



M. Vretenar, CERN, Project Coordinator

14 December 2023

Goals of this Meeting

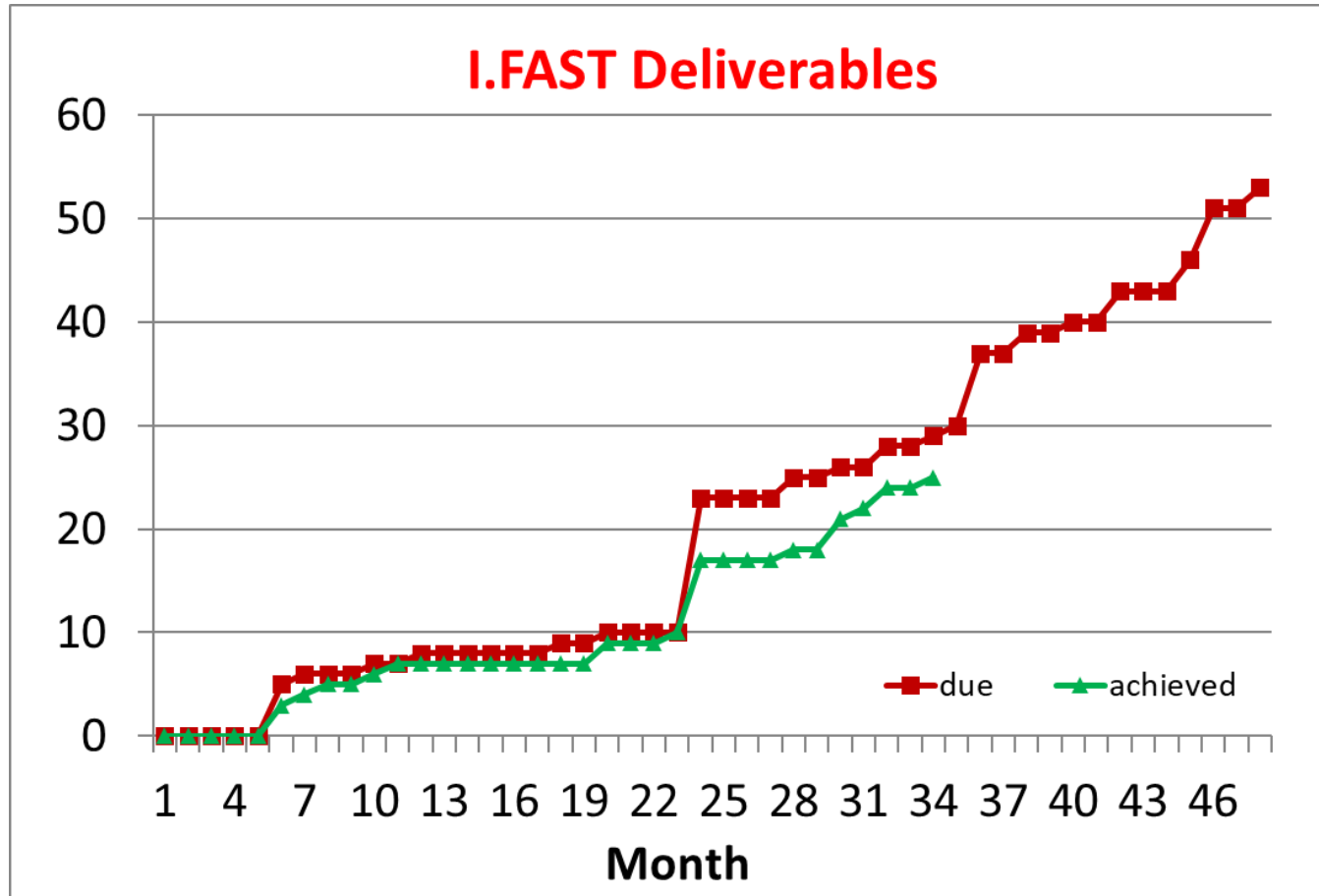
- ❑ Check and approve the programme of the Annual Meeting (to be published on the indico site after the meeting).
- ❑ Check and approve the Template and the schedule for contributions for preparation of the Periodic Report 2 due by end of June.
- ❑ Report on our **contacts with EC** and on the perspectives for future projects (**beyond I.FAST**).
- ❑ Get a quick **feedback** on progress, potential problems and delays.

