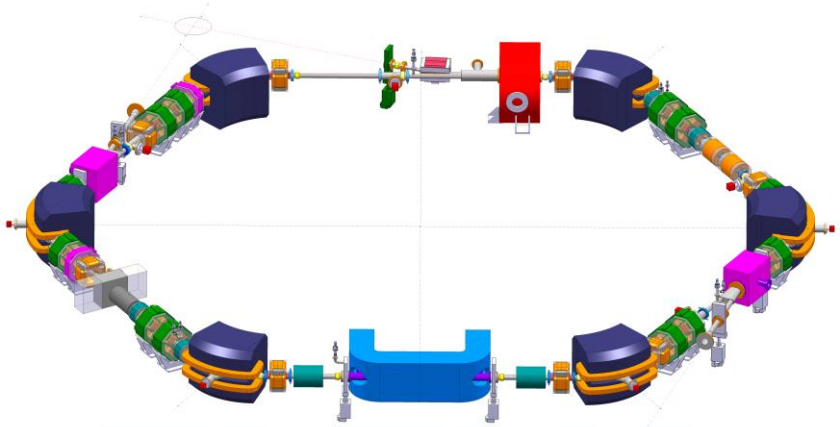
ELENA TDR Review
Integration and Layout



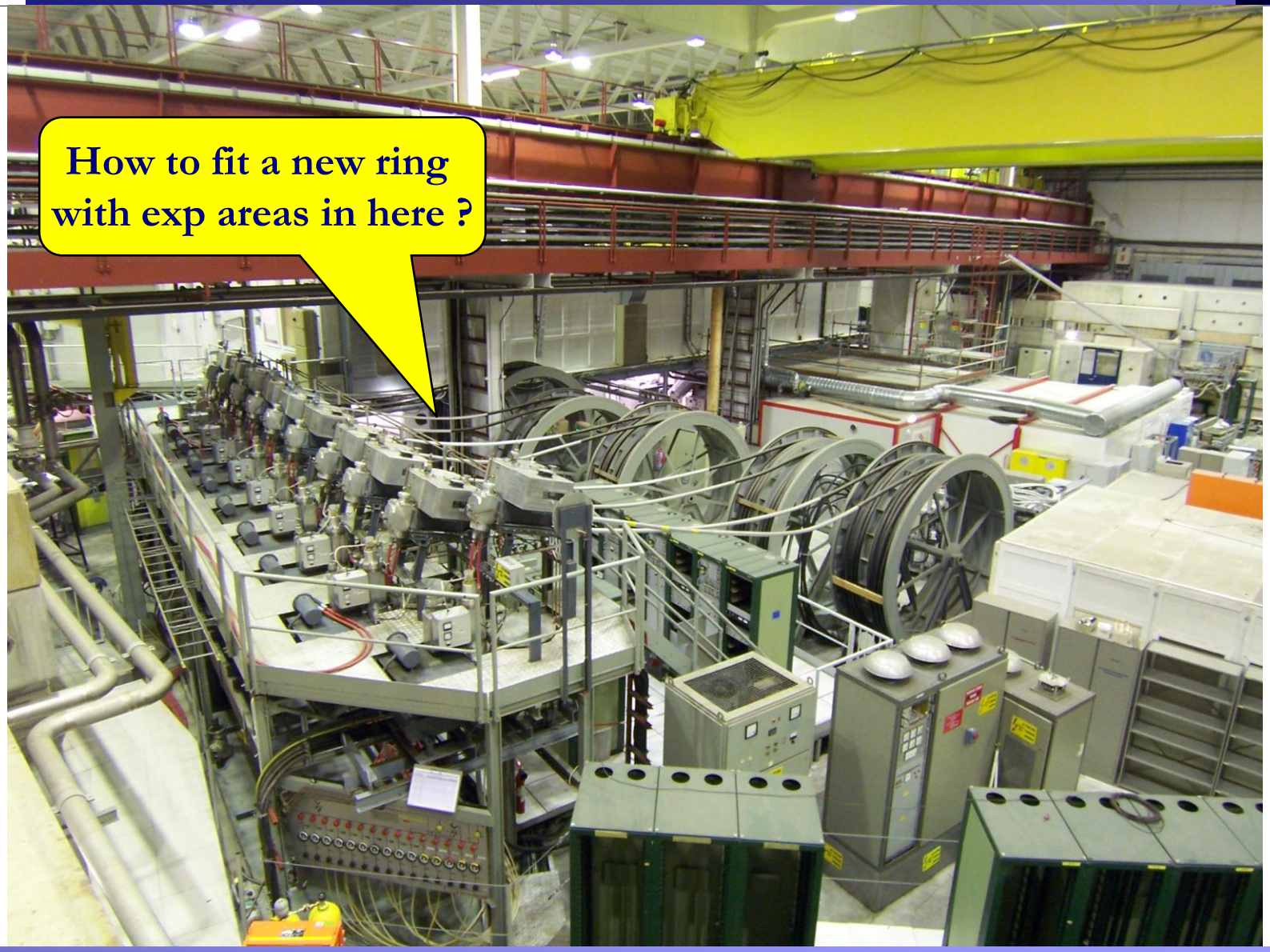
