA's Target Use Domains listed above,
- Robotic-based ‘Technology supplier’, which usually is an equipment manufacturer or System integrator

Please, be aware that while checking the company’s status, if it’s a SME/slightly bigger company, the linked parties of the company are also taken into consideration. SME status is calculated in accordance to the rules defined in the [EU recommendation 2003/361](#). Status of the “Slightly bigger company” will be assessed accordingly.

The applicants involved in the micro-consortia CANNOT include any RIMA partners and their related entities or entities in which RIMA partners have shares or other interest.

Minimum 2 independent entities should be in a micro-consortium (it’s compulsory to have one ‘Service or product provider’ and one ‘Technology supplier’).

3.2 Eligible countries

Only the legal entities established in the following countries and territories (hereafter collectively identified as the “Eligible Countries”) will be eligible:

the Member States of the European Union: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and the United Kingdom³

the Overseas Countries and Territories (OCT) linked to the Member States (Entities from Overseas Countries and Territories) are eligible for funding under the same conditions as entities from the Member States to which the OCT in question is linked): Anguilla, Aruba, Bermuda, Bonaire, British Virgin Islands, Cayman Islands, Curaçao, Falkland Islands, French Polynesia, Greenland, Montserrat, New Caledonia, Pitcairn Islands, Saba, Saint Barthélemy, Saint Helena, Saint Pierre and Miquelon, Sint Eustatius, Sint Maarten, Turks and Caicos Islands, Wallis and Futuna,

³ For British applicants: Please note that until the UK leaves the EU, EU law continues to apply to and within the UK, when it comes to rights and obligations; this includes the eligibility of UK legal entities to fully participate and receive funding in Horizon 2020 actions. Please be aware however that the eligibility criteria must be complied with for the entire duration of the Project. If the United Kingdom withdraws from the EU during the grant period without concluding an agreement with the EU ensuring in particular that British applicants continue to be eligible, you will cease to be eligible to receive EU funding (while continuing, where possible, to participate) or be required to leave the project

the Countries Associated to Horizon 2020 (those which signed an agreement with the Union as identified in Article 7 of the Horizon 2020 Regulation): the latest information on which countries are associated, or in the process of association to Horizon 2020 can be found at:

http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/3cpart/h2020-hi-list-ac_en.pdf

3.3 Types of activities

The basic instrument of RIMA to financially support the development and deployment of robotics I&M applications will provide two types of eligible actions: Technology Transfer Experiments (TTE) and Technology Demonstrators (TD).

- **Technology Transfer Experiments (TTE)** consist of developing, testing and validating the technical and economic viability of a robotic-based representative model or prototype system to be applied in 'Target Use Domain' operational environment.
- **Technology Demonstrators (TD)** consist of validating the technical and economic viability of a new or improved Robotic-based technology, product, process, service or solution in a 'Target Use Domain' operational environment, whether industrial or otherwise, involving where appropriate a larger scale prototype or demonstrator.

3.4 English language

English is the official language for RIMA Open Calls as well as for the whole Project. In order to be eligible, proposals must be in English in all their mandatory parts.

If any of the mandatory parts of a proposal is in any other language, the entire proposal will be rejected. If only non-mandatory parts of a proposal are submitted in a language different from English, those parts will not be evaluated but the proposal will be still eligible.

3.5 Multiple submissions

All the eligible organizations could submit multiple applications and participate in different micro-consortia, receiving multiple funds by RIMA provided that they do not exceed the upper funding limit per entity (300k EUR). In such case, where more than one proposal involves the same organisation among the selected projects, Project execution team might be dedicated to one project only (one project - one team).

Micro-consortium will not be able to change the entities composition after being selected for funding. If the members in the submitted application do not provide full written commitment of their exclusive involvement in the project selected (not being able to participate in any other of the selected projects) before signing the sub-grant agreement, the project will not be able to participate in the programme and another project will be picked from the reserve list.

3.6 Submission system

Only proposals submitted through the Open Call submission tool at <https://rima-network.fundingbox.com> and within the Call duration will be accepted. Proposals submitted by any other means, will not be evaluated.

Only the documentation included in the application form and in the attachments to the form will be considered by Evaluators. The attachments can be in the following formats: PDF, PNG, JPG. Please note the information from the attachments will not be scored by evaluators (this is additional information to support the proposal). It is the applicant's responsibility to include all the necessary information in the form.

The information provided should be accurate, true and complete and should allow the assessment of the proposal.

3.7 Deadline

Applications must be submitted until the closing time and date published in the 1st Open Call. The closing time recorded by the FundingBox Platform for this call is **19th of December 2019, 16:00 (CET - Brussels local time)**.

3.8 Absence of conflict of interest

Each member of micro-consortium shall declare any potential conflict of interest with the 'RIMA' partners. All cases of potential conflict of interest will be assessed case by case.

