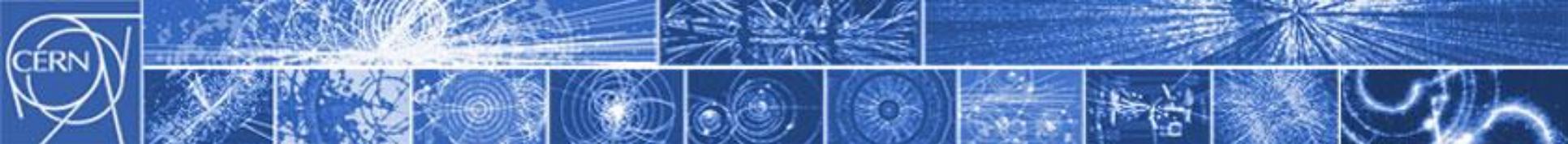


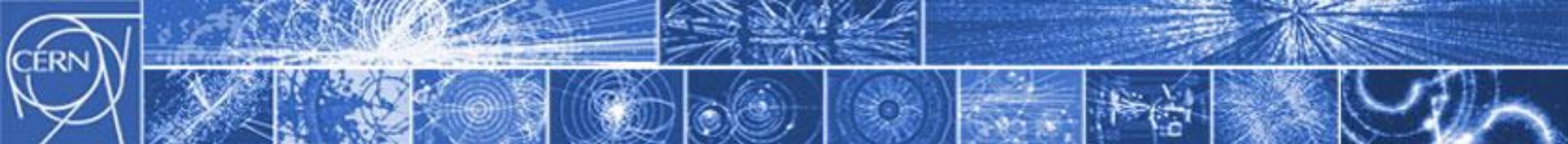
ATTRACT (breAkThrough innovaTion pRogrAmme for deteCtor / inrAstructure eCosysTem)

- A proposal from CERN to the European Commission (EC) for a dedicated EC-funded program to develop new (ionizing) radiation sensor and imaging technologies for scientific purposes, while addressing also societal challenges in the domains of health, sustainable materials and information and communication technologies (ICT)
- Bringing together the detector R&D communities including physics, research, astronomy, space exploration, nuclear engineering, and medical imaging, and (mostly) Small and Medium sized Enterprises (SME)



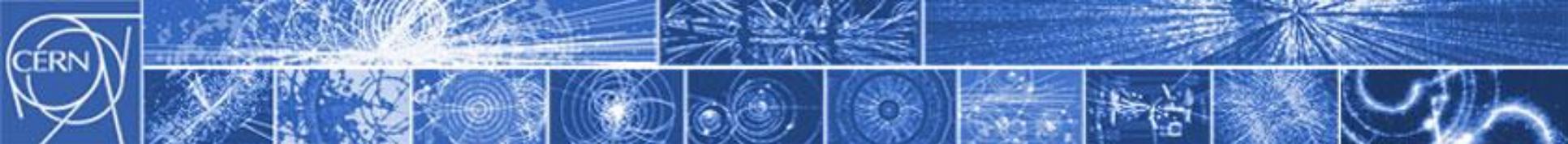
Why?

- The detector R&D community - or communities - have found it difficult in the past to find a suitable EC-program that facilitates the specific use of radiation detector R&D. The net benefit of these programs has also been questioned (distraction/bureaucracy)
- The detector R&D community (e.g. LHC) has ideas of potential suitability of its technologies in other fields, but limited contacts, mechanisms or resources available to follow it further or make a case
- While waiting for the funding decisions for the upgrading of some of the present physics research facilities to pan out (e.g. LHC detectors at CERN, Phase-2), the experiments could meanwhile make use of complementary R&D funding possibilities offered by the new European Union Horizon 2020 programme
 - http://ec.europa.eu/research/horizon2020/index_en.cfm?pg=excellent-science
- EU is encouraging/pushing researchers to work with European SMEs, which lack the necessary supporting (scientific) infrastructure to boost their innovation efforts...
- ... but it is not tailor-made for detector R&D