ELENA

Extra Low ENergy Antiprotons

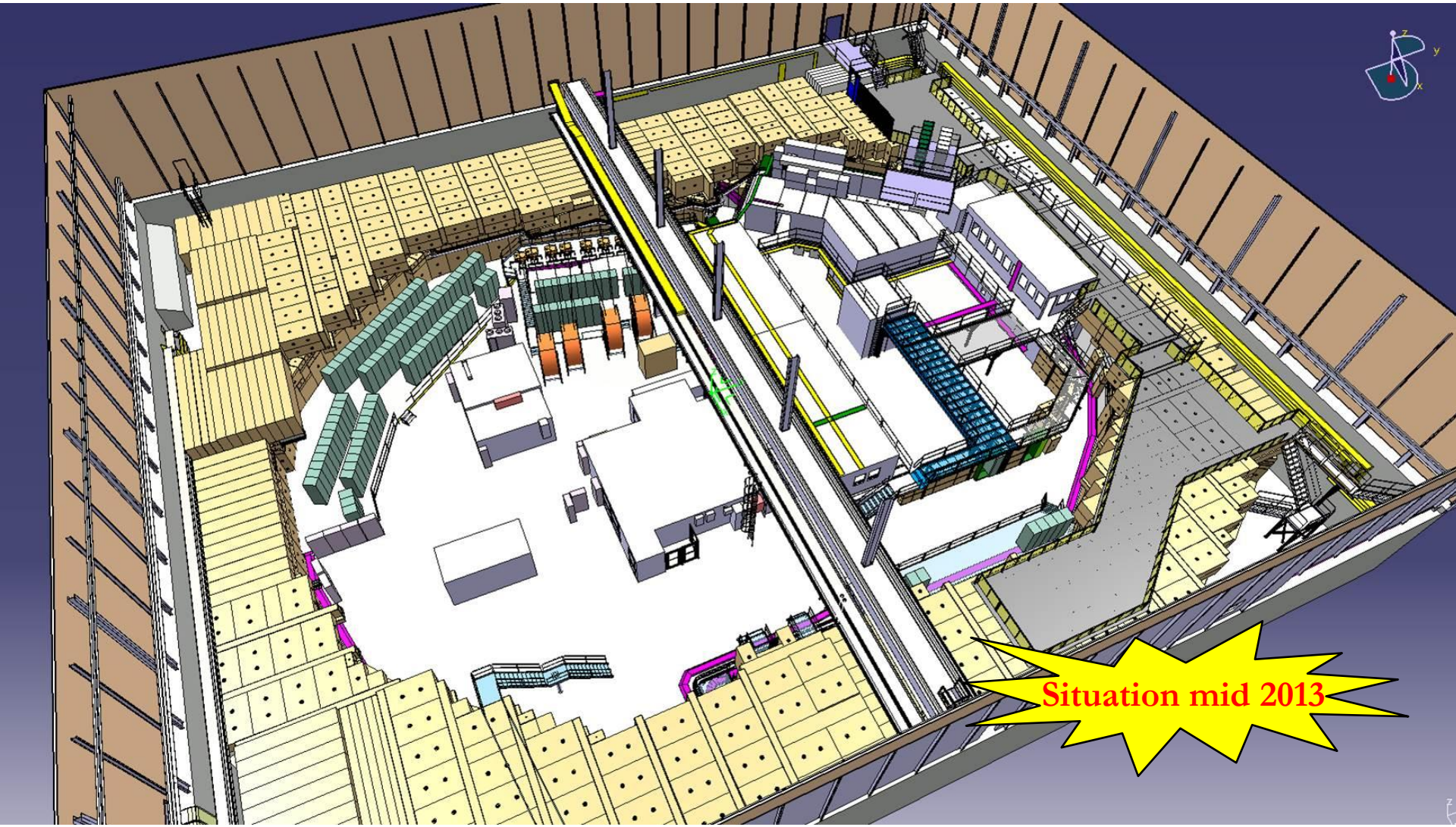
Layout in AD hall, Get prepared for another 20 years