2024 Annual Meeting in Paris (Cité Internationale Universitaire) from Wednesday 17 April to Friday 19 April

Meetings in 2024

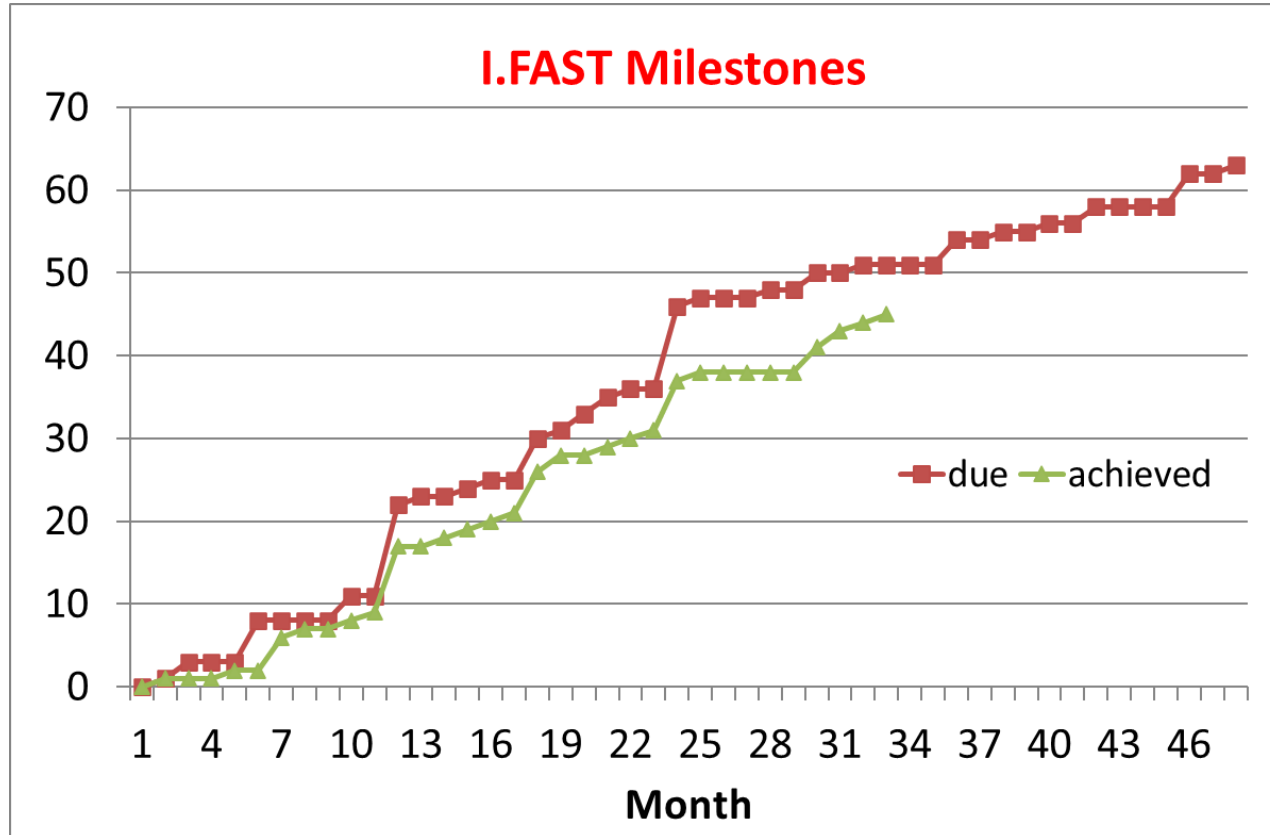
- ❑ February 2024: Steering Committee meeting for WP Coordinators to finalise programme of Annual Meeting.
- ❑ April 2024: Annual Meeting (technical progress, SAC, Governing Board, etc.).
- ❑ July or September: Period 2 review with the Scientific Officer and external reviewer.
- ❑ September/October 2024: Steering Committee meeting for WP Coordinators, feedback from review.

