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1. FTPs: General information

ROSIN aims to create a collection of open-source, quality-assured software components for real-world robot applications\(^1\). Its starting points are the existing ROS-Industrial framework and community. One of the instruments used by ROSIN to progress towards the stated goal consists in the concept of Focused Technical Projects (FTPs).

FTPs are efforts driven by clearly defined, narrowly focused objectives. Such instrument aims to complement the work on the basic ROS infrastructure with development targeting concrete business needs. FTPs targeting these needs can require for instance software development, the definition of technical standards, or security and license audits. These are some of the activities needed to obtain software components with the envisioned levels of technical quality and commercial applicability.

**Typically, an FTP will have one or two entities involved, an expected duration of 12 months (flexible), three milestones, and a budget of around 50.000 to 100.000 EUR**

Examples of results suitable for development through FTPs are:

- **HW-related components**, e.g. drivers, configuration tools;
- **ROS Enhancement Proposals (REPs)**: REPs are akin to, e.g. IEEE standards with a reference implementation of a working system;
- **algorithms**: e.g., a SLAM algorithm which currently exists only as a MATLAB implementation;
- “application templates” driven by concrete use cases, e.g. a configurable software component for a palletizing work cell;
- **improvement of existing components**, e.g., Rviz, the ROS navigation stack;
- **process-related work**, e.g. code security audits.
- **improvement of documentation**: technical manuals, deployment guides, etc.
- **integration with other software frameworks**

As mentioned, the starting point of ROSIN is ROS-Industrial, and unsurprisingly the concept of FTPs as promoted in ROSIN originates from a closely resembling instrument promoted by the ROS-Industrial Consortium also under the name of FTPs\(^2\). In both cases, the main idea is to identify missing development which would address the needs of one or more entities’ (the “FTP participants”), and to have such entities share the financial cost of such development effort and consequently sharing its outcome, typically in terms of source code. Public release of such source code can be delayed for up to two years in order to safeguard the FTP participants’ investment, but it is ultimately required in order to share results with the rest of

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\(^1\) [http://www.rosin-project.eu/](http://www.rosin-project.eu/)

\(^2\) [http://rosindustrial.org/ric/about-fts/](http://rosindustrial.org/ric/about-fts/)

[http://rosin-project.eu/](http://rosin-project.eu/)
the open-source community. This ensures continuous development of the common infrastructure, possibly creating a virtuous cycle of further interest and investment.

A good example of an application developed as an FTP in the past is, for instance, Robotic Blending\(^3\), developed as an FTP over 4 milestones with partners in North America and Europe, and providing automated removal of surface defects through 3D sensing and mesh processing. This FTP can be considered an example of application and algorithmic development, and publicly available source code for it is online\(^4\).

2. Available support from ROSIN

In order to promote the growth of an industrial-grade software platform through FTPs, ROSIN makes available financial support through the following process, explained in detail in Sec. 3:

1. One or more organizations, the FTP participants, can apply for funding directed towards a Focused Technical Project by submitting a proposal describing their goal, the technical plan to achieve it, and an estimate of the involved cost.

2. The financial support provided by ROSIN for an FTP will amount up to 33% of the total development cost of the FTP and a maximum amount of EUR 100,000, with the involved organizations committing to finance the remaining share. Please note that hardware is not applicable for ROSIN funding.

3. If a third party participates in multiple FTP projects, then the total sum of all ROSIN FTPs may not exceed EUR 250,000, for each third party for the duration of the ROSIN FTP programme.

4. Submitted FTP proposals will be continuously evaluated in a process governed by the ROSIN board.

5. FTP participants who submitted proposals selected for funding will enter legal negotiation phase, in which they will be required to sign with the ROSIN coordinator the necessary legal agreements.

6. After a successful legal negotiation phase, selected FTPs will start. For each project, the ROSIN board will appoint two members of the staff from the ROSIN consortium members for its monitoring and counselling to the FTP participants.

