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Experiences from the Gotthard Base Tunnel project

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Building the FCC tunnel will require outstanding engineering expertise from all domains involved. Several anticipated challenges will be comparable only to those encountered during the construction of the longest existing tunnels like the Gotthard Base Tunnel put into operation in 2016. With its length of 57 km it is still the longest railroad tunnel in the world. Its length, the complex topography and the heterogeneous geology, the simultaneous excavation from several locations, the high accuracy requirements for the tunnel breakthroughs, and the access through the over 800 m deep shafts at Sedrun presented major challenges to civil engineering and surveying. The surveyors were further challenged by the needs to account for an accurate geoid model in the Alps, and by the required monitoring of the earth's surface above the tunnel, in the vicinity of structures threatened by possible subsidence. When building the FCC, similar issues will arise and the experience gained from the Gotthard Base Tunnel will certainly be useful. The presentation will give an overview about these experiences.

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