Status of Deliverables



- 5 Deliverables are late at M34. Delays for (D2.3, D7.5, D11.3, D4.3) have been accepted by Project Officer. Delay to be announced for D10.5 (machine learning). One Deliverable in advance (D3.3).
- A list of delays (mainly due to misunderstandings in the relation date/project month) has been announced by WP9. To be communicated to the PO.
- 8 more expected for April 2024: D3.2, D3.3, D6.4, D7.6 (delayed), D10.4, D11.2 (to be confirmed).

Status of Milestones



7 Milestones late

- MS5 (ACO Workshop), for March.
 - MS30 (CompactLight) delayed to M48.
 - MS52 (Workshop efficient magnets): delayed to M34.
 - MS26 (optics for ELETTRA): coming...
 - MS56 delayed to M38
 - MS37 (thin film Workshop), delayed to M42.
 - MS34 (curved CCT formers): no news.
- + 1 Milestone in advance (MS54)

Annual Meeting in Paris

- We are having a serious problem: after the initial contacts in 2023, the selected venue (CIUP) is not answering to our mails and cannot be contacted by phone...
- At the moment, not only we don't have a contract for renting the rooms, but we don't even have an offer to launch a contract. Same for the catering, and we don't know what technical equipment is available for the zoom connection...
- Apparently, the problem is due to the maternity leave of one of the two employees, and to the fact that the other is either on holidays or on sick leave.
- At slightly more than one month from the event, this is unacceptable: we cannot risk to arrive there in the morning of 16 April and find the door locked!



Some new information this morning...

The poster features a dark background with several circular images: a large central image of a grand building, a smaller image of the Eiffel Tower, and two images of scientific equipment. The IFAST logo is in the top left. The text 'I.F.AST 3RD ANNUAL MEETING' is prominently displayed in white. Below it, the dates '16-19 April 2024' and the venue 'Cité Internationale Universitaire de Paris' are listed. A paragraph of text describes the project's goals. A 'Programme' section lists activities for each day from Tuesday to Friday. An 'Organising Committee' section lists names and affiliations. A QR code is in the bottom right, and logos for CERN, CEA, CNRS, and the European Union are at the bottom.

IFAST

I.F.AST
3RD ANNUAL MEETING

16-19 April 2024
Cité Internationale Universitaire de Paris

The I.F.AST (Innovation Fostering in Accelerator Science and Technology) project is organising its 3rd Annual Meeting in Paris, France, in collaboration with CEA and CNRS. The project as well as the activities and recent results of the different work packages will be presented.

Programme

- **Tuesday 16 April**
 - Parallel Meetings
 - Industry Workshop on Cryogenics in Big Science
- **Wednesday 17 April**
 - Industry Workshop on Cryogenics in Big Science
 - Plenary Sessions
- **Thursday 18 April**
 - Plenary Sessions
- **Friday 19 April**
 - Final Session

Organising Committee

- Maud Baylac (CNRS)
- Valérie Brunner (CERN)
- Antoine Le Gall (CERN)
- Sylvie Leray (CEA)
- Anne-Laure Pelé (CEA)
- Maurizio Vretenar (CERN)

IFAST has received funding from the European Union's Horizon 2020 Research and Innovation programme (CA No 101004730)

Should we go for a backup solution?

- Our colleagues from IJCLab have been kind enough to reserve for us their Main Auditorium (Amphi Pierre Lehman, 250 places), for the duration of the Annual Meeting (including the industry workshop).
- Technically, is not a major problem to move the meeting to the Orsay campus. The hotels already booked are all in Paris South, from which the RER brings rapidly to Orsay. From Orsay station, the Auditorium can be reached in a 10' walk. Catering opportunities are available on the campus.
- Parallel rooms to be explored.
- When should we go to Plan B?

So far, we have 82 registered participants. The Restaurant for the Banquet is limited to 100, please hurry up with your registration!

A reminder will be sent tomorrow, with link to the programme.



Scientific Programme

- Usually, the list of speakers is approved by the Steering Committee before sending out the invitations.
- This time, since the SC meeting was only 40 days before the event and we had received enough proposals for highlight talks, we have sent you the programme by mail asking for a “silent approval”.
- This allowed us to contact the speakers well in advance. They have all accepted.
- This year, we will not accept presentations by remote. All speakers must be in the room.

