

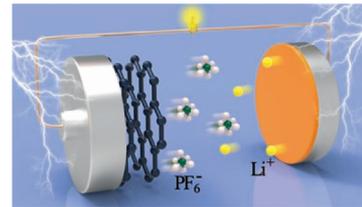
# Strengthening the European Neutron Ecosystem

Château Liblice  
26. March 2016

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Director ILL, LENS Chair

# Securing a bright future

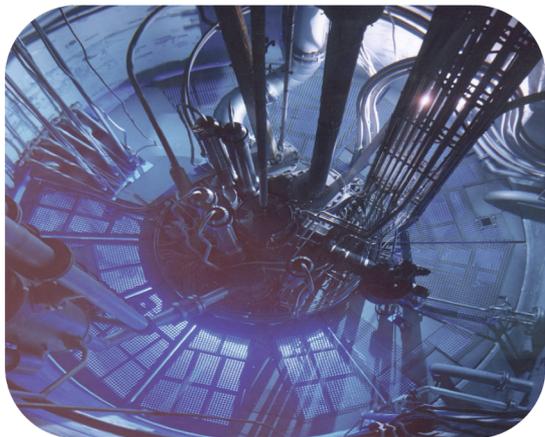
- Our societies are enjoying an outstanding standard of living.
- This achievement is the fruit of scientific technological progress.
- Preserving this standard of living and sharing it with the rest of the globe, whilst preserving the environment is one of the great challenges of our times.
- Responding to this challenge will require even better technology.
- The technology of the future will be based on the materials developed today.
- The expectations are very high.



# Providing the right tools

- Materials research requires analytical tools for investigation.
- In a competitive world you want the best tool for the job at hand.

## Neutron sources



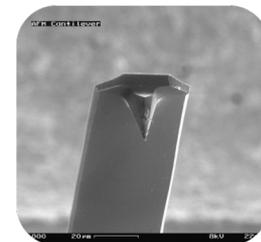
## Light sources



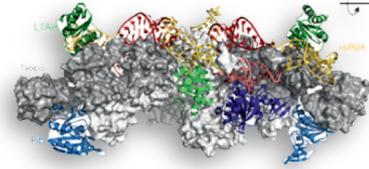
## NMR



## Microscopy

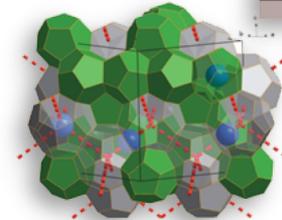
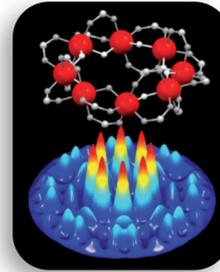
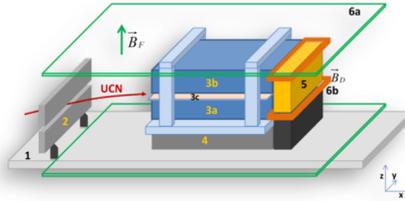
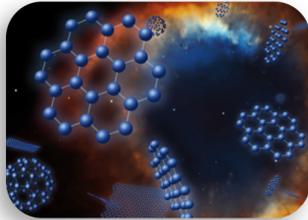
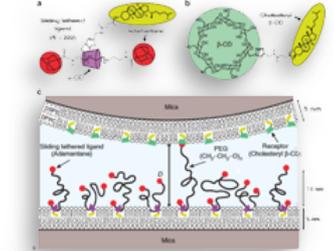
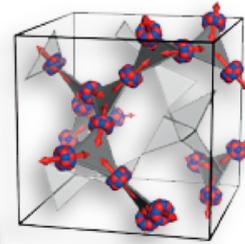
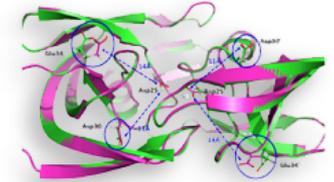


