



M. Vretenar, CERN, Project
Coordinator

2nd Steering Committee Meeting (Open), 15 November
2021

Welcome to the «Open» I.FAST Steering Committee Meeting

We will hold a **general project meeting** (only) **twice per year** in **November** and **May**, to:

1. Exchange **information** on the status of the project (administrative issues, communication, contacts with the EC);
2. Check the **progress** in the different Tasks of the project (early discussion of problems and solutions, preparation of Deliverables and Milestones).

The **November Meeting** takes the form of an **Open Steering Committee Meeting**, with presentations from WP and Task Leaders. We are interested in: a) progress; b) potential problems; c) status of Deliverables and Milestones.

The **May Meeting** takes the form of an **Annual Project Meeting**: presentation by Task Leaders, highlight talks, inter-WP Thematic Workshops, parallel meetings of WP's and Committees.



in person

In principle, only the Annual Meeting is

I.FAST Meetings

	Composition	Goal	Meetings	Meetings Y1
Governing Board	Representatives of all parties	Changes to contract, financial matters	1 / year	Kick-off: 5 October 2021 Regular: 5 May 2022
Steering Committee	WP Coordinators	Scientific decisions on work programme	2 / year	25 June 2021 <i>March 2022</i>
Open Steering Committee	WP Coordinators + Task Leaders (open invitation)	Information, feedback on activities	1 / year	15-16 November 2021
Annual Meeting	All project participants, advisory bodies	Information, feedback on activities, networking and exchange	1 / year	4-5 May 2022
Project Management Team	Coordinator, 2 Deputies, Admin. Manager, Assistant, Comm. officer	Follow up of administrative, financial and	6 / year	May, September, December 2021, <i>February, April 2022</i>
Advisory	Experts	time to do the work	1 / year	4-5 May 2022 (Annual

My committment: keep meetings and administration at the minimum, to leave you

I.FAST at end of Month 6 (October 2021)

- Management and Governance installed;
- Pre-financing being distributed;
- Advisory Committees (scientific and industrial) installed;
- First technical deliverables achieved;
- Scientific work progressing well – more information during this meeting;
- Next meetings and next deliverables in preparation.

I.FAST in a nutshell

Innovation Fostering in Accelerator Science and Technology

New EC instrument called **Innovation Pilot**, to support **super-advanced** scientific communities developing and exploiting **Research Infrastructures (RI)**, in their transition from **Open Science to Open Innovation**.

Open innovation = Sharing of ideas between scientific institutions and commercial companies, to improve high technology products and to identify new products and markets. Transition to an **innovation ecosystem** (Keywords: **community, trust, openness, creativity, connection to industry**)

- **48 beneficiaries** - 8 large RI operators, 12 national research centres, 12 universities, 16 industrial partners (**1/3**, including 11 SMEs) - from 15 European Countries, supported by 12 partner organisations and >20 collaborating institutions, jointly **developing technologies for the next generation of particle accelerators**.
- Timeline: **4 years**, starting 1 May 2021.
- Resources: **10 M€** EC contribution, out of a total project cost of about **19 M€**.
- Structured in 9 **Thematic Areas** (work Packages), each made of a "strategy group" and of one or more R&D activities at different TRL (Technology Readiness Level), with industry participation.