TUESDAY 16/04/2023

	09:00	18:00	08:00	Parallel Meetings: WP9	
	14:00	18:00	04:00	Parallel Meetings: WP10	
	14:00	16:00	02:00	Parallel Meetings: Task 5.2	
	16:00	18:00	02:00	Parallel Meetings: WP11	
	14:00	18:00	04:00	Industry Workshop on Cryogenics in Big Science	organiser: M. Morandin

WEDNESDAY 17/04/2023

	00:00	02:00	02:00	Parallel Meetings: EuroNNAC WP6	
	09:00	12:30	03:30	Industry Workshop on Cryogenics in Big Science	organiser: M. Morandin
	09:00	13:30	04:30	<i>Visit of IJCLab and CEA facilities</i>	meeting point: outside Orsay RER Station
	12:30	13:30	01:00	Lunch Break (free)	
	IFAST Meeting - Session 1 - Introduction, Communication, Training, Applications				
	14:00	14:20	00:20	Introduction by the Project Coordinator	M. Vretenar (CERN)
	14:20	14:30	00:10	Training in accelerator technology: status and TIARA/IFAST contributions	P. Burrows (UOXF)
	14:30	14:45	00:15	I.FAST communication and outreach	A. Le Gall (CERN)
	14:45	15:00	00:15	Experience with the IFAST Challenge Based Innovation	N. Delerue (CNRS)
	15:00	15:10	00:10	A feedback from the I.FAST Industry Training	L. Garolfi (TERA)
	15:10	15:20	00:10	Update on IFAST internal communication and dissemination	P. Foka (GSI)
	15:20	15:40	00:20	Overview of accelerator applications	R. Edgecock (RUL)
	15:40	16:10	00:30	Coffee Break	
	IFAST Meeting - Session 2 - Industry				
	16:10	16:25	00:15	I.FAST and industry	M. Morandin (INFN)
	16:25	17:55	01:30	Special industry session	organisers: M. Morandin (INFN), A. Faus-Golfe (IJCLab)
	17:55	18:10	00:15	TRL and ways to market	M. Morandin?
	18:10	18:25	00:15	The TIARA Accelerator-Industry Permanent Forum	R. Geometrante (KYMA)
	18:25	20:25	02:00	<i>Welcome cocktail</i>	



IFAST Meeting - Session 3 - New concepts					
09:00	09:20	00:20	Structure and progress of the International Muon Collider Collaboration	N. Pastrone (INFN)	
09:20	09:35	00:15	Progress at the accelerator frontier	F. Zimmermann (CERN)	
09:35	09:55	00:20	Novel particle accelerators, EuroNNAc and EuPRAXIA	M. Ferrario (INFN)	
09:55	10:10	00:15	Lasers for Plasma Accelerators, targets and local spot stabilisation	L. Gizzi (CNR)	
10:10	10:25	00:15	Slow extraction improvement	P. Forck (GSI)	
10:25	10:50	00:25	Coffee Break		
IFAST Meeting - Session 4 - Accelerator technologies					
10:50	11:10	00:20	Innovative Superconducting Magnets	E. De Matteis (INFN)	
11:10	11:20	00:10	Development of ReBCO HTS nuclotron cable	T. Winkler (GSI)	
11:20	11:44	00:24	Recent Progress with Superconducting Thin Film Coated Cavities	C. Pira (INFN), R. Valideh (STFC)	
11:44	11:50	00:06	WP9 Summary	O. Malyshev (STFC)	
11:50	12:00	00:10	Results with Additive Manufacturing of accelerator components	M. Vedani (Polimi)	
12:00	12:10	00:10	AM manufacturing of Superconducting cavities	A. Pepato (INFN)	
12:10	12:20	00:10	Additive manufacturing for accelerators - outlook and perspectives	T. Torims (RTU)	
12:20	12:35	00:15	Beam windows and materials	F. Carra (CERN)	
12:35	12:50	00:15	High-efficiency high-power Gallium Nitride amplifier modules	D. Dancila (UU)	
12:50	13:05	00:15	High Efficiency Klystron Prototype	N. Catalan (CERN)	
13:05	14:00	00:55	Lunch Break (at Conference centre)		
IFAST Meeting - Session 5 - Light sources and IFAST highlights					
14:00	14:10	00:10	Overview of Ultra-low Emittance Rings	R. Bartolini (DESY)	
14:10	14:25	00:15	Progress with the Longitudinally Variable Dipole	Y. Papaphilippou (CERN)	
14:25	14:40	00:15	C-band Very High Gradient Guns	D. Alesini (INFN)	
14:40	14:55	00:15	Status of CompactLight Prototype Structures	G. Dauria (Elettra)	
14:55	15:10	00:15	<i>Refractory materials with applications in particle accelerators</i>	S. Rivera (Nanoker)	
15:10	15:25	00:15	<i>Energy saving SC magnets in accelerators and beam lines</i>	S. Mariotto (INFN)	
15:25	15:40	00:15	<i>ML/AI opportunities for accelerator domain</i>	K. Berkolds (ESS)	
15:40	16:00	00:20	<i>The ELBE accelerator and its use to characterize Nb films</i>	A. Wagner (ELBE)	
16:00	16:30	00:30	Coffee Break		
IFAST Meeting - Session 6 - Sustainability					
16:30	16:50	00:20	How to assess the (environmental) impact of Research Infrastructures?	D. Völker (DESY)	
16:50	17:10	00:20	Design for sustainability	K. Heller (BCG)	
17:10	17:30	00:20	Materiality assessments and Research Infrastructures	EFRAG, tbc	
17:30	17:50	00:20	From cost energy to lifecycle assessment	S. Stapnes (CERN)	
17:50	18:05	00:15	I.FAST for sustainable accelerators	M. Seidel (PSI)	
18:05	18:20	00:15	Tunable Permanent Magnet Quadrupoles	B. Shepherd (STFC)	
18:20	18:45	00:25	Discussion		
20:00	22:30	02:30	Banquet	Restaurant du Parc Montsouris	