\(^3\) http://rosindustrial.org/scan-n-plan/  
\(^4\) https://github.com/ros-industrial-consortium/godel

http://rosin-project.eu/
3. How to apply

The submission of an FTP proposal will consist of a single step process to submit the FTP application to the Online Submission System at [http://rosin-project.eu/ftps](http://rosin-project.eu/ftps) managed by ROSIN.

FTP proposal preparation

One or more entities (the FTP ‘participants’) based in a country eligible for H2020 funding, realize that they need a certain new feature, component, or demonstration. They will only focus on real needs, because as a group of users, they will commit to funding the total development cost of the entire FTP. ROSIN seeks market pull rather than technology push for innovations. It is financially interesting for the participants to do this, because they fund part, but benefit from the whole, possibly keeping the rest of the community at a distance by delaying open-source publication usually by 6–12 months and maximally 24 months.

FTP proposals will be submitted by a single entity or a consortium of “applicants”, one of them being the lead (the FTP proposal “champion”). The champion is the main driving force behind the FTP project, bearing at least 60% of the costs not subsidized by ROSIN.

The development work will be done by the organization(s) deemed to be the best candidate(s) and identified as such in the FTP application. Please note that the organizations doing development work and those not performing it are in both cases part of the FTP application (i.e., they are all applicants for that FTP), but for the sake of clarity we further label those actively performing development work as the ‘performers’.

In principle, any legal entity that is entitled to participate as a partner in Horizon 2020 Research Programmes may participate in an FTP application.

The legal entity must be established in one of the EU Member States or Associated Countries:

- Member States: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, United Kingdom.
- Associated Countries (as of 13 April 2016): Albania, Bosnia and Herzegovina, Croatia, Faroe Islands, FYR Macedonia, Iceland, Israel, Moldova, Montenegro, Norway, Serbia, Switzerland, Ukraine, Tunisia and Turkey.

(The official list can be found here: [http://ec.europa.eu/research/participants/docs/h2020-funding-guide/grants/applying-for-funding/find-partners_en.htm](http://ec.europa.eu/research/participants/docs/h2020-funding-guide/grants/applying-for-funding/find-partners_en.htm))

The entities can be one of a variety of different types of organisation, including but not limited to:

- Universities
- Research organisations
- Start-up companies
- SME
- Large companies

An FTP application has three mandatory parts: Part A, Part B, Part C and Part D.

[http://rosin-project.eu/](http://rosin-project.eu/)
Part A contains the administrative information about the FTP project and the applicant organizations. The information in Part A is entered through a set of online forms in the Online Submission System which is described in Section 3 of this Guide.

Parts B and C of the FTP application are based on a "template" (see “Annex 1: FTP Application” of this Guide). The applicant should follow this structure when preparing the application. The template is designed to highlight those aspects that will be assessed against the evaluation criteria. It covers the characteristics of the technical project, its potential impact and the roadmap for its execution.

Part B is a PDF document that contains a description of the stated goal of the project.

Part C is a PDF document, containing the work plan on how to achieve the FTP goal, including a clear definition of milestones, together with an estimate of the costs and distribution of budget.

Part D consists of a PDF scanned copy of a signed document stating that all participants commit to provide funding for the milestones subsequent to milestone one (1) and for the remainder of the project.

Optionally, the application may include also a PDF file with a slide presentation of the project and a video showing additional supporting information about the project. These additional materials can be uploaded through the Online Submission System.

FTP submission

Proposals must be submitted electronically, using the Online Submission System at http://rosin-project.eu/fts. Proposals arriving by any other means are regarded as “not submitted”, and their respective senders shall not expect any notification.

The call for submissions will be continuously open from March 31 and until August 31, 2020, or the date on which the share ROSIN budget dedicated to FTPs will have been fully allocated, whichever comes first. Proposals can be submitted any time during this period. However, four cut-off dates per year are planned for FTPs evaluation. All the proposals submitted before the first cut-off date will be evaluated and the evaluation results communicated to the applicants. The applicants of approved FTP applications will be immediately contacted to negotiate and sign the FTP contract with ROSIN. The applicants of rejected FTP applications will be able to re-submit an improved version. We expect to select 4-5 applications in each cut-off date. However, based on the expert evaluation of FTP applications, the ROSIN Board reserves the right to select more or less FTP proposals, and to hold some of them upon request of further information from the applications.

