



Surface Physics

Scientific Applications and Technology Transfer

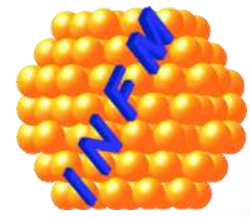


Elettra Sincrotrone Trieste

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SOLARIS
NATIONAL SYNCHROTRON
RADIATION CENTRE



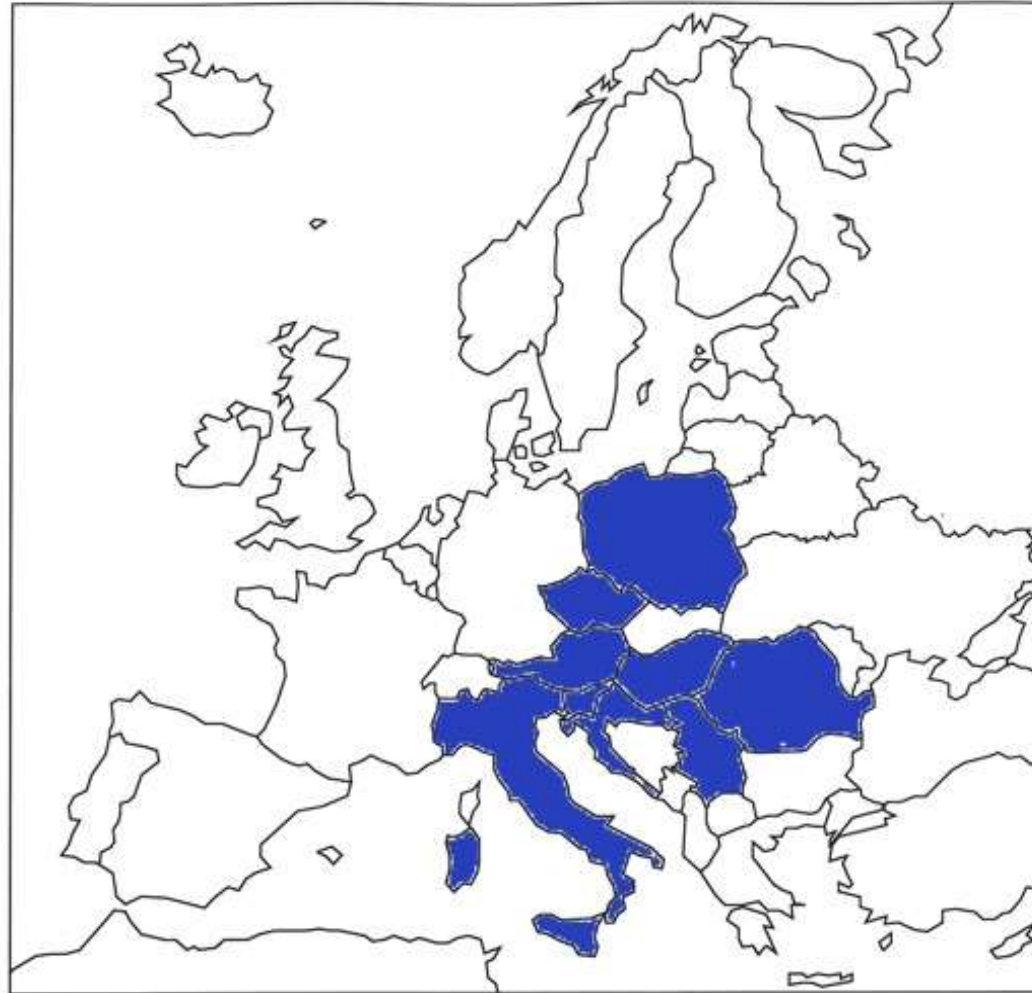
- **General about CERIC-ERIC and Partner Facilities**
- **General about Industrial Liaison and Technology Transfer Possibilities**
- **Scientific Industrial Applications**
- **Conclusion**

