

EUROPEAN SPALLATION SOURCE

The European Spallation Source ESS is one of the largest science infrastructure projects being built in Europe today. Designed to generate neutron beams for science, ESS will benefit a broad range of research, from life science to engineering materials, from heritage conservation to magnetism.

The facility design includes a linear proton accelerator, a tungsten target station, twenty-two state-of-the-art neutron instruments, a suite of laboratories, and a supercomputing data management and software center.

The facility will be built in Lund, Sweden, next to the world-leading synchrotron light source MAX IV currently under construction, and with the data management centre located in nearby Copenhagen. It is anticipated that two to three thousand guest researchers from universities, institutes and industry will visit ESS each year, making use of the range of neutron instruments to solve their scientific questions.

With seventeen member countries, this next-generation research facility is being created through the collective effort of hundreds of scientists and engineers around Europe and worldwide. Together, they have developed and specified a technical design



of the facility, including the accelerator, the target and instrument concepts. This resulted in the delivery of the ESS Technical Design Report and Project Specification in 2013. The technical design work continues as construction approaches.

ESS will be built on a green-field site, a challenge which brings with it great potential, for society as well as for science. As a facility built from the ground up in the 21st century, ESS will be constructed and operated with high ambitions for environmental sustainability.

ESS interacts with the international research

community in order to ensure that the instrument suite meets the needs of science, enabling the break-throughs of tomorrow. Instrument concepts for ESS are being developed around Europe, making this a facility built by the scientists, for the scientists.

ESS will break ground in 2014, and deliver first neutrons by the end of the decade.



EUROPEAN
SPALLATION
SOURCE