



# Lessons learned from the ARIES PoC and new opportunities in IFAST

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# PoC fund and its need in ARIES WP14

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- Early engagement with industry is a key factor to effectively advance and extend the R&D activities beyond the prototyping phase.
- Pre-industrialisation phase for complex components of particle accelerators is vital to demonstrate the possibility for industry to invest and engage, in particular with a target to commercialisation
- To foster industry involvement WP14 has been tasked to identify and support **testing and validation** of 4-6 key technologies with potential for market applications, at the level of 40-60 k€ each.
- This PoC Fund established within ARIES is a tool that helps **bridge the gap between research infrastructures and marketable innovation**, providing incentive to the beneficiaries to get actively involved in TT activities.

# PoC aims

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- i) Develop and use appropriate incentives for academic research groups to collaborate with SMEs and larger industries
- ii) Advance the technology readiness levels in order to enable the uptake and exploitation of specific technologies developed in ARIES by the industrial participants in the project or other industrial partners.

# PoC as FOAK

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- PoC implemented in ARIES was a first-of-a-kind for the EU funding scheme projects.
- Now, at the end of the exercise it is possible to draw some ideas.

Collect feedbacks from:

- projects themselves
- ARIES community
- reflections as coordinator of the exercise
- the ARIES evaluation
- the I-FAST evaluation

# EU ideas on this

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- From the ARIES evaluation:

*The provision of a proof of concept fund will strengthen growth of EU companies, in particular SMEs that would otherwise not have the resources available to explore potential new technology*

- From the I-FAST evaluation:

*Setting up an Innovation Fund and the resources devoted to it the challenge based innovation scheme and the secondment program aimed at facilitating knowledge transfer is especially commendable*

**This demonstrate the importance EC gives on the possibilities of engaging into R&D activities industries together with the typical accelerator community**

# Other feedbacks

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- *How has the PoC helped the project?*

--projects view: providing timely resources, deployed in short amount of time

--my view: agree. Even more: PoC provided money but also more general support (networks, visibility, competences and know-how from cross-cutting domains) to innovative promising projects

# Other feedbacks

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- *What was the spin-off of the research?*

--projects view: depending on the specific project, there have been identified and prospected commercialization, **at prototype level. Patents submitted.** In all cases, modified systems would be necessary to upscale the processes.

--my view: PoC has indicated valuable directions that are not only commercialization, but for example, the gathering of momentum to develop collaborative R&D on a European wide level, and the creation of communities able to set roadmaps.

# Other feedbacks

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- *What could be the commercialization development in the future?*

--projects views: for lab, this is not necessarily business priority, for companies, **this is not easy matter if there is no easy identified market.**

--my view: future PoC programs should set directions, with the ambition to create the market (thematic priorities in I.FAST?)



# Other feedbacks

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- *What you would suggest to change/modify/improve in the funding scheme?*

--projects view: reporting considered reasonable. The general scheme considered excellent. But level of effort (**money**) should be increased.

--my view: agree on the need to increase the level of effort. But ARIES was a test. Reporting and monitoring should be increased. Not only to check that money is spent in proper way, but to identify as earlier as possible market possibilities and to steer developments.

# From ARIES to I.FAST

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- Already at the time of I.FAST submission PoC had provided some indications. This provided me the possibility to hand-over to ARIES PC a white paper with recommendations.
- TIARA and ARIES announced in May 2019 to the community a **call for proposals for collaborative actions** to be included in the final Workplan of the newly coming Innovation Pilot project.
- An Evaluation Committee (directors of institutions and few industries representatives) nominated by the TIARA Council members has selected the proposals part of the final Innovation Pilot project to be submitted to the European Commission
- 102 proposals were received for selection

# Type of collaborative actions in I.FAST

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- **Strategy** →

identification of key techniques and trends that are crucial for the future construction or upgrade of accelerator Research Infrastructures or for their impact on society, and definition of roadmaps and strategic agendas for their development. 300 k€,

- **Development** →

development of fundamental technologies or techniques, TRL for these actions shall be between 2 (technology formulator) and 4 (small scale prototype). 100 k€,

- **Prototypes** →

prototyping of higher performance technologies or instrumentations, TRL of these actions between 4 (small scale prototype) and 7 (demonstration system). 500 k€

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- The **duration** of the individual actions will be comprised between a minimum of 1 Y and the full duration of the Innovation Pilot project, 4 Y.

## ...and the following...

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- It is already foreseen a 2<sup>nd</sup> round of funding. About 1 M€ of EC contribution will be reserved for a **second internal call** for proposals
- New call will be opened in (end) Y1, with the objective to start the new funded project already in Y2.
- The payments mechanism will not be the same as for ARIES
- We shall have to adjust the monitoring and reporting and to adapt these to the level of effort

## Next step

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This new funding could be provided to follow and expand **5-10 promising** projects.

These could be developments from initial funded projects or new projects aligned with the **thematic work packages**.

Matter of discussions in STC and GB:

- Implementation of this 2<sup>nd</sup> round of funding
- Monitoring and payments mechanism.

ideas from the community is welcome.

# conclusion

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- ARIES PoC experience indicates that program is well received from EC, industries and labs.
- Proponents and evaluators should work better to identify & select actions with “market value”
- Level of effort needs to be up to the challenge.
- Monitoring/ reporting of projects is critical to address problems and steer direction.
- Among first matters of discussions in I.FAST STC and GB:
  - Implementation of this 2<sup>nd</sup> round of funding
  - Monitoring and payments mechanism.



Proposals from the community is welcome.