With the faraway goal of a 100 TeV new hadron-hadron collider, the ambition for very high field accelerator magnets has never been so broad. The technology choice between Low Temperature Superconductor (LTS) Nb_3Sn and High Temperature Superconductors (HTS) for such a machine remains to be made and might lead to a hybrid solution. In all cases, the challenges are ahead of us: from superconducting material's cost to its implementation.

Nb_3Sn will be used in HL-LHC in the 11-12 T range. Models and prototypes are leading the path toward a small series which demonstration remains to be done. Nb_3Sn is indeed the most advanced technology but is a delicate material. Its sensitivity to strain makes it a challenging candidate for high field and therefore high stress main dipoles. For large scale production toward the next collider, important progress on industrialization must be made.

We propose here to revisit the implementation of this material in accelerator magnets from the early days of the technology to the state of the art. Nb_3Sn magnet technology progress on design, coil fabrication, magnet assembly, and test will be covered. We will try to assess the key challenges to be faced to provide reliable and cost effective Nb_3Sn magnets for the High Energy physics community.