

The League of advanced European Neutron Sources

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Members of LENS

- Budapest Neutron Centre, Hungary
- European Spallation Source, Sweden
- Forschungszentrum Jülich, Germany
- Heinz Maier-Leibnitz Zentrum, Germany
- Institut Laue-Langevin, France
- Institute for Energy Technology, Norway
- ISIS Neutron & Muon Source, United Kingdom
- Laboratoire Léon Brillouin, France
- Paul Scherrer Institute, Switzerland



LENS will be open to any neutron provider in Europe running an open international user programme for the majority of the beam time provided and adhering to LENS' principles



Ensuring the success of research and innovation missions through the coordinated contribution of Europe's advanced neutron sources

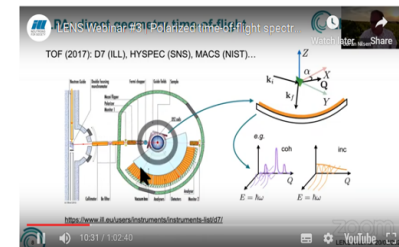
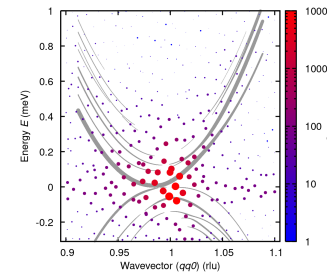
The innovation that gives rise to new and improved materials—from tissue scaffolds that support surgical reconstructions to wire cables that support suspension bridges—underpins many of the Pillar II clusters of the Horizon Europe programme, including health, industry, energy and food.^{3,2} This materials development is itself underpinned by the network of technical capabilities and human skills in the universities and research institutions that comprise the European Research Area. A particular strength of this network lies in the major national and European research infrastructures, which through their multi-actor, bottom-up approach enable a broad range of world-leading materials research by the expert communities that use them.



Our Ambitions

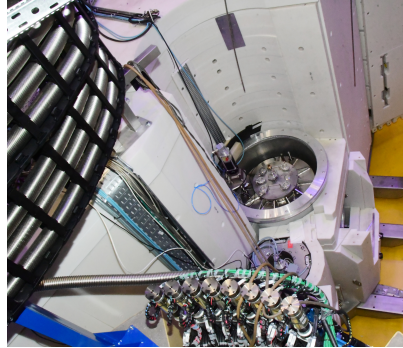
Tangible achievements in the following areas:

- Promotion of the science done with neutrons
- Raising the attention with funders
- Common development of science-driven instrumentation
- Common Strategy including future sources
- Strategic Partnerships (e.g. LEAPS and beyond)



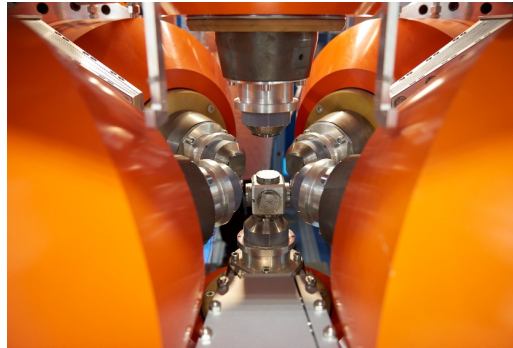
Staying fit for the future

PSI:
Full upgrade of the guide system, ...

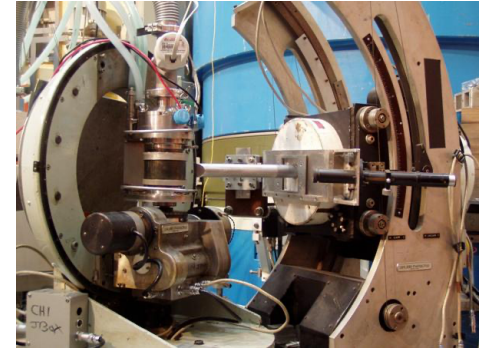


ISIS: 1st target station upgrade, ...

ILL:
Phase II of the Endurance Programme, ...

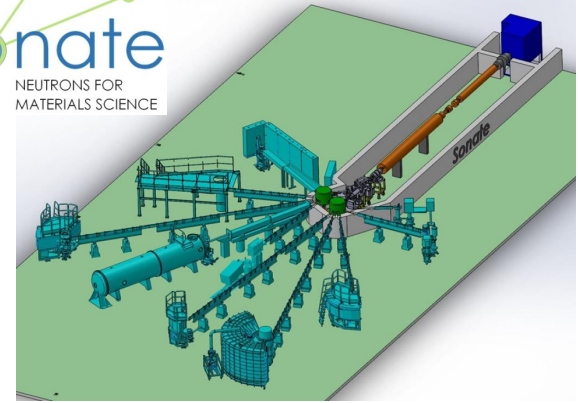


MLZ: Full infrastructure upgrade
Guide Hall East, ...



BNC: Instrument and
cold source upgrades, ...

Staying fit for the future





As timelines are long we have to think beyond the next decade.

- What is the business case for Compact Accelerator Driven Neutron Sources (CANS)?
- When is there a need to build new powerful national neutron sources complementing ESS?
- Should we concentrate on accelerator-driven sources or is there a strategic need for reactor sources?