- CERIC is a distributed research facility, set-up by nine countries (Austria, Croatia, Czech Republic, Hungary, Italy, Poland, Romania, Serbia, Slovenia), open to other interested countries.
- Its scientific and “political” scopes:
 - Support excellent research in the field of nano-level analysis and synthesis of materials
 - Build competences in the central European region.
- The present statutory seat is in Trieste (after bidding: evaluation + bidding every five years)



General about CERIC-ERIC and Partner Facilities

Austria, Croatia, Czech, Hungary, Italy, Poland, Romania, Serbia, Slovenia



Italy

- Photon source at Elettra synchrotron in Trieste
- Various Beamlines from X-ray (Diffraction and absorption) over X-ray microscopy to UV-VIS spectroscopy as complementary methods to the other partner facilities.



Austria

- The Austrian contribution is based on instrumentation owned by the TU Graz: a National Support laboratory in Graz consisting of a complete sample preparation and offline characterization laboratory (Dynamic Light Scattering, offline SAXS, etc.).
- The Small Angle X-Ray Scattering (SAXS) Beamline at Elettra



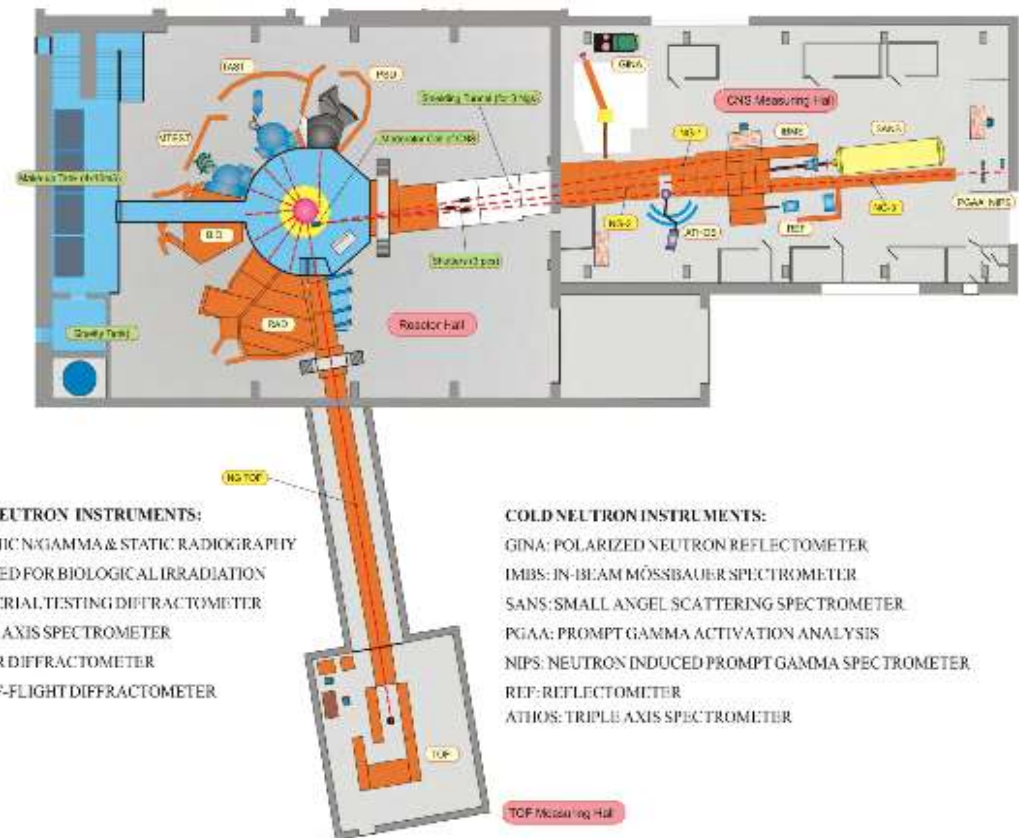
Czech Republic

- The Czech contribution is a National support laboratory in Prague consisting of a complete surface science laboratory (XPS, STM, DLEED, SIMS).
- The material science beamline at Elettra run by a group of the Charles University in Prague.