WP1	Management, coordination and dissemination	M. Vretenar (CERN)	Task 1.1	Project management, external coordination, sustainability	M. Vretenar (CERN)	
			Task 1.2	Information flow management and cross-coordination	T. Torims (RTU)	
			Task 1.3	Internal communication and dissemination	P. Foka (GSI)	
			Task 1.4	Relation with other innovation pilots	M.Losasso (CERN)	
WP2	Training, communications and outreach for accelerator science and technology in Europe	P. Burrows (UOXF)	Task 2.1	Management	P. Burrows (UOXF)	
			Task 2.2	Communication and outreach	A. Le Gall (CERN)	
			Task 2.3	Challenge-based innovation (CBI) with particle accelerators	N. Delerue (CNRS)	
			Task 2.4	Industrial Training associated with knowledge transfer	T. Ekelof (UU)	
WP3	Industry engagement	M. Morandin (INFN)	Task 3.1	Coordination and industrial partnership support	M. Morandin (INFN)	
			Task 3.2	Knowledge transfer and business opportunities in accelerators R&D	S. Djamschid (DESY)	
			Task 3.3	Extended participation of industry in collaborative R&D activities	J. M. Perez (CIEMAT)	
WP4	Managing innovation, new materials	M. Losasso (CERN)	Task 4.1	Innovation management and committee	M. Losasso (CERN)	
			Task 4.2	Management of the Innovation Fund	M. Losasso (CERN)	
			Task 4.3	Innovative beam windows for high-power accelerator applications	M. Losasso (CERN)	M. Tomut (GSI)
			Task 4.4	Large scale Carbide-Carbon Materials for multipurpose applications	F. Carra (CERN)	
WP5	Strategies and Milestones for Accelerator Research and Technologies	F. Zimmermann (CERN), N. Pastrone (INFN), P. Fork (GSI)	Task 5.1	MUon colliders Strategy network (MUST)	N. Pastrone (INFN)	
			Task 5.2	Pushing Accelerator Frontiers (PAF)	F. Zimmermann (CERN)	G. Franchetti (GSI)
			Task 5.3	Improvement of Resonant slow EXtraction spill quality (REX)	P. Fork (GSI)	R. Singh (GSI)
WP6	Novel Particle Accelerators Concepts and Technologies	R. Assmann (DESY), ...	Task 6.1	Novel Particle Accelerators Concepts and Technologies	R. Assmann (DESY)	
			Task 6.2	LASers for Plasma Accelerators	I. Gizzi (CNR)	
			Task 6.3	Multi-scale Innovative targets for laser-plasma accelerators	C. Thaury (CNRS)	
			Task 6.4	Laser focal spot stabilization systems	F. Mathieu (CNRS)	
WP7	High Brightness Accelerators for Light Sources	R. Bartolini (DESY), ...	Task 7.1	Coordination & communication	R. Bartolini (DESY)	
			Task 7.2	Enabling Technologies for Ultra-Low Emittance Ring	R. Bartolini (DESY)	
			Task 7.3	Variable Dipole for the upgrade of the ELETTRA storage ring	Y. Papaphilippou (CERN)	
			Task 7.4	Very high gradient RF Guns operating in the C-band RF technology	D. Alesini (INFN)	
			Task 7.5	CompactLight Prototype Accelerating Structure	G. D'Auria (Elettra)	
WP8	Innovative superconducting magnets	L. Rossi (INFN), L. Quettier (CEA), C. Roux (GSI)	Task 8.1	Coordination and HTS Strategy Group	L. Rossi (INFN)	D. Schoerling (CERN)
			Task 8.2	Preliminary Engineering design of curved CCT magnet	D. Tommasini (CERN)	L. Rossi (INFN)
			Task 8.3	Preliminary Engineering design of HTS CCT	T. Lecrevisse (CEA)	D. Schoerling (CERN)
			Task 8.4	Construction of curved CCT magnet demonstrator	M. Gehring (BNG)	M. Vieweg (Scanditronix)
			Task 8.5	Construction of HTS CCT magnet demonstrator	A. Echeandia (Elytt)	M. Gehring (BNG)
			Task 8.6	Development of ReBCO HTS nuclotron cable	T. Winkler (GSI)	C. Roux (GSI)
WP9	Innovative superconducting thin film coated cavities	C. Antoine (CEA), O. Malyshev (UKRI)	Task 9.1	Coordination and Strategy for Innovative Superconducting Accelerating Cavities	C. Antoine (CEA)	O. Malyshev (UKRI)
			Task 9.2	Innovative Superconducting Accelerating Cavities	C. Pira (INFN)	
			Task 9.3	Optimisation of process parameters and target development for SRF cavity coating with A15 material	R. Valizadeh (UKRI)	
			Task 9.4	Surface Engineering by Atomic Layer Deposition (ALD)	T. Proslir (CEA)	
			Task 9.5	Improvement of mechanical and superconducting properties of RF resonator by laser radiation	A. Medvids (RTU)	
			Task 9.6	Optimization of flat SRF thin films production procedure	O. Kugeler (HZB)	
WP10	Advanced Accelerator technologies	T. Torims (RTU)	Task 10.1	Coordination and communication	T. Torims (RTU)	A.Ratkus (RTU)
			Task 10.2	Additive Manufacturing – Survey of applications and potential developments	M. Vedani (POLIMI)	
			Task 10.3	Refurbishment of accelerator components by AM technologies	A.Ratkus (RTU)	
			Task 10.4	Development of AM-manufactured superconductive RF cavities	A. Pepato (INFN)	
			Task 10.5	Photon Stimulated Desorption (PSD) from NEG coatings for accelerator vacuum chambers	O. Malyshev (UKRI)	
			Task 10.6	Machine learning techniques for accelerator and target instrumentation	T. Shea (ESS)	
			Task 10.7	Development of electro-optical waveguide sensors as beam electric field sensors	S. Gibson (RHUL)	
WP11	Sustainable concepts and technologies	M. Seidel (PSI)	Task 11.1	Sustainable Concepts for Accelerator driven Research Infrastructures	M. Seidel (PSI)	
			Task 11.2	High Efficiency Klystron Industrial Prototype	O. Brunner (CERN)	
			Task 11.3	Permanent Magnet Quadrupoles & Combined Function Magnets for Ultra Low-Emittance Rings	B. Shepherd (UKRI)	
WP12	Societal Applications	R. Edgecock (HUD),	Task 12.1	A Strategy for Implementing Novel Societal Applications of Accelerators	R. Edgecock (HUD)	
			Task 12.2	Design of advanced electron accelerator plant for biohazards treatment	A. Chmielewski (INCT)	
			Task 12.3	Design of Internal Rf Ion Source for Cyclotrons	J. M. Perez (CIEMAT)	
WP13	Technology Infrastructure	S. Leray (CEA)	Task 13.1	Strategy for the development of the AMICI TI	S. Leray (CEA)	
			Task 13.2	Developing and promoting services to industry in AMICI TFs	H. Weise (DESY)	R. Wichmann (DESY)
			Task 13.3	New RF amplifiers based on GaN Semiconductors	D. Dancila (UU)	
WP14	Ethics Requirements	P. Foka (GSI)	Task 14.1	Protection of Personal Data: POPD Requirements	P. Foka (GSI)	
			Task 14.2	Ethics Position Requirements: EPQ Requirements Nr 2	P. Foka (GSI)	

