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## The European Spallation Source: a Project Update

*Tuesday, 21 March 2023 14:00 (30 minutes)*

The European Spallation Source (ESS) is Europe's answer in the continuous strive for the production of neutron beams of ever higher brilliance. The scientific instruments exploiting these beams are an indispensable tool for studying matter and material properties, which will unlock new discoveries from the very fundamental to the highly applicable. The concept underlying the ESS combines a powerful linear accelerator using a 62 mA proton beam that in its final stage will be delivering a 5 MW long-pulse proton beam to a highly innovative spallation solid tungsten target and a low-dimensional moderator assembly. A suite of initially 15 instruments is designed to exploit the full potential of the long-pulse nature of the neutron beam. In my talk, I will present the fundamental design of the accelerator and neutron source followed by an overview of the beam shaping and detection concepts retained to match the instruments optimally to the source characteristics. I will then concentrate on giving an update on the current project status going through accelerator, target, and instruments, and lay out the path forward to meet the goal of opening the ESS up for the user programme at the end of 2027.

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