

# Considerations about an R&D collaboration on Detector Mechanics and Cooling

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# Pros and Cons for a R&D collaboration

- The topic was discussed at the Forum on Tracking Detector Mechanics in Cornell this year
- Positive aspects of an R&D collaboration:
  - It acts as a facilitator to carry out common research plans and activities;
  - It simplifies the exchange of students between participating institutes;
  - It brings people together in view of a (large) future project;
  - The regular reviewing process is appreciated by the Funding Agencies and *might* help the participating institutes to get resources;
  - Better dissemination of knowledge and results.
- An R&D collaboration comes not for free:
  - It requires work to prepare the proposal for approval by the CERN Research Board
  - It will take resources to lead the collaboration and to coordinate the work of the different research lines
  - A 'critical mass' of institutes is needed who are not only interested in R&D, but have resources
- **We should be sure that at the end the community benefits from it!**

# Synergies with other initiatives

- Synergies exist with 'AIDA next' and a network of institutes and industries, which have similar objectives, in particular regarding low mass trackers and new coolants.
  - 'AIDA next' can complement the CERN initiative on strategic R&D.
- There are plans to resubmit the ADMIX proposal to the EU in the next round.
- Collaboration with Tampere University (Finland) and CERN SMM MRO on robotics was positive this year and will continue.
  - Collaboration with other organizations could be envisaged (ESA, NASA).
- More collaboration agreements will be prepared with other institutes, e.g. with IFIC Valencia on micro-channel cooling, etc.

# Final comments

- The exploration phase about a R&D collaboration carried out this year were useful.
- It showed, however, that many (European) institutes are struggling to get resources for R&D not strictly related to an approved project.
- We will continue discussions also with US institutes, e.g. LBNL and Purdue.
- Human resources are largely committed to the Phase II upgrades of ATLAS and CMS.
  
- Since the CERN R&D initiative is only starting, we want to put in place as next step collaboration agreements on specific topics.
  
- We will re-evaluate the situation from time to time, e.g. in next year's Forum on Tracking Detector Mechanics, and evaluate the progress.