



General Assembly

24 January 2019

Vietri sul Mare / Salerno, Italy

Olivier Napoly, coordinator

CEA/Irfu



EUROPEAN COMMISSION
DIRECTORATE-GENERAL FOR RESEARCH & INNOVATION
Research infrastructure



- 1/ Status of the AMICI project and Second Annual Meeting (*O. Napoly*)
- 2/ Proposal for 3-4 month extension
- 3/ Status of the AMICI administrative matters (*S. Leray*)
- 3/ Report from the Advisory Group Chair (*A. Hutton*)
- 4/ Any Other Business

Status of the AMICI project and Second Annual Meeting

Olivier NAPOLY

The **Technology Infrastructure** is the **basement** of *any* future large-scale accelerator and SC magnet projects, spanning activities

from *Design* to *Construction* and *Operation*

R&D → *Prototyping* → *Assembly* → *Verification* → *Installation* → *Support*



It spans the whole TRL spectrum, from R&D to fabrication, with an emphasis on the **Preparation** and **Construction** phases, corresponding to **Prototyping (3-5)** and **Industrial Production (>5)** of components.

SCIENCE INDUSTRY is the economic sector which includes the companies devoted to the design, engineering, construction, updating and keeping of scientific research facilities, its equipment and other related instruments



Courtesy, Fco. Javier Cáceres

The industrial, non-profit associations, devoted to promote - with short, medium and long-term visions- the Science Industry sector, are a very efficient tool



ineustar

Asociación Española de la Industria de la Ciencia

INEUSTAR, the Spanish Science Industry Association, is one of those organizations which help to bridge the gaps between Science and Industry



ADEX, S.L



QVS, S.L



HIGH IDENTITY BUILDINGS



JEMA, S.A.



AWGE TECHNOLOGIES, S.L



CADINOX, S.A.



KARTEN SPACE, S.L



QUASAR SCIENCE RESOURCES, S.L



DMP, S.L



ELYTT ENERGY, S.L



SCIENTIFICA, S.L



SERKIDE SERVICIOS INTEGRALES, S.L



FAGOR AUTOMATION, S.Coop.



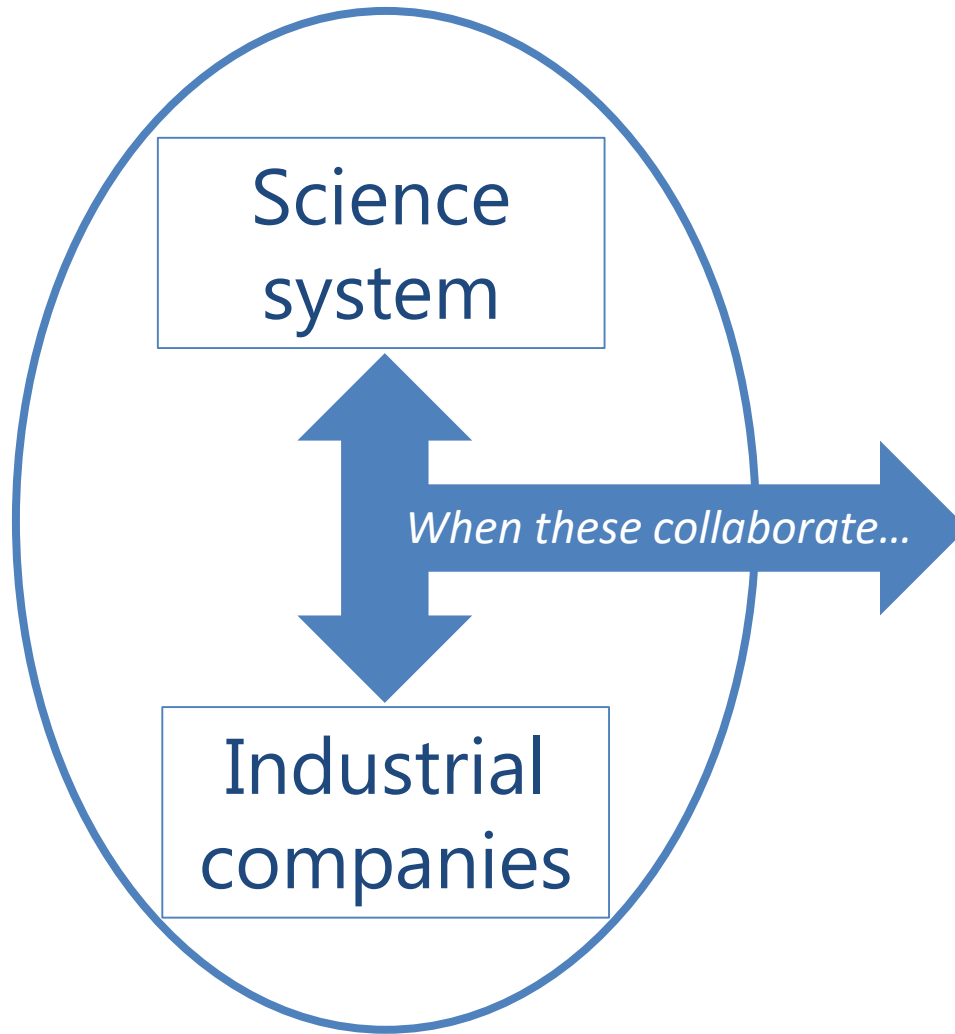
FRACTAL, S.L.N.E.



