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Handling geodetic challenges at CERN

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Building the FCC tunnel and installing each component of the machine at the intended location will be a challenging task relying notably on the quality and accuracy of the geodetic infrastructure. Before that, methods, tools and software must be developed to respond to the needs of the different parties taking part in the FCC feasibility studies.

This presentation will first cover the transformation of the beam trajectory of the FCC computed by physicists in the MAD-X software into the geodetic reference system that will be used for the construction and installation of the FCC. Then it will focus on the methodology to handle and unify the large amount of existing and newly acquired georeferenced data expressed in multiple coordinate systems.

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