Each member of micro-consortium must take all measures to prevent any situation where the impartial and objective implementation of the action is compromised for reasons involving economic interest, political or national affinity, family or emotional ties or any other shared interest ('conflict of interest'). Notably, to avoid conflicts of interest, applications will not be accepted from organizations who are partners in the 'RIMA' consortium and its affiliated and related entities or entities in which RIMA partners have shares or other interest. Each member of a micro-consortium will be required to declare that they know of no such potential conflicts of interest that would prevent them from applying.

3.9 Other

Each member of a micro-consortium must confirm:

- it is not under liquidation or is not an enterprise under difficulty according to the Commission Regulation No 651/2014, art. 2.18,
- the background (information and knowledge, including inventions, databases, etc.) relevant to the project is held by the applicant prior to their accession to the RIMA 1st Open Call, as well as any intellectual property rights which are needed for carrying out the project or for using foreground,
- that the potential results would not infringe third parties' rights, namely patents,
- is not excluded from the possibility of obtaining EU funding under the provisions of both national and EU law, or by a decision of national or EU authority,
- activities under the Project must have an exclusive focus on civil applications.

Additionally, each member of a micro-consortium must confirm that all the Research and Innovation activities carried out by them under Horizon 2020 will comply with ethical principles and relevant national, Union and international legislation, including the Charter of Fundamental Rights of the European Union and the European Convention on Human Rights and its Supplementary Protocols.

Particular attention shall be paid to the principle of proportionality, the right to privacy, the right to the protection of personal data, the right to the physical and mental integrity of a person, the right to non-discrimination and the need to ensure high levels of human health protection.

Each member of a micro-consortium must carry out the action in compliance with:

- (a) ethical principles (including the highest standards of research integrity) and
- (b) applicable international, EU and national law.

Funding will not be granted for activities carried out outside the EU if they are prohibited in all Member States or for activities which destroy human embryos.

Each member of a micro-consortium must ensure that the activities under the action have a primary focus on civil applications.

Applicants are required to assess the ethical implications of their proposed work at the proposal submission stage, particularly with regard to:

- the use of data that is potentially traceable to a person,
- the use of, or interaction with, vulnerable individuals and groups,
- potential physical or mental harm to operators, users and / or third parties,
- the development of systems liable to maintain or amplify societal disadvantage or discrimination based on race, gender, sexuality, social class or economic standing.

Where potential issues are identified the applicant is required to detail any mitigating actions that will be implemented.

Moreover, each micro-consortium member must take all reasonable measures to promote equal opportunities between men and women in the implementation of the action. They must aim, to the extent possible, for a gender balance at all levels of personnel assigned to the action, including supervisory and managerial level.

4 Preparation and submission of the proposals

Proposals have to be submitted through the RIMA Open Call microsite <https://rima-network.fundingbox.com/> Applications submitted by any other means will not be considered for funding.

The proposals – submitted through the online platform – will include the following sections:

1. Legal and contact information
2. Project short description
3. *(Scored)* EXCELLENCE
4. *(Scored)* IMPACT
5. *(Scored)* IMPLEMENTATION
6. Ethical issues (optional)
7. Statistical section (optional)
8. Declaration of honour – confirmation of the exclusion criteria and absence of conflict of interest to be accepted by the Applicants
9. Processing of personal data – information clause

Additional material, which has not been included and specifically requested in the online application form, will not be considered for the evaluation of the proposals. Data not included in proposals will not be taken into account.

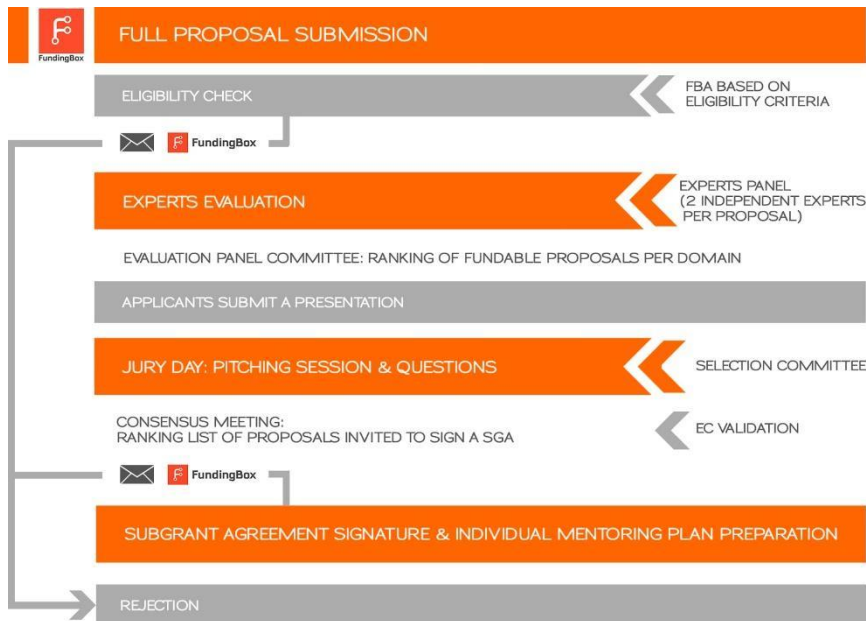
The RIMA consortium will make their best effort to keep all provided data confidential; however, to leave no room for doubt, the applicant is solely responsible for indicating their confidential information as such.

