



**FIAS**T:

Fostering  
Innovation in  
Accelerator  
Science and  
Technology

## The INFRAINNOV4 Proposal Accelerator Innovation Pilot

Structure of the project and requirements from contributors

Maurizio Vretenar, CERN

1st Preparation Meeting, 9 January 2020

# Welcome to CERN and to FIAST

Today we have invited:

- the representatives of the 37 proposals selected by the Evaluation Committee to be part of the new project (out of 101 submitted, success rate 36.6%).
- The persons in charge of the Workpackages not concerned by the selection (management, communication, industry relations, innovation).
- The CERN EU project team.

*A warm welcome to all those that are new to CERN and to EU projects, and welcome back to all who have been already with us in ARIES or in EUCARD2!*

Proposal Number	Type	Task name (tbc)	Task Leader (tbc)
		Management and coordination	M. Vretenar- CERN
		Dissemination	P. Foka - GSI
		Communication and Outreach	P. Burrows - UOXF
		Coordination, industrial partnership support, KT	M. Morandin - INFN
		Innovation management and committee	M. Losasso - CERN
16	D	Beam windows for high-power accelerator applications	M. Losasso - CERN
69	D	Suspended graphenic membrane beam windows for next generation accelerators	M. Tomut - GSI
35	D	Large scale Carbide-Carbon Materials for multipurpose applications	F. Carra - CERN
45	S	MUon colliders STRategy network	N. Pastrone - INFN
50	S	Pushing Accelerator Frontiers	F. Zimmermann / G. Franchetti - GSI
10	P	Improvement of slow extraction spill quality	P. Fork - GSI
51	S	Novel Particle Accelerators Concepts and Technologies	R. Assmann - DESY
75	S	LASers for PLASMA Accelerators	L. Gizzi - CNR
61	D	Multi-scale Innovative targets for laser-plasma accelerators	C. Thauray - CNRS
72	D	Laser focal spot stabilization for compact plasma accelerators	F. Mathieu - CNRS
73	S	Ultra-Low Emittance Ring	R. Bartolini - UOXF
82	P	Longitudinally Variable Dipole for the upgrade of the Elettra storage ring	Y. Papaphilippou - CERN
19	P	Very high gradient RF Guns operating in the C-band RF technology	D. Alesini - INFN
88	P	CompactLight Prototype Accelerating Structure	G. D'Auria - Elettra
78	D	Permanent Magnet Quadrupoles & Combined Function Magnets for Ultra Low-Emittance Rings	B. Shepherd - STFC
103	S	European Strategy for HTS magnet	L. Rossi - INFN
23	P	Magnets for Advanced Hadrontherapy and Fast Synchrotrons	L. Rossi - INFN
13	P	Development of ReBCO HTS nuclotron cable	P. Spiller - GSI
17	S	Strategy for Innovative Superconducting Accelerating Cavities	C. Antoine - CEA
38	P	Innovative Superconducting Accelerating Cavities	C. Pira - INFN
32	D	Innovative superconducting accelerating cavities	R. Valizadeh - STFC
18	D	Surface Engineering by Atomic Layer Deposition	T. Proslie - CEA
49	D	Improvement of mechanical and superconducting properties of RF resonator by laser radiation	A. Medvids - RTU
31	D	Optimization of flat SRF thin films production procedure	O. Kugeler - HZB
56	S	Additive Manufacturing for the Accelerator Community	M. Vedani - Polimi
53	D	Repair of damaged accelerator components by AM technologies	E. Lopez - FET
55	D	Development of superconducting RF cavities by AM	M. Pepto - INFN
40	D	Photon Stimulated Desorption (PSD) from NEG coatings for accelerator vacuum chambers	O. Malyshev - STFC
92	D	MACHINE Learning techniques for accelerator and target diagnostics at ESS	T. Shea - ESS
94	D	Development of electro-optical waveguide sensors as Beam electric field sensors	S. Gibson - RHUL
68	S	Sustainable Concepts for Accelerator driven Research Infrastructures	M. Seidel - PSI
5	P	High Efficiency Klystron Industrial Prototype	E. Jensen - CERN
25	S	A Strategy for Implementing Novel Societal Applications of Accelerators	R. Edgecock - HUD
103	D	Design of advanced electron accelerator plant for biohazards treatment	A. Chmeliowski - INCT
2	D	Internal Rf Ion Source for Cyclotrons	J. Perez - CIEMAT
102	S	European Technology Infrastructure for Accelerators and Magnets	S. Leray - CEA
20	D	New RF amplifiers based on GaN Semiconductors	D. Dancila - UU

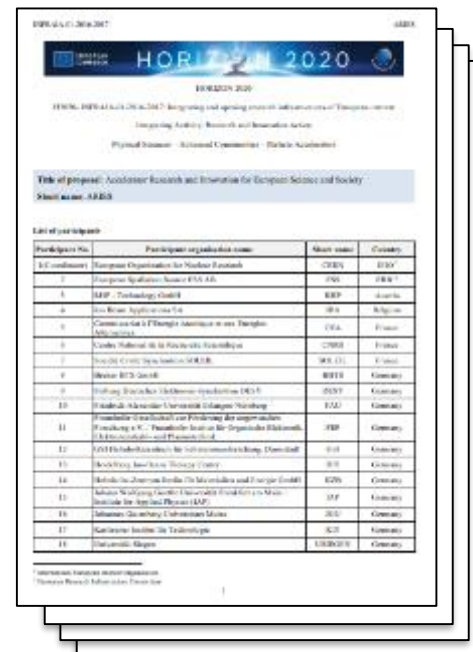


# From a collection of actions to a coherent proposal

## Our goal today:

To review all steps required to transform a set of disparate proposals into a **coherent 80 page document** to be submitted to the European Commission by the deadline of 17 March, which can convince the EC evaluators to give us **10 M€**.

*(note that this proposal is worth 125'000 €/page, or about 150 €/word !)*



# From a group of proposers to a real team

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Up to now, you have all been in competition to be part of this proposal.

**This phase is finished, and from now on we have to act as a solid and coordinated team** – if we want to write an excellent and competitive proposal.

Only if we succeed in working as a team we will be able to solve all the administrative problems that we have to face over the next 2 months.