- ELENA = large prospect for antiproton physics for another 20 years
- Wide context of AD facility consolidation
  - AD machine
  - AD hall infrastructure
  - Experimental areas and control rooms (present and future)
  - Space for experiments preparation and hardware storage (mostly inexistent today)

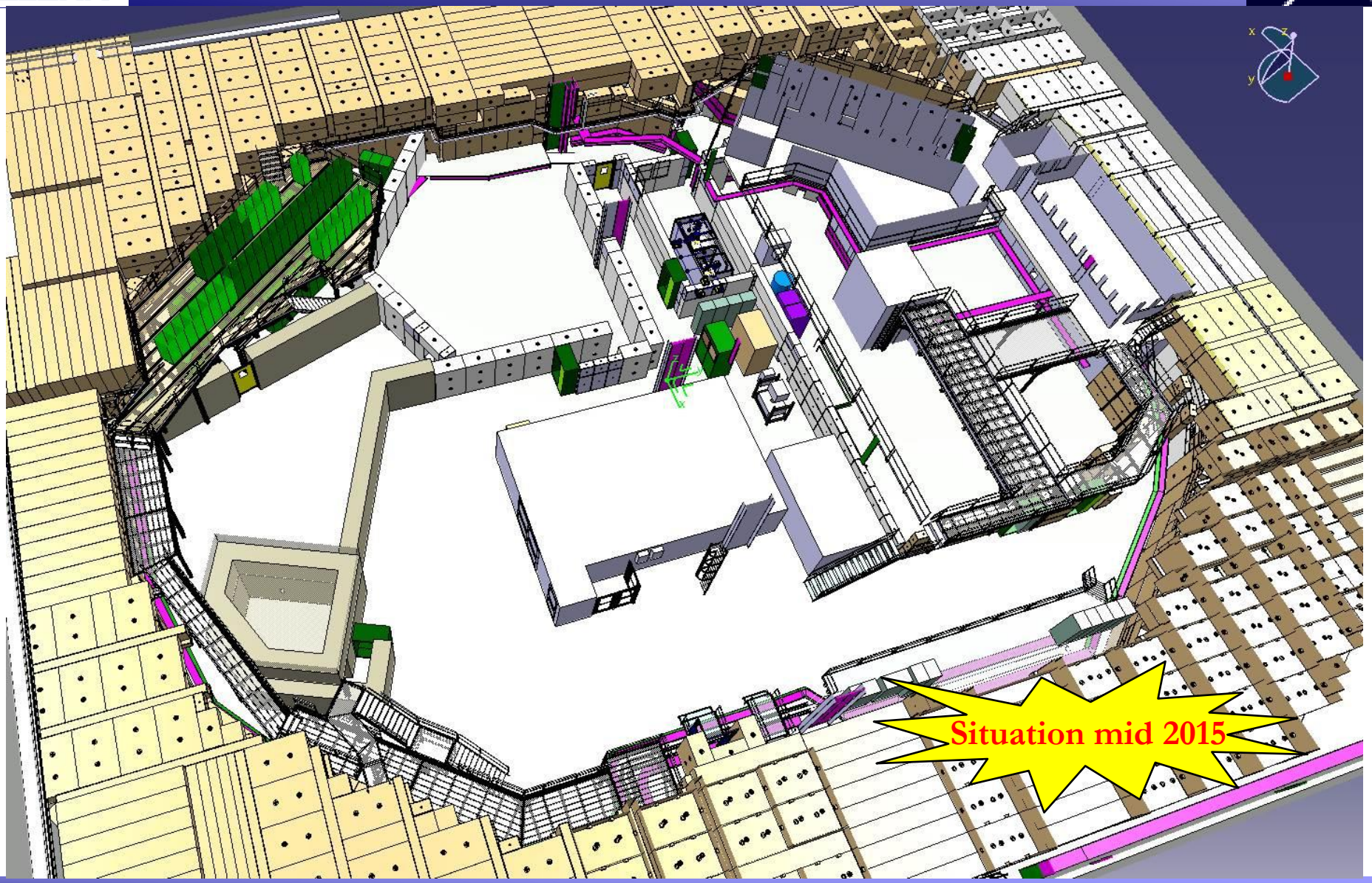
