

# NuFact 2021: The 22nd International Workshop on Neutrinos from Accelerators

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## Status of the ESSvSB Target Station

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The goal of the ESSvSB project is to discover and measure neutrino CP Violation with unprecedented sensitivity. The associated ESSvSB H2020 Design Study is aimed at investigating and proposing a conceptual design of a new neutrino superbeam in Europe. The Target Station is a key element of this project, since it will produce a high intensity neutrino superbeam from a 5 MW proton beam delivered by the European Spallation Source at Lund. Work Package 4 of this project focuses on the optimization of the physics performance of the elements producing the beam, such as the targets and the magnetic horns, as well as on the technical aspects related to the Target Station design. The 5 MW proton beam will be split laterally into four 1.25 MW beams, each with 1.3  $\mu$ s proton pulses and 14 Hz repetition rate, that will hit four separate targets inserted into four horns. The production of the neutrino beams under such conditions requires the development of technologies capable of working at a MW power scale, both for the target and for the other components of the target station facility. The status of the target station will be presented, with some possible future opportunities offered by this facility to develop complementary R&D.

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### Working group

WG3

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