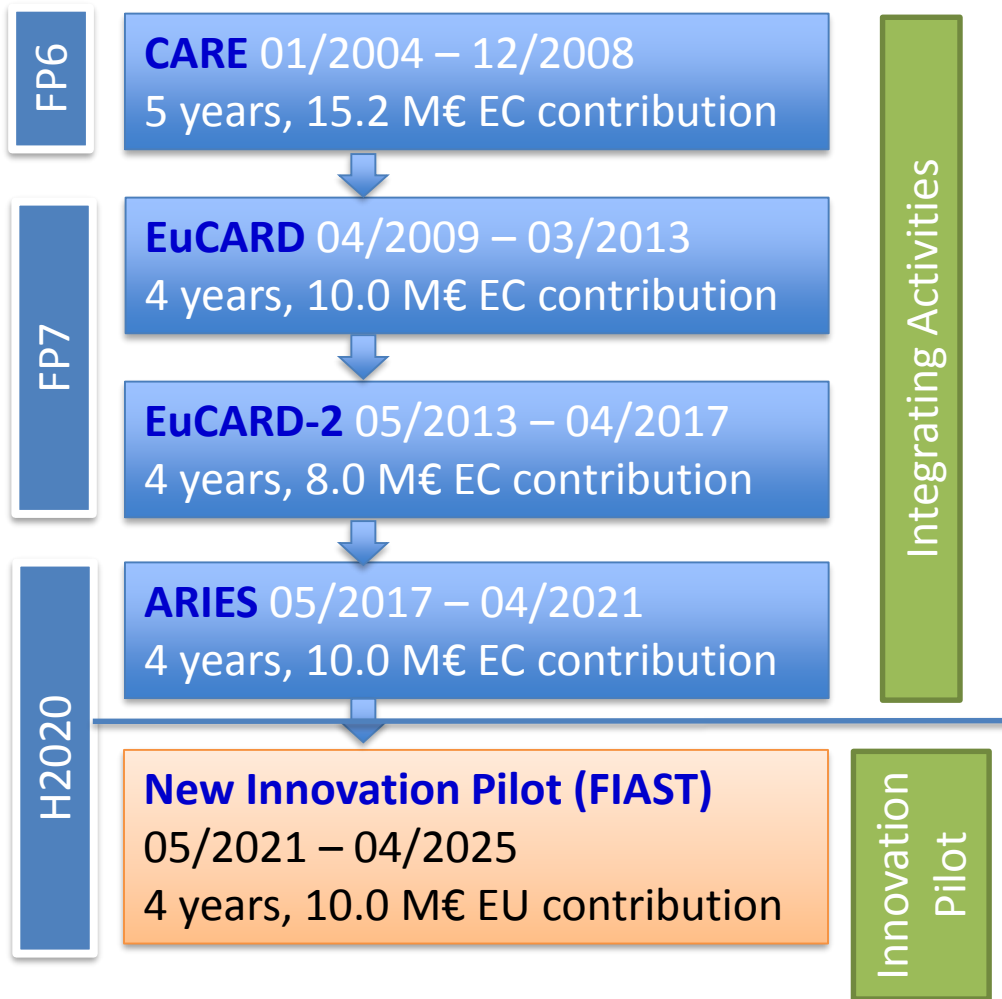
**From competition to collaboration**

# Introducing the project team

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- Particle accelerator submissions to the EC research programmes are coordinated by the **TIARA Committee** (coordinator R. Aleksan, CEA, chair E. Nappi, INFN).
- Since 2009, **CERN provides the coordination** of the general accelerator projects as a service to the community (free of charge – our salaries are not charged to the project!).
- Coordinator nominated (by TIARA): **Maurizio Vretenar**, former project leader of Linac4 and coordinator of EuCARD2 and ARIES.
- Administrative manager: **Svetlomir Stavrev**, leader of EU projects management and administrative support section at CERN. Supported by **Livia Lapadatescu** and **Sabrina El Yacoubi**.
- Project assistant: **Valerie Brunner** (the person behind the [accelerator.innovation@cern.ch](mailto:accelerator.innovation@cern.ch) address).

# Historical background



Long tradition of EC support to generic accelerator R&D: 4 successful Integrating Activities have raised 43 M€ EC funding over 16 years (2.7 M€/yr).

Accelerators are a “superadvanced community” for which new tools are required, beyond the rigid structure of Integrating Activities.

Introduction of the new “Innovation Pilot” instrument to favour the transition to new forms of support.

# A European project in a nutshell

Partners  
(beneficiaries  
and  
associates)



European  
Commission



Deliverables  
and Periodic  
Reports



Science  
and  
Innovation

Project  
coordinator

Maurizio Vretenar



Administrative  
Manager

Svetlomir Stavrev



Project  
assistant

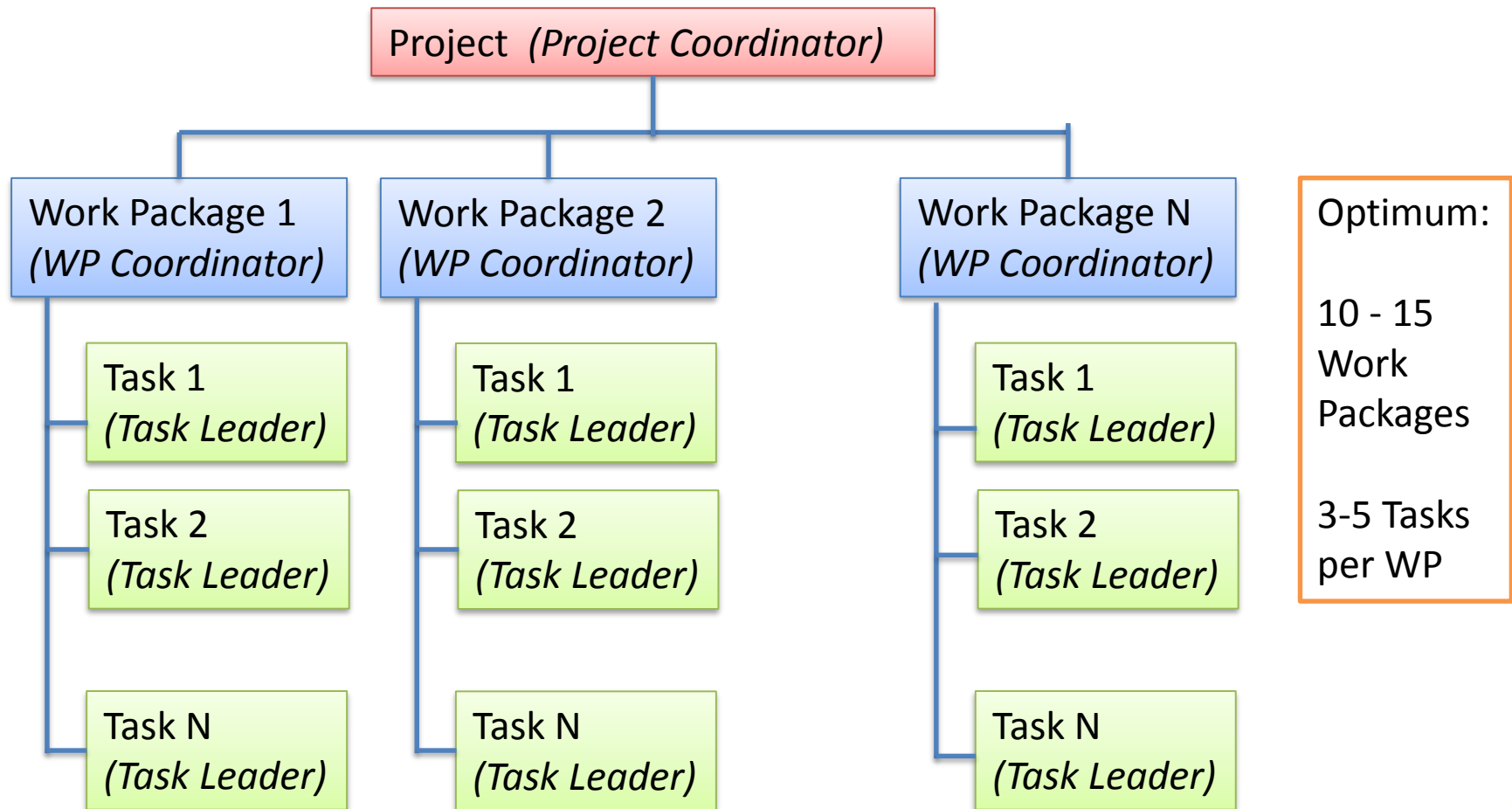
Valérie Brunner



Revision of the grinder (servicing):  
Every year at the annual project  
meeting (April – May).