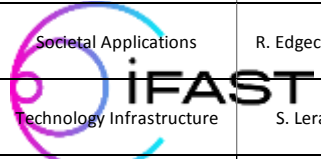
I. FAST Structure, Coordinators, Task Leaders

➤ 37 Activities (Tasks), selected from 101 proposals received;

➤ Grouped in 9 “thematic areas” (Work Packages), each made of a “strategy Task” and of one or more “prototypes” (high TRL activities) and “developments” (lower TRL).

➤ 4 additional “transverse” WPs (Coordination, Training, Industry, Innovation).

➤ 1 M€ in WP4 for a second internal call for proposals in 2023/25



I.FAST Management and Governance

- The **Consortium Agreement** was signed by all partners on 23 September (as usual, after many iterations with the Legal Offices of the 48 beneficiaries and 12 partner organisations);
- **Pre-financing** payment has been distributed to all parties who have signed the CA before summer (25.08), a 2nd batch should go out very soon (blocked by administrative procedures);
- The **Governing Board** had its first (kick-off) meeting on 5 October – **José Manuel Pérez** was elected chair for a duration of 2 years;
- The follow-up of the project by the European Commission is now outsourced to the **Research Executive Agency** (REA). First very positive contacts with the Project Officer **António Ventura**;

Project Management Team:

M. Vretenar (CERN), Scientific Coordinator

T. Torims (RTU), M. Losasso (CERN), Deputy Coordinators

S. Stavrev (CERN), Administrative Manager

Y. Foka (GSI), Internal Communication and Dissemination

A. Le Gall (CERN), External Communication and Outreach

V. Brunner (CERN), Project Assistant

A flexible solution for WP8

- A first problem in WP8 was discussed with the Project officer, coming to a satisfactory solution.
- WP8 has requested a delay by 12 months for a Deliverable (to synchronise with the ESPP roadmap for high-field magnets) and a change in the Work Plan (construction of combined functions CCT magnet demonstrator instead of curved CCT demonstrator, to simplify magnet comparison and to avoid overlaps with another EU project).
- After presenting our arguments to the Project Officer, it has been decided that an Amendment is not needed (less administration and paperwork!), as soon as the change of Work Plan will be supported by the external reviewer at Mid Term