SEVEN SOLUTIONS, S.L



SWISSLAN, S.L



More efficiency

Less permanent costs

More economic impact

Fast technology transfer

More activity and jobs

Better social role projection

Boost of R&D promotion

New activities attraction

Courtesy, Fco. Javier Cáceres



- INEUSTAR was founded in 2010
- Private, non-profit, made-up of industrial companies related to Scientific Research Facilities as suppliers
- The first European Science Industry Association

[Courtesy](#), Fco. Javier Cáceres

Contact has be made with Erik Fernández, replacing Javier Cáceres and the AMICI PCT plan to visit the association.

Progress:

- The AMICI Mid-Term Report has been submitted with one month delay and has been approved by EC.
- Following a remark of our EC Officer about the AMICI Mid-Term Report, we improved the [AMICI Website](#) to better illustrate the connection between Research Infrastructures – Technology Infrastructure – European Science Industry.
- The same cartographic tool will be used by WP2.2 'Global Landscape' to illustrate the technology components of future Accelerator and SC Magnet projects, and the possible connection to Technology Infrastructure.

Focus:

- Extend the H2020 AMICI project duration by 3-4 months, past June 2019, pending the support of the General Assembly and the approval from EC.
- Hold the '*European Forum on accelerators and SC magnets Technology Infrastructure*' at Brussels in the summer 2019 to describe the outcome of the AMICI Tasks to the EC and the European Science Industry .
- Hold the 3rd AMICI Annual Meeting in the fall 2019.

The *Strategy*-related activities aim at providing strategic insights into opportunities and needs of future basic research and applications, thus steering and sustaining the activity of the Technology Infrastructure

Progress:

- We identified a set of 8 Key Technology Areas (KTAs) based on the criteria presented in Uppsala, and we started drafting Deliverable 2.1 Report that describes their needs and their potential for progress in performance and/or cost savings
- We described the conditions prevailing to the sustainability of the Technological Facilities at the ten AMICI Institutes, and the significant differences between: 1- Institutes hosting/operating EU research infrastructures, 2- Institutes hosting national accelerator facilities, 3- Institutes providing components and services to RIs.

Focus:

- Describe the technological roadmaps of the KTAs and characterize the adequacy or inadequacy of the current TI (D2.2).
- Formulate propositions to guarantee the long-term sustainability of TI based on e.g.: 1 – improving the technical adequacy between external needs vs. services of technical platforms, 2 – improving their availability/usability, 3 – demonstrating the cost/timing impact of TI vs green field based construction of RIs(D2.3).

Key Technology Areas

1. Particle sources
2. 'High precision' magnets
3. High field SC magnets
4. Normal Conducting RF cavities
5. SRF structures
6. Radio Frequency power sources
7. Cryogenics
8. Beam instrumentation

Q2: Are the 8 Key Technology Areas well identified, and does the European Science Industry need to reinforce its strength on a few of them?

The *Cooperation*-related activities will study the conditions of the coordination of the Technology Infrastructure in order to harmonise its operation and increase its efficiency, and to establish a co-innovation platform with industry.

Progress:

- We formulated the eligibility criteria to access the core group of the Technology Infrastructure (D3.1) and drafted an Collaboration Agreement model for its core group members, supporting a set of ambitious goals.

Focus:

- Finalize the Collaboration Agreement model and obtain the recommendations from the AMICI Institute directorates.
- Formulate terms of University and Industry partnerships with the core group.