Hungary

- The Hungarian contribution is a set of instruments at the Budapest Neutron Center (BNC) such as:
- Small Angle Neutron Scattering (SANS) (complementary to SAXS)
- Prompt Gamma Activation Analysis, PGAA
- Neutron-Induced Prompt-gamma Spectroscopy (NIPS)
- GINA polarized-neutron reflectometer, and others.



Romania

- High resolution Transmission Electron Microscopy (TEM) for nano-level structural analysis of particles and thin-films.
- Electron Spin Resonance (ESR) for atomic structure characterisation of advanced materials.



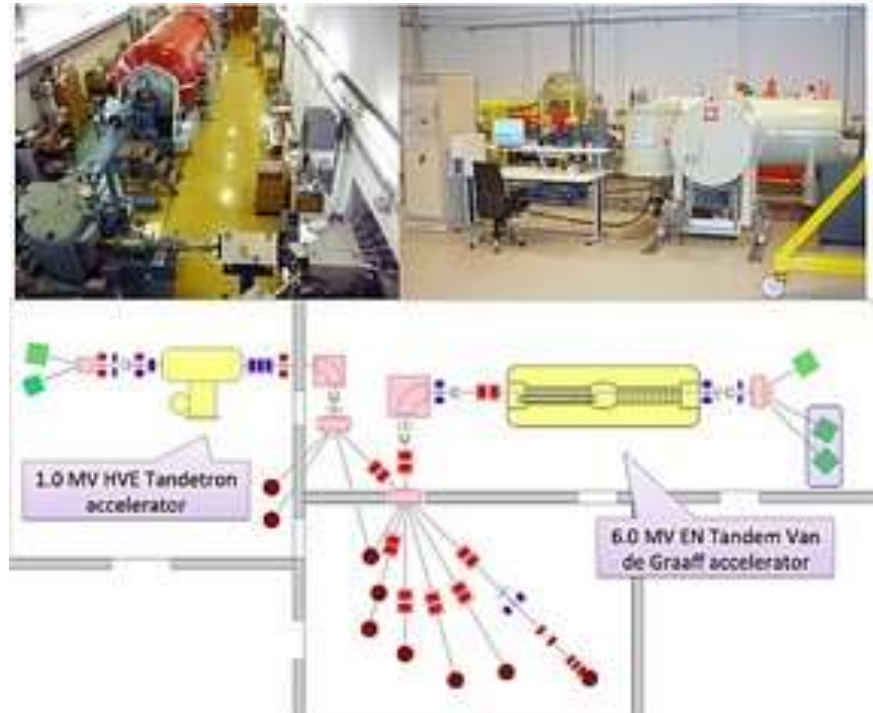
Slovenia

-The Slovenian contribution was selected at National level and is based on the NMR center in Ljubljana which offers, among others, protein structural determination. Complementary to small angle scattering (SAXS and SANS) and to x-ray diffraction methods.



Croatia

- Tandem Van de Graaf accelerator at Ruder Boskovic Institut in Zagreb.
- Ion beam analysis for elemental depth profiling in the near-surface layer of solids.





General about Industrial Liaison and Technology Transfer Possibilities

Going for the General Efforts:

- Communication and Network
- Information Gathering
- Business Development
- Intellectual Properties Licensing
- General Negotiation of Projects and Project Management
- Technology Commercialization

CERIC ensures and supports an active integrated network of the existing Technology Transfer offices operating in the Partner Facilities, and the appropriate training and sharing of know-how to maximize the overall capabilities.