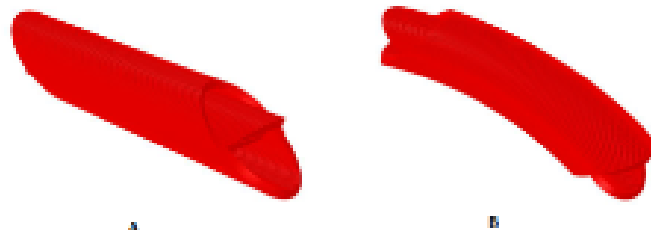


Figure 1. Different CCT geometries: A) straight and B) curved

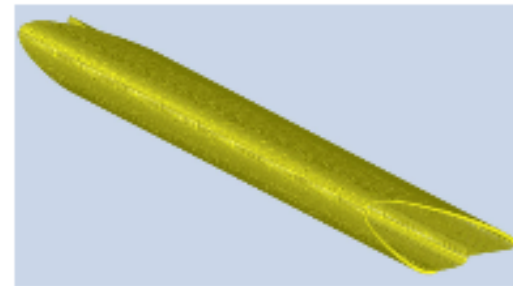


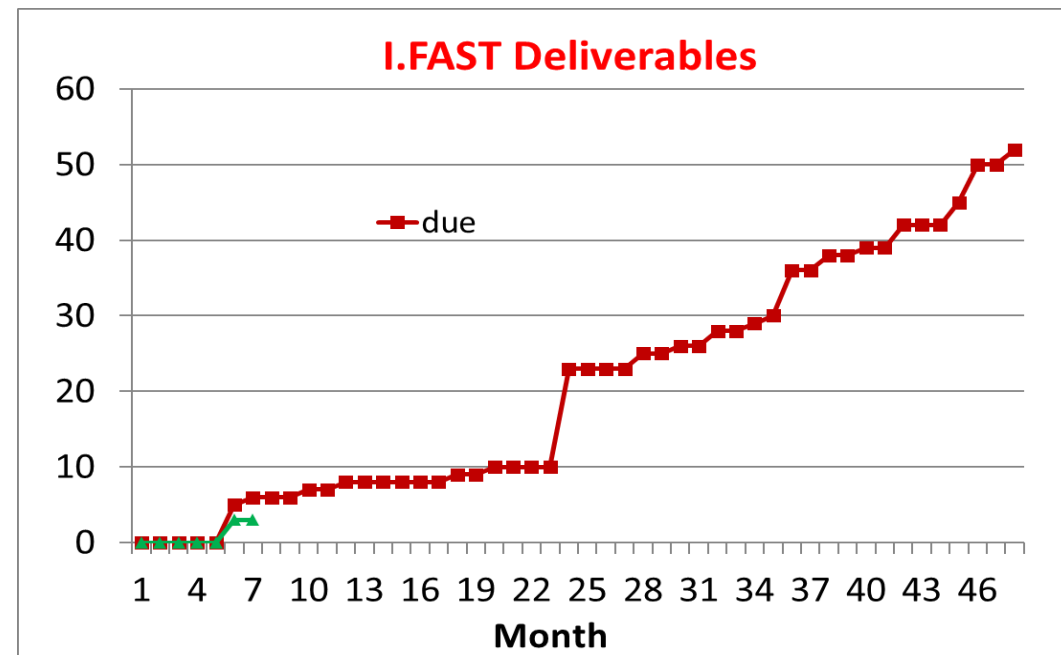
Figure 2. Combined function CCT magnet demonstrator (combined)

