



To the representatives of all institutions (Scientific Laboratories, Research Centres, Universities and Industry) participating in EU funded projects for collaborative particle accelerator R&D

15 May 2019

Dear colleague,

The European Commission will open in November 2019 the Horizon 2020 call INFRA11NOV-04-2020 for **Innovation Pilot** projects, directed at Research Infrastructure networks to kick-start the implementation of common strategies and roadmaps for technological developments required for improving their services through partnership with industry. Thanks to the high level of integration reached by our community and to the quality of our previous initiatives, the Commission has selected “**Innovation in accelerator technologies**” as one of the priority domains for this call. Our particle accelerator community will be invited to submit by the call deadline of **17 March 2020** a proposal for a collaborative project with an overall EC contribution of 10 Million Euros, for a duration of 4 years starting in May 2021.

As for previous proposals, the submission will be coordinated by the TIARA Collaboration Council (Test Infrastructure and Accelerator Research Area, www.eu-tiara.org)¹ and will be supported by the ongoing ARIES Integrating Activity Project (Accelerator Research and Innovation for European Science and Society, <https://aries.web.cern.ch/>). Considering the complexity of the new instrument, its preparation has to be started as soon as possible to meet the March 2020 deadline.

With the goal of preparing a coherent and ambitious proposal to develop technologies that can meet the increasingly challenging demands of accelerator users, TIARA and ARIES are launching a **call for proposals for collaborative actions** to be included in the final Workplan of the Innovation Pilot project.

The proposals will be prepared using the enclosed template and sent to accelerator.innovation@cern.ch before **31 August 2019**. An Evaluation Committee nominated by the TIARA Council members will analyse the proposals and select those that will be part of the final Innovation Pilot project to be submitted to the European Commission.

The proposals for actions should belong to one of the three following categories:

1. **Strategies:** identification of key techniques and trends that are crucial for the future construction or upgrade of accelerator Research Infrastructures or for their impact on society, and definition of roadmaps and strategic agendas for their development. These actions are performed by small consortia of institutions, in close partnership with industrial partners.

¹ The TIARA consortium is governed by a MoU signed by CEA (France), CERN (International Organization), CNRS (France), CIEMAT (Spain), DESY (Germany), GSI (Germany), INFN (Italy), PSI (Switzerland), STFC (UK), Uppsala University (Sweden, representing other Scandinavian institutions), Henryk Niewodniczanski Institute of Nuclear Physics (Poland, representing other Polish institutions).

The proposed **requested EC contribution** for “Strategies” is approximately **300 k€**, which will complement matching funds (including overheads) from the participating institutions.

2. **Developments:** development of fundamental technologies or techniques underpinning the efficient and joint use of Research Infrastructures or their impact on society. These actions are early stage developments of critical components performed by a small number of partners, to be whenever possible realized in partnership with industry. Technology Readiness Level² (TRL) for these actions shall be between 2 (technology formulator) and 4 (small scale prototype). The proposed **requested EC contribution** for “Developments” is approximately **100 k€**, which will complement matching funds (including overheads) from the participating institutions.
3. **Prototypes:** prototyping of higher performance technologies or instrumentations, including testing, needed to upgrade the Research Infrastructure, or construct their next generation, or enhance their impact on society. These actions consist in advanced developments of critical components, resulting from a previous preliminary development or feasibility study, involving an appropriate number of partners, and must be realized in partnership with industry. TRL of these actions shall be between 4 (small scale prototype) and 7 (demonstration system). The proposed **requested EC contribution** for “Prototypes” is approximately **500 k€**, which will complement matching funds (including overheads) from the participating institutions.

The **duration** of the individual actions will be comprised between a minimum of 12 months and the full duration of the Innovation Pilot project, 48 months.

More details on establishing an appropriate **budget** are given in the attached application form. As for previous accelerator R&D projects, we expect that the EC contribution will cover about 50% of the total project cost, including overheads. In special cases, higher funding rates not exceeding 70% can be negotiated with industrial partners. We assume that the matching funds from the partners will mainly consist in internal personnel made available to the project.

The **evaluation** of the proposals will be done accordingly to the following list of **criteria**:

1. Scientific and technological excellence;
2. Impact on Research Infrastructure users and/or on society;
3. Methodology of the implementation;
4. Innovation content;
5. Transnationality and integration of new partners;
6. Level of co-funding;
7. Risk management;
8. Cost vs. Impact;
9. Level and quality of industry involvement;
10. Coherence with the priorities of the community;
11. Continuity with previous EC-funded activities.

While scientific and technological excellence will be the main criterion for the selection of projects, the relative weight of the other criteria will be defined by the TIARA Council and made available in July 2019 on the web site <https://aries.web.cern.ch/content/accelerator-innovation>. The selection process will be fully transparent and the results of the evaluation and the ranking of all submitted actions will be communicated at the end of October 2019 on the reference web site.

² See e.g. https://www.nasa.gov/pdf/458490main_TRL_Definitions.pdf

The evaluation committee will decide of the relative sharing between the three types of actions within the project, based on the quantity and quality of the proposals received. A fraction of the total EC contribution will be reserved for a **second internal call** for proposals, which will take place approximately one year after the start of the project.

To access the reference documents for the call and for up-to-date information, please refer to the web site <https://aries.web.cern.ch/content/accelerator-innovation>. In case of questions concerning this call, please contact accelerator.innovation@cern.ch.

Please forward the present communication inside your institution and to any other partner that might be interested in participating. We remind you that all proposals for actions must be sent using the standard application form to accelerator.innovation@cern.ch before 24:00 on **Saturday 31 August 2019**.

We look forward to your help in setting up a new exciting project that will promote accelerator science for the next decades.

Yours sincerely

Maurizio Vretenar, CERN, coordinator of the ARIES Project

Roy Aleksan, CEA, coordinator of the TIARA Council