The schedule and deadlines for FTP application submission are as follows:

1) Call opens: March 31, 2017.
2) 1st cut-off date: June 30, 2017, 17h00 Brussels Time
3) Communication of results (approved and rejected proposals): July 21, 2017

This process will be repeated approximately every 3 months.

http://rosin-project.eu/
If an application is successfully submitted, the system will automatically send an acknowledgement of receipt. This acknowledgement of receipt does not imply that the application has been accepted and declared eligible for funding.

4. What happens next

A successful FTP proposal that is funded and whose activities are then performed within ROSIN will follow these steps:

1) FTP proposal preparation
2) FTP submission
3) Evaluation and selection
4) Contract agreement
5) FTP execution and monitoring

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Figure 1 Overview of the complete process of a successful FTP in ROSIN

http://rosin-project.eu/
FTP evaluation and selection

After each cut-off date, ROSIN experts will evaluate all eligible applications. The evaluation criteria and procedure are detailed in Annex 2: Evaluation and selection process of this Guide. The selection process proceeds as follows:

1. **ELIGIBILITY CHECK**

   The FTP Panel will first check the eligibility criteria for the proposal, discarding those that do not meet them and producing a review report justifying it and, when possible adding feedback to solve the issue and potentially perform a re-submission.

2. **EVALUATORS ASSIGNMENTS**

   Two members of the FTP panel are assigned to the proposal for its evaluation by the ROSIN Board, avoiding conflicts of interest (e.g., if a robot manufacturer submits a proposal, ABB will not be involved in the review). Each reviewer evaluates the FTP according to the evaluation criteria, and if the reviews are heavily disagreeing, a third reviewer can be assigned to the proposal.

3. **EXPERT EVALUATION**

   FTP proposals with marks over a certain threshold are deemed technically sound and passed on to the ROSIN board for further evaluation.

4. **PRE-SELECTION**

   The ROSIN Board, will decide by unanimity whether the FTP is selected for funding, based on the evaluations performed by the FTP Panel. Members of the ROSIN Board that declare a conflict of interest will be excluded for this vote.

5. **FINAL SELECTION**

   The Expert and Ethics Board will review the selection of FTPs to be funded, and will report any ethical or conflicting issues to the ROSIN Board. Concretely one person from the ethics committee and another one from the technical oversee committee verify that 1) the FTP does not violate ethics concerns and 2) is in the spirit of the ROSIN goals. If both experts give their approval, the FTP proposal is selected for funding passed to the contract agreement phase with the ROSIN Board, otherwise it is rejected.
5. Help and Support

General questions can be sent to info@rosin-project.eu, and a response can be expected within a few business days. Note that this e-mail service is for general questions only, and not for individual feedback on project ideas and FTP proposal drafts.

6. Frequently Asked Questions

How I do apply?

The submission of an FTP proposal will consist of a single step process to submit the FTP application to the Online Submission System at http://rosin-project.eu/ftps managed by ROSIN.

Do I need a partner for an FTP?

ROSIN FTPs target ROS-I technology for which there is a clear need in the market. A company participating in an FTP proposal by providing part of the funding as future user of the developed technology, shows the market pull and increases the chances of receiving funding.

Has the industry sector to be in manufacturing strictly? Can a project concern other production sectors such as precision agriculture, fish farms, etc.?

A ROSIN FTP proposal addressing any industrial sector is eligible, as long as it is eligible for H2020 funding. ROSIN is not limited not manufacturing, and proposals targeting different production sectors are welcome.

Which project costs can we request ROSIN funds for?

ROSIN FTP program covers development costs: only person months are eligible. Other associated costs in the project (hardware, facilities, etc.) must be covered by the FTP applicants.

Can we cover the 66,6% of our FTP not funded by ROSIN with other public funding sources, e.g. by another H2020 project?

Funding the part of an FTP that is not covered by ROSIN through other funding or grants is fine. As far as the work is clearly divided into milestones and only ROSIN funding is used for the first one, it is ok to fund the remaining of the project from other sources, including other publicly funded projects.