I.FAST Deliverables in Year 1

Del. no.	Deliverable name	WP no.	Task	Planned delivery date (m)	Due date (d/m/y)	Actual delivery date (m)	Requested Delay (m)	Responsible	Reviewer
D1.1	RI Co-Innovation platform MoU	1	1.4	6	31/10/21	100		M. Losasso (CERN)	M. Vretenar (CERN)
D1.2	Internal communication Plan	1	1.3	6	31/10/21	6		Y. Foka (GSI)	M. Losasso (CERN)
D2.1	Communication strategy	2	2.2	6	31/10/21	6		A. Le Gall (CERN)	T. Torims (RTU)
D8.1	HTS European Strategy Group	8	8.1	6	31/10/21	100	12	L. Rossi (INFN)	M. Vretenar (CERN)
D14.1	POPD - Requirement No 1 - Data Protection	14	14.1	6	31/10/21	6		S. El Yacoubi	M. Vretenar (CERN)
D14.2	POPD - Requirement No 2 - Health and Safety procedures	14	14.2	7	30/11/21	100			M. Vretenar (CERN)
D8.2	Conceptual Design of curved (<i>combined function</i>) CCT in LTS	8	8.2	10	28/02/22	100		L. Rossi (INFN)	O. Malyshev (UKRI)
D10.3	Additive-manufactured SRF cavities	10	10.3	12	30/04/22	100			M. Morandin (INFN)

1 late (Co-innovation MoU due to approval process),
 1 due end November (Health and Safety),
 2 due in February-April next year

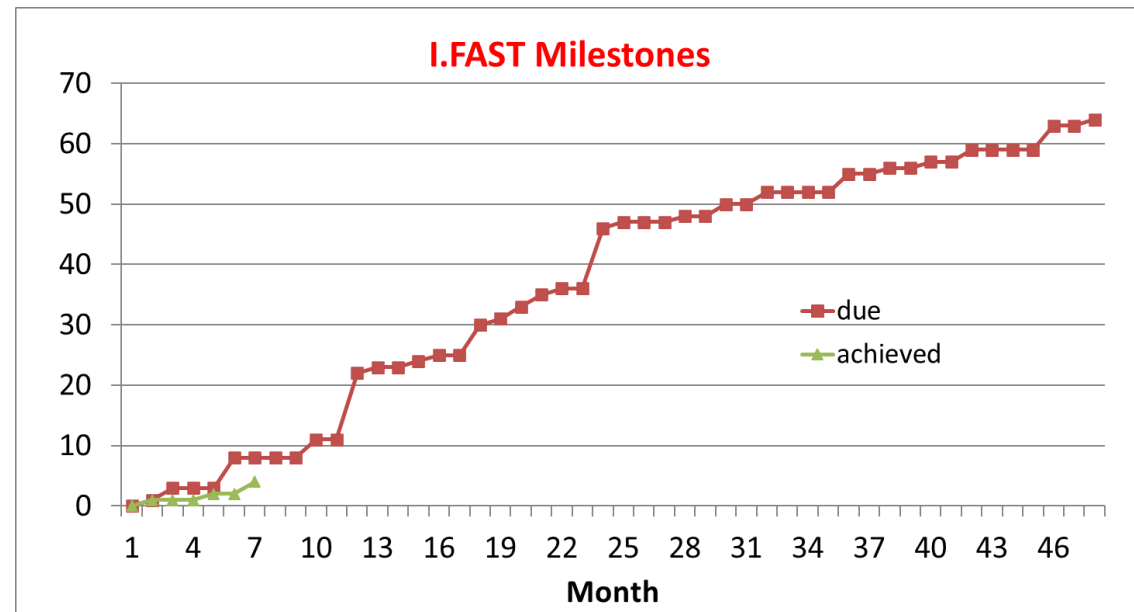
Please remember that we need to receive the report **1 month before the deadline**, for the internal approval process.



I.FAST Milestones (first 6 months)

Milestone no.	Milestone name	Task	Planned delivery date (m)	Due date (d/m/y)	Actual delivery date (m)	Requested delay (m)
MS4	WP2 task leaders' kick-off meeting	2.1	2	30/06/21	2	
MS1	Information Flow management tool installed	1.2	3	31/07/21	5	
MS2	Dissemination plan ready	1.3	3	31/07/21	7	7
MS7	Expert Committee set up and industrial training scheme call organised	2.4	6	31/10/21	100	
MS8	Industry Advisory Board launch	3.1	6	31/10/21	7	7
MS32	Characterization of the first length of superconductor for low losses	8.2	6	31/10/21	100	
MS42	ARIES samples prepared for renewed SC film deposition	9.6	6	31/10/21	100	7
MS50	Workshop on energy for sustainable science at research infrastructures, at ESRF	11.1	6	31/10/21	100	

2 delays (MS32, MS50),
2 are ready but require final
formatting and approval (MS7,
MS42)



MoU with INFRAINNOV projects

Motivation:

A requirement in the EC call

Action:

Engage to sign an **MoU**
(probably not the most appropriate document...)