FRIDAY 19/04/2023					
IFAST Meeting - Session 7 - Innovation Fund, Diversity					
	09:00	09:30	00:30	Overview of the IFAST Innovation Fund Projects (programme and status)	L. Garolfi (TERA-CARE)
	09:30	10:00	00:30	Presentation of 2 IIF projects	
	10:00	10:10	00:10	<i>A new tunable PMQ design</i>	D. Barna (Wigner)
	10:10	11:10	01:00	Diversity session: Diversity and Innovation - round table discussion (M. Vretenar, R. Geometrante, C. Darve ? + 1 more, possibly UK male)	
	11:10	11:40	00:30		
IFAST Meeting - Session 8 - EU projects, Conclusions					
	11:40	11:55	00:15	TIARA and future Horizon projects for accelerators	J.M. Perez (CIEMAT)
	11:55	12:10	00:15	From AMICI to a new framework for support of Technology Infrastructure	S. Leray (CEA)
	12:10	12:25	00:15	The new iSAS project	M. Baylac (CNRS)
	12:25	13:00	00:35	SAC report and I.FAST closing remarks	M. Minty (BNL), M. Vretenar (CERN)
End of I.FAST Annual Meeting					
	13:00	14:30	01:30	Lunch Break (free)	
	14:30	16:30	02:00	Governing Board Meeting	
	16:30	17:30	01:00	Steering Committee Meeting	

General points:

- tried to keep longer times for coffee and lunch breaks (30', 1 hour)
- we will inform all speakers that they have to leave 5' for questions (and install a timer!)
- the SC at the end of Friday can be short (30'?)

Content of presentations

- I hope to be able to send out a template but is not guaranteed.
- Presentations have to concentrate on scientific progress over the last 18 months. In addition, WP and Task Coordinators have to show 1 or 2 slides on status of Deliverables/Milestones and future work (including potential problems and delays).
- Always leave 5 minutes for questions.

Some information to be provided before the Annual Meeting

During the meeting, the Governing Board can approve reallocation of funding between partners.

Immediately after the meeting, I will contact the PO in Brussels with a list of expected delays.

For this, I need 3 information from you in advance of the meeting (e-mail to me and Valérie):

1. Additional delays to **Deliverable due dates**;
2. Additional **tasks to be delayed**;
3. Requests for **budget adjustments** between partners.

