Large research infrastructures' technology, knowledge and service transfer to industry, key aspects

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CERIC-ERIC

A distributed Research Infrastructure, with a single entry point to nearly 50 complementary instruments and techniques for multidisciplinary research in all fields of advanced materials, biomaterials and nanotechnology.

Austria, Czech R, Croatia, Hungary, Italy, Poland, Romania, Slovenia and soon Serbia have included their best available laboratory, allowing them to be open for international open access.

CERIC operation is supported by each Country investing in its laboratory and in joint excellence.

STRUCTURE:
Participating Country (member)
Representing Entity
Partner Facilities
Structural investigation, analysis, synthesis and imaging of materials and biomaterials down to nano-scale, using photon, electron, neutron and ion based techniques, and preparation facilities in structural biology, photolithography and materials preparation.

- Neutron research beamlines in Budapest
- Synchrotron radiation beamlines in Trieste
- Laboratory scattering facility in Graz
- Tandem accelerator facility in Zagreb
- Surface science laboratory in Prague
- Electron spin resonance and electron microscopy in Bucharest
- Nuclear magnetic resonance facility in Ljubljana
- Support Laboratories In Trieste:
  - NanoInnovation Laboratory
  - Structural Biology Laboratory
• **Single entry point** for multi-technique approach: **unique at world level**;

• Possibility to ask for **several instruments** in a single proposal;

• **Non proprietary research:**
  • **Free and open access** based on **external peer evaluation**;
  • Access to **support laboratories**;
  • **Mobility support** for 2 users per measurement;
  • **Support** in proposals preparation;
  • **Awards** to the best publications;
  • **Dissemination** of research impact to the community.

• About **150 Users/year from over 40 Countries**
Large research infrastructures: what industry expects
Main factors with a high potential to support R&D and innovation according to industry:

• Increasing collaboration and outsourcing opportunities with the public sectors: 62.2%
• Improving access to public research centers, laboratories and infrastructures: 52.4%

Business–research infrastructures collaborations are nowadays viewed as key factors in bringing R&D results to companies

The 2016 EU Survey on Industrial R&D Investment Trends, 2016
RIs- Impacts on industry

Industrial Stakeholders

- Technology and innovation opportunities
- Business procurement opportunities
- Possible Proprietary use
- Industry-research collaboration
RIs-Industry key aspects

ECOSYSTEM

FOCUSING ON THE BENEFITS TO INDUSTRY AND THE CHANGES IN INDUSTRY THINKING AND BEHAVIOUR AS A RESULT, NOT ON REVENUES

ANALYZING AND SUPPORT AN ENTIRE ECOSYSTEM THAT CONTRIBUTES TO INDUSTRY DEVELOPMENT AND CREATION OF NEW BUSINESSES THOROUGH TECHNOLOGY AND KNOWLEDGE TRANSFER, AND SERVICES
ECOSYSTEM: 3 Pillars

- Attract researchers from across the globe
- Ties between facility and regional universities and research institution
- Tools to grant benefits to both SMEs/LE
- Interacting within and outside the organization
- opening routes to other markets/cross innovation
- Support new spin-off/startup businesses
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Model with industry
Widenning opportunities

Expanded knowledge

Creating trust

UNIQUE ACCESS POINT TO MULTIPLE SOTA ANALYTICAL METHODS AND INSTRUMENTS

NETWORK AND PLATFORM TO WIDESPREAD INNOVATIVE SOLUTIONS FOR TECHNOLOGY TRANSFER

SUPPORT TO FIND PROPER PARTNERS, FINANCING INSTRUMENTS AND PROPOSAL WRITING

OPPORTUNITY TO TAKE PART TO ADVANCED DEVELOPMENT RESEARCH

SHARING OF KNOWLEDGE IN SOTA TECHNIQUES TO MAXIMIZE THE INDUSTRY CAPABILITIES

Commercial Access: Holistic view

- widening opportunities
- expanded knowledge
- creating trust
CERIC collaborates with industry, contributing to science-driven innovation.

Services for commercial users are offered on market-based conditions and include:

- **Research and Development (R&D)**, through:
  - Access to instrumentation
  - Contract research
  - Joint application for projects
- **Training**
- **Spin-off and start-up support**
- **Innovations’ marketplace**

CERIC collaborates with industry, contributing to science-driven innovation.
The continuing drive for intelligent multi-function intelligent multi-function for metal industry. CERI
grades of metals and all Main beamlines, instrum
TOF, PGAA, NAA, PEEM

Examples of potential solutions:

- **Microstructures Characterisation and Behaviour of Metals**
- **Composition and Structures/Microstructures of Alloys**
- **Defects and Damages**
CERIC-Industry key aspects

- **Wider knowledge and Trust**: giving the chance to industry to access with different kind of services and conditions according to their needs and to the type of company (LE, SME)

- **Multinational**: intrinsic advantage of being a multinational consortium. SMEs usually tend to go local

- **Transversal and cross fertilization effect**: CERIC network relates to the different part of the value chain of several sectors and enhance multisectoriality
RESEARCH PROJECT

CONTRACT RESEARCH

New detecting system. We proposed a complete new solution for a specific company on new detecting system for their quality and process control. One of our PFs takes charge of the entire project. New technology will be created that can be introduced to the market.

Other stakeholders of the sector value chain to be involved in order to offer a complete solution.

CERIC also provides them with new knowledge that the company will evaluate to use in other fields of its business.
CERIC-Industry cases examples

ANALYTICAL SERVICE

Targeted analytical services for new APIs of a pharmaceutical company. CERIC acts as a coordinator of the project. Apart from the analytical services, new knowledge on how to interpret some analytical data. Repeated collaboration due to the complementary knowledge we can offer.

INDUSTRIAL PhDs TRAINING

Training and workshops on the opportunities for industrial researchers in order to enhance their knowledge on CERIC solutions.