

## ESS VACUUM SYSTEM UPDATES

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The European Spallation Source (ESS) is a multi-disciplinary research infrastructure neutron source facility based on a 2GeV-5MW proton linear accelerator (LINAC). The goal of ESS is to be the brightest neutron facility and to enable novel science in many fields such as biology research, environmental technologies and fundamental physics. The facility includes Super-conductive Radio-frequency cavities (SRF) to accelerate a proton beam to produce neutrons by spallation process on a helium-cooled tungsten wheel, possibility to host 42 neutron instruments. The ESS Vacuum Group has the overall responsibility for all technical vacuum systems used on the Accelerator, Target and Neutron Scattering Instruments (NSS).

It will be given an overview of the ESS Vacuum System updates, on the Accelerator, Target and NSS, as of Q1-2024 for the vacuum hardware and some details about the Vacuum Control system. The vacuum system includes the Proton Accelerator (NCL, SCL and A2T areas), the Target monolith with the proton beam window and the Neutron Instruments from the bunker area until the Sample chambers and in vacuum detectors. A short introduction about ESS Vacuum Laboratory and activities correlated will be given.

### Summary

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