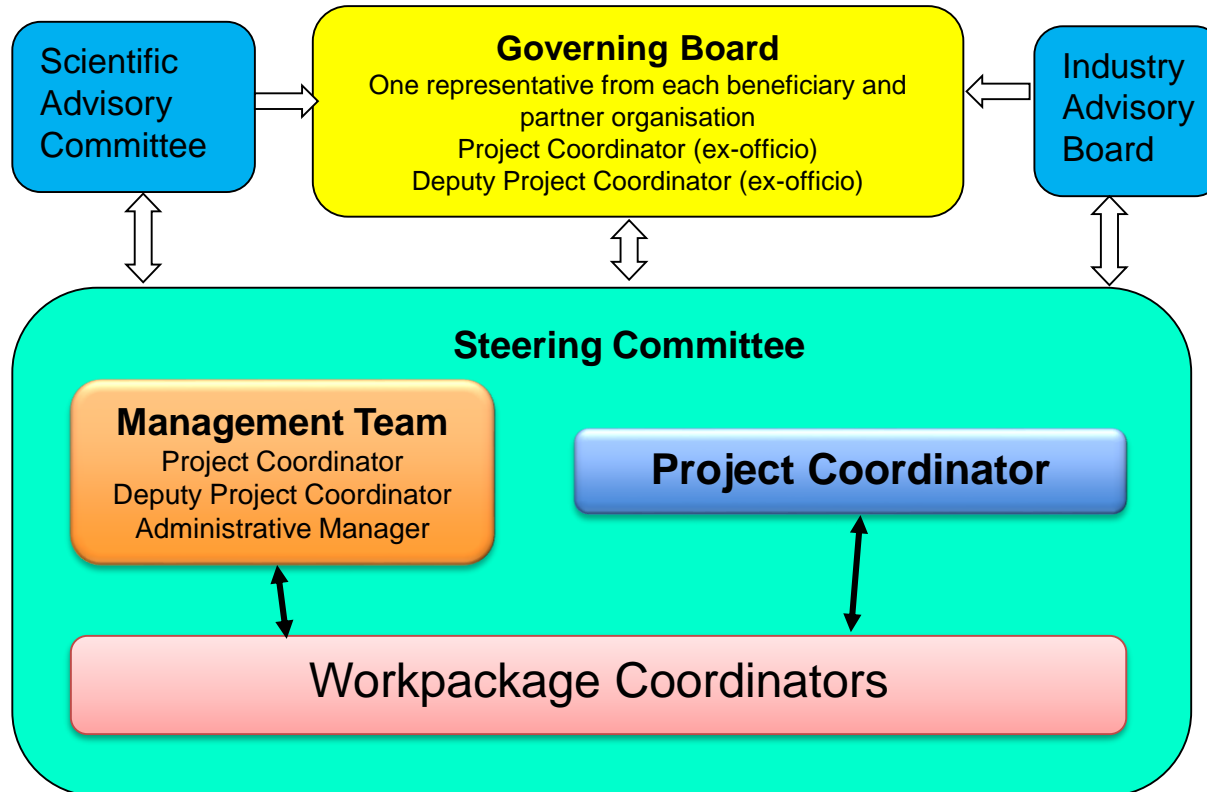
# EU Project Work Breakdown Structure



- Each Task has to be supported by more than 1 partner
- Each Task should have 1-2 Milestones and produce 1 Deliverable
- When possible, Tasks should be consecutive in time (i.e. not all M1-M48)



# Governance (Example of ARIES)



# The new Innovation Pilot Project

The Horizon2020 call «**INFRAINNOV-04-2020: Innovation pilots**» foresees 3 projects of **10 M€** each addressing innovation in 3 domains: light source technologies, detector technologies, **accelerator technologies**.

**Non-competitive** call, each community is expected to submit one project that will be approved if evaluated beyond an acceptance threshold.

- TIMELINE:**
- Call opened **28 November 2019**
  - Deadline for submission **17 March 2020**
  - Result of EC evaluation <17 August 2020
  - Consortium Agreement preparation October 2020 – March 2021
  - Project start **1 May 2021** (at end of ARIES)
  - Duration 4 years (2021 – 2025)

**Targeted call.** We are not in competition with other communities, but we have to **aim for excellence** because:

1. We need to pass the **minimum evaluation threshold**
2. Our project is a «**pilot**» to demonstrate integration and good organisation of our community. If successful, can open the way to larger «programs» in **Horizon Europe**.



# Requirements for the new project – EC instructions

Scope: Funding will be provided to research infrastructure networks to kick-start the implementation of a common strategy/roadmap for technological developments required for improving their services through partnership with industry. Proposals should then involve research infrastructures, industry and SMEs to promote innovation and knowledge sharing through co-creation of needed technical solutions and make use, when appropriate, of large-scale platforms combining R&D (Research and Development), integration and validation for the technological developments.

- RI Networks
- Technological developments in partnership with industry
- Use of large scale platforms

## 3 components:

1. Technological roadmaps in partnership with industry
2. «Development» of technologies.
3. «Prototyping» of technologies.

- if not already done, the identification of key techniques and trends which are crucial for future construction and upgrade of the involved Research Infrastructures and the definition of roadmaps and/or strategic agendas for their development, in close partnership with the industrial partners, especially with innovative SMEs;
- the development of the identified fundamental technologies or techniques underpinning and arising from the efficient and joint use of the involved research infrastructures, taking into due account resource efficiency and environmental (including climate-related) impacts.
- the prototyping of higher performance methodologies, protocols, and instrumentation, including the testing of components, subsystems, materials, and dedicated software, needed to upgrade the involved research infrastructures, construct their next generation, or develop new advanced applications.