First challenge: fit ELENA in AD hall



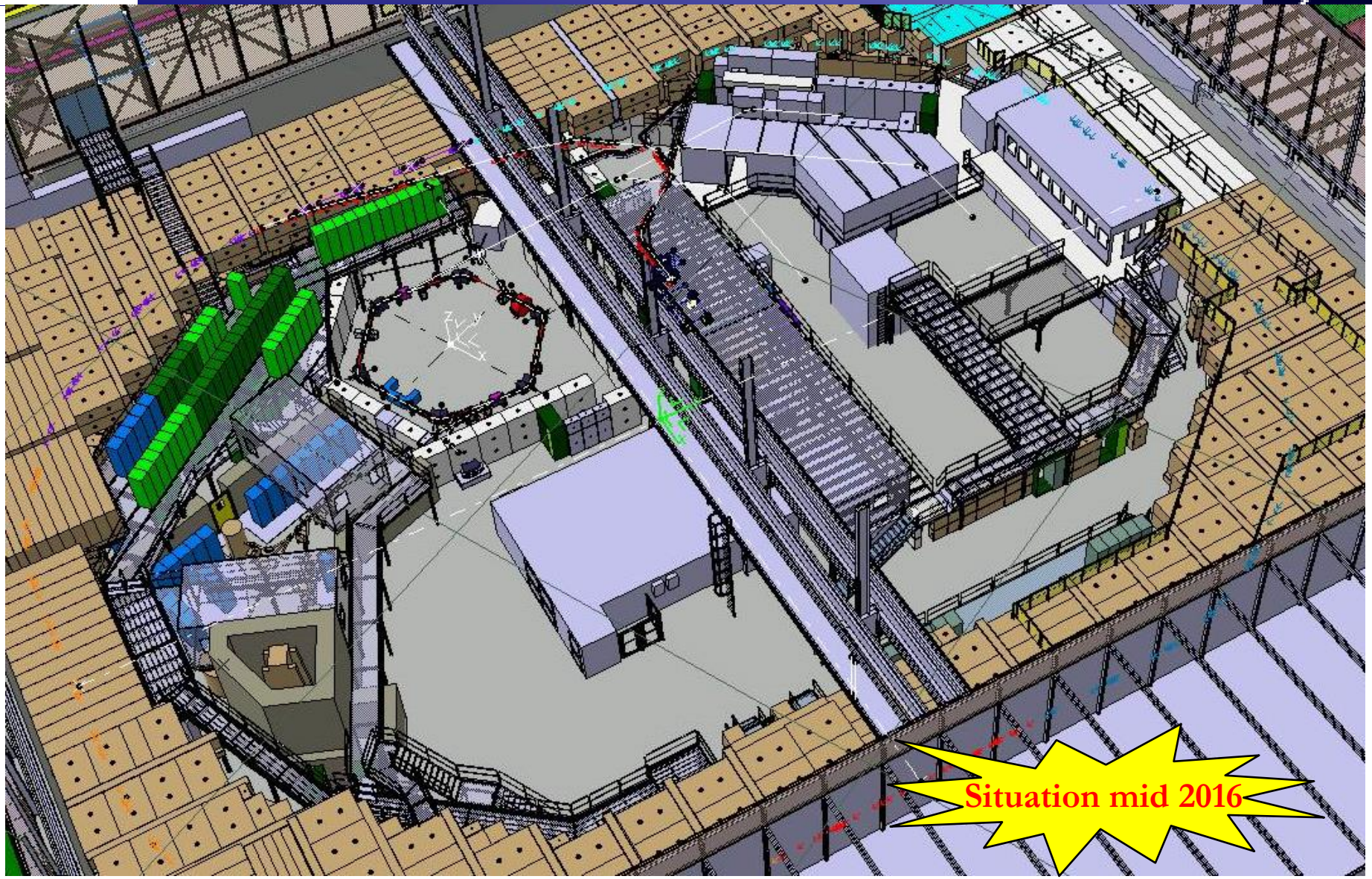
AD environment adaptation stage 1



AD environment adaptation stage 2



AD environment adaptation stage 3



AD environment adaptation stage 4

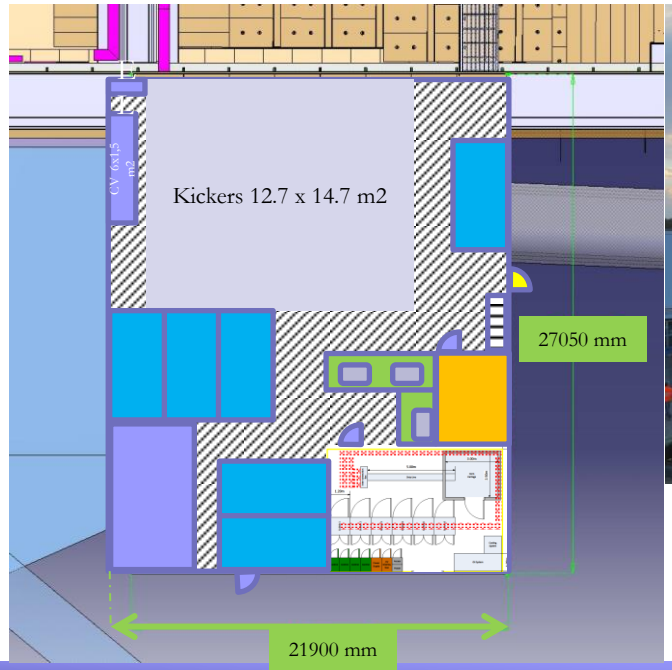
- During CERN machines LS2:
  - Upgrade AD hall air conditionning system
  - Proposal to shift ASACUSA laser room by 5m to make space for another experiment in AD hall
  - Adapt to new ideas that will have emerged by then !

Layout of ELENA surroundings (1)

- New adjacent building (bdg 93) for experiments control rooms, meeting room and cafeteria:
  - OK for AegiS, ATRAP and BASE
  - Planned for GBAR (early 2015)
  - In discussion for APLHA and ASACUSA (2017 ?)