Just make sure to comply with the H2020 rules, for example (but not exclusively):

- Do not double fund your work (you cannot declare the cost from the same activity in two projects).
- Do not exceed the max amount you can receive from the EU according to H2020 rules.

How much is the overhead I have to consider?

ROSIN FTP funding is based on a lump-sum, you simply need to give a calculation of the person months and the associated total cost of your milestones. We are not funding any overhead. You can request

http://rosin-project.eu/
up to 33% of the total person months budgeted for your project, which should correspond to Milestone 1 (the other 66.6% corresponding to the remaining milestones).

**What are the criterions for selection of proposals?**
Proposal evaluation criteria are described in Annex 2 of the applicants’ guide.

**When do we get the funding?**
You will receive 40% of the ROSIN grant for your FTP upon signature of the FTP contract. The remaining 60% will be transferred upon successful completion of Milestone 1.

**During the audit for each milestone, what administrative documentation should be exhibited by the participants?**
The participants should submit a Milestone Report, providing technical evidence that the milestone was achieved as defined in the proposal.

**What are the procedures for the costs reporting? Do we need to send timesheets?**
You do not need to report any timesheet; after everyone milestone only the technical achievement of it needs to be reported. To approve the payment upon completion of milestone 1, we are only going to look at the result, in the spirit of the lump sum mechanism. Therefore, we need a technical report and access to what has been developed.

**For each milestone, how does the coordinator demonstrate the transfer of the costs?**
The coordinator will provide copy of the bank transfers to the performers as proof of the transfer of the costs. Note that in the FTP proposal it has to be detailed how much personnel costs are needed to reach each milestone.

**What does the FTP contract looks like?**
A template ROSIN FTP agreement is provided in the ROSIN website:
7. Glossary of terms

**Champion** – participant organisation leading an FTP proposal, and committed to bear 60% of the cost not funded by ROSIN.

**Ethics Committee** – committee of experts in Ethics in the Robotics domain appointed by the ROSIN Board, who will evaluate the FTP applications according to the H2020 rules on Ethics.

**Focused Technical Project (FTP)** – An FTP proposal is a small project between 60k-300k, 1-2 years, to be funded and executed by a group of collaborating companies/institutes to design, develop, extend or standardize ROS-Industrial related technology.

**FTP Panel** – evaluators for FTP proposals, formed by experts appointed by the ROSIN Board. For each new FTP proposal, the ROSIN Project Coordinator and the RIC-EU coordinator independently evaluate the likelihood of conflict of interest between each of the evaluators (members of the Execution Board), and members deemed to have a conflict of interest (which could be the ROSIN Project Coordinator as well) are excluded from evaluation of that particular FTP proposal. The second step is that all evaluators for each proposal have to sign a declaration stating that they have no conflict of interest.

**Online Submission System** – refers to the electronic submission system accessible from [http://rosin-project.eu/ftps](http://rosin-project.eu/ftps) for sending an FTP proposal to apply for ROSIN funding.

**Participant** – organisation applying for an FTP and that will be a user of the technology developed in the FTP

**Performer** – organisation participating in an FTP proposal that will perform the development work.

**ROSIN Board** – the ROSIN Board in this document refers to the ROSIN General Assembly. The ROSIN Board decides which FTP proposal will be funded after each cut-off date. The ROSIN Board includes a representative of each ROSIN consortium members, excluding those with a conflict of interest regarding an FTP proposal.

**Technical Oversee committee** – committee of international experts in robotics and robot software appointed by the ROSIN Board, independent from the ROSIN consortium members.
Annex 1:
FTP Application

The application is made up of the following elements:

1. **Part A**: Application Form (online form)
2. **Part B**: Project description - PDF file following template (maximum length 5 pages, using the font size and margins proposed in the template)
3. **Part C**: FTP Implementation - PDF file following template (maximum length 3 pages, using the font size and margins proposed in the template)
4. **Part D**: Signed Commitment that the participants will pay for all additional milestones to the first one funded by ROSIN

Optional materials that can be uploaded to the Online Submission System:

- Slides (optional): PDF file with slide presentation of your project (max 10 slides)
- Video (optional): Video file with recording of additional project description, or URL of a video available online (maximum duration 8 minutes)

The templates of Parts B and C can be downloaded in the following links:

- [PART B template](#)
- [PART C template](#)

**IMPORTANT NOTE ON APPLICATION LENGTH**

A maximum length is specified for the different parts of the FTP application. The applicant must keep your application within these limits. The evaluators will not take into account any part of the applications that exceed the established limits. However, independently of the limitations, the applicant should bear in mind that it is in her interest to keep the application concise and right to the point. The maximum lengths established should NOT be interpreted as the desirable length. Overlong proposals are rarely viewed in a positive light by the evaluating experts. For example, Part B - Project description can perfectly have a total length of 3 pages. Take into account that the application does not require that you include all technicalities about the technology.
Part A: Application Form

Information completed by the champion registering the FTP proposal in the online submission system:

1. **Project name**
2. **Project Summary (public)**
3. **Project category (select)**
   - HW-related components
   - ROS enhancement proposals
   - Reference implementation of an algorithm
   - Application template
   - Improvements of existing component
   - Process related work
4. **Contact information**
   - First name
   - Last name
   - Email
   - Phone number

Information taken from the user profile of each participant invited by the FTP champion (filled when the entity registers for the first time to submit an FTP proposal, or first time it is invited to join one):

5. **Organization (legal entity) (to be filled by each FTP participant,)**
   - Organization name
   - Address (street and number)
   - City
   - State/County
   - Country
   - Zip code/Postal code
   - NIF/CIF/VAT Number
   - Organization type (select, EXCLUSIVE)
     - OEM
     - System Integrator (including engineering departments of end users) – (application developers)
     - End user

6. **FTP Consortium**

Information to be completed by the FTP champion for each participant in each FTP proposal.

<table>
<thead>
<tr>
<th>Organization name</th>
<th>Role (select Participant or Performer)</th>
</tr>
</thead>
<tbody>
<tr>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

Note that:

http://rosin-project.eu/
This information must be entered manually, it is independent of the members invited to the application via the Online Submission Platform, which is only meant for read access).

- The champion shall fill ‘Role’ as ‘Participant’, since it is already identified as owner of the FTP application internally in the system.

7. Ethics

The applicants need to ensure that their FTP proposal meets the ethics requirements of Horizon 2020, and that they will continue to be compliant during the period of execution of the FTP.

(Checkbox)

- The work done in this FTP does not involve:
  - Human Embryonic Stem Cells (hESCs)
  - Human participants as test subjects
  - Human cells or tissues (other than from Human Embryos/Foetuses)
  - Personal data collection and/or processing, or further processing of previously collected personal data (‘secondary use’)
  - Animals
  - Research procedures that may cause pain, suffering, distress or lasting harm to live non-human vertebrate animals
  - Import or export of any material from third countries to/from the EU
  - The use of elements that may cause harm to the environment, animals or plants
  - Endangered fauna and/or flora /protected areas
  - The use of elements that may cause harm to humans, including research staff
  - Risk for the individuals taking part in the project due to the situation in their country
  - Military applications
  - Risk for terrorist abuse of results

In the case of your FTP involving one of the previously listed cases, applicants must follow the ethics self-assessment guide published by the EC, and provide the necessary details as tabularized in that document by attaching a PDF document. For example, when the FTP would concern a software component for face recognition and storage of personal data, details must be provided on the safe encryption of the storage and informed consent forms must be stored, amongst other things.


http://rosin-project.eu/
Part B: Project description

1. Problem statement
   - What need is the FTP addressing?

2. Innovation
   - Challenges
   - How ROS-I can address the challenges

3. Background
   - State of the art and previous work
   - Research into existing components or technologies / why a new one is needed / deemed desirable

4. Objectives
   - General objectives addressed by the FTP in view of the problem and challenges

5. Expected Outcome
   - Concrete technical results expected from the FTP

6. Technical Approach
   - Concept of Operations: how the resultant tech would work?
   - Software Development
     - List of the different elements to be developed...
     - Integration and testing
     - Documentation
   - Possible early design sketch?