## General goal:

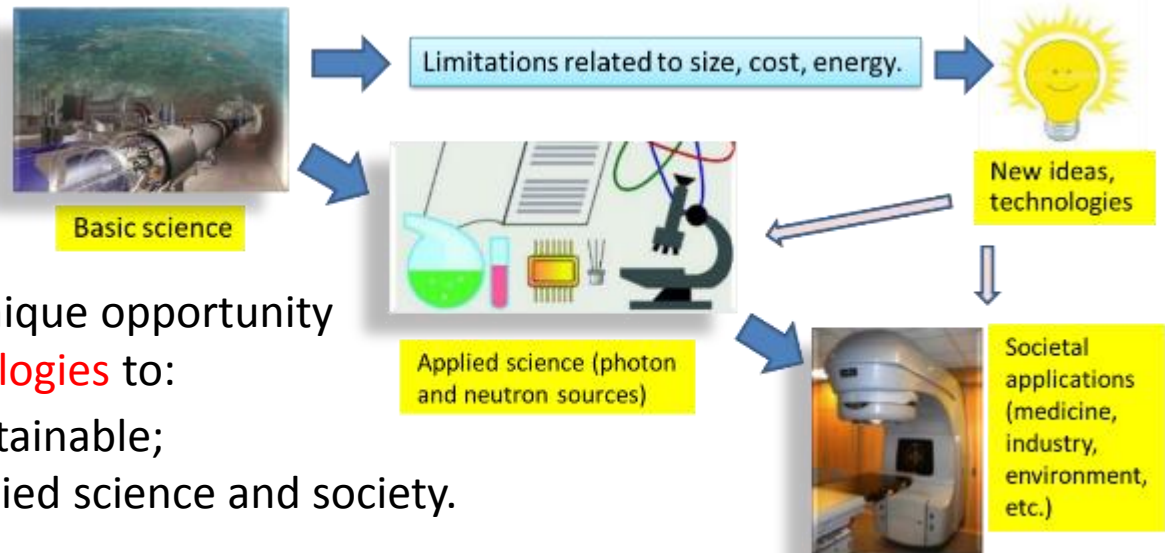
Boost innovation in the accelerator community via a reinforced partnership with industry

(\*) an innovation is the implementation of a new or significantly improved product or process (OECD, The Oslo Manual)

# Requirements for the new project – our vision

## Accelerator science at a turning point:

- Large projects for particle physics are reaching the limits of sustainability.
- Accelerators are rapidly growing, thanks to their increasing use in applied science and society.



ARIES or the new FIAST offer a unique opportunity to develop **new ideas and technologies** to:

1. Make «big science» more sustainable;
2. Support the transition to applied science and society.



How?

- Join laboratories, universities and industry
- Act transversally, across different communities

# Main themes of the new project FIAST

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- The **call for proposal** was very open but showed already some trends.
- The **selection criteria** provided guidelines to prioritise activities.
- The **Evaluation Committee** gave some additional priorities.

The result is a project composed of activities that **look beyond** the needs of ongoing projects or studies (e.g. HL-LHC, FCC, CLIC, etc.) and focus on:

- Novel accelerator options and technologies.
- Sustainability.
- Applied science (synchrotron light and societal applications).
- Cooperation between academia and industry.

With respect to EuCARD2 and ARIES, we observe a decreasing support to **technological implementation** (instrumentation, materials for collimation, vacuum, etc.).

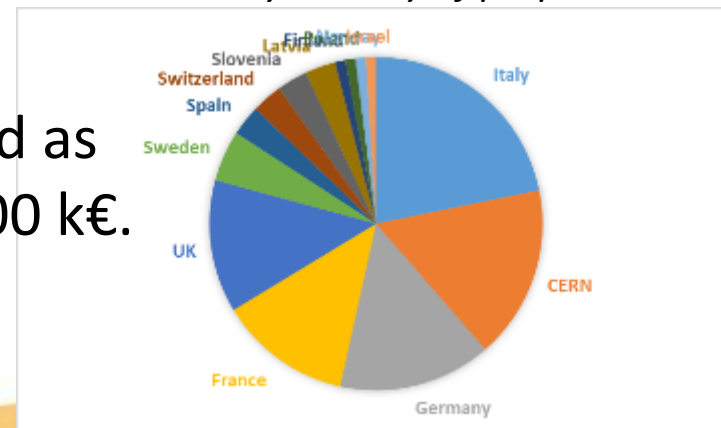
# The call for proposals

- **101 proposals** received:  
17 Strategies, 51  
Developments, 33  
Prototypes.
- total requested EC contribution 26.4 M€ → oversubscription factor (request/budget) > 3.
- Average funding rate 52% (ratio EC contrib./total budget).

	STR	DEV	PRO	Total		
Applications	1	2	4	7	Italy	22
Concepts	4		1	5	CERN	17
Infrastructure	1		1	2	Germany	15
Instrumentation	2	10	1	13	France	13
Magnets	0	2	7	9	UK	13
Materials	1	4		5	Sweden	5
New techniques	4	7		11	Spain	3
Performance		2	8	10	Switzerland	3
RF	1	9	6	16	Slovenia	3
Sources		2	1	3	Latvia	3
Sustainability	1			1	Finland	1
Technology	2	13	4	19	Poland	1
TOTALS	17	51	33	101	Norway	1
					Israel	1

*Distribution by main theme and by country of proposer*

Requested budget non-standard: reclassified as developments if  $\leq 200$  k€, prototypes if  $\geq 200$  k€.



# The Evaluation

## Evaluation Committee of 17 members, chaired by MV, including 4 industry representatives

- One month for the evaluation (15.10-15.11).
- Each proposal was evaluated by 3 people, not related to the proposer's institute (for developments and prototypes, one evaluator was from industry).
- Average note: 40.74.
- Generally good agreement between the evaluators. The standard deviation of the 3 evaluations was calculated, usually low.
- «medium» proposals were accepted accordingly to the general priorities of the community.

**Final result** (36 accepted, 36%)

20 proposals accepted without corrections

16 proposals accepted with requests for corrections (budget reduction and/or merging)

Institute	Representative
CEA	Pierre VEDRINE
	Stéphane CHEL
CERN	Frederick BORDRY
CIEMAT	José Manuel PEREZ
CNRS/IN2P3	Jean-Luc BIAROTTE
DESY	Ralph ASSMANN
GSI	Jens Stadlmann
INFN	Susanna GUIDUCCI
INP	Piotr MALECKI
Nordic	Roger RUBER
PSI	Terry GARVEY
	Mike SEIDEL
STFC	Peter MCINTOSH
Italy industry	Mauro MORANDIN
Germany industry	Philipp Revilak
Spain industry	Aitor Echeandia
French industry	Eric Giguet

# Workpackages outside of competition

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- WP1: Coordination, dissemination and sustainability (530k)  
Management, internal communication, sustainability and cooperation.
- WP2: Training, communication and outreach (400k)  
Communication and outreach  
Challenge Based Innovation programme  
Advanced MOOC
- WP3: Industry engagement (300k)  
Industry advisory board (in particular for Strategies)  
Incubation strategy, entrepreneurship  
Company scouting for collaborations  
Models for academia-industry interaction and IP management  
Models for sharing of Technological Facilities
- WP4: Managing innovation (1.1 M€)  
Internal innovation programme (2<sup>nd</sup> call), 24-month innovative projects in collaboration with industry open to partners of the project – limited to prototypes and developments with a budget 100-200 kEUR.



