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I.FAST WP3

S.C. Meeting - 14 Dec. '23

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Summary (mainly announcements)

- TRL Survey
- Industry Cryogenics Workshop 16-17 April '24
- Industry-driven session at the I.FAST Annual Meeting
- I.FAST at BSBF2024

TRL survey

- Scientific Advisory Committee expressed some suggestions in May '23:
 - I.FAST technologies should be critically assessed with regards to a realistic pathway to identified markets and the time scales required.
 - For each technology, it would be good to get idea of technology readiness level (TRL) as not all developments seem to have the same level of market-readiness.
 - It was not always made clear enough which developments are happening because of I.FAST.
- information useful in addressing these points was gathered through a questionnaire circulated to all relevant I.FAST Tasks in August 2021
 - 17 out of 28 tasks provided their feedback
 - outcome in document "I.FAST Knowledge Transfer Report: Assessment of Innovation Potential and KT Opportunities in IFAST R&D Activities"
- now we would like to complete the survey with:
 - questionnaire sent to tasks that did not respond and new IIF projects
 - a few questions to the other tasks to update their response

why IIF too ?

- the new projects funded by I.FAST via the IIF had to satisfy the following requirements:
 - Consortium: at least one I.FAST beneficiary and **one industry**;
 - Initial **TRL 3 or higher** (from proof-of-concept to laboratory/environment validation)
 - Project contributes to improving sustainability of particle accelerator technologies;
 - Project must have potential for **industrialisation or commercialisation.**
 - Project must **have potential to attract more resources** than what deployed by IFAST alone.

Preliminary step of the program announced in May

- the plan discussed with Marcello, who coordinates the IIF initiative, is to:
 - **carry out an evaluation of the IIF projects**, based on documentation provided so far :
 - Business Problem, Value Proposition, Applications, foreseeable Impact-Pathways, outlined Business Plan , outlined Commercialization Approach, Risk Analysis, Customer and Partner Interfaces and Relationships, Market Assessment, Actions
 - schedule **individual meetings with the IIF projects**, in the second part of this year, to get a feedback on the approach they have adopted:
 - are the SWOTs of the project, in terms of exploitation of the potential for industrialization and commercialization understood ?
 - is a strategy being developed ?
 - organize a **dedicated session at the Annual meeting in 2024** with experts that can address the most critical aspects that emerged from the interactions with the projects
- this process should also make clear it there are projects that it **may be worth and feasible to support** with expertise available inside I.FAST (WP3) and in the collaborating institutions (e.g.: RIs TT offices, Business Development Units) or outside.



Cryogenics workshop

- **proposed by the I.FAST Industry Advisory Board** in May '23
- will take place in Paris, just before the next I.FAST annual meeting
 - **Tue. 16/4/24 afternoon, Wed. 17/4/24 morning**
- goal is to present and discuss **ongoing technological developments in cryogenics for accelerators and related fields**
 - being pursued either in laboratories or in Industry
 - in particular to improve sustainability and efficiency.
- it should also be an opportunity
 - to examine the **emerging business opportunities for European industry**,
 - to identify possible **collaborative interactions and initiatives** to develop the cryogenics European market in our research field.

Other projects collaborating

- **AIDA-INNOVA and LEAPS-INNOV have also expressed interest** in participating in the workshop
 - they will therefore be involved in organizing it
- in the new **iSAS project** (on Energy Recovery Linacs, coordinated by IJCLab) **they have cryogenics in their workplan** and they might be interested to participate/contribute in our industry workshop too
 - by coincidence, holding their kick-off meeting in the same venue on Apr. 15-16 '23

Program Committee members

- so far:
 - **experts:**
 - Johan Bremer (CERN) [TBC]
 - David Grillot (ITER)
 - Javier Munilla (CIEMAT)
 - Ruggero Pengo (INFN)
 - Giovanni Calderini (LPNHE / AIDA-INNOVA)
 - Rita Pinho (CERN / AIDA-INNOVA)
 - Marie-Emmanuelle Couprie (SOLEIL / LEAPS-INNOV)
 - **Industry representatives:**
 - Ziad Melhem (Oxford Quantum Solutions)
 - Erik Fernandez (Ineustar) [TBC]
 - **I.FAST representatives:**
 - WP3 support
- if you know industry representatives that could provide useful contributions, please let us now

Special industry-driven session at the IFAST Annual meeting

- proposal triggered by the first discussions within the newly created **Accelerator Industry Permanent Forum**
- 2-hour session on Wed. afternoon
- the idea is to **give the floor to Industry** to present their views on
 - how to **make the collaboration with research institutions more effective**, especially in terms of **improving the commercial exploitation** of technology developments.
- European companies working in the accelerator field will be invited to propose **15-20 minutes talks** and then, most probably with the help of our IAB, we will have to make a selection and organize the session
 - we will have to setup a selection committee
 - **anybody interested in taking part**, please let us know

Special industry-driven session (II)

- contributions could address two perspectives:
 - **application perspective**
 - R&D developments that companies would like to pursue for **bringing specific products or solutions to market in collaboration with R.I.**: challenges, technology development needed, possible timeline for the developments, specifications. Examples of sectors:
 - Medical (proton, flash)
 - Analytical (X-ray): <https://www.youtube.com/watch?v=HLF2sv78fiQ>
 - IC inspection
 - Safety inspection (neutron sources)
 - **industrial competence perspective**
 - feedback that companies would like to share with R.I., regarding their own **competences/manufacturing techniques/technologies that they feel should be fully exploited** to foster industrialization and commercial exploitation. Examples:
 - Joining techniques: brazing, gluing, e-beam, ..
 - Electronics developments
 - System architectures

I.FAST @ BSBF '24

- I.FAST will be present with a booth shared with AIDA-INNOVA and LEAPS-INNOV
- a BSBF parallel session will be dedicated to innovation and TT
- I.FAST will most likely have the possibility to give a talk

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