

Facts about European Spallation Source (ESS)

- ESS is a multi-disciplinary research facility based on the world's most powerful neutron source, where neutrons will be generated through spallation. These neutrons are used to study materials on an atomic and molecular level using tailor-made instruments.
- All materials consists of atoms and the neutrons are found in the atomic nucleus. Since the 1930s, it has been possible to study different structures with neutrons, which penetrate deeper than X-rays and can handle both dense and wet materials, as well as different structures within a material. A significant advantage is that the sample is not destroyed by the experiment. This allows the analysis of very sensitive materials, such as archaeological artifacts.
- The neutrons are used in a wide range of research fields, such as life science, materials science, archaeology, and energy, and open up for scientific breakthroughs within:
 - Medicine
 - Environment
 - Climate
 - Communication technology
 - Transport
- ESS is organised as a European Research Infrastructure Consortium (ERIC) with Sweden and Denmark as host countries and member countries across Europe. The members are Denmark, Estonia, France, Germany, Italy, Norway, Poland, Switzerland, Spain, the United Kingdom, Sweden, the Czech Republic and Hungary.
 - 47.5% of the construction cost, which total €1.84 billion₂₀₁₃, are covered by the host countries, Sweden and Denmark.
 - Estimated annual operation cost: €140 million₂₀₁₃
- The Director General of European Spallation Source ERIC is Professor John Womersley. The Chair and Vice-chair of the European Spallation Source ERIC Council are Dr. Beatrix Vierkorn-Rudolph and Kurt Clausen.
- ESS aims to become one of the most environmentally sustainable research centres in the world, where, among other things, surplus heat will be recycled and used in the district heating network in Lund.
- Short facts about ESS:
 - 500 employees in Sweden and Denmark
 - Approximately 3,000 researchers will use the facility annually once in full operation
 - The total length of the building is 650 m (of which 537 m is underground)
 - The research facility's total construction area equals more than 13 football pitches