So far, 7 extended Tasks

Letter sent to REA Officer on 8 May (and accepted on 10.5):

Extended Tasks:

- Task 2.3 Challenge Based Innovation (to M48)
- Task 2.4 Industrial Training associated with Knowledge Transfer (to M36)
- Task 10.4 Development of AM-manufactured SC RF cavities (to M36)
- Task 12.3 Design of internal RF Ion Source for Cyclotrons (to M36)
- Task 13.1 Strategy for development of AMICI TI (to M30)
- Task 13.2 Developing and promoting services to industry (to M30)
- Task 13.3 New RF amplifiers based on GaN (to M36)

Recent additional request from Task 10.6 (Machine learning)
Added request from Task 4.3 (to M48).
Any other requests to come?

Observations from SAC and actions

SAC Message	Proposed Action
I.FAST (application) technologies to be assessed with regards to a realistic pathway to identified markets and time scales required. Get idea of TRL. Note if developments happening because of I.FAST.	Prepare list of I.FAST technologies. Questionnaire from WP3: TRL, envisaged pathway, time scale, role of I.FAST.
Diversity: improve gender equality (e.g. at Annual Meeting)	More female speakers, diversity session at Annual Meeting
Communication: more stories in the web site, I.FAST brand more visible in Workshops	Send reminder to Task Leaders
Connection between individual projects/events and wider WP and project not always made clear enough	
CBI: wider promotion and improve diversity	More promotion through universities, approach directly small countries (with sponsors)
Prepare continuation of selected activities after I.FAST	Presentation at Annual Meeting (“Plans for the future”)
I.FAST as an information hub for training opportunities	?



Periodic Report 2

Periodic Report 2 – technical part

- Covers the second **18-month period** (October 2022 – April 2024)
- Must be submitted 2 months after end of period (**30 June 2024**)

- ❑ **February-March 2024**: templates sent to all **Task Leaders**, with copy to WP Coordinators. To be filled in with a **description of activities from October 2022 to April 2024**: summary, objectives, description of work, meetings, milestones, deliverables, publications. Usual guidelines: **2/3 pages per Task!**
- ❑ **End of April 2024**: deadline for **sending the contributions to Valérie**, who assembles the WP Sections and sends them to the WP Coordinators for validation.
- ❑ **15 May 2024**: deadline for WP Coordinators to send WP chapters to Valérie.
- ❑ **End of May**: complete document sent to WP Coordinators for approval.
- ❑ **15 June**: Report ready for submission.

TASK PROGRESS REPORT

Period 2 (1.11.2022-30.4.2024)

Work package:	WPxx
Task:	Task X.X
Lead beneficiary:	XX
Author:	xx

Period covered by the report: from 1 November 2022 to 30 April 2024

Periodic report: Period 2

Instructions are highlighted in green

In yellow are the parts that you have to write

In blue is text that we have to add at CERN to personalise the template

EXECUTIVE SUMMARY

Short summary (3 lines) of the work carried out by the Task during Period 2 with emphasis on the progress towards deliverables and milestones.

(Max 3 lines)

[text]

PROGRESS TOWARDS OBJECTIVES AND SIGNIFICANT RESULTS

The Table below reports your Objectives and Wider Goals from the IFAST Proposal.

(table)

Give a short description (possibly in a few bullet points) of the work carried out during Period 2 towards the achievement of the objectives described in the Table above. Provide clear and measurable details.

(Max 5 lines)

[text]

Explanation of the work carried out during Period 2

Explain the work carried out in your Task during the Period 2, giving details of the work carried out by each beneficiary/partner involved.

(Maximum 1 page per Task, including Figures and Tables)

[text]

Impact

The expected impact of IFAST is given in the attached table. Please confirm that the impact from your Task is still relevant, or needs to be updated. Include further details in the latter case.

(Maximum 5 lines per Task)

[still relevant OR needs update: text]

Meetings of the Task

If relevant, list here the meetings organised by your Task during Period 2 (1.11.22-30.4.24)

Dates	Type of meeting + link	Venue

Contractual milestones and deliverables

If relevant, list here the deliverables and milestones due by your Task in Period 2.

In the P2 reporting period, Task X.X had X deliverable and X milestones to submit:

- Deliverable X: status (achieved or delayed)
- Milestone X: status (achieved or delayed)

If a Milestone or Deliverable was delayed, explain in maximum 2 lines why it was delayed and indicate the new deadline.