The applicants are strongly recommended not to wait until the last minute to submit their proposals. Submitting proposals after the deadline, no matter the reason, including extenuating circumstances, will result in rejection.

The applicants are solely responsible for verification of the completeness of the form. Data not included in the form will not be considered during assessment regardless of the reason for not being included.

5 Summary of evaluation process

The evaluation flow is as follows:



Phase 1: Eligibility Check

In order to be eligible for evaluation, applications will be checked for compliance with the eligibility criteria listed in Section 3.

Communication to participants: Standardized communication will be sent to the applicants eliminated from the selection process after the eligibility check. Individual communication will be sent to all participants passing the eligibility check.

Phase 2: Experts' Evaluation

Each proposal selected within the eligibility check phase will be evaluated by 2 (two) independent and confidential evaluators with wide expertise in Robotics within the fields prioritized in the RIMA's Target Use Domains.

The experts will be selected in accordance with the specific characteristics of each proposal. The proposals will be evaluated based on the following criteria:

(1). EXCELLENCE will evaluate:

- **Ambition.** The applicants have to demonstrate to what extent the proposed Experiment is beyond the State Of the Art related with the application of Robotics in the Infrastructure, Inspection and Maintenance, and describe the innovative approach behind it (e.g. ground-breaking objectives, novel concepts and approaches, new products, services or business and organisational models).
- **Innovation:** Applicants should provide information about the level of innovation within their market and about the degree of **differentiation** that this experiment will bring.
- **Soundness of the approach:** Applicants should provide concrete and verifiable arguments, and/or evidence, with regard to the premises of the proposed ideas.
- **Cross-value chain approach:** The applicants should explain to what extent the proposed TTE/TD will rely upon, or will contribute to, the collaboration and integration of different innovation actors, including

large enterprises, SMEs, public authorities, and research organizations, across Infrastructure, Inspection and Maintenance sectors.

(2). IMPACT will analyse:

- **Market opportunity:** The applicants have to clearly demonstrate what they want to do and whether the new/improved product/process is addressing a concrete market potential within the Infrastructure, Inspection and Maintenance fields addressed in the Target Use Domain, e.g. because it solves a problem for a specific niche.
- **Competition:** The applicants have to provide information about the degree of competition for their particular product/ process and if the idea is disruptive and ground-breaking i.e. the products/ process to be brought to market can be clearly differentiated from the competition. If requested, the applicant should be able to prove that no patent applications claiming the same solution as the Applicant's solution have been published.
- **Commercial Strategy and Scalability:** The applicants have to outline the strategy they will follow to get the scalability of the new/improved product/process beyond just solving a specific problem of a reduced number of end users.
- **Contribution to standardisation:** The applicants should describe how the proposed solutions might contribute to create new standards within the Infrastructure, Inspection and Maintenance.
- **Environment and low carbon economy contribution:** The applicants should provide information about the additional benefits that the proposed solutions might bring to the environment and low carbon economy.
- **Social impact:** The applicants have to demonstrate proof how the TTE/TD might contribute to pave the way to create new jobs across Infrastructure, Inspection and Maintenance sectors. Also how it will address discrimination issues that exist due to sex or age of the working force, helping excluded social groups to work and be involved in the I&M area.

(3). IMPLEMENTATION will consider:

- **Legal Entities:** The applicants have to demonstrate their management and leadership qualities, their ability to take a concept from ideas to market, their capacity to carry through their ideas and understand the dynamics of the market they are trying to tap into. The entity should be balanced and show a strong commitment with the project, of the micro-consortium organizations they are part of, cross-functional entities, fully dedicated to the project and with a strong background and skill base.
- **Resources.** Demonstrate the quality and effectiveness of the resources assigned in order to reach the objectives/deliverables proposed. One important aspect is that applicants have to make clear in the proposal what they propose that can be developed using the RIMA partners' technical and business solutions. It should be described to what extent the expected non-financial support to be provided by RIMA partners', will be critical for the execution of the TTE/TD. Applicants have to be entitled to use resources assigned to the project realization.
- **Liaison with DIH in lagging behind regions (EU-13):** The applicants have to describe to what extent the TTE/TD will contribute to create linkages with Infrastructure, Inspection and Maintenance stakeholders, and particularly SMEs and DIH, that are located in lagging behind regions.
- **Liaison with a critical mass of End Users:** The applicants should provide concrete evidence of their capabilities to reach out to a critical mass of End Users that might adopt the resulting solutions.

