
CERN

Towards a European collaboration for a next generation ion facility

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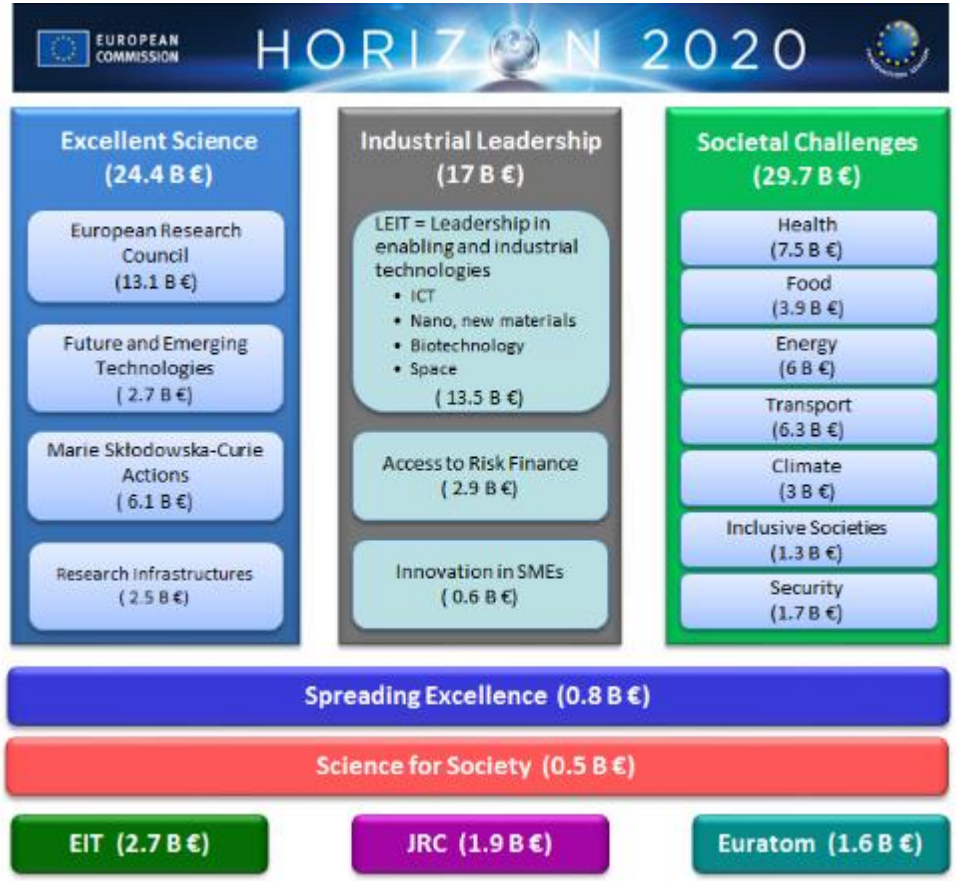
From Health to Research Infrastructures

- It is extremely difficult to obtain European Commission support to particle therapy accelerators from the Health programmes.
- Instead, if a new facility is primarily devoted to research instead of therapy (>50%?) it could aim at becoming a European Research Infrastructure (RI) and get support from the RI part of the EC science and innovation programmes.
- This would open new possibilities for funding like a Design Study (to develop a new design).



Options for an H2020 Design Study

- Call **INFRADEV-01-2019-2020**: “development of new world-class research infrastructures which will help Europe to respond to grand challenges in science, industry and society” (20 M€ 2019, 10 M€ 2020). To be officially published in March 2019.
- We can pretend that our medical facility is a research infrastructure, as soon as we propose a user facility (i.e. priority to research over treatment). Call is open to “all fields of science and technology” and concerns “fully fledged user facilities”.
- EC contribution up to 3 M€, duration 2 to 3 years.
- Call deadline 12 November 2019.
- Total budget 30 M€, i.e. 10 projects might be approved for all EU RI’s.
- If approved, the project could start already in May 2020.
- The design must be innovative (i.e. not just a replica of the existing centres). It can be centered on one of the two options (SC synchrotron or linac) or keep both and propose a selection as final deliverable.

Conditions for a Design Study

- Co-funded, in the line of previous accelerator projects: the partners have to provide some internal matching funds on top of the EC funding (guidelines: 50% of overall funding including overheads, less for companies) – with 3 M€ EC contribution, mount a project for 5 - 6 M€.
- Consortium of some 5 – 10 beneficiaries (receiving EC funding) plus some partner organisations contributing without funding.
- Rough estimate some 100 – 300 k€ / participant.year over 2 years, to be spent in personnel for design and test or material for prototyping. Internal matching funds might come in form of some personnel time.
- Beneficiaries should be a blend of Laboratories, Universities and Industries coming from different EU countries.
- Preparation of the proposal should be organized within the TIARA Consortium for Accelerator R&D which has coordinated already dozens of successful proposals.
- For a good Design Study proposal, we need to start preparation at least one year in advance (autumn 2018).

Expressions of interest

For the moment – without any publicity - we have received preliminary expressions of interest from:

- Sweden (Uppsala University)
- Latvia (Riga Technical University)

Intermediate programme for 2019

- Some activity could (and should) start already in 2018/19, if some funding is available – possible limited CERN contribution in 2019, depending on Workplan and on approval by the “5 committees”.

Coordination with SEEIIST

- Following the initiative of H. Schopper and under the coordination of S. Damjanovic, 8 Balkan countries have signed a Declaration of Intent for the creation of the South-East European International Institute for Sustainable Technologies.
- The SEEIIST objective is to foster peace and collaboration in the area with the creation of a particle accelerator laboratory, following the example of the SESAME facility in Middle East.
- In March 2018 the SEEIIST has decided to build a combined cancer therapy and biomedical research facility.
- Construction funding might come primarily from structural and pre-accession EU funds.
- SEEIIST and PIMMS2 share a common vision and many synergies are possible.
- SEEIIST (i.e. a legal entity representing SEEIIST and based in a H2020 countries) can be a beneficiary in a EU project (Design Study).

SEEIIST, ESFRI and PIMMS2

- PIMMS2 and SEEIIST share the same goal of realizing a multiple ion research and therapy facility. They are not in competition, but might have different timelines.
- If SEEIIST has to advance rapidly towards construction, their only option is to replicate one of the existing ion accelerator design. If there is more time before construction, it might be interesting to adopt some new technologies that might result from a common Design Study.