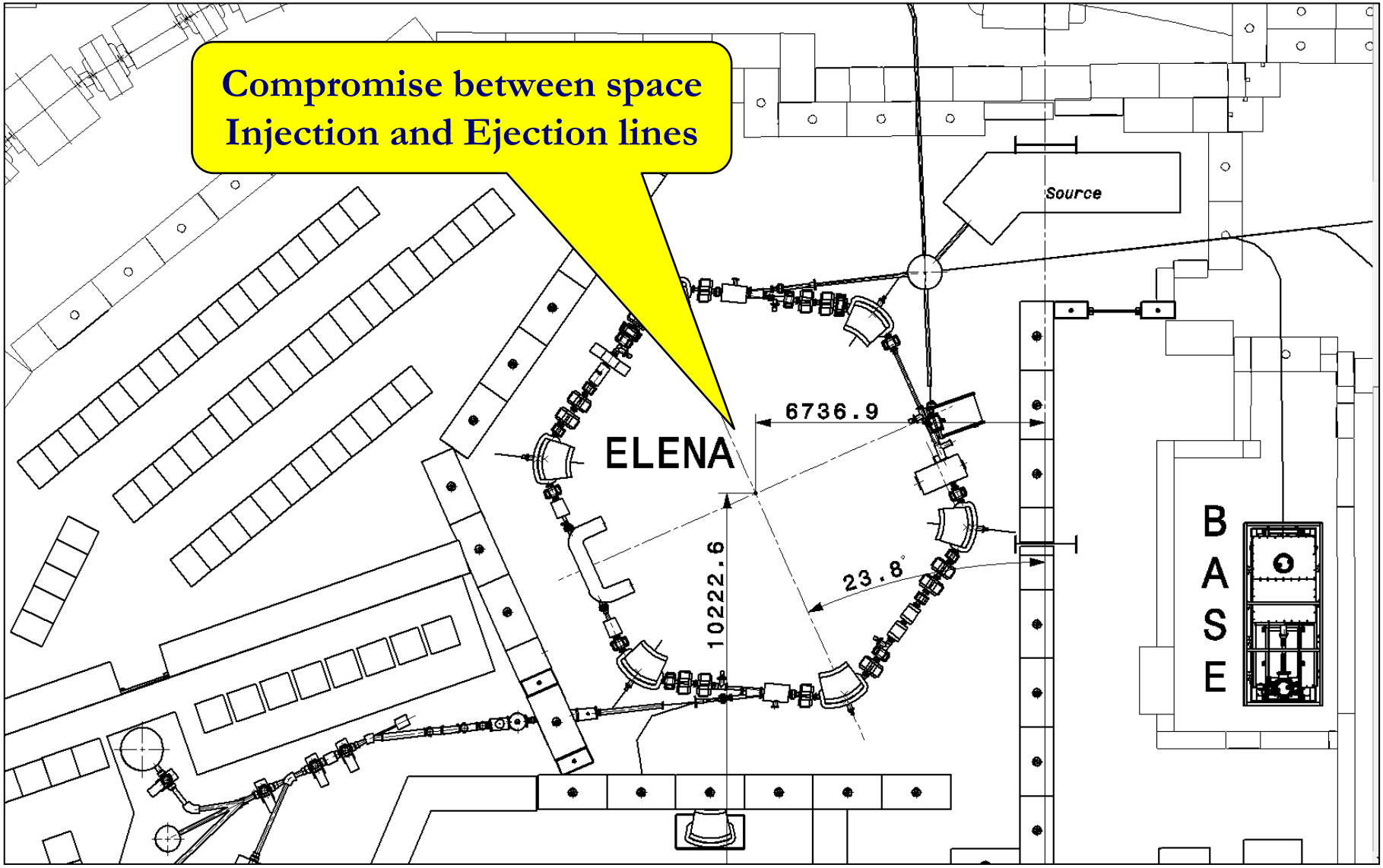
Layout of ELENA surroundings (2)

- New technical building (bdg 393) construction:
  - AD kicker generators and existing workshop relocation
  - Experiments hardware preparation /storage space;
  - Experiments common cleaning room
  - AD magnetic horn test-bench relocation