Each evaluator will rank the application assigning a score from 0 to 5 for each criterion and produce an **Individual Evaluation Report**. The evaluation score of the proposal will be calculated as the average of the individual assessments provided by the Evaluators.

0= Proposal fails to address the criterion or cannot be assessed due to missing or incomplete information.

1 = Poor: criterion is inadequately addressed or there are serious inherent weaknesses.

2= Fair: proposal broadly addresses the criterion, but there are significant weaknesses.

3= Good: proposal addresses the criterion well, but a number of shortcomings are present.

4= Very good: proposal addresses the criterion very well, but a small number of shortcomings are present.

5= Excellent: proposal successfully addresses all relevant aspects of the criterion. Any shortcomings are minor.

The default threshold for individual average criteria is 3. The default overall threshold, applying to the sum of the three individual average scores, is 10.

After the evaluation process 2 types of 'Ranking Lists' will be defined:

- the General Ranking List where all the applications will be ranked according to their scores
- the 'Ranking List of fundable projects' will be produced by the 'Evaluation Panel Committees' (one for each application domain) that will select, among those above the threshold, the best proposals to be invited to the Jury Day. The selection will be based on the experts' evaluation results. The 'Evaluation Committee' will decide by consensus and based on the ranking established as a result of the Experts Evaluation.

Ties will be solved using the following criteria, in order:

- impact score,
- implementation score,
- date of submission: earlier submitted proposals go first,
- projects with a female in the position of management will be prioritized to those without women or having women but not in management positions.

Jury Day

The maximum of 50 best proposals included in the '**Ranking List of fundable projects**' will be invited to participate in the Jury Day. Each micro-consortium will have an individual slot in which they can present their proposal and have an interview with the members of the Selection Committee. They will be requested to send a 10 min pitch presentation (in PDF format) in advance for the Jury Day (min 36 h in advance). During the Jury Day at least two representatives of the applicants should explain their proposals in front of the 'Selection Committee' in a 5-minute session. Sending a pitch presentation and attending the Jury Day will be mandatory requirements for the finalists; not completing either of these requirements will automatically imply the exclusion of the proposal from the list.

The 'Selection Committee' members will review the presentations in advance, and they will decide, by consensus, the questions to applicants to be asked during the pitching session.

After the Jury Day the 'Selection Committee' will select the final beneficiaries during the consensus meeting, considering the following criteria:

- entities and commitment of the organization towards the project,
- contribution to increase deployment of robotics in Infrastructure, Inspection and Maintenance,
- capability to introduce cross-industry-based standards,
- capability to generate new business based around platform supply.

Phase 3: Consensus Meeting

The 'Selection Committee', composed of representatives of the RIMA consortium and one external expert for each application domain, will decide by majority vote (2/3 from all members) a 'Provisional List of Beneficiaries'

and a 'Reserve List'. The exact number of proposals to be funded will be approved by the 'Selection Committee' during the Consensus Meeting.

The 'Provisional List of Beneficiaries' and the 'Reserve List' will be sent to the European Commission for validation before the Sub-Grant Agreement negotiation process begins.

Phase 4: Ethical Committee

After the Consensus Meeting but before the Sub-Grant Agreement signature, the Ethical Committee will review all selected projects, in particular upfront ethical issues (highlighted by participants or evaluators), (by participants or by evaluators) to validate the actions proposed and the others to ensure that ethical issues are addressed in an appropriate way.

Applicants must indicate in their applications whether they foresee ethical issues in the development of their projects and how they plan to handle them.

Candidates with proposals rejected due to ethical issues or rejected because they insufficiently address ethical issues in their projects will be contacted via email, indicating that their proposals cannot be selected and including the ethical report. Appeal Procedure is described in point 6.2 of the Guide.

The objective of this ethical review is to make sure that RIMA does not support projects which would be contrary to fundamental ethical principles, and that the procedures to prevent ethical issues described in the proposal agree with the European Ethical Policies. In any case H2020 rules on ethical issues will be followed and in case of conflict with the national/local ethical rules, the H2020 rules will prevail.

The Ethical check will be done in parallel to Sub-Grant Agreement preparation process.