# General rules – from proposals to project

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- All **contributions** have to be converted into **one Task** (Developments) or **maximum two Tasks** (Strategies and Prototypes) inside a more general Workpackage, corresponding to a Key Technology / Theme.
- Every **Workpackage** is composed of a Strategy and one or more Prototypes and Developments.
- As a general principle, the **Strategy proposer** becomes the **Coordinator of the Workpackage**.
- I have taken as **Task Leaders** the presenters of the individual proposals (to be redefined for merged activities) – ***please confirm***.
- In general terms, the Task Leaders are responsible for **managing their Task(s)**, including writing their Task description for the final proposal and defining their Task budget.
- The **WP Coordinator** reports on all Task activities at the Steering Committee meetings (2 x year) and writes the general **WP introduction** for the proposal.

# Project structure – Work Packages

WP	WP Name	WP Coordinator	Coord. Lab.
1	Coordination, dissemination	M. Vretenar	CERN
2	Training, communication, outreach	P. Burrows	UOXF
3	Industry engagement	M. Morandin	INFN
4	Managing Innovation, new Materials	M. Losasso	CERN
5	New concepts, performance improvements	F. Zimmermann	CERN
6	Novel particle accelerators concepts and technologies	R. Assmann	DESY
7	High brightness synchrotron light sources	<i>R. Bartolini</i>	UOXF
8	Innovative superconducting magnets	L. Rossi	INFN
9	Innovative superconducting cavities	<i>C. Antoine, O. Malyshev</i>	CEA/STFC
10	Advanced accelerator technologies	T. Torims	RTU
11	Sustainable concepts and technologies	M. Seidel	PSI
12	Societal applications	R. Edgecock	HUD
13	Technology Infrastructure	S. Leray	CEA

WP Coordinators are invited to nominate a **Deputy Coordinator** or a **Co-Coordinator** – to share the management we should have **two names per Workpackage**.

# Project structure - 1

WP	WP Name	WP Coordinator	Coord. Lab.	Proposal Number	Duration (m)	Type	Task name (tbc)	Task Leader (tbc)	Task Budget	WP Budget	Max. Deliverables		
1	Coordination, dissemination	M. Vretenar	CERN		48		Management and coordination	M. Vretenar - CERN	530	530	1		
							Dissemination	P. Foka - GSI			1		
2	Training, communication, outreach	P. Burrows	UOXF		48		Communication and Outreach	P. Burrows - UOXF	400	400	1		
							Challenge-based innovation				1		
							Training				1		
3	Industry engagement	M. Morandin	INFN		48		Coordination, industrial partnership support, KT	M. Morandin - INFN	300	300	1		
							Harmonisation of procedures and regulations for co-innovation activities				1		
							Industry involvement and exploitation of the Technology Infrastructure				1		
4	Managing Innovation, new Materials	M. Losasso	CERN		48		Innovation management and committee	M. Losasso - CERN	100	1420	1		
							Innovation Fund	M. Losasso - CERN	1000		2		
						16	24	D	Beam windows for high-power accelerator applications		M. Losasso - CERN	200	2
						69	42	D	Suspended graphenic membrane beam windows for next generation accelerators		M. Tomut - GSI		
						35	48	D	Large scale Carbide-Carbon Materials for multipurpose applications		F. Carra - CERN	120	1
5	New concepts, performance improvements	F. Zimmermann	CERN	45	48	S	MUon colliders STRategy network	N. Pastrone - INFN	300	1060	2		
						S	Pushing Accelerator Frontiers	F. Zimmermann / G. Franchetti - GSI	260		2		
						P	Improvement of slow extraction spill quality	P. Fork - GSI	500		2		
6	Novel particle accelerators concepts and technologies	R. Assmann	DESY	51	48	S	Novel Particle Accelerators Concepts and Technologies	R. Assmann - DESY	400	555	2		
						S	LASers for PLASMA Accelerators	L. Gizzi - CNR			1		
						D	Multi-scale Innovative targets for laser-plasma accelerators	C. Thaury - CNRS	100		1		
						D	Laser focal spot stabilization for compact plasma accelerators	F. Mathieu - CNRS	55		1		
7	High brightness synchrotron light sources	R. Bartolini	UOXF	73	48	S	Ultra-Low Emittance Ring	R. Bartolini - UOXF	300	1700	2		
						P	Longitudinally Variable Dipole for the upgrade of the Elettra storage ring	Y. Papaphilippou - CERN	500		2		
						P	Very high gradient RF Guns operating in the C-band RF technology	D. Alesini - INFN	450		2		
						P	CompactLight Prototype Accelerating Structure	G. D'Auria - Elettra	270		1		
						D	Permanent Magnet Quadrupoles & Combined Function Magnets for Ultra Low-Emittance Rings	B. Shepherd - STFC	180		1		

# Project Structure - 2

8	Innovative superconducting magnets	L. Rossi	INFN	103	48	S	European Strategy for HTS magnet	L. Rossi - INFN	50	900	1
				23	48	P	Magnets for Advanced Hadrontherapy and Fast Synchrotrons	L. Rossi - INFN	650		2
				13	48	P	Development of ReBCO HTS nuclotron cable	P. Spiller - GSI	200		1
9	Innovative superconducting cavities	C. Antoine, O. Malyshev	CEA	17	48	S	Strategy for Innovative Superconducting Accelerating Cavities	C. Antoine - CEA	100	950	1
				38	48	P	Innovative Superconducting Accelerating Cavities	C. Pira - INFN	550		2
				32	48	D	Innovative superconducting accelerating cavities	R. Valizadeh - STFC			
				18	48	D	Surface Engineering by Atomic Layer Deposition	T. Proslie - CEA	100		1
				49	48	D	Improvement of mechanical and superconducting properties of RF resonator by laser radiation	A. Medvids - RTU	100		1
				31	24	D	Optimization of flat SRF thin films production procedure	O. Kugeler - HZB	100		1
10	Advanced accelerator technologies	T. Torims	RTU	56	48	S	Additive Manufacturing for the Accelerator Community	M. Vedani - Polimi	220	570	2
				53	24	D	Repair of damaged accelerator components by AM technologies	E. Lopez - FET			
				55	24	D	Development of superconducting RF cavities by AM	M. Pepato - INFN	50		1
				40	48	D	Photon Stimulated Desorption (PSD) from NEG coatings for accelerator vacuum chambers	O. Malyshev - STFC	100		1
				92	36	D	MAchine Learning techniques for accelerator and target diagnostics at ESS	T. Shea - ESS	100		1
				94	24	D	Development of electro-optical waveguide sensors as Beam electric field sensors	S. Gibson - RHUL	100		1
11	Sustainable concepts and technologies	M. Seidel	PSI	68	48	S	Sustainable Concepts for Accelerator driven Research Infrastructures	M. Seidel - PSI	200	700	1
				5	36	P	High Efficiency Klystron Industrial Prototype	E. Jensen - CERN	500		2
12	Societal applications	R. Edgecock	HUD	25	48	S	A Strategy for Implementing Novel Societal Applications of Accelerators	R. Edgecock - HUD	300	515	2
				103	24	D	Design of advanced electron accelerator plant for biohazards treatment	A. Chmeliewski - INCT	100		1
				2	24	D	Internal Rf Ion Source for Cyclotrons	J. Perez - CIEMAT	115		1
13	Technology Infrastructure	S. Leray	CEA	102	24	S	European Technology Infrastructure for Accelerators and Magnets	S. Leray - CEA	300	400	2
				20	24	D	New RF amplifiers based on GaN Semiconductors	D. Dancila - UU	100		1
									<b>10000</b>	<b>10000</b>	<b>59</b>