Part C: FTP Implementation

1. FTP work plan
   - What tasks are necessary to implement your FTP?
   - Who performs each task? Why? Explain how the experience and competences of the performers are suited for the tasks.
   - Which are your milestones and how they contribute to achieve the final goal? Which tasks contribute to which milestone?
   - Project schedule: for each task, clearly indicating when each milestone will be achieved
   - Research sites
   - Nominal Hardware
   - Technology Transfer: Explain how the technology will be transferred from performers to participants

2. Project Budget:
The FTP would only be funded if the participants show that they are able to fund the remaining milestones, apart from Milestone 1 that would be funded by ROSIN. The FTP Champion is responsible for ensuring the payment for those remaining milestones according to the FTP budget explained in this section.

- Cost per milestone, also detailing the cost per task in the milestone.
- Specification of type of cost
- Total cost
- Requested ROSIN EU contribution for Milestone 1
- Total contribution of each participant
- Budget per performer.

### 3. IP Management plan

The software result of an FTP must be open-sourced. However, FTP participants may decide what is released and how long it is delayed before release.

- Provide a clear roadmap of when the different elements will be released open-source, and which one will remain confidential.
- Explain the license chosen (Apache 2.0 preferred) for the resulting open-source software.

The following data may remain confidential to the FTP group indefinitely:

- Detailed Requirements
- Documentation
- Proprietary 3D Models
- Pictures
- Live demos
- Demo video

### 4. Quality Assurance

The applicant has to define a quality assurance plan, including prospective relevant metrics to use in the monitoring phase of the FTP and for the final validation of the result.

Also indicate any support you consider you may require from the ROSIN consortium regarding QA for your Focused Technical Project.

### 5. Maintenance plan

What will happen after the component / project is finished? Who will be maintaining the different outcomes of the project?
Part D: Signed Commitment

There must be a signed commitment that the participants will pay for all additional milestones to the first one funded by ROSIN. The commitment should be a contract with the following agreements:

- If the first milestone is completed according to specification, the participants are obliged to immediately pay 60% of the development cost (including FTP management overhead cost) for the second milestone.
- If the second milestone is completed according to specification, the participants are obliged to immediately pay the remaining 40% of the development cost for the second milestone plus 60% of the cost (incl. management overhead) for the third milestone.

The same for all subsequent milestones, and after completion of the final milestone, the final 40% will be paid.
Annex 2:
Evaluation and selection process

The evaluation and selection of FTP proposals for ROSIN funding follows the following steps (see also Figure 1) that will be further detailed in this annex:

1. **ELIGIBILITY CHECK**
2. **EVALUATORS ASSIGNMENTS**
3. **EXPERT EVALUATION**
4. **PRE-SELECTION**
5. **FINAL SELECTION**

Eligibility check

In the review and selection process for each FTP application, the FTP Panel will first check the eligibility criteria for applications. Eligibility criteria assess that all compulsory requirements are fulfilled by the application, such as:

1. **Place of establishment of legal entities:**
   - The champion (main participant) must be an organisation based in a country eligible for H2020 funding.
   - The requested seed funding goes to the performer organization(s) based on a country eligible for H2020 funding.

   **Quick-check:** The legal entities shall be established in a Member State or an Associated Country. There is no limit on the size or nature of legal entity.

2. **Relevance to the call:**

   The application addresses the goal of ROSIN Call for FTPs, as defined in section 1 of this ‘ROSIN Call for Focused Technical Projects - Applicant Guide’.

   **Quick-check:** the result of the FTP will be ROS-based robot software technology: a component, but it may also be a software audit, a design, a standardization effort, a model.

3. **Is there a legally binding commitment by the participants to fully bear the cost for the FTP?**

   There must be a signed commitment that the participants will pay for all additional milestones to the initial one funded by ROSIN. The commitment should be a contract with the following agreements:
   - If the first milestone is completed according to specification, the participants are obliged to immediately pay 60% of the development cost (including FTP management overhead cost) for the second milestone.
   - If the second milestone is completed according to specification, the participants are obliged to immediately pay the remaining 40% of the development cost for
the second milestone plus 60% of the cost (incl. management overhead) for the third milestone.