Before the Sub-Grant Agreement signature, a Feasibility Plan will be defined by each TTE and TD under the DIH supervision and with LMS (RIMA Project partner) support. It will describe the technical and market potential of the Robotics solutions proposed, as well as milestones and KPIs to be achieved during the Technology Transfer/Technology Demonstrator Program. Validation and acceptance of the Feasibility plan by DIH and Steering committee will be a condition of the first payment.

Sub Grant Agreement Setup Process

For participation in the Jury Day the consortium will receive a mini grant. This mini grant will be paid as a lump sum of € 1,000 per each micro-consortium attending the Jury Day. It will be paid against attendance validation and signature of the Mini Grant Agreement with the RIMA Consortium.

Before the signature of the Sub-Grant Agreement with the RIMA Consortium, the Applicants will be checked against the fulfilment of the legal requirements. The Applicants included in the 'Provisional List of Beneficiaries' will have to provide all documentation required to prove their compliance with the Eligibility Criteria described in Section 3.

The documentation will have to be provided within deadlines communicated when enlisted in the 'Provisional List of Beneficiaries' (whether immediately or after the reserve list). If the requested information is provided after the deadline without a clear and reasonable justification, this will directly end the Sub-Grant Agreement setup process and proposals from the 'Reserve List' will substitute the failing applicants on the 'Provisional List of Beneficiaries' in the order of ranking. Once all these formalities are executed, the Consortium (represented by FBA) will sign the 'RIMA Sub-Grant Agreement' with the final beneficiaries of FSTP. The applicants who sign the Sub-Grant Agreement will be declared winners of the 1st RIMA Open Call.

Process of reviewing awarded projects

During the execution of the TTE/TD, an exhaustive ‘Review Process’ will be implemented in order to follow up on the selected bottom-up projects. A ‘Mentoring Committee’ formed by 3 external and independent evaluators will evaluate the TTEs/TDs’ performance at the review milestones (established every 3 months), according to the following criteria:

- **Deliverables quality.** To be scored based on the KPIs defined in the Feasibility Plan
- **Business performance indicators.** To be scored based on the KPIs defined in the Feasibility Plan
- **Technical performance indicators.** To be scored based on the KPIs defined in the Feasibility Plan
- **Deadline Compliance.**

Each criterion will be scored from 0 to 10 and the weight of each of these criteria in the final score will be as follows:

- Deliverable quality (30%).
- Technical performance indicators (30%).
- Business performance indicators (30%).
- Deadline Compliance (10%).

According to the final score:

Beneficiaries over the threshold (7 points) will receive the next payment and will be a candidate to continue the program.

Beneficiaries under the threshold. Those beneficiaries will be reviewed by the ‘Mentoring Committee’ who will take the final decision taking into account all possible objective reasons for underperformance (i.e. external factors which might have influenced the beneficiaries’ performance). Those not passing this examination will not receive the next payment and will be asked to leave the Technology Transfer/Demonstrator Program. Appeal Procedure described in point 6.2 of the Guide applies accordingly.

TECHNICAL AND BUSINESS EVALUATION (Mentoring Committee)				VALIDATION (Selection Committee)	
Deliverable (30%)	Technical Performance indicator (30%)	Business Performance indicator (30%)	Deadline Compliance (10%)	Above threshold	✓
				Below threshold	Mentoring Committee

In the first step, the Technical/Business performance will be evaluated. It will be evaluated based on the KPIs and Deliverables established in the Feasibility Plan and confirmed at the beginning of each Stage by the ‘Mentoring Committee’. Experiments not reaching the minimum KPIs or whose Deliverables are not validated by the ‘Mentoring Committee’ yet, because they are not mature enough, will not be entitled to receive additional FSTP payments. In the second step, the ‘Selection Committee’, will ratify the final decision based on the information provided by the ‘Mentoring Committee’. Those experiments that will not reach the minimum threshold in the reviews will be required to perform accordingly, an additional review will be scheduled and, if they remain below the threshold, the termination of the Sub-Grant Agreement will be proposed.

III

• III FINAL STATEMENTS

6 Applicants communication flow

6.1 General communication procedure

The applicants will receive communication after each step of the evaluation process indicating whether they passed the respective stage. Eliminated applicants will receive feedback including the reasons for exclusion (sent to e-mail registered as the owner of the application).

6.2 Appeal procedure

If, at any stage of the evaluation process, an applicant considers that a formal mistake has been made or that evaluators have failed to comply with the rules of this RIMA 1st Open Call, and that her/his interests have been prejudiced as a result, the following appeal procedures are available.

A complaint should be drawn up in English and submitted by email to: info@rimanetwork.eu Complaints should be made within seven (calendar) days after the date of the receipt of evaluation communication from RIMA consortium (the date of sending an e-mail to the applicant by info@rimanetwork.eu).

Any complaint after the receipt of evaluation communication from the RIMA consortium should include:

- contact details (including e-mail address),
- the subject of the complaint,
- information and evidence regarding the alleged breach.