# Brexit news

## Guarantee and extension funding

UK participants may be unable to access funding from the EU after Brexit if the **UK becomes a third country**.

In October., the UK government has committed to provide funding for **all successful eligible UK bids to Horizon 2020 that are submitted before the end of 2020**. This funding will apply for the lifetime of projects.

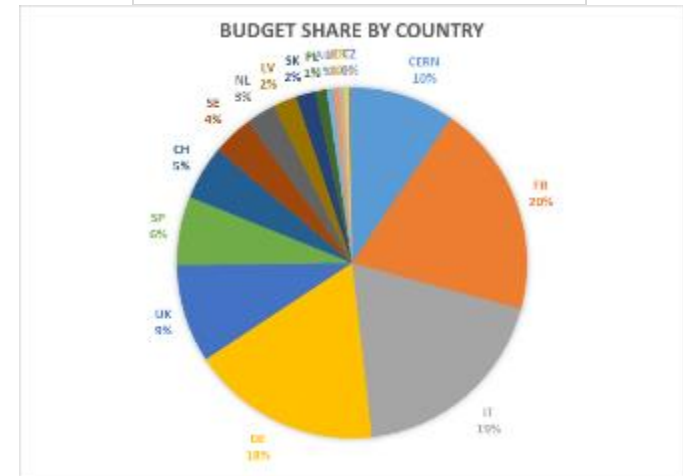
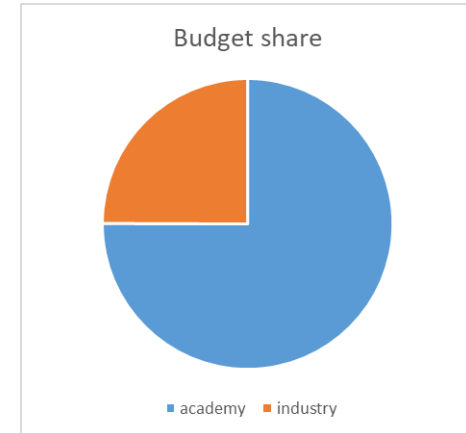
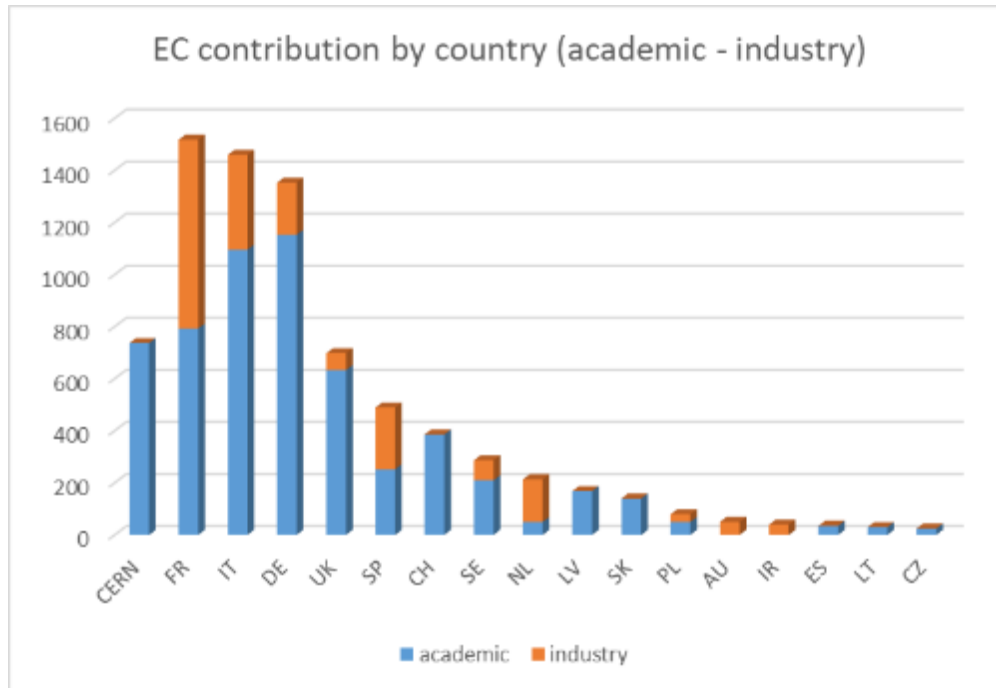
The funding guarantee and extension to the guarantee will be delivered by UK Research and Innovation (UKRI).

The screenshot shows the GOV.UK website interface. At the top, there is a search bar and a navigation menu. Below the search bar, there is a banner for 'Register to vote' with a 'Hide message' link. The main content area features a blue header with the title 'Guidance UK participation in Horizon 2020 after Brexit' and a sub-header 'Updated 24 October 2019'. Below the header, there is a 'Contents' section with a list of links: 'Stay up to date', 'Funding overview', 'Current UK participants', 'UK applicants who submit new bids before Brexit', 'Applying to Horizon 2020 after Brexit', 'Ongoing projects that may become ineligible after Brexit', and 'Delivery of government funding'. To the right of the 'Contents' section, there is a 'Stay up to date' section with a sub-header 'Stay up to date' and a paragraph of text: 'The UK is leaving the EU. This page tells you how to prepare for Brexit and will be updated if anything changes.' Below this paragraph, there is a link 'Sign up for email alerts to get the latest information.' At the bottom of the page, there is a paragraph of text: 'The UK should be able to participate in Horizon 2020 as a non-EU country (a [third country](#) if we leave the EU without a deal.' Below this paragraph, there is a list of bullet points: 'Third countries can bid to, participate in and lead the majority of Horizon 2020 projects, but cannot access:'. The list includes: 'mono-beneficiary schemes', 'some space and security projects which only allow participants from EU countries', and 'some multi-beneficiary schemes (for example Fast Track to Innovation (FTI))'. At the bottom of the page, there is a Windows taskbar with icons for a folder, a presentation, and a taskbar.

