



◀ Photo left: View to a modern X-ray diffractometer. An outstanding feature of the X-ray CoreLab is the in-situ analysis of structural phase transitions, the investigation of structure, microstructure and texture of thin layers, as well as the analysis of internal tensions in materials.

HZB CoreLabs

The mission of HZB focuses on energy materials research for a sustainable, economic and secure energy supply in the future. To ensure and strengthen our position on this topic we establish a new CoreLab platform dedicated to research and development of new and improved materials for energy conversion and storage applications as well as energy-efficient future IT. These CoreLabs provide state-of-the-art laboratories and unique equipment and will serve the wider scientific community by offering services and user access to external academic and industrial partners.

EMIL

Energy Materials
In-situ Laboratory
Berlin at BESSY II

CCMS

Correlative
Microscopy and
Spectroscopy

X-Ray

Various X-Ray
diffraction sources

HySPRINT

Hybrid Silicon
Perovskite Research,
Integration & Novel
Technologies

PVcomB

Competence Centre
Thin-Film- and
Nanotechnology for
Photovoltaics Berlin

Quantum Materials

Crystal growth and
characterisation,
transport properties,
SQUID

AT A GLANCE

HZB is a research centre for energy materials research and contributes to knowledge-based solutions to great societal challenges. Research topics are thin film materials for energy conversion (Photovoltaics), energy storage with solar fuels and energy efficient future information technology.

By integrating excellent research with the operation of dedicated infrastructures – like the synchrotron radiation source BESSY II, dedicated CoreLabs and Joint Labs with universities – HZB is creating a unique research environment.



