D4.2.2 MEC: Common methodology for scientific and technical evaluation and costing of collaborative R&D activities

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Excerpt from the minutes of our Milano Meeting on 2012/02/16:

"Concerning the second subtask, MEC, again there does not exist a common methodology for technical evaluation and costing yet. Most of the times, the technical evaluation and the sharing of resources depends on the "aggregation" model that has been used for the collaborative model. When partners aggregate by writing a MoU generally each partner either carries its own cost towards the achievement of a common goal or, if technology is exchanged, the partners find a subjective agreement based on an institutional trade-off between the cost to sustain and the benefits to access the technology. Very rarely this process has a "commercial" or industrial metric. Also, the scientific and technological evaluation is generally performed at each partner level, often independently and rarely is based on a peer-review process, but rather is based on the institutional vision and interests. In the case of an aggregation around an EC FP call, the evaluation is demanded by expert committees in a peer-review process and all partners have to follow the EC financial guidelines concerning eligible expenses when estimating the cost of the proposals. As for the previous subtask the first step would logically be to summarize these considerations concerning how collaborative projects currently are evaluated and costed and then discuss the various pros and cons of each scheme. A method for the TIARA evaluation and costing scheme should emerge from this summary combining many of the pros of the known methods with respect to the TIARA goals (e.g. collaborative R&D)."

Analysis of R&D programmes currently existing

Scientific and technical evaluation

In the table given below, we should try to summarize the essential points of the known methods without repeating Paolo's words above (nevertheless, we should include these in prosa to give this document a little more content).

Model	Pro	Contra
MoU	Both institutions share a common interest Definitively strong collaborative form	Partner institutes with the suitable interests have to find themselves first Strategic view for future Accelerator R&D limited to participating institutes
EC FP Call	Peer reviewed, so developments of limited interest are skipped	Time span needed for decisions usually long Decision making not very transparent to applicants Limited support for collaborative R&D
ARD	Dedicated to Accelerator R&D	Strategic view for R&D comes only from limited number of institutes (German Helmholtzzentren)

Proposal for a TIARA adapted scientific and technical evaluation

The methodology for scientific and technical evaluation should cover several aspects unique for TIARA. A proposal is given for open discussion:

- R&D supported by TIARA on the test infrastructures has to have a common interest of more than one – preferably three or more institutes, from more than one EC country.
- The larger the number of institutional interest, the higher the priority should be (this should be a first part of the "metric").
- One should also respect the time scale when the R&D is needed. When the assessed R&D needs spans over a large duration (short, medium and long term), the priority given to the topic should be larger than for those only needed for a shorter term. COMMENT from Paolo: I am not 100% sure about this concept of priority. If the R&D topics are needed on the long term it also mean that results are not needed URGENTLY. However, it is a question of continuity and sustainability, i.e. provisions should be taken so that long term R&D, when agreed to be of mutual interest by parners, receives the necessary attention for the whole time span. One of the examples in past FP calls is that the attention shifted from one topic to another, without the needed continuity for long term R&D.
- The number of institutional interests and time spans could be verified e.g. by the KTI list (which has to be up to date during the evaluation process). This facts suggests the use of a peer review process.

Remarks: During big projects in their active (i.e. construction) phase, test infrastructure is usually needed at or near the place of the project. This infrastructure will be constructed even if no support from TIARA will be present. To ensure longlivety of the running accelerator, this infrastructure will be needed for maintenance and repair purposes in the future as well, so usually it is not abandoned

completely after successful commissioning (e.g. the CERN superconducting magnet test infrastructure or the GSI large cavity galvanizing and NEG coating facilities). The idea of integrating such infrastructures into TIARA for later use by others should be strongly supported.

Costing

COMMENT from Carsten: Here, I don't have any good clue on how to do implement good costing strategies (because I personally did not have much contact with these). We have to think of them.

Model	Pro	Contra
MoU	Each partner can use its own "metric" to evaluate the cost of accessing (or revenue for transferring) one specific technology, based on an institutional cost/benefit assessment.	Financing of R&D / infrastructure use often difficult, takes long time Costs are proposed subjectively by the partners (depending on their view of "usefulness"), not transparent and depending on institutional assessments
EC FP Call	EC financial guidelines have to be applied (i.e. are transparent)	Time span from emerging R&D ideas to cash flow (and hence R&D start) usually long when it does not fall into FP ends
ARD		

Some first ideas:

- Funding period should be short enough to support emerging ideas (if they spread fast enough through the accelerator community to give them common interest).
- It should be discussed to support preservation of infrastructure which will be needed in medium term (or medium and long term) to the minimum amount necessary.