(page accessed 15 November 2019)

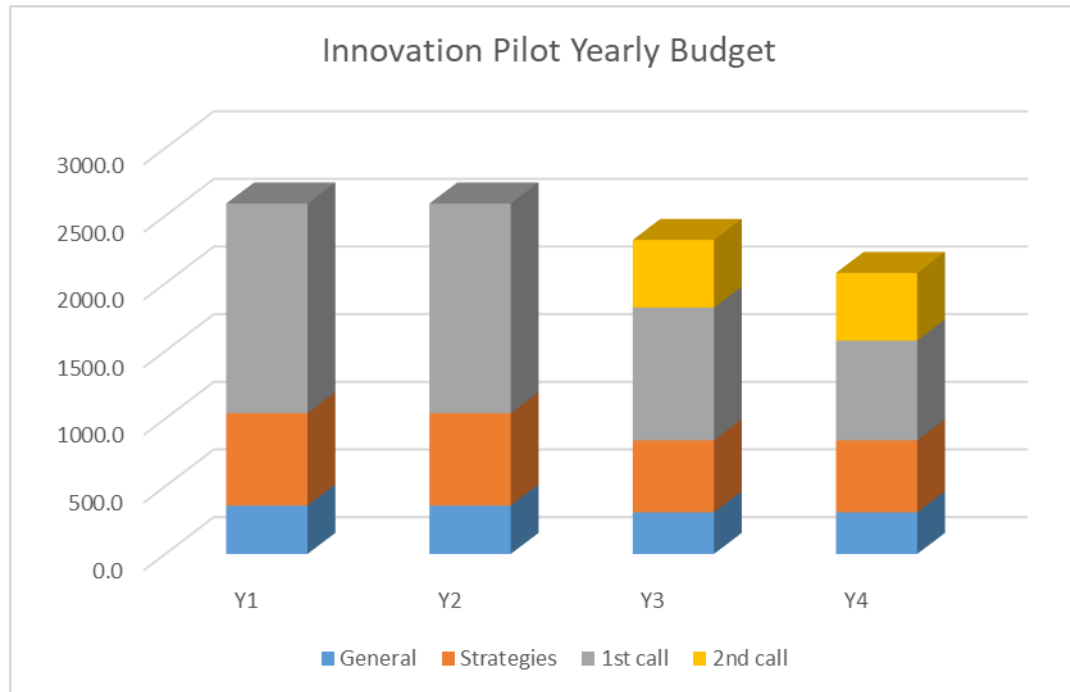
# Budget distribution by country

Only R&D activities (WPs 4-13) – present situation



- Distribution by country is quite good.
- Share of industry 25% corresponds to our goal.

# Budget distribution by time



Some activities last only 2 or 3 years. They will be compensated by the activities of the 2<sup>nd</sup> call that will cover the last 2 years.

For the 2<sup>nd</sup> call has been reserved 1 M€ - the call will include only developments or 2<sup>nd</sup> phase prototypes requesting an EC contribution between 100 and 200 k€.

# Matching funds

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For R&D activities (WPs 4-13)

- Total **EC contribution 7.67 M€**.
- Project cost announced by participants **15.73 M€** w/o overheads, 19.7 M€ with 25% overheads.
- Funding rate: **39%** (ratio EC contribution / Total cost with overheads)
- Assuming 50% matching funds for WP1-4, this leads to a total project cost of about **25 M€** (funding rate 40%).
- Very good, we can even reduce if required the matching funds in some activities.



# The main problem: number of beneficiaries

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- The ideal number of EC beneficiaries (partners receiving a direct EC contribution) for these is projects is **about 40**.
- Too many beneficiaries means excessive **administrative work** (for CERN and for the WPs), high **administrative overheads** for partners receiving only a small contribution, and more **risks** for the project of delays or defaulting partners – and for the same reasons it is not appreciated by the EC offices!
- Adding all the institutes that you have indicated as partners in your activities **we come to 60 Beneficiaries**.
- **This is far too many!** We can agree on maximum **50 beneficiaries** (better less) but we cannot exceed this limit.

# Solution: associated partners

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- The solution is to move some of the small partners to become “**associated partners**” via a larger partner (leading beneficiary).
- Associated partners will sign the **Consortium Agreement** and participate in the **Governing Board** meetings (with the same voting rights as Beneficiaries) but they don’t sign the **Grant Agreement** with the EC.
- Associated partners sign an Agreement with their partner (usually a large laboratory) that engages to give them their budget in exchange of a given contribution.
- The associated partner budget is added to the EC contribution of the leading partner but it is **not an eligible expenditure**: has to be covered by the **matching funds and/or overheads** of the leading partner.
- Consequence is that associated budget must be “small” and that the leading beneficiary must be a large laboratory as CERN, GSI, CEA, etc.
- Note that **travels are eligible**: travels of an associated partner can be covered by the leading partner.

You have to take this into account when you produce your budget table

# Summary Table

<b>Beneficiary with EC contribution</b>	<b>Beneficiary with no EC funding</b>	<b>Associated partner</b>
↓	↓	↓
Sign Grant Agreement	Sign Grant Agreement	No Signature Grant Agreement
Sign Consortium Agreement	Sign Consortium Agreement	Sign Consortium Agreement
Financial reporting to EC*	No Financial reporting to EC	No Financial reporting to EC
Subject to EC audit	No subject to EC audit	No subject to EC audit

The limit of 50 concerns only the beneficiaries with EC contribution

# Who has to become Associated Partner

Should become associate:

Academic partners with EC contribution < 45 k€

Industry partners with an EC contribution < 25 k€

This concerns 15 partners.

- Additive manufacturing: select only 1 beneficiary (HC or ROS)
- Amplitude T. (AT) cannot be a beneficiary in the laser strategy.
- Small academic partners must become associated.
- Only possible exceptions HUD and UG (to be discussed).

CERN	737
ULAN	70
CIEMAT	252
CNRS	370
GSI	348
PoliMi	58
HUD	40
PSI	342
WWU	55
HIT	60
HZB	36
DESY	191
CVR	25
CEA	370
INFN	875
STFC	355
Uni Siegen	141
UU	110
ESS	100
UG	44
RTU	168
FEP	140
UOXF	35
IEE	140
KIT	117
Soleil	53
JGU	35
ELETTRA	132
DLS	98
FTMC	30
CNR	30
RHUL	35
TalTech	35
INCT	50
ILK	30
UT	50

Huddersfield

HZ Berlin

Res. Center Rez

Geneva U.

Mainz U.

Res. Inst. Vilnius

CNR Italy

Royal Holloway U.

Tallinn Tech. U.

