Council of the
European Union

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RECH 121

NOTE

From:	Swedish delegation
To:	Council
Subject:	European Spallation Source - Information from the Swedish delegation

Delegations will find attached an information note from the Swedish delegation on the above-mentioned subject with a view to the Competitiveness Council on 30 May 2017.

ANNEX

INFORMATION NOTE FROM THE SWEDISH DELEGATION

EUROPEAN SPALLATION SOURCE

The European Spallation Source (ESS) is a large Research Infrastructure (RI) under construction in southern Sweden with a budget of 1.8 billion euro. This RI will enable scientists to see and understand basic atomic structures and dynamics. It can be compared with a giant microscope for the study of different materials – from plastics and pharmaceuticals, to engines, proteins, molecules and nanotechnology.

ESS will serve a wide variety of different research disciplines ranging from life science, soft condensed matter research, chemistry of materials, energy research, magnetic and electronic phenomena, engineering materials and geosciences, archaeology and cultural heritage, as well as fundamental and particle physics. The unique capabilities of this new facility will greatly exceed and complement those of today's leading neutron sources.

The construction is rapidly progressing and ESS is now more than 30 percent complete. Under a European legal framework (European Research Infrastructure Consortium (ERIC)), ESS has at this time 15 member countries and observers. ESS is expected to be fully completed in 2025, but with science operations starting already 2022/2023. With a funding model consisting of a high degree of in-kind contributions the project is quickly breaking new grounds and is already interacting with hundreds of research institutes and universities all over Europe.

Europe has led the field of neutron based science for more than 40 years, but almost two-thirds of the operational sources in Europe will close within ten years. The European user community in this field is the largest and most diverse in the world, numbering over 6000 scientists and engineers from academia and industry. Against this background, ESS will play a very important role giving Europe new capabilities within this field of science.

ESS can set a new standard not only for neutron science, but also for how leading science facilities in Europe are constructed and operated, e.g. in terms of open data. ESS will be an attractor for the best people, the motor for scientific excellence and an anchor in the innovation system. This is particularly important in a time where research, politics, business and society jointly need to tackle global societal challenges like climate, energy, transport and health.