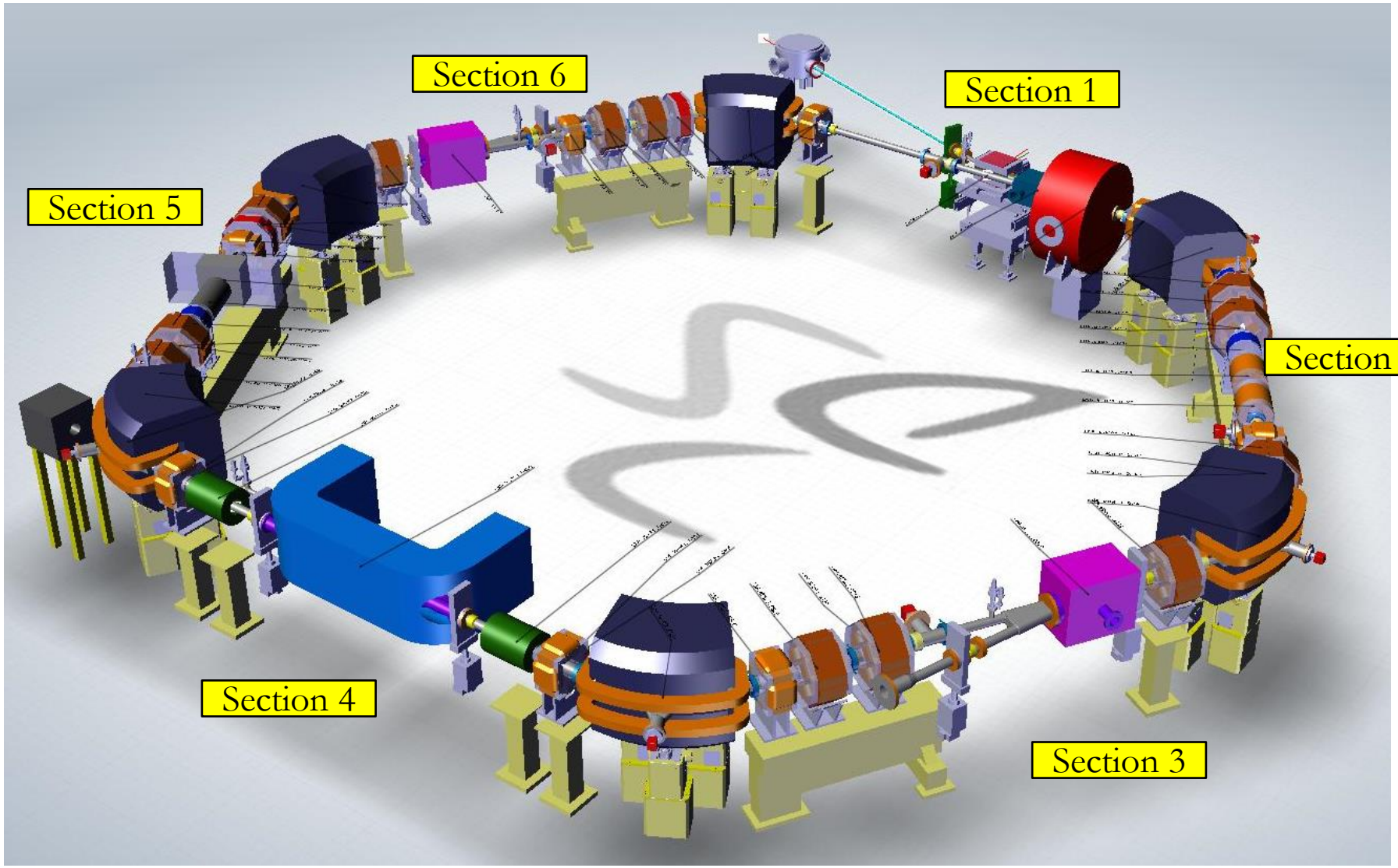


Delivery: mid 2014