# The strategic importance of neutrons

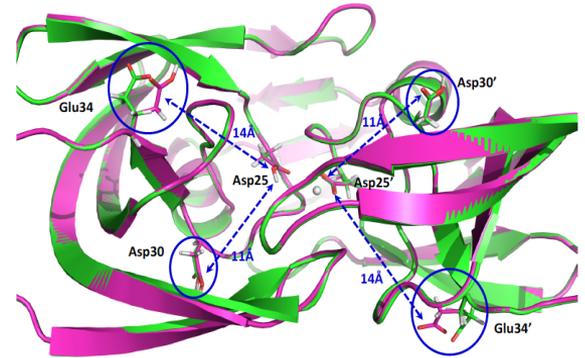
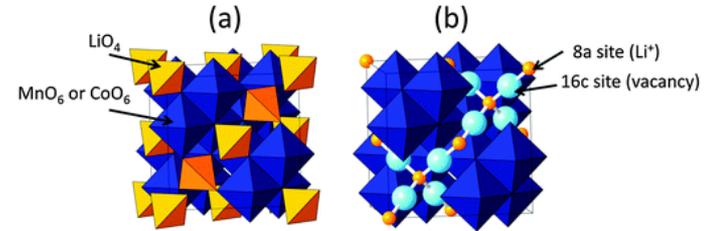
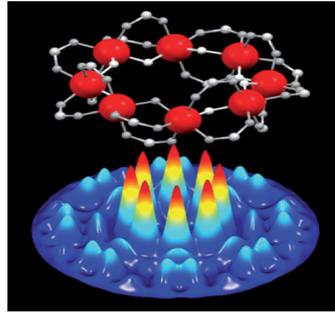
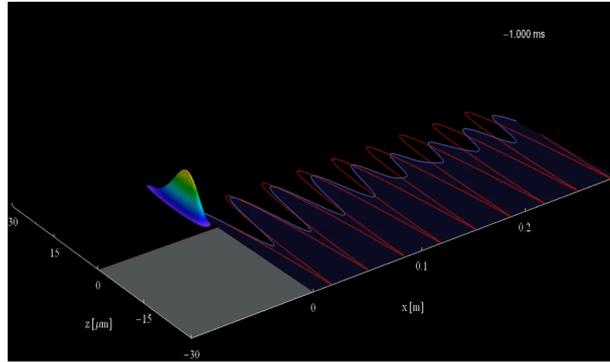


Neutron probes are a unique tool and have an outstanding track record in investigating technologically relevant materials and answering pressing scientific questions:

- advantageous magnetic properties
- sensitivity to light elements
- possibility to investigate also big samples .....

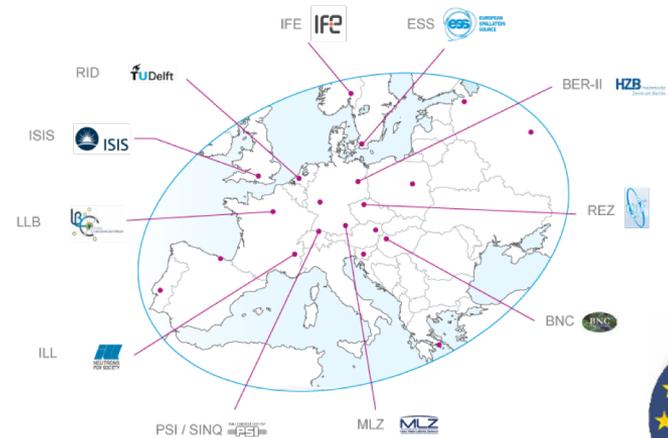


# An enormously broad spectrum of application: From understanding dark energy to curing AIDS



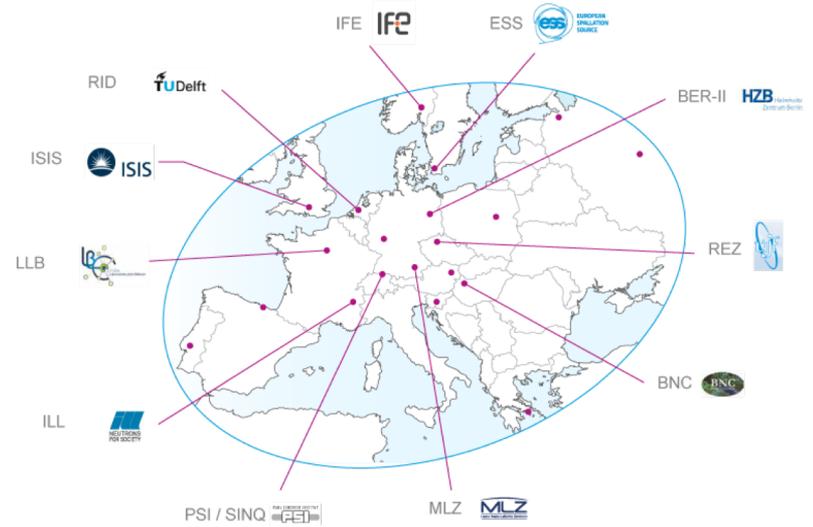
# An established European leadership

- Since several decades Europe holds a global leadership in the field of neutron science.
- This is the fruit of a functioning eco-system:
  - a strong network of facilities coupled with
  - a vibrant user community through
  - a service oriented business model.