The image shows two diagrams of neutron source projects. The left diagram is labeled 'HBS' and shows a complex arrangement of blue and yellow components. The right diagram is labeled 'NOVA-ERA' and shows a more compact arrangement of components.

The High Brilliance Neutron Source (HBS) Project

Thomas Brückel, Jülich Centre for Neutron Science JCNS

Mitglied der Helmholtz-Gemeinschaft UCANS 8 – Paris – July 8 – 10th, 2019  

Collaboration with LENS members

Fully Imbedded into the international environment

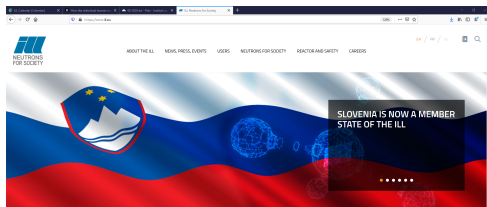
Two distinctly different business models for collaboration:

- The European facilities ILL and ESS rely on a membership model that is open to international partners. Beam time is allocated on the criterium of excellence but then adjusted within a frame that is set by the financial contributions.
- The national facilities welcome international partners via collaboration agreements that may include access to beam time and the operation of specific beam lines.



Full Scientific Membership: the ILL example

- Three Associates: France, Germany, United Kingdom
- Eleven Scientific Members
- Two Billion € replacement value
- An annual budget of approximately 100 M€

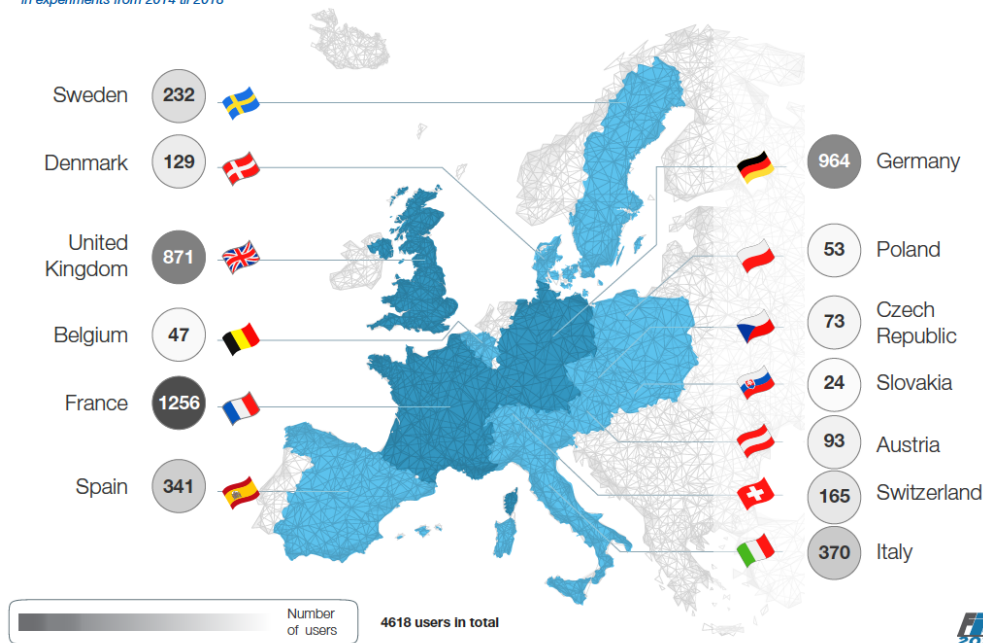


The world's leading facility in neutron science & technology

Neutron user community at the ILL

Based on the unique users involved in experiments from 2014 til 2018

You will hear from ESS tomorrow



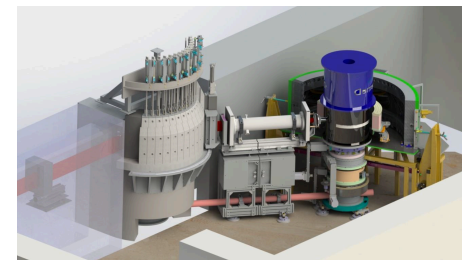
Full Scientific Membership: the ILL example

Full commitment to develop the strength of our partners.

Access to a service going way beyond beam time provision:

- Building the community via PhD and Post-Doc programmes
- Developing scientific, technical and methodological skills within the member country
 - Training of both expert and non-expert- users on the job or via dedicated visitor programmes
 - Possibility to detach staff or get it employed by ILL
 - Possibility to operate CRG instruments
 - Participation in ILL upgrade projects
 - Access to ILL's technological know-how
- Outreach to the member country's industry as a client and supplier.

Students of
1st round of
InnovaXN



Spanish CRG instrument XtremeD
as part of the Endurance upgrade

The questions to ask

What do we expect from the partnership or collaboration in the context of our national strategy?

- What kind of access do we need (type of instruments, volume of use, modality) and where can it be found?
- Over what period?
- Can we build on existing collaborations?
- Can we build up a critical mass?
- Is distance really an issue in times where experiments can be done remotely?



www.lens-initiative.org

contact@lens-initiative.org

Thank you

Helmut Schober