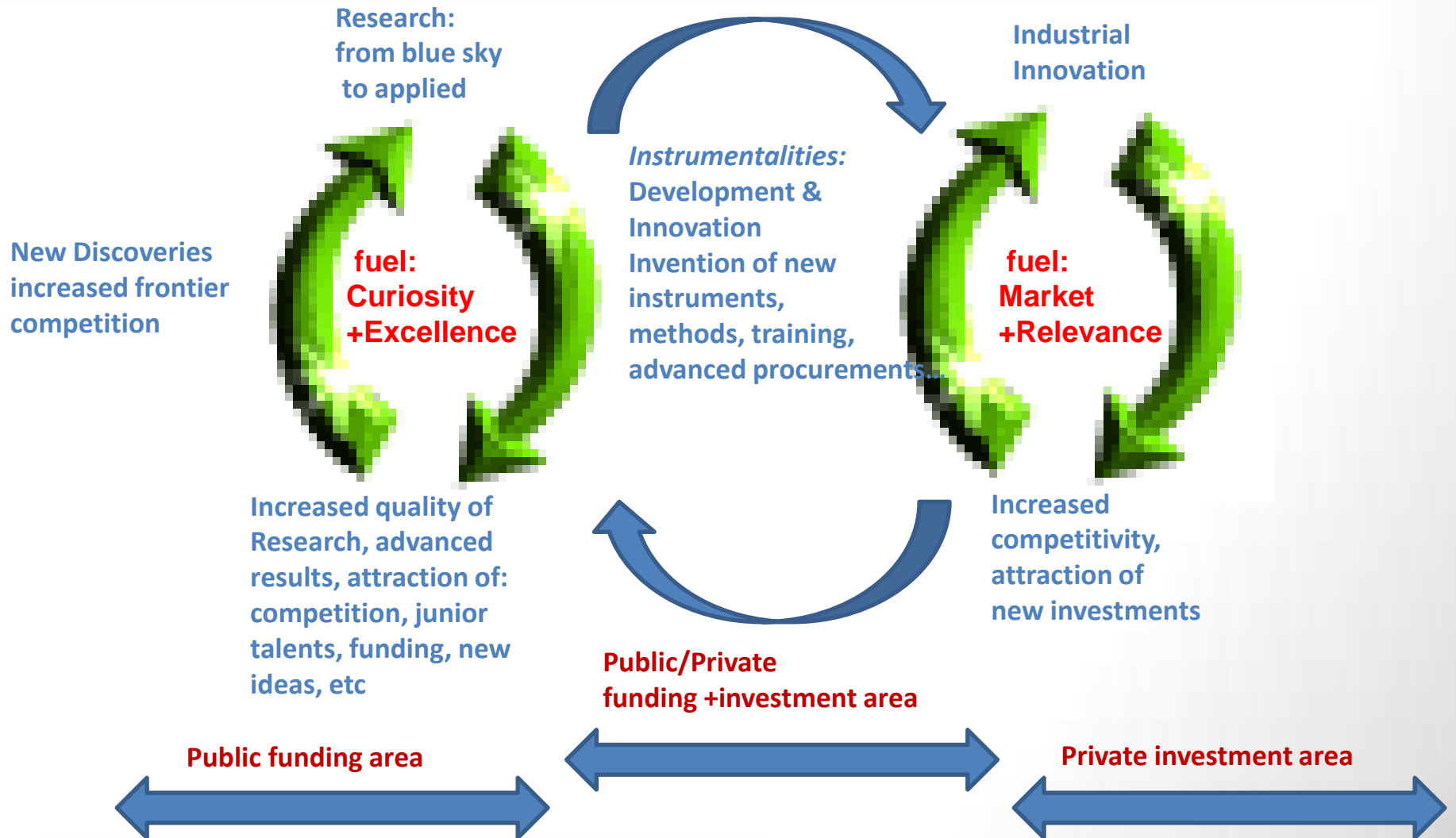
Challenges:

- ✓ Define the model of collaborations between Technology Transfer in the Partner Facilities



- ✓ Define the Focus of the Technology Transfer activities:
 - Achieve of Integrated Analytical Measurements or Instrumentation Development?

General about Industrial Liaison and Technology Transfer Possibilities (Research & Innovation)



- **Generating industrial support for ongoing applied research projects**
- **Facilitating the transfer of technology from the laboratory to the marketplace.**
- **Patent protection for new technologies**
- **Licensing new technologies to ensure full commercial application**
- **Building an equity portfolio of companies around new technologies**
- **User Access: Multiple point or One Point of Access for all**

Thank you