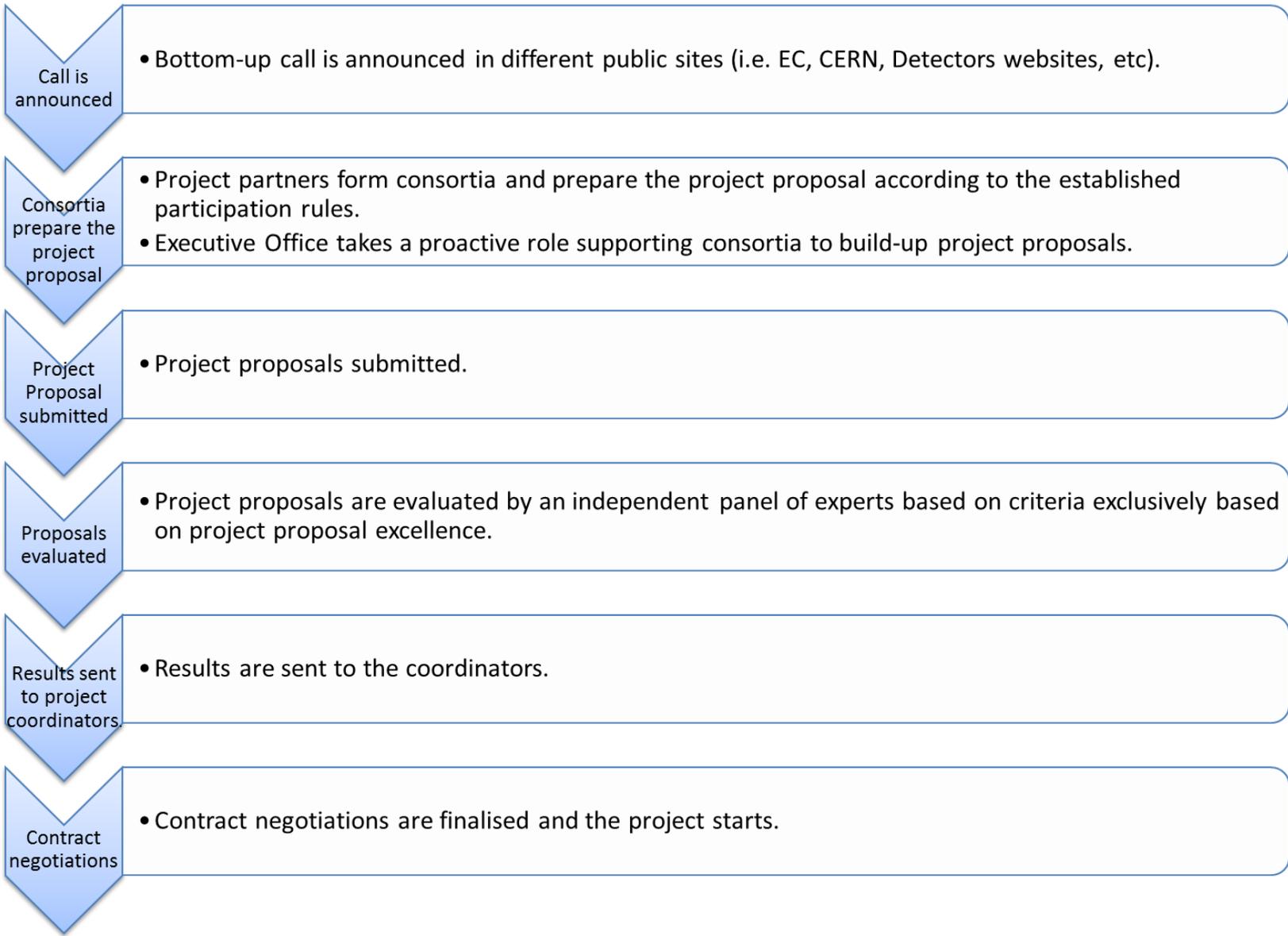
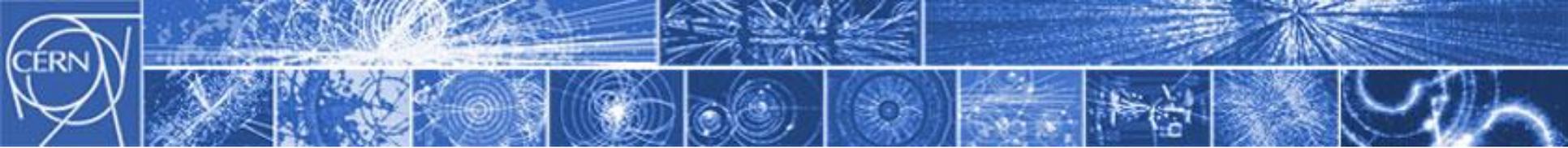
So Why ATTRACT?