Deviations from Annex 1

Report in this table any relevant deviation from the Work Plan (activities in advance of schedule, delays, results not achieved) that appeared during Period 2 for your Task, including a short justification and mentioning possible impacts on other Tasks. For Milestones and deliverables, please copy/paste in this Table the justification already given in the previous Section.

Tasks / objectives/deliverables/ milestones	Deviation ¹	Justification	Impact on other tasks

¹ For delays, please write by how many months, with the mention: Minor delay if <6 months, Significant delay > 6 months, Important delay >12 months.

USE OF RESOURCES

If relevant, explain deviations of the use of resources between actual and planned use of resources in Annex 1, especially related to person-months per work package.

(Max 3 lines)

¹ Ahead of schedule/ Minor delay/ Significant delay

Dissemination and exploitable results

SCIENTIFIC PUBLICATIONS

List in the table below the publications produced by your task during Period 2 (publications must have the acknowledgement of IFAST support!)

Task X	
N°	Author(s), Title, References, Date

DISSEMINATION AND COMMUNICATION ACTIVITIES

If relevant, list in the table below dissemination (presentations, seminars, posters, etc.) and communication (articles, presentations for general public etc.) activities performed by your task during Period 2.

Task X	
Type	Author(s), Title, References, Date

Summary of exploitable results in Period 2 and an explanation about how they can/will be exploited

If relevant, list in the table below any result obtained by your Task during Period 2 that can be exploited outside of the project (by the scientific community or by industry) – Examples: exploitable scientific results, inventions, patents, etc.

WP	Type of exploitation foreground ²	Description of exploitable foreground (relevant deliverable)	Purpose (How the foreground might be exploited and by whom)	IPR ³	Potential/expected impact (quantify where possible)	Exploitable product(s) or measure(s)	Sector(s) of application	Timetable, commercial or any other use

Critical Risks for implementation

If relevant, list in the table below NEW risks that have appeared in your Task (on top of those listed in the Proposal and of those included in PR1).

N°	Description of risk	WP	Proposed risk-mitigation measures	State of the play Reference reporting period	State of the play Mitigation measures applied	State of the play Risk materialized	State of the play Comments

² Type of foreground: General advancement of knowledge (GAK), Commercial exploitation of R&D results (CERD), Exploitation of R&D results via standards (ERD), exploitation of results through EU policies (EUP), exploitation of results through (social) innovation (INV).

³ Invention, disclosure, patent, other



Extending I.FAST?

- As we will see from the next part of my presentation, a call for a possible I.FAST2 will not be open until March 2025, with likely deadline for submission October 2025.
- This means that a new project could only start in May-June 2026 at the earliest.
- I.FAST ends in April 2025. Should we ask for an extension by 6 months (more might be difficult), at constant budget?
- To be noticed that we cannot use the new project as an argument for the extension, we have to say that we are slightly late because of the last Covid period and because of the impact of the material and cost crisis of 2022 – and that we will profit of the delay to make better Deliverables!

News from the EC

Discussions with EC - 1

- We (TIARA, J.M. Perez, E. Nappi and myself) went to Brussels on February 28, for a meeting with DG-RTD-A.4 (Open Science and Research Infrastructure): M. Arentoft, Head of Unit, and P. Postigo.
- Again, excellent contact and very open discussions. More than we asking questions, they kept asking us questions to get advice on how to shape the next HE calls and the future FP10.
- They have just completed a very positive Workshop with the Work Programme Committee that has taken very positively their Orientation Document and started preparation of the Work Programmes.
- A draft Work Programme for 2025 will be ready end of May. It will be finalised before the end of the year, but to be adopted will have to wait for the new Commissioner, in Spring 2025. It will be followed by another WP covering 26/27, to be adopted at end 2025.