Anonymous or late complaints will not be reviewed.

As a general rule, our team will investigate the complaints with a view to arriving at a decision to issue a formal notice or to close the case within no more than 14 days from the date of the reception of the complaint, provided that all required information has been submitted by the complainant. Where this time limit is exceeded, our team will inform the complainant by email. Experts assessing the complainant's experiment during the last stage, when it was excluded from the RIMA project, will not be involved in investigating the complaint.

7 Obligations of FSTP beneficiaries

Each selected applicant will sign the 'RIMA Sub-Grant Agreement' with the RIMA consortium. The funds awarded under the Sub-Grant Agreement are provided directly from the funds of the European Project RIMA and are therefore funds owned by the European Commission: Management of the RIMA funds has been transferred to the project partners in RIMA via the European Commission, Grant Agreement number 824990.

The 'RIMA Sub-Grant Agreement' will include a set of obligations that FSTP beneficiaries have towards the European Commission. It is the task of FSTP beneficiaries to satisfy these obligations and of the RIMA consortium partners to inform FSTP beneficiaries about them.

An exemplary set of obligations:

- obligation to submit to any control measures (checks, reviews, audits or investigations) in relation to the participation in RIMA project,
- obligation to keep records,
- obligation to provide information to the **Coordinator** or EC or other Consortium Members in order to verify proper implementation of the action and compliance with any other obligation,
- liability for damages.

8 Implementation of the programme

Each FSTP Beneficiary will need to meet the milestones set up in the Feasibility Plan Study, like:

- describe in the action plan the “off-the-shelf” services and technologies of the network that will be used to carry out the experiments to be implemented in the project;
- implement/develop this plan;
- validate in an operational environment the Minimum Viable Product or Service resulting from the implementation;
- define a Business Plan and a Fundraising Strategy to seek additional investment for scaling the commercial implementation of the solution obtained.

An exemplary set of general requirements for the developed systems:

- collision avoidance/localization performance,
- user friendliness,
- intelligent capabilities,
- autonomy,
- adaptability/flexibility,
- efficiency,
- robustness,
- safety,
- standardization.

An exemplary set of general KPIs to measure the requirement fulfilment:

- accuracy – positioning, mapping and navigation accuracy in terms of mm or less;
- repeatability – number of successfully repeated operations;
- density capability – dimensions, weight, payload;
- autonomy capability – energy consumption;
- effective time values – cycle time, operation time, start-up time, MTBF, MTTR etc.;
- ergonomics – ergonomics evaluation analysis for different body parts;
- safety/standardization – ensured following the respective directives.

The Feasibility Plan will be validated by the Steering Committee at the beginning of the project and before the first payment.

9 Intellectual Property Rights (IPR)

9.1 IPR ownership of the sub-granted projects

The ownership of all IPR created by the FSTP beneficiaries, via the RIMA funding, will remain with them. Results are owned by the Party that generates them. The Sub-Grant Agreement will introduce provisions concerning joint ownership of the results of the sub-granted projects.

9.2 Communication obligations

There are no IPR obligations toward the European Commission (EC). However, any FSTP beneficiaries' communication or publication shall clearly indicate that the project has received funding from the European Union and the RIMA program, therefore displaying the EU and RIMA logo on all printed and digital materials, including websites and press releases. Moreover, FSTP beneficiaries will agree that certain information regarding the projects selected for funding can be used by RIMA consortium for communication purposes.

10 Support for the applicants

For more information about the RIMA Open Call, please check the Frequently Asked Questions (FAQs) section included at <https://rima-network.fundingbox.com/>