- The same for all subsequent milestones, and after completion of the final milestone, the final 40% will be paid.

Non-eligible applications will not be evaluated and this circumstance will be communicated to the applicants within 1 month after the first cut-off date since their application was submitted. The communication will include helpful feedback to improve the proposal for a re-submission.
# Evaluation form

Each application is evaluated by at least two members of the FTP panel according to the following seven criteria.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Explanation</th>
<th>Relevant section</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Does it contribute to ROS-Industrial Europe?</td>
<td>The proposed project must result in an extension of the ROS-Industrial software base, assuring usability within the ROS-Industrial framework. This means that the main project result is a (set of) identifiable software component(s), libraries, package(s), designs, source code audits, that fit, extend or benefit the ROS-Industrial framework, being made available online as open-source software. Software development work on non-ROS is acceptable only insofar it concerns modifying hardware drivers or proprietary software components such that they can connect properly to the ROS-Industrial Framework.</td>
</tr>
<tr>
<td>3</td>
<td>Market</td>
<td>Is evidence of market need provided? Is the problem clearly described and quantified? Is the market properly characterised? Are channels to reach the market identified? Are market risks understood?</td>
</tr>
<tr>
<td>2</td>
<td>Impact</td>
<td>What is the new foreseen usage of the component/technology developed or improved? Is there a clear commitment and plan to maintain the result of the FTP?</td>
</tr>
<tr>
<td>5</td>
<td>Team</td>
<td>Previous (documented) experience in developing similar applications. Are there the necessary commitment in the participants?</td>
</tr>
</tbody>
</table>
**ROSIN – ROS-Industrial Quality-Assured Robot Software Components**

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Threshold</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Does it contribute to ROS-Industrial Europe?</td>
<td>3</td>
<td>30%</td>
</tr>
<tr>
<td>2 Impact</td>
<td>-</td>
<td>10%</td>
</tr>
<tr>
<td>3 Market</td>
<td>-</td>
<td>10%</td>
</tr>
<tr>
<td>4 Technology</td>
<td>-</td>
<td>10%</td>
</tr>
<tr>
<td>5 Team</td>
<td>3</td>
<td>20%</td>
</tr>
<tr>
<td>6 Work implementation</td>
<td>3</td>
<td>20%</td>
</tr>
</tbody>
</table>

For each criterion, the reviewer provides a score based on the following scale:

- **0 Fail** The proposal fails to address the criterion under examination or cannot be judged due to missing or incomplete information;
- **1 Poor** The criterion is addressed in an inadequate manner, or there are serious inherent weaknesses;
- **2 Fair** While the proposal broadly addresses the criterion, there are significant weaknesses;
- **3 Good** The proposal addresses the criterion well, although improvements would be necessary;
- **4 Very good** The proposal addresses the criterion very well, although certain improvements are still possible;
- **5 Excellent** The proposal successfully addresses all relevant aspects of the criterion in question. Any shortcomings are minor.

Once all applications submitted before the cut-off date have been evaluated, the following thresholds are applied to discard those that do not fit the ROSIN quality criteria.

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Overall score | -- | C1*W1+ | C2*W2+ | C3*W3+ | C4*W4+ | C5*W5+ | C6*W6

Review by the Advisory and Ethics Board

Once those not passing the quality threshold have been discarded, the applications are ranked according to the review scoring and selected for approval by the ROSIN Board.

The proposals selected, together with the expert reviews and any additional comments, are presented to the Advisory and Ethics Board. This committee will review that each proposal meets the ethics requirements of Horizon 2020, and generate a report including all issues identified and a recommendation about the selection of the FTP proposal or the need for a re-submission to solve the issues.

Application selection

Finally, the selection of proposals, together with all associated information from the review process and the Advisory and Ethics Board, is sent to the ROSIN Board, which approves the final selection. The criteria for the selection of an FTP is:

- Does it contribute to ROS-Industrial?
  → verified with evaluation sections 1 and 2

- Is the FTP realistic?