Cooperate with the actions awarded under topic INFRAINNOV-03-2020 to identify and better exploit related synergies and to avoid overlaps.

I.FAST will set-up a joint Coordination Group with the three projects submitted to the INFRAINNOV-04-2020 topic, to define a common approach for scientific areas at the boundaries between the competences of the different projects and communities, to exchange information on the advancement and results of the projects, and to identify areas of cooperation and launch common initiatives. We propose that the INFRAINNOV-04 projects sign a MoU with the INFRAINNOV-03 project(s) in order to identify and explore synergies and avoid areas of overlaps.

Is a Deliverable to be provided at end of November 2021

(from Annex I)

The document engages the three projects funded under the INFRAINNOV call to collaborate, exchange information, and set-up 2 committees (meeting 1/year), on coordination and KTT.

*Not a big deal...but many problems with the Legal Services until the name was changed into “**Memorandum of Cooperation**” (MoC)*

The new document (v7) was approved by all Legal Offices and is now being signed by AIDAinnova (to be followed by I.FAST).

Content of the MoU

INFRA11NOV-04 MoU

INFRA11NOV-04-2020 Memorandum of Understanding ("MoU")

BETWEEN: the members of the consortium implementing the Advancement and Innovation for Detectors and Accelerators Project ("AIDAInnova"),

AND: the members of the consortium implementing the Innovation Fostering in Accelerator Science and Technology Project ("IFAST"),

AND: the members of the consortium implementing the League of European Accelerator based Photon Sources Innovation Project ("LEAPS-INNOV"),

Hereinafter collectively referred to as the "Projects" and individually as a "Project", in each case represented by the Project Coordinator for the purposes of the signature of this MoU.

WHEREAS:

In 2019, the European Commission (the "Funding Authority") opened a call for proposals under the Horizon 2020 Framework Programme to foster the innovation potential of research infrastructures by making industry more aware of the opportunities offered by research infrastructures to improve their products; and to encourage research infrastructures to work with industry on the development of advanced technologies to raise their technological level and competitiveness ("INFRA11NOV-04-2020").

The Projects were selected for funding by the Funding Authority under INFRA11NOV-04-2020.

AIDAInnova advances the European detector development infrastructures through fostering an intensified co-innovation, following on from the success of the previous EU-funded initiatives AIDA and AIDA-2020;

IFAST enhances innovation in and from accelerator-based research infrastructures, following on from the success of the previous EU-funded initiative, ARIES.

LEAPS-INNOV fosters open innovation for accelerator-based light sources in Europe, following on from the success of the previous EU-funded initiative, CALIPSOplus;

The Projects recognise that coordination and collaboration between them will enhance their innovation strategy and facilitate an exchange of ideas, while avoiding a duplication of work on critical common challenges;

**HAVING IDENTIFIED THE POTENTIAL FOR SYNERGIES BETWEEN THEM,
THE PROJECTS HEREBY AGREE AS FOLLOWS:**

1. Purpose

1.1 This MoU establishes the framework for collaboration between the Projects.



INFRA11NOV-04 MoU

1.2 Each of the Projects shall participate in the collaborative activities contemplated by this MoU subject to the availability of resources and on a reasonable efforts basis, without any warranty or guarantee as to results or otherwise.

1.3 This MoU is not legally binding, but the Projects recognise that the success of the collaborative activities will depend on the adherence to the MoU provisions.

2. Collaborative activities

The Projects will share information concerning their activities, including their approaches, methodologies and experience, subject to any contrary pre-existing confidentiality and intellectual property obligations.

3. Organisation

The organisational structure of the collaboration under this MoU shall comprise the following bodies:

- An RI Open Innovation Coordination Group ("the Coordination Group") to perform joint support actions to foster innovation potential in the Projects; and
- An RI Innovation Knowledge and Technology Transfer Network (the "KIT Network") to exchange experience and best practice on collaboration with industry and support the Coordination Group in implementing joint activities.