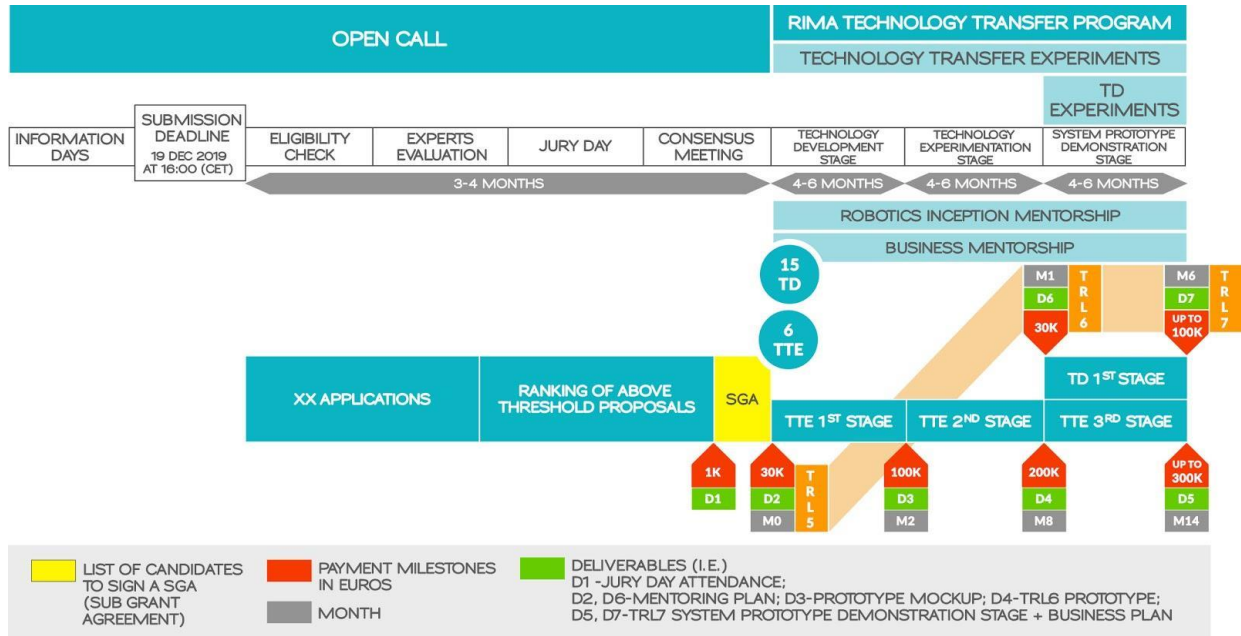
For further information on the 1st Open Call, in case of any doubts regarding the eligibility rules, the information that is to be provided in the Application Form, or if you encounter technical issues or problems with the Application Form, please contact RIMA Helpdesk at (<https://spaces.fundingbox.com/c/rima-network> connected with OPEN CALL or info@rimanetwork.eu

When contacting the RIMA Technical Helpdesk, please include the following information in your email message:

- your username, telephone number and your email address;
- details of the specific problem (error messages you encountered, bugs descriptions, i.e. if a dropdown list is not working, etc.); and
- screenshots of the problem.

11 Schedule

The figure below presents the indicative dates during which each phase of the evaluation will take place:



12 Applicable law

Any matters not covered by this Guide for Applicants will be governed by Belgian law and the law of the European Union.

13 Glossary

Cross-Border dimensions – Cross–border cooperation within the TTE or/and TD. It will be ensured assigning mentors/coaches from other countries than the country of the consortia.

End user - the asset owner and/or operator, owning and/or operating the infrastructure. These companies can do I&M in-house, or they buy I&M services from third parties, service providers. The role of the end user in a micro-consortium may be to offer large-scale realistic test facilities (e.g. decommissioned assets or test facilities) as well as contribute with subject matter support during experimentation, know-how about market needs, know-how about regulations and requirements in inspection and maintenance operations.

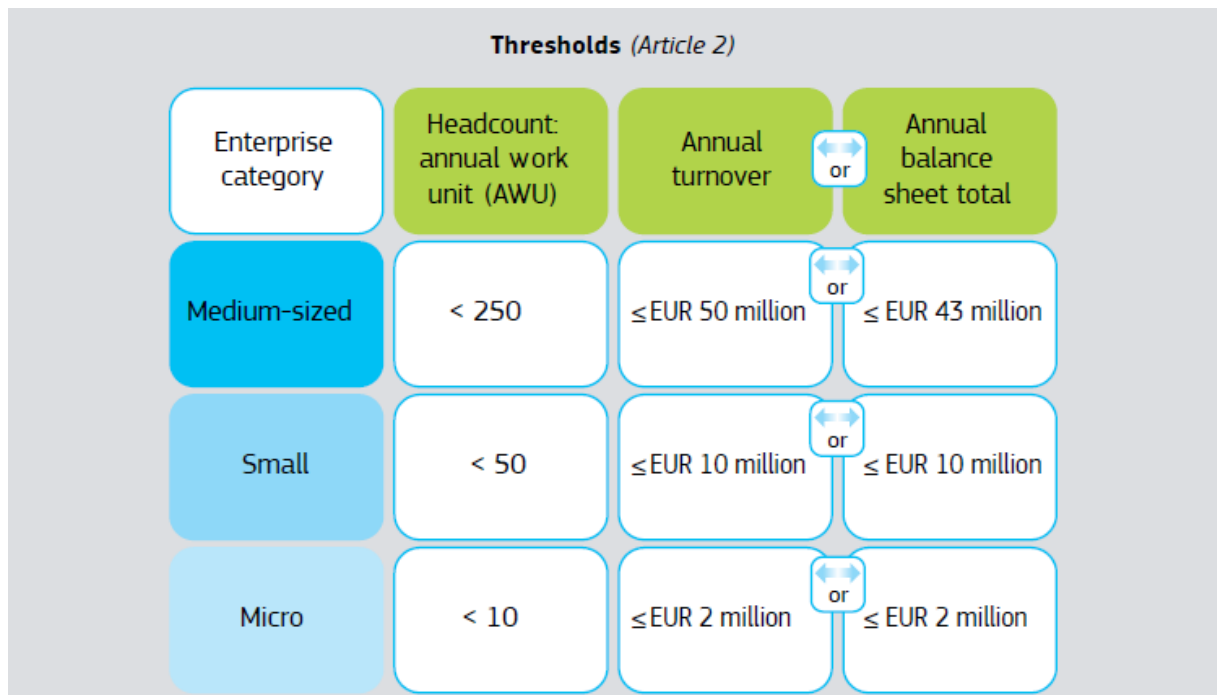
Service/Product Provider – organization performing I&M services at the end user facilities; the role of the service provider in a micro-consortium may be to offer test facilities and opportunities, contribute to technical development, offer feedback on regulations and requirements in inspection and maintenance operations.