3.6. The goals of the Collaboration are to:

- Found a joint European Technology Infrastructure dedicated to the development, testing and production of accelerator components and superconducting (SC) magnets
- Sustain the Infrastructure considered part of the AMICI Collaboration
- Define the contents of the infrastructure of the AMICI partners and the necessary alignment for a common (across all Parties) Infrastructure
- Define the roadmap of AMICI infrastructure for strategic evolution and development
- Setup project and working groups of common interest
- Seek financing for the implementation of the roadmap
- Ensure availability of the AMICI infrastructure within the AMICI Collaboration and its access by external partners
- Ensure the availability of highly trained personnel to operate the AMICI Technological Facilities
- Ensure long term support, maintenance and development of the AMICI infrastructures
- Promote the availability of the AMICI infrastructure to external partners in particular to industrial partners
- Set-up a common compensation scheme for industrial use of AMICI infrastructure
- Set-up common rules and regulations for access to the AMICI infrastructures
- Propose training for external users, in particular industry, in the know-how, techniques and quality standards of the TFs
- Set-up, maintain and provide access to a database allowing preservation and dissemination of the common knowledge and know-how within the members and to the benefit of external users

The *Innovation*-related activities aim at transferring the knowledge and know-how of research laboratories to industry and creating new products and new applications of direct benefit to society.

Progress:

- We obtained the responses from the 3 market surveys (accelerator components/SC magnets/good practices and barriers).
- However, input from the major European SC Magnet manufacturers is missing.

Focus:

- Synthesize the outcome of the market surveys and draw recommendations for improving the Innovation potential of European Science Industry.
- Further refine AMICI offering to Industry.

The *Industrialization*-related activities aim at keeping European Science Industry at the forefront of the international competition, in terms of technology, quality and costs, in view of the construction of future scientific research instruments in Europe and elsewhere.

Progress:

- We selected training and development of material database as services provided by the TI to European Science Industry.
- We identified Intellectual Property as a hard point.
- We coordinate and contribute to a multi-national working group at the CEN to draft a European standard on safety of cryogenic equipment.

Focus:

- Set the basis of a database on material properties (D5.1).
- Catalog the potential training and apprenticeship programs in the Technology Infrastructure (D5.2, D5.4).
- Formulate the conditions for prototyping in Industry (D5.5).

This is indeed the last Meeting before the end of the AMICI project.

Our overarching goal should be to gain the support of the EC and Agencies to our findings and proposals.

For that, we have to:

- 1) demonstrate the central and irreplaceable role of the Technology Infrastructure for the European Research Infrastructures, and
- 2) demonstrate its benefit to European Science Industry.

AMICI

Advisory Group meeting

January 24, 2019

Salerno

Andrew Hutton



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Question 1 :

Can we and should we extend the Spanish 'Ineustar' model to European Science Industry ?

Key Technology Areas identified in the WP2 :

1. Particle sources
2. 'High precision' magnets
3. High field SC magnets
4. Normal Conducting RF cavities
5. SRF structures
6. Radio Frequency power sources
7. Cryogenics
8. Beam instrumentation

Question 2:

Are the 8 Key Technology Areas well identified, and does the European Science Industry need to reinforce its strength on a few of them?

3.6. The goals of the Collaboration are to:

- Found a joint European Technology Infrastructure dedicated to the development, testing and production of accelerator components and superconducting (SC) magnets
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Question 3:

Are these goals attractive enough to stimulate the participation of European Science Industry, and how should partnership and liaising be organized?

The *Industrialization*-related activities aim at keeping European Science Industry at the forefront of the international competition, in terms of technology, quality and costs, in view of the construction of future scientific research instruments in Europe and elsewhere.

Question 4 :

Is there some other crucial aspect of Industrialization of Research Infrastructures which is not scrutinized by WP5?

Our overarching goal should be to gain the support of the EC and Agencies to our findings and proposals.

For that, we have to:

- 1) Demonstrate the central and irreplaceable role of the Technology Infrastructure for the European Research Infrastructures, and
- 2) Demonstrate its benefit to European Science Industry.

Question 5 (optional):

Do you have any suggestion how to reinforce these 'demonstrations' ?

A European Forum on accelerators and magnets Tl gathering scientists, engineers and industry that will be organized in Brussels on **Month 24** to present the work done in the different WPs and discuss the long-term strategy for TIs

Question 6 (optional):

Do you have any suggestion about the content and the format of this forum ?