ILK Dresden

THALES	470
CYCLOMED	27
GE	27
BT	95
BI	95
RHP	50
COMEB	135
BNG	80
Elytt	80
SIG	120
NNK	50
PICCOLI	30
HC	25
ROS	25
AT	10
Kyma	215
VDL-ETG	164
TMD	35
Bodycote	30
Xilinx	40
Biopolinex	30
Exir	25
PR	25
Covesion Ltd	30

merge  
AT out

merge

# Additional check-list

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- Check that your industries (in particular the small ones!) have a **PIC number** for participating in H2020. If not, it might be late to get one...
- Check that all branches of large entities can participate as one individual beneficiary: this is the usual case for CNRS and INFN, but it should be the same for **Fraunhofer FEP** (participates in 4 Tasks via different Departments) and Thales (in 2 Tasks).
- Check again with your partners that all agree that the results are **Open Access** – patents are allowed and for important reasons some Deliverables can be marked as confidential but by default they are going to be **public**.
- Verify again that you have your **matching funds** (from labs and industry). In February, your Directors will have to sign a **Letter of Commitment** to engage in the work and in providing the matching resources.
- Identify the name of **representatives for each partner organisation: scientific contact** and **administrative contact**. Action required by Task Leaders, confirm names in Proposal Form and agree on one name when a partner participates in multiple Tasks.

# From Proposal Form to full Proposal

## Next step is writing.

Should not be too difficult because the Proposal Form that you have submitted for the evaluation was already structured to provide all the material (text and numbers) that we need for the proposal:

1. Excellence
2. Impact
3. Methodology and Organisation
4. Budget
5. Schedule, Deliverables and Milestones
6. Potential risks and mitigations

The main goal for the next month is to copy/paste (and revise where needed after today's discussions!) text and budget from the Proposal Form into the new Templates.



TIARA ARIES

Innovation Pilot  
Proposal Form

Name of proposed action  
Type of action (Strategy / Development / Prototype)  
Name of main proposer  
Institution of main proposer

Please send the proposal form to  
Innovation.Pilot@cern.ch

1 Innovation Pilot  
Proposal Form

We need to be short: proposal limit is 80 pages!

# Writing the proposal - modifications to workplan

With respect to the Proposal Form, you need to make the following modifications to the Workplan:

1. We need less Tasks: **only 2 Tasks are allowed** for Strategies and Prototypes, **only 1 Task** for Developments.
2. Every **Task** should have **1 Deliverable and 1 Milestone** - we must remain within the limit of 60 Deliverables and 60 Milestones for the entire project.
3. The Tasks should possibly have **different timings** (not all M1 – M48) and the description should explain how the different partners will contribute (this was often missing in your proposals!).
4. The WP Coordinators are free to define a **Task 1: Coordination and Communication** (as in ARIES) or to **incorporate the coordination and communication inside the Strategy Tasks**.

# Task Description Template

## Task description template

**Task x.y: Title** [x is the WP number, y is the task number inside the WP]

Lead beneficiary of the task: ...

Task Leader: ...

Beneficiaries in the task: ...

Associated partners in the task: ...

Take number of WP and preliminary Task number (if more than one, use x.y)

List Beneficiaries and Associate Partners

**Objectives (2-3 bullet points):**

• ...  
• ...

**Description of work (1/2 page per task)**

Give a brief description of the activity of the task, explain how the objectives will be achieved and what will be the role of the participants. You should give enough detail to justify the proposed resources to be allocated and also quantified information so that progress can be monitored.

Maximum ½ page per Task!

Give a brief description of the activity of the task, explain how the objectives will be achieved and what will be the role of the participants. You should give enough detail to justify the proposed resources to be allocated and also quantified information so that progress can be monitored.

**Deliverables : 1 per Task**

Deliverable name	Short name of lead participant	Type	Dissemination level (*)	Delivery date (in months)	Content
			PU		

One per Task, not at M48 (as early as possible, or M47)

**Milestones : 1 per Task**

Milestone number	Milestone name	Due date (in month)	Means of verification
Mx.y			

### Content

Describe shortly the content of your Deliverable. Refer to indicators if appropriate.

### Type:

Use one of the following codes:

- R: Document, report (excluding the periodic and final reports)
- DEM: Demonstrator, pilot, prototype, plan designs
- DEC: Websites, patents filing, press & media actions, videos, etc.
- OTHER: Software, technical diagram, etc.

### Dissemination level:

(\*) By default PU – is some confidentiality is required, explain it in a separate note

PU = Public, fully open, e.g. web

### Means of verification

Show how you will confirm that the milestone has been attained. Refer to indicators if appropriate. For example: a laboratory prototype that is 'up and running'; software released and validated by a user group; field survey complete and data quality validated.



# Budget Template

Only fill the white areas

Beneficiary short name	Person-months	Monthly personnel cost	Personnel costs	Travel	Equipment and consumables	Other direct costs	Sub-contracting	Material direct costs	Total direct costs	Total indirect costs	Total costs (direct + indirect)	EC requested funding
Beneficiary 1			0.00					0.00	0.00	0.00	0.00	
Beneficiary 2			0.00					0.00	0.00	0.00	0.00	
Beneficiary 3			0.00					0.00	0.00	0.00	0.00	
Beneficiary 4			0.00					0.00	0.00	0.00	0.00	
Beneficiary 5			0.00					0.00	0.00	0.00	0.00	
Beneficiary 6			0.00					0.00	0.00	0.00	0.00	
Beneficiary 8			0.00					0.00	0.00	0.00	0.00	
Beneficiary 9			0.00					0.00	0.00	0.00	0.00	
Beneficiary 10			0.00					0.00	0.00	0.00	0.00	
<b>Total</b>	<b>0.0</b>		<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>



Total, including matching resources



Total cost (from administration), depends on institute and level of contributor. If different levels, take an average



Estimate travel budget (including 1 project meeting/year)



Only non-permanent equipment (prototypes, no instruments or computers)



These 2 columns should be zero



Here you enter the agreed EC funding

Associated partners:

if the Leading Partner is a member of the Task, add their budget to the EC contribution of the Leading Partner (with a note in the margin).

If it is not a member of the Task, write a separate line with the name of the proposed Leading Partner



# Schedule

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- **9 January: meeting of Task Leaders and WP Coordinators:** distribution of templates - confirm list of Task Leaders and WP Coordinators - agree on partners that become Associated.
- **Friday 24 January: deadline** for receiving Task **descriptions** and Task **budgets** from Task Leaders, on the new Templates (with some tolerance with personnel costs).
- **Friday 31 January: deadline** for receiving Excellence and Impact sections of WPs from WP coordinators (advice: merge the text in the proposals).
- **Friday 31 January:** complete list of participants, including scientific and administrative contacts.
- **15 February:** 1<sup>st</sup> **complete draft** of the proposal ready for comments, **budget frozen** and **Letters of Commitment** sent to all beneficiaries.
- **22 February:** deadline for receiving signed Lol's and comments to draft proposal.
- **6 March:** 2<sup>nd</sup> complete draft ready and distributed for comments.
- **Friday 13 March:** first complete project submission on EC portal.
- **Tuesday 17 March: final submission**
- **18 March:** champagne and holidays.



# A new name for a new project

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## Fostering Innovation in Accelerator Science and Technology - FIAST

Thanks for your contribution and for taking part in this exciting new project !



Questions ?