Experiment – experiments are aimed at developing technology-based novel products or services and testing them with early adopters in their respective operative environments.

Financial Support to Third Parties (FSTP) - is a mechanism to distribute public funding by allowing that some EU-funded projects issue, in turn, open calls for further funding. It is used to assist beneficiaries (such as start-ups, scale-ups, SME and/or mid-caps), in the uptake or development of digital innovation.

Mini-grant Agreement - legal contract signed between RIMA Consortium and the applicants selected in the 1st Open Call related only to the mini-grant received by the applicants to participate in the Jury Day. The contracts include detailed information about the rules of the grant, obligations and applicable legal requirements.

SME - should be understood according to the definition specified in the COMMISSION RECOMMENDATION of 6 May 2003 concerning the definition of micro, small and medium-sized enterprises (2003/361/EC). The detailed explanation how to check the status of the enterprise can be found in the ‘User guide to the SME Definition’ available on the website: https://ec.europa.eu/regional_policy/sources/conferences/state-aid/sme/smedefinitionguide_en.pdf



Slightly bigger company – ‘slightly bigger’ is defined by extending the current European Commission definition of SME to increase the Employee Threshold by 100% (that is maximum of 499 people). The Turnover should not exceed €100M *or* balance sheet should not exceed €86M. No other changes to the definition should be made.

Sub-Grant Agreement - legal contract signed between FundingBox Accelerator Sp. z.o.o. (the RIMA Coordinator responsible for the organization of the Open Calls and management of the support for third parties) and the Beneficiary. The contracts include detailed information about the rules of the grant, obligations and applicable legal requirements. More information can be found in Section 4 of this Guide (Sub Grant Agreement Setup Process).

System Integrator - partner of a technology supplier that is in charge of designing the safety systems, ensuring that safety becomes an intrinsic characteristic of the system.

Target Use Domain - a particular field of thought, activity, or interest, especially the one over which someone has control, influence, or rights. The proposals should address a concrete configuration from the addressed domains.

Technology Transfer Experiment (TTE): action responsible for developing, testing and validating the technical and economic viability of a robotic-based representative model or prototype system to be applied in ‘Target Use Domain’ operational environment.

Technology Demonstrator (TD) - validating the technical and economic viability of a new or improved Robotic-based technology, product, process, service or solution in an ‘Target Use Domain’ operational environment, whether industrial or otherwise, involving where appropriate a larger scale prototype or demonstrator.

Technology Supplier- academic or industry providing one or several software or hardware components.

Technology Readiness Level - as per European Commission definition (Annex G, [General Annexes to Work Programme 2018-2020 of the Horizon 2020 Programme](#)), there are 9 possible levels of technology readiness corresponding to:

- TRL 1 – basic principles observed,
- TRL 2 – technology concept formulated,
- TRL 3 – experimental proof of concept,
- TRL 4 – technology validated in lab,
- TRL 5 – technology validated in relevant environment (industrially relevant environment in the case of key enabling technologies) ,
- TRL 6 – technology demonstrated in relevant environment (industrially relevant environment in the case of key enabling technologies),
- TRL 7 – system prototype demonstration in operational environment,
- TRL 8 – system complete and qualified, and
- TRL 9 – actual system proven in operational environment (competitive manufacturing in the case of key enabling technologies; or in space).

Annexes

- **Annex 1: Informed consent form**

Separate file.

- **Annex 2: Processing of personal data**

Separate file.

- **Annex 3: Information sheet**

Separate file.

- **Annex 4 : Call Announcement**

Separate file.

- **Annex 5: Challenges definition**

Separate file.

- **Annex 6: RIMA equipment, facilities and competences**

Separate file.

- **Annex 7: DIH services**

Separate file.