

# MAGNETS FOR UPGRADE OF THE ACCELERATOR COMPLEX AT CERN

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## Abstract

While the LHC is approaching commissioning phase, a global plan with different options for the consolidation and upgrade of the accelerator complex is under discussion at CERN. In one option the change of the interaction region (IR) magnets, in order to increase the luminosity of the LHC, is considered. This measure may be accompanied or not by an increase of the beam current. In any case the needs of new more performing Nb-Ti based magnets and/or Nb<sub>3</sub>Sn magnets is established. The choice of Nb<sub>3</sub>Sn based magnets with 13-15 T peak field on the coil seems mandatory for the low-beta triplet quadrupoles in case a factor two or more in luminosity is envisaged. In another option the improvement of the injector chain is considered. For the moment the first priority is the design of a new PS of energy about 50 GeV, with duty cycle less than 1 Hz. In this paper a comparison among the option based on normal conducting magnets (today baseline) and superconducting magnets of various types will be presented. In the frame of the longer-term scenario, magnets envisaged for an upgrade of the present SPS (from 450 to 1 TeV) and for neutrino production facilities will be discussed as well.

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