4. Mandate of the Coordination Group

4.1 The Coordination Group shall consist of the Project Coordinators, their deputies and one further member from each Project consortium, as well as the chair of the KIT Network.

4.2 The Coordination Group shall meet at least twice per year, either in person or by teleconference.

4.3 At its first meeting, the Coordination Group will appoint a chair from among its members and establish its own operational procedures. The chair shall be responsible for the organisation of meetings and the preparation of the associated agenda.

4.4 The Coordination Group has the following objectives:

- defining a common strategy for scientific areas which are at the boundaries between the competencies of the Projects;
- identifying areas of cooperation and the potential launch of common initiatives in the form of workshops, studies and documentation;
- strengthening collaboration with industry, to foster the innovation potential of the Projects; and
- exchanging information internally on the follow-up of the Projects and any future initiatives launched.

5. Mandate of the KIT Network

INFRA11NOV-04 MoU

5.1 The KIT Network shall consist of the knowledge ("KT") and technology transfer ("TT") experts of the Project consortium members.

5.2 The KIT Network shall meet twice per year, either in person or by teleconference.

5.3 At its first meeting, the KIT Network will appoint a chair from among its members and shall establish its own operational procedures. The chair shall be responsible for the organisation of meetings and preparation of the associated agenda.

5.4 The KIT Network has the following objectives:

- exchanging knowledge and experience relating to collaboration with industry;
- discussing common strategies of communication with industry, standardisation and training, to manage interfaces and overlaps; and
- supporting the Coordination Group in the implementation of joint activities in the fields of KTT.

6. Liability

Except as expressly provided in this MoU, the Projects shall have no liability in connection with their participation in this collaboration.

7. Confidentiality

The Projects agree to execute this MoU in a spirit of openness. However, where, exceptionally, confidentiality is required, the confidentiality provisions stipulated in the respective consortium agreements for each Project shall apply. For the avoidance of doubt, the Projects shall obtain the consent of a disclosing Project prior to disclosing confidential information to a third party.

8. Duration

This MoU shall remain in force until the conclusion of the Projects.

9. Amendments

This MoU may be amended by written agreement of the Projects.

The Projects have caused their duly authorised Project Coordinators to sign three originals of this MoU on behalf of each Project's consortium members:

For the members of the AIDAInnova
Consortium

For the members of the
IFAST Consortium

Scientific Advisory Committee

The SAC is composed of **3 scientists with expertise in the activity areas of the Project**.

Proposed by the Steering Committee and approved by the Governing Board.

The SAC shall advise on technical and strategic matters discussed by the Steering Committee.

The Steering Committee has selected the 3 candidates who have enthusiastically agreed to participate in SAC. The Governing Board has official

- **Akira Yamamoto (KEK)**, Head of Linear Collider Project Office at KEK, expert in applied superconductivity, already member of EuCARD2, ARIES and AMICI SAC. Wide competence and experience in EU projects, provides continuity with ARIES.
- **Michiko Minty (BNL)**, is Head of Accelerator Division at the BNL Collider Accelerator Department, with wide experience in accelerator design and beam optics.
- **Carsten Welsch (U. Liverpool)**, is Head of Physics Department at U. Liverpool (not in IFAST!), has participated in many accelerator projects, and has wide expertise (beam instrumentation and optics, science communication and outreach, etc.).



Industry Advisory Board Members

<i>Name</i>	<i>Role</i>	<i>Company</i>	<i>Country</i>
Špela Stres	Chair	Center for Technology Transfer and Innovation (CTT)	Slovenia
Charles Mangeot	Member	CTS	Denmark
Francesco Fantini	Member	Fantini	Italy
François Sylla	Member	SourceLAB - Laser Plasma Technologies	France
Jean-Luc Lancelot	Member	Sigmaphi	France
Josef Troxler	Member	Ampegon Power Electronics AG	Switzerland
Melhem Ziad	Member	Oxford Instruments	UK
Michael Peiniger	Member	Research-Instruments	Germany
Miguel Angel Carrera	Member	AVS - Added Value Solutions	Spain
Pavel Hedbavny	Member	Vakuum Praha	Czechia
Rok Hrovatin	Member	Cosylab	Slovenia
Ronald Dekker	Member	Demaco	Netherlands

