#### H2020 AMICI Workpackage 4 - Innovation



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#### WP4: Innovation

The overall objective of this Work Package is to promote the potential applications of mature Accelerator and Magnet technologies to European businesses, with a particular focus on innovative SMEs, which have the potential to apply their expertise to applications for societal needs through successful engagement with Technological Infrastructures. This can be broken down as follows:

- 1. Identify a European network of commercial organisations, consisting of both large companies and SMEs, that has the potential to innovate in the field of mature Accelerator and Magnet technologies.
- 2. Identify domains of societal applications and potential markets beyond Research Infrastructures that can be developed by these innovative commercial organisations.
- 3. Identify ways to optimise the effective engagement between Industry and the Technological Infrastructures to support the development of societal applications by industry.



#### Task WP4.1

Industry Survey – Accelerator Technologies

"...to assist innovative European commercial organisations in identifying and successfully exploiting broader societal market opportunities for mature Accelerator technologies."

- The survey will assess the technical capabilities of each participating organisation in the identified Accelerator technology areas, looking at their equipment, skills and capacity to deliver, as well as their appetite for commercial innovation based on past history and current attitude to risk.
- In addition the survey will provide insight into the domains of societal applications and potential market sizes beyond Research Infrastructures.

#### Output

A report identifying specific domains of societal applications and European commercial organisations that have the current capability, and future potential, to innovate and develop solutions in the fields of mature Accelerator technologies through the use of Technological Infrastructures will be delivered at the end of the project.



#### WP4.1: Partner Contributions

| Beneficiary | Total Person Months | Lead Contact    |
|-------------|---------------------|-----------------|
| STFC        | 9.5                 | Anthony Gleeson |
| CEA         | 1                   | Pierre Vedrine  |
| CERN        | 4                   | Toms Torims     |
| CNRS        | 2                   | ТВС             |
| PSI         | 3                   | Terry Garvey    |

| Milestones and Deliverable |  |  |
|----------------------------|--|--|
| M4.1                       | 3rd Party selected for survey on accelerator technologies (M15)  |  |
| M4.4                       | Survey on accelerator technologies received from 3rd party (M27) |  |
| D4.1                       | Report on accelerator market study (M30)                         |  |



### WP4.1 Discussions

- Keep at the forefront Technological Infrastructures and how they can be used to help industry
- How do we define the applicable Technological Infrastructures and/or technology development areas?
  - Some are 'obvious' e.g. RF, detectors
  - Others are less so e.g. materials
  - Inputs from other WPs, such as WP1.2
  - Prioritise in order to match available survey resource
- How will each organisation use their time?

CERN will work with their 25 group leaders to identify areas of interest
Increased effort can be used prior to survey to better understand the
Technological Infrastructure offering, review existing data and prioritise.
After the survey is completed, it can be used to enhance the depth of
analysis and investigate viability/ implementation at the partner
institutions.



# WP4.1 Discussions (continued)

- How will the 3<sup>rd</sup> party survey organisation work with companies across Europe (e.g. language barriers)? *Work with ILOs to engage with local industry.*
- Need to agree scope before submitting tender for 3<sup>rd</sup> party.



#### Task WP4.2

#### Industry Survey – Magnets Technologies

Survey a broad range of European commercial organisations, including both large companies and SMEs, to establish their current capability, and future potential, to innovate and develop technology solutions in the field of mature Magnet technologies and identify domains of societal applications and potential markets beyond Research Infrastructures.

For instance, the work done in the CERN-CEA working Group FuSuMatech to examine the synergies between on the one hand the industrial areas of MRI, NMR as well as other relevant applications and on the other hand the FCC (Future Circular Collider) investments in the technology domains of superconducting magnets will be used.

A report identifying European commercial organisations that have the current capability, and future potential, to innovate and develop solutions in the fields of mature Accelerator technologies will be delivered at the end of the project. The report will also identify domains of societal applications and potential markets beyond Research Infrastructures in this area of technology.



#### WP4.2: Partner Contributions

| Beneficiary | Total Person Months | Lead Contact   |
|-------------|---------------------|----------------|
| CEA         | 2                   | Pierre Vedrine |
| CERN        | 3.5                 | Toms Torims    |
| INFN        | 2                   | David Alesini  |

| Milestones and Deliverable |  |  |
|----------------------------|--|--|
| M4.2                       | Interim report on survey results in the field of SC Magnet<br>Technologies (M15) |  |
| D4.2                       | Report on SC magnet market study (M30)   |  |



### WP4.2 Discussions

- "Mature" technology w.r.t. to WP4.1 and WP4.2
- SC Magnets pulled out from accelerators do we cover normal conducting magnets in WP4.1? Yes, because although test and validation infrastructure is widespread through industry, partners have identified specific areas which they think are of potential interest to industry.

#### Task WP4.3

Identify existing good practises, and barriers to effective engagement, between Industry and the Technological Infrastructures

- Identification of existing good practises, barriers and ways of promoting the effective engagement of the TIs in supporting the European industry for developing commercial products and services that may benefit the society at large.
- Areas to be investigated include Intellectual Property policy, Patenting rules, knowledge sharing and other critical aspects related to the exploitation of competences, equipment and services available at the TIs, including usage of equipment at Research Laboratories for R&D or production purposes.

#### Output

A report on the analysis of acquired data and conclusion document will be prepared. In the first part of the report the findings of the acquired data are presented. In the second part we provide proposals of procedures for good collaboration practises to overcome barriers to effective engagement.



#### WP4.3: Partner Contributions

| Beneficiary | Total Person Months | Lead Contact  |
|-------------|---------------------|---------------|
| INFN        | 12                  | David Alesini |
| IFJ PAN     | 1                   | ТВС           |
| PSI         | 1                   | Terry Garvey  |

| Milestones and Deliverable |   |
|----------------------------|---|
| M4.3                       | Initial analysis of acquired data on good practices and identification of actions (M26) |
| D4.3                       | Report on best practice collaboration between industry and technology (M30)             |



### WP4.3 Discussions

- Previous work (e.g. TIARA) has identified reluctance of RIs to coordinate. Needs to be considered as part of this process
- Geographical coverage there is geographical imbalance regarding accelerator technology
- 2-way process also ask RIs what problems they have working with industry (including internal).



#### For consideration...

- Web tools Need file sharing system between all WP4 participants. Solution should be available as part of WP1.4
- Reporting Requirements for report writing (milestones and deliverables)? Concluded that reports are not mandatory for all milestones and deliverables, so should be used where appropriate.
- WP4 Organisation Meetings and updates (frequency and format)?
  - Task leaders: Fortnightly meetings via teleconference (Vidyo?)
  - Participants: Task leaders to define contact based on task requirements
- What are the confidentiality issues/agreements required with industry?



# Inter-dependencies/inputs

- List of technological infrastructure in scope (WP1.2)
- Companies from WP1.2:
  - Industry Liaison Officers
  - Technology Transfer Officers
  - Advisory Group
  - Broader question: How should we coordinate our involvement with industry? (*CRM*)





# Inter-dependencies/inputs

- Input from WP4 into WP2.2 Global landscape (emerging technologies)
- Input from WP4 into WP3.1 TI Eligibility
- Proposed European Forum on Accelerator and Magnet Technological Infrastructures (month 24) – what are the expectations for outputs from WP4?
- Input into, and participation in, Industry Day(s) to maximise benefits. Session included to discuss WP4 activities and industry engagement possibilities.

#### H2020 AMICI WP4: Discussion



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