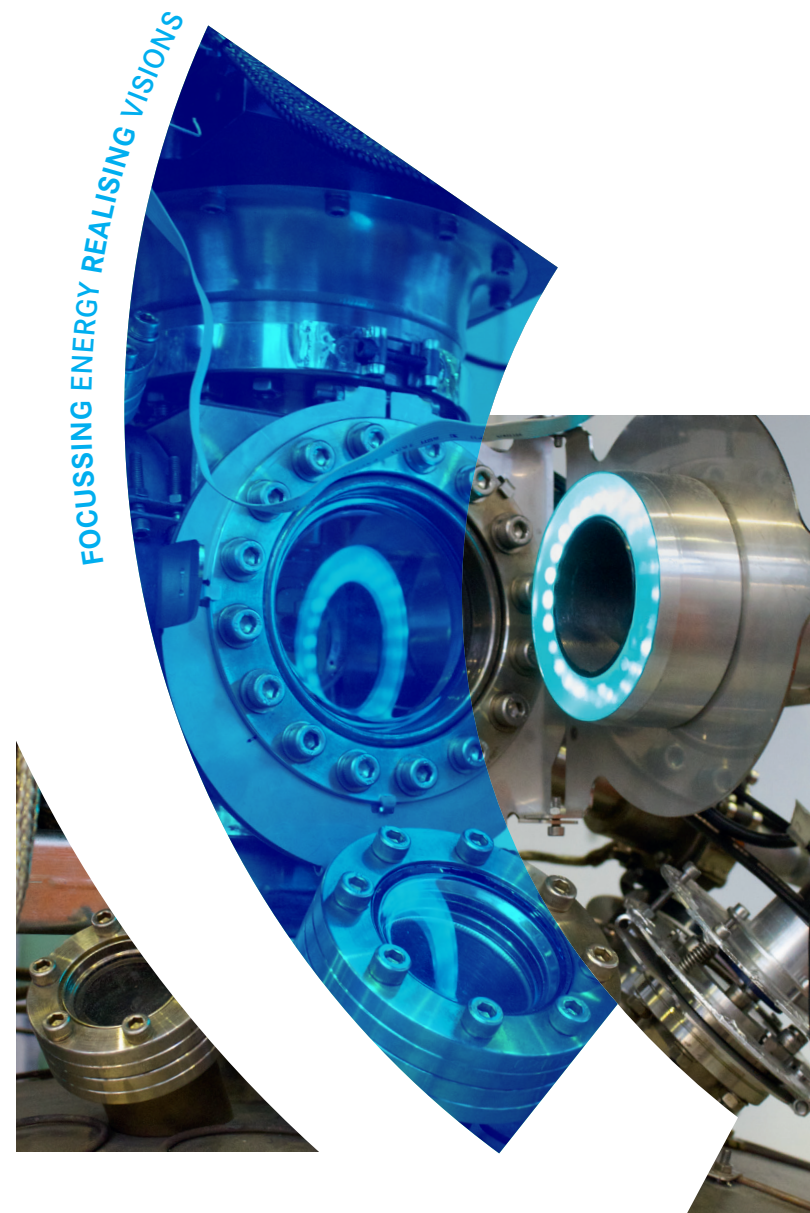
HZB QUICK FACTS

- Approximately 1,200 staff
- Total budget amounts to approx. 146 million Euros
- About 100 PhD students candidates from neighbouring universities
- HZB is collaborating with about 400 different German and international universities, research institutes, and companies
- HZB is a member of the Helmholtz Association

Photo-Credits: HZB; aerial view from Dirk Laubner

www.helmholtz-berlin.de

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MORE THAN A SYNCHROTRON

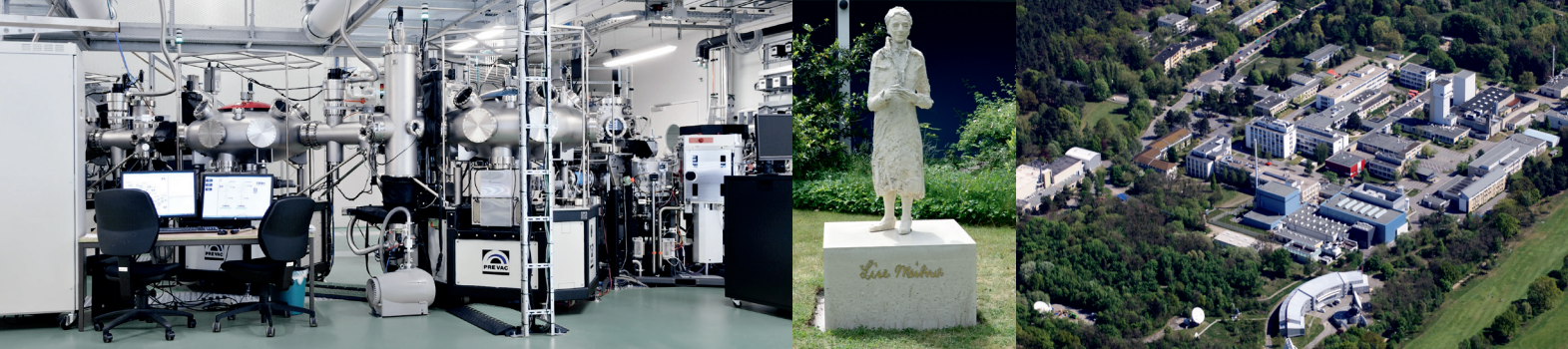
HEMF and CoreLabs

New infrastructures
for current and future users

CONTACT

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Please find more information
on: <http://hz-b.de/corelabs>





◀ Photos left: View into the EMIL Lab (left) and aerial view to the Lise-Meitner Campus of HZB in Wannsee (right).

HEMF

THE HELMHOLTZ ENERGY MATERIALS FOUNDRY

The Helmholtz Energy Materials Foundry (HEMF) is envisaged as a new large-scale collaborative research-and-development platform dedicated to the synthesis of new and improved materials for energy conversion and storage applications. It will consist of state-of-the-art laboratories and equipment to be added to existing facilities that are distributed over the six participating Helmholtz centres.

HEMF will serve the scientific community by offering services and user access to external partners. The scientific focus of the foundry will be on materials and applications in the field of solar cells, solar fuels, fuel cells, batteries, thermoelectrics and thermochemistry, with catalysis as an overarching theme. HEMF will be operated as an international user facility for both academic and industrial partners. Each participating Helmholtz centre will offer

facilities that optimally enhance its existing scientific infrastructure, and provide the best match to its established expertise.

As the coordinating centre, HZB will maintain a central web-based access point that informs the users of the capabilities and possibilities offered by the HEMF platform.

CONTACT

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Please find more information on: www.hemf.eu



HZB CoreLabs

A NEW MULTI-USER PLATFORM

PVCOMB

provides top-level development and technology transfer. In co-operative R&D projects with academia and industry all aspects of thin-film photovoltaics are addressed.

QUANTUM MATERIALS

offers a suite of instruments and methods for the synthesis and the investigation of crystalline materials for energy and information technologies, with focus on quantum effects and magnetism.