Covid and Meetings

- In a project like I.FAST **networking and personal contacts** are essential, but so far we never had the chance to meet in person because of the Covid crisis;
- Unfortunately this meeting too that was planned in Lisbon had to go online (due to travel restrictions in some laboratories and to precautions against the next C
- We should assume however that by Spring 2022 the situation should be back to normal (after the winter surge and with some additional vaccinations...) and we are already planning for:



The 1st I.FAST Annual Meeting

at the CERN Globe of Science and Innovation

3 to 5 May, 2022

Programme:

- Presentations by all WP's and Task
- Feedback from industrial partners
- Highlight talks on I.FAST achievements
- Mini-Workshops on "transverse" topics
- Parallel WP Meetings
- Other meetings (IAB?)

Take note of the dates in your agenda

All I.FAST collaborators and partners are warmly welcome!



Additional information, EU acknowledgements

Please use the platforms that we have made available for Project, WP and Task management, information sharing, and Dissemination:

- Web site: <https://ifast-project.eu/>
- Sharepoint to share internal documents and information and to follow-up milestones and deliverables: <https://espace.cern.ch/project-IFAST-Intranet>
- Zenodo to publish notes, reports, presentations and other documents for an external audience: <https://zenodo.org/communities/ifast/?page=1&size=20>

More information during the presentations on communication and dissemination

Please remind all contributors that they need to add in all publications and presentations the acknowledgement to EU support:



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

iFAST

Thank you for your
attention!

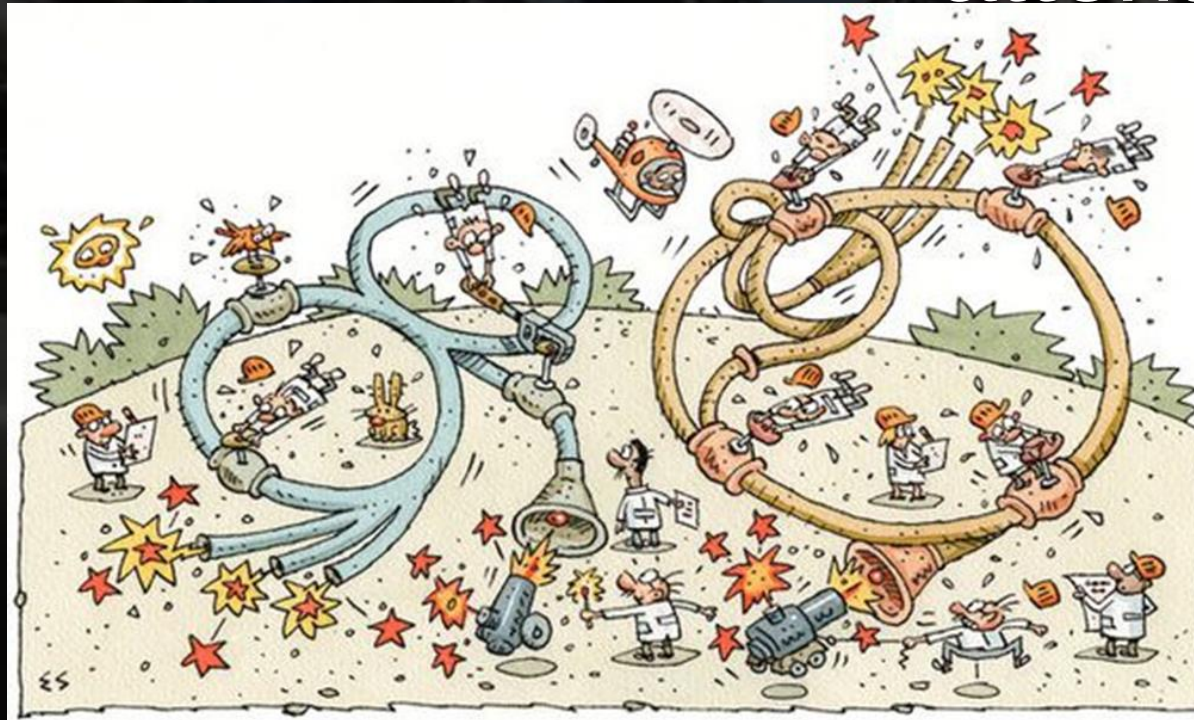


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Smith, The New
York Times



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