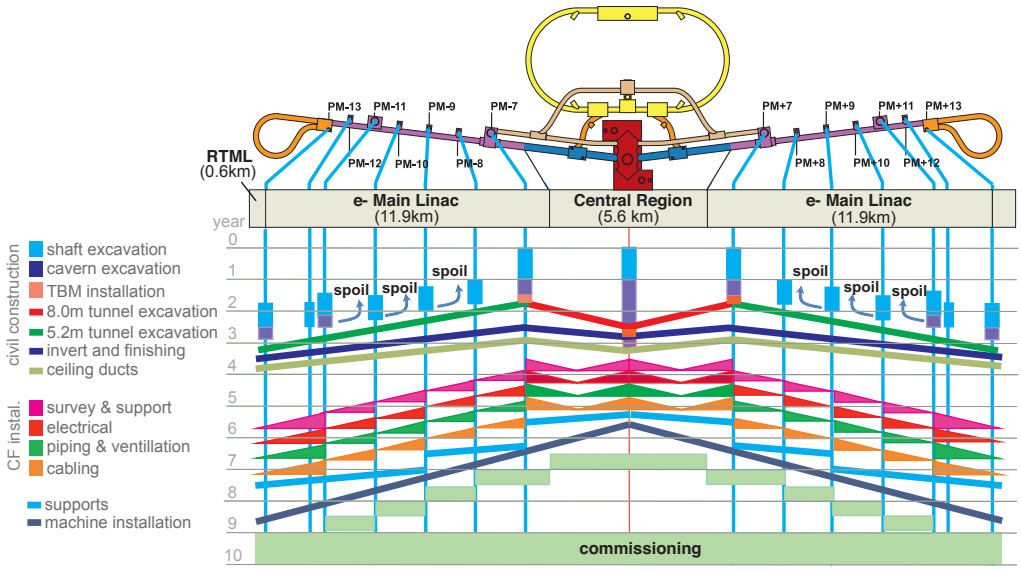

Figure 14.2. The construction and commissioning schedule for the flat topography design variant. Years after construction start are represented vertically, while construction progress along the machine footprint is indicated horizontally (not to scale). The vertical lines represent the locations of shafts.

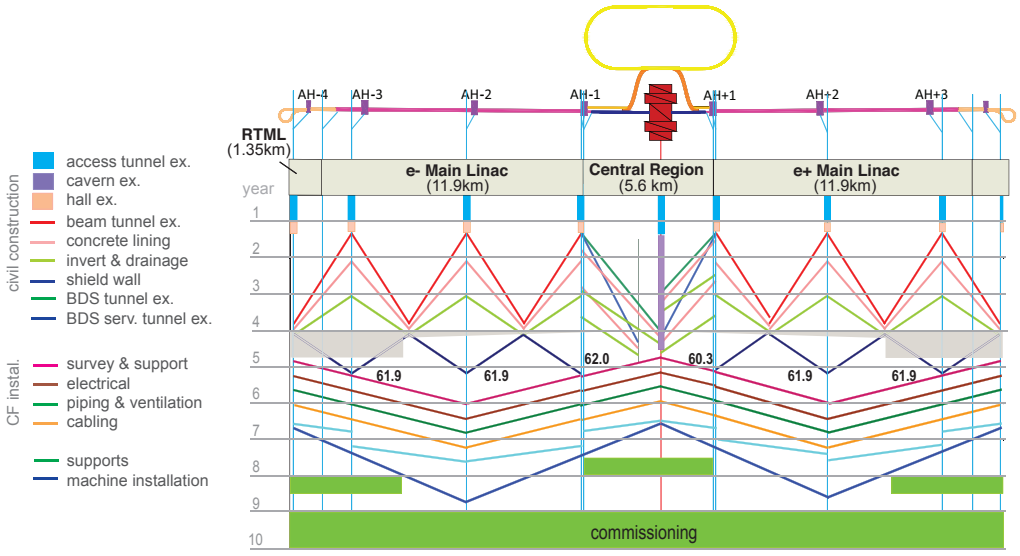

Figure 14.3. The construction and commissioning schedule for the mountain topography design variant. See Fig. 14.2 caption for details.

14.3.1 Civil engineering

14.3.1.1 Flat-Topography Sites

The ILC layouts that are being considered in this study are significantly different from the one presented in the RDR. The Main Linac and BDS consist of a single tunnel of varying diameter. For the FT sites, it was decided that using two types of TBMs with respective diameter of 8 m and 5.2 m would facilitate the construction. Figure 14.4 shows where each type of TBM is to be used.

The civil construction phase is expected to be complete in the first four years of of the construction schedule (Fig. 14.2 years 1–4). The first step in the civil engineering (CE) phase is to excavate the access shafts that will be used to launch the TBMs and start excavating the caverns in the interaction region. Experience from LHC implies one year is necessary to deliver a fully equipped shaft.