# A long tradition of collaboration

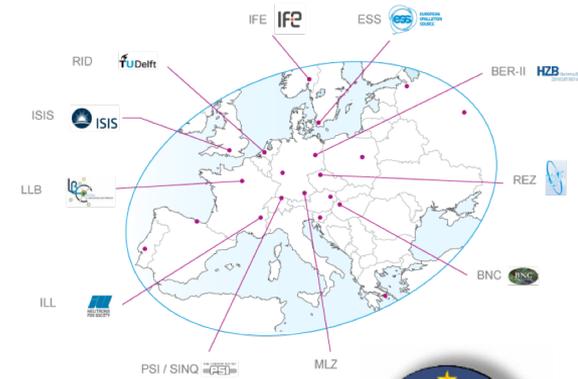
- European neutron facilities have a strong tradition of collaboration.
- This collaboration has profited strongly from the support of the National Funders and of the European Commission through the different framework programmes.



# LENS: The step forward towards a strategic alliance

Aligning the strategies in the spirit of enhancing the output:

- The League of Advanced European Neutron Sources will facilitate any form of discussion, decision-making process and collaborative effort that has the potential to strengthen European neutron science via enhanced collaboration among the facilities.
- It thus will help optimizing the use of our precious resources in the interest of the overall scientific output.
- This will naturally be done in close consultation with the user community.



The European Neutron Scattering Association



# Partners in LENS

- Budapest Neutron Centre, Hungary
- European Spallation Source, Sweden
- 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
- Forschungszentrum Jülich, Germany



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.



# Meeting the expectations

## Creating impact in a changing world

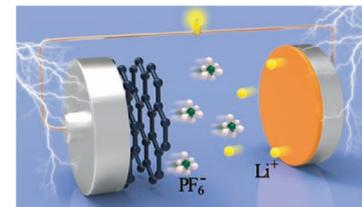
- Neutron Science has a proven track record in tailoring its services to changing demands from academia (and industry).
- Our customers undergo drastic transformations. We have to accompany them by helping them to give answers always closer to the demands of our society.
- We have to actively prospect for new users and develop adapted services for them.

### Differentiation

Dig as deep as you can in your field of expertise.

### Integration

Make sure that your field of expertise feeds into the important projects.

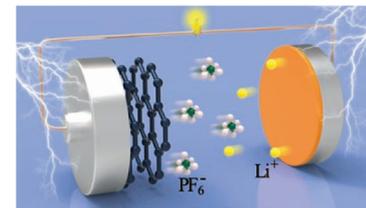


# Meeting the expectations

## Creating impact in a changing world

Together we are stronger in taking up the challenge.

- LENS will help develop a common strategic approach in order to offer a coherent set of optimized services to an increasing number of clients from academia and industry.
- We have to create strong links with the projects working on the big challenges and societal missions.
- Hopefully we succeed to this end in developing innovative result-orientated funding tools with the European Commission and national funders.
- LENS deliverables (within the next 24 months)
  - Successful branding of LENS within an enlarged user community
  - Successful projects with the European Commission and National Funding Bodies

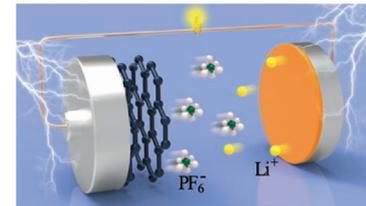


# Meeting the expectations

## Securing our world-leading offer

We have to succeed our current projects and plan for the future.

- Start operation of ESS as soon as possible
- Keep ILL at optimum performance level for the next decade
- Develop network of our national facilities
- Develop common technology including FAIR data, AI, high-field magnet with a clear focus on scientific output.
- Reflect on future sources and in this context clarify the role of Compact Sources.
- LENS targets (24 months):
  - Position paper on CANS comprising both a technical and a business case.
  - Publication of a science based instrument technology roadmap and first successful implementations of that road map.



# The next steps

- Today: Statutes signed, structure established
- LENS is being operational!
  - Joint technology development
  - Strategy development
  - Branding and visibility
- Establish close link to LEAPS
- Next meeting of General assembly ...



# Special thanks to ...

- ... the ESFRI chair (**Jan Hrusak**) for letting LENS hold this event in the Château and in connection with the ESFRI forum – representing our funders and associates
- ... the ESFRI Support Office (namely **Olga Bohuslavova**) for the immense support on organising this event
- ... **Renata Liskova** from Château Liblice
- ... **Eszter Lencses, Lenka Petkova, Erika Lundqvist, Ute Gunsenheimer** (ESS) for all the preparation and organisation throughout this day
- Ralph Dieter (ILL/FZJ) for bringing everything nicely together.



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Thank you

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