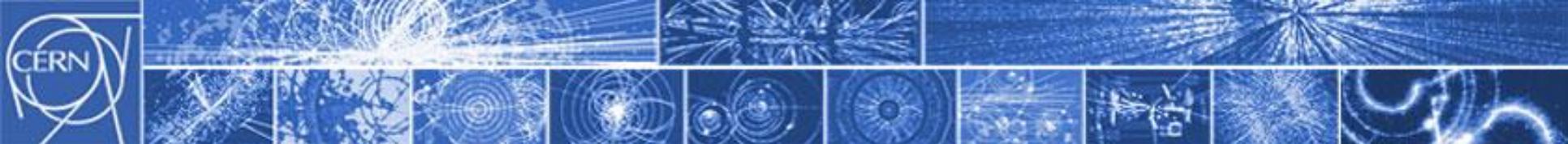
- EC intends to externalize 75% of the financial and project management of the H2020 Programme to external entities
- CERN could be ready to help to administrate this effort, if supported by the detector R&D community at large, and provided the community is willing, together with industry, to govern the process of work program definition, calls and the reviewing
- ATTRACT is a “horizontal” view across EC-funded programs (Health, ICT, energy), instead of program “silos” – H2020 has not (yet) clarified its approach such initiatives



How ATTRACT?

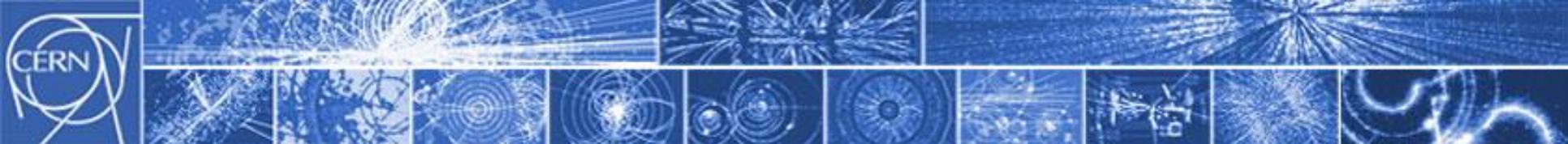
- ATTRACT builds upon the collaborative spirit of open science and innovation. Here CERN's experience and available infrastructure could turn out to be useful, as well its MoU framework with EC
- The detector R&D community/ies and industry (SME) are expected by EC to get themselves organized for common governance structures and guidelines, to run the Program
- The right governance structure needs to be established (PPP?)
- The socio-economic research community is expected to be asked to help in following and studying ATTRACT to establish guidelines for EC beyond H2020 how to build up and run Innovation Ecosystems, inspired by the open environment and basic research goals of the detector R&D community/ies
- The size of detector R&D related ATTRACT calls could reach 200 funded projects by 2021, or ca. 1% of H2020
 - HEP "share" ~ 20% (i.e. ca 50 projects, ~ 200 M€)





When ATTRACT?

- H2020 Program is defined and (basically) approved. ATTRACT does not easily “fit” in it, not at least in the planned calls in 2014-2015
- Therefore, ATTRACT will need proceed in two ways
 - Top-down: negotiations between CERN and EC within the MoU framework
 - Bottom-up: responding to targeted calls (e.g. ICT34, FET), with help from CERN in preparing, submitting and eventually, administrating successful bids
- Next contact with EC (DG Research) scheduled for early next year. For this, two documents are being prepared
 - Socio-economic study on the benefits of Open Science/Open Innovation
 - Examples of detector R&D that e.g. LHC experiments would carry out, if adequate EC resources were to be made available. Moreover, examples of their potential use in society would be provided. See ESG as an example
 - <http://council.web.cern.ch/council/en/EuropeanStrategy/ESBrochure.pdf>



Summary

- ATTRACT is proposal from CERN for a dedicated EC-funded program to develop new radiation sensor and imaging technologies for scientific purposes, also addressing societal challenges together with SMEs
- The motivation is to improve the current effectiveness of EC funding for detector R&D
- Next contact with EC (DG Research) scheduled for early next year. For this, two documents are being prepared
 - Socio-economic study on the benefits of Open Science/Open Innovation
 - Examples of detector R&D that e.g. LHC experiments would carry out, if adequate EC resources were to be made available. Idea is to collect 1-page summaries about (upgrade) R&D proposals. Help will be provided in identifying potential use in other fields
- Request: input for the above report