EMIL

is a preparation and analysis laboratory for a variety of energy materials. EMIL provides five endstations and three beam lines with soft and hard X-rays (80 eV – 10 keV). EMIL comprises all characterisation and deposition facilities in one integrated UHV system.

X-RAY DIFFRACTION

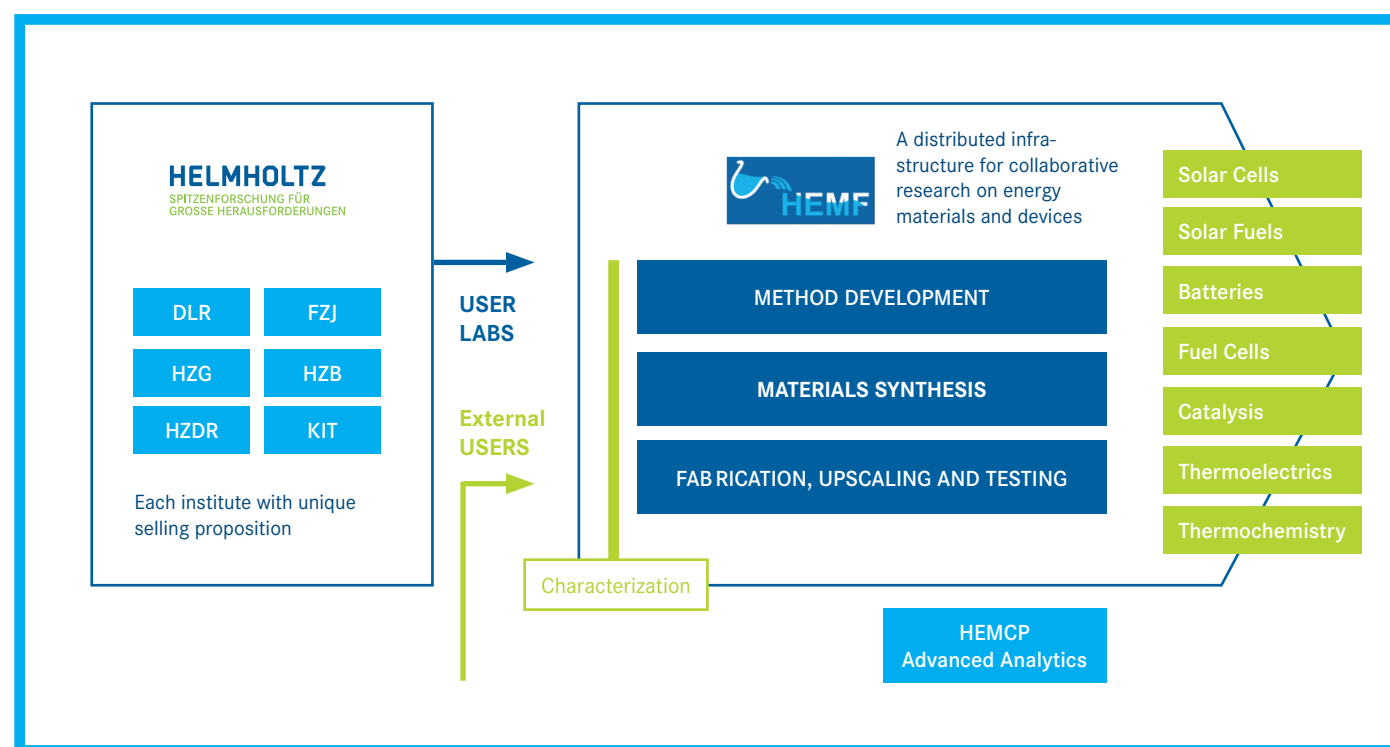
covers different X-ray diffraction methods focusing on in-situ studies of phase transitions and texture analysis. In addition two high-flux Metaljet X-ray sources open up new scientific fields.

CCMS

allows cutting-edge research on novel materials with the most modern ZEISS electron microscopes available. CCMS is participating in the ZEISS labs@location programme.

HYSPRINT

is a Helmholtz Innovation Lab focusing on hybrid materials based on silicon and perovskites. These promising new compounds will be used for energy conversion in photovoltaics as well as for solar hydrogen production.



HEMF is a new large-scale collaborative research-and-development platform operated by 6 Helmholtz centres.