There should be a good chance that the expected results will successfully be achieved. Note that the Board will not judge the novelty of the FTP; since the participants will commit to fully funding the FTP, it is their responsibility to make sure no funds are wasted on re-inventing the wheel.

The proposed project must be realistic. This is a sanity check, in order to minimize the risk that an FTP project stops after milestone 1. The FTP panel evaluators must collect proper argumentation to be able to say that the FTP is realistic, and the full ROSIN Board must agree unanimously to this effect. Whether or not an FTP is realistic depends on the current state of ROS-Industrial, the development capabilities of the performers, and the complexity of the requirements, so this must be determined on a per-FTP basis.

→ verified with evaluation sections 4, 5 and 6

Reporting of evaluation results

Shortly after each evaluation round (4 times per year), ROSIN will publish a public summary report of the evaluation results on the ROSIN website within 30 days of the end of evaluation, after FTP proposers have received individual feedback. This report comprises an account of the call, its evaluation and its results, including dates of call, how it was published, dates of evaluation, number of proposals received, number of proposals funded, as well as a list of all.

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selected proposers and their funding amounts, although FTP specific details will remain confidential for up to 2 years to protect the interest of the funding parties (the FTP participants).
Annex 3:
Monitoring and completion of an FTP

The progress of an FTP will be monitored by three different entities, all requiring the same concise progress report:

- The **ROSIN Board** monitors that funding is not misused. In case of clear and apparent misuse, funds can be reclaimed, although this will entail legal action, which is not expected to be necessary.
- The **Participants** monitor whether the milestones are successfully achieved, and are obliged to pay the performers after each successfully reached milestone.
- The **ROS-Industrial Consortium Europe** will monitor the overall progress and especially the correct settlement for the final milestone.

How and when should FTP progress be reported?

FTP progress is monitored on a milestone basis, according to the following process:

<table>
<thead>
<tr>
<th>When (deadline)</th>
<th>What</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1 week after FTP contract signed</td>
</tr>
<tr>
<td>2</td>
<td>Milestone deadline</td>
</tr>
<tr>
<td>3</td>
<td>2 weeks after 1</td>
</tr>
<tr>
<td>3</td>
<td>2 weeks after 1</td>
</tr>
<tr>
<td>4</td>
<td>1 week after 2</td>
</tr>
</tbody>
</table>
| 5 | 1 week after 4 | IF Milestone 1:  
- The ROSIN project coordinator transfers the remaining 40% to the FTP Champion |
The participant(s) transfer 60% of the cost for milestone 2 to the FTP Champion
- The FTP Champion proceeds with the payments to the performers as specified in the FTP contract agreement.

| 6 | Milestone 2, 3...
- The participant(s) transfer the remaining 40% of the completed milestone cost to the FTP Champion.
- The participant(s) transfer 60% of the cost for the next milestone to the FTP Champion.
- The FTP Champion proceeds with the payments to the performers as specified in the FTP contract agreement.

The summary report by the performers, together with the results of the technical audit, will constitute a progress report that the ROSIN Board will submit to the European Commission.

The developed code should be available at an online software repository (GitHub) and accessible by the ROSIN experts appointed by the ROSIN Board to monitor the FTP.

How to deal with disputes over milestones reached or not?
The ROSIN Board will attempt to mediate in such disputes. Eventually the milestone is reached only if the participant(s) agree to that.

What happens if performers do not reach milestone 1?
A detailed report must be delivered by the defaulting parties, which must be analysed by the ROSIN Board. The defaulting parties must deliver proof of effort. As a direct consequence, they will not receive the final 40% of FSTP, and in case of gross neglect or wilful act the initial payment of 60% can be reclaimed. An article to that effect will be present in the contract between the third parties and ROSIN.

Note that in some FTPs, a participant can also take the role of performer. In that case, the ROSIN seed funding remains the same as explained above, except that for these partners the payment will not be made upfront but after completion of the first milestone. The reasoning is that we want to be fair in terms of how the ROSIN funds are distributed and we want to encourage own developments by participants, however their financial risk is lower because they will be working with own employees, so there is no need for upfront payment.

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