Discussions with EC - 2

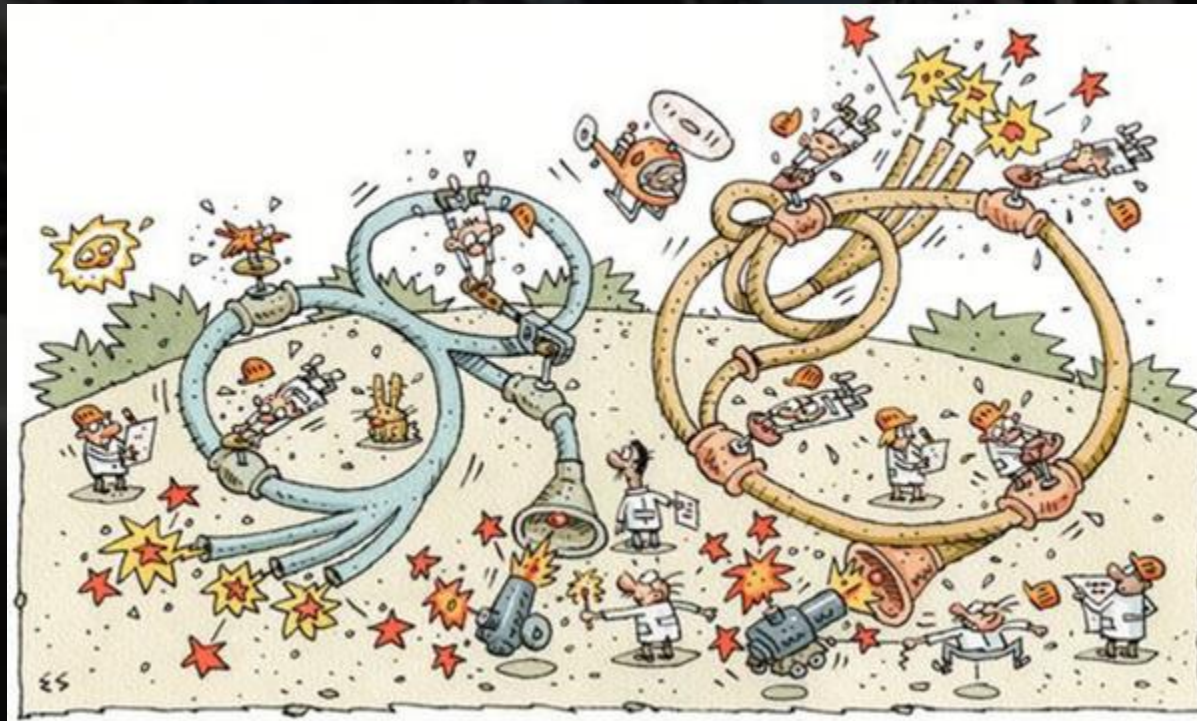
- Good news: the programmes for Research Infrastructures will have more budget than initially foreseen. The levy of 2.3B for Ukraine (all HE) will be compensated by the UK contribution. For Research Infrastructures, the Ukraine contribution is 20M/year, while the UK contribution is 50 M/year. Some UK money could come already in 2024, to top up the ongoing calls. Negotiation for a Swiss contribution are ongoing, but there is not much hope for success. They are delighted that the UK is back, not for the money, but for the recognition of the impact and relevance of the Horizon programmes.
- Bad news: there was no comment on our proposal of an INNOV Destination in the next WP. Seems that this has been discarded by the Committee, that instead insists on using INFRA-TECH for the needs of our communities.
- Good news: there were many discussion on the shape of a possible Pilot INFRA-TECH for support to our communities (Accelerators, but also light sources and detectors) – in my understanding, to be part of the WP25 calls. Pilot, since it will be oriented to support “technology clusters”, at low TRL, with strong participation from industry in R&D, some societal applications, and possibly with a large amount of cascade funding – attributed internally by an expert committee, exactly as we have done with the IFAST Innovation Fund.

Discussions with EC - 3

- Bad news: there will be not much to support industry for applications of accelerator technologies. The programme Committee clearly stated that the budget of Research Infrastructure should only support industry developing instruments for the RIs, not industry developing market products based on our technologies.
- Good news: after the experience of EUROLABS, there is no more discussion of merging different communities in the same project.
- Additional news: they want to reshape completely the programmes for Transnational Access. A Pilot CSA will be in the WP25.
- General good news: they agree that for FP10 a longer-term support to “technology clusters” like accelerators is needed, with a consistent part of the budget managed internally (ATTRACT-like).

iFAST

THANK YOU FOR YOUR ATTENTION!



*Image credit:
Elwood H. Smith,
The New York
Times*



This project has received funding from the European Union's Horizon 2020 Research and Innovation programme under GA No 101004730.