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## HiCANS neutron sources – The HBS project for a new class of accelerator based neutron sources

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Accelerator driven neutron sources with high brilliance neutron provision present an attractive alternative to classical neutron sources of fission reactors and spallation sources to provide scientist with neutrons to probe and analyze the structure and dynamics of matter. With the advent of high current proton accelerator systems, a novel class of such neutron facilities can be established termed High-Current Accelerator-driven Neutron Sources (HiCANS). Basic features of HBS are a high current proton accelerator, a compact neutron production and moderator unit and an optimized neutron transport system to provide thermal and cold neutrons with high brilliance and a full suite of high performing epithermal, thermal and cold neutron instruments.

The Jülich Centre for Neutron Science is leading a project to develop, design and demonstrate such a novel accelerator driven High-Brilliance neutron Sources (HBS). The project aims at construction of a scalable neutron source for a user facility with open access and service according to the various and changing demand of its communities. Embedded within an international collaboration with partners from Germany, Europe and Japan the Jülich HBS project offers best flexible solutions to the scientific and industrial users. The overall conceptual design as well as the technical design of HBS as blueprint of a HiCANS facility was published in a series of recent reports.

The current status of the project, progress and next steps regarding accelerator, target, moderators and beam delivery, milestones and its impact on the vision for future neutron landscape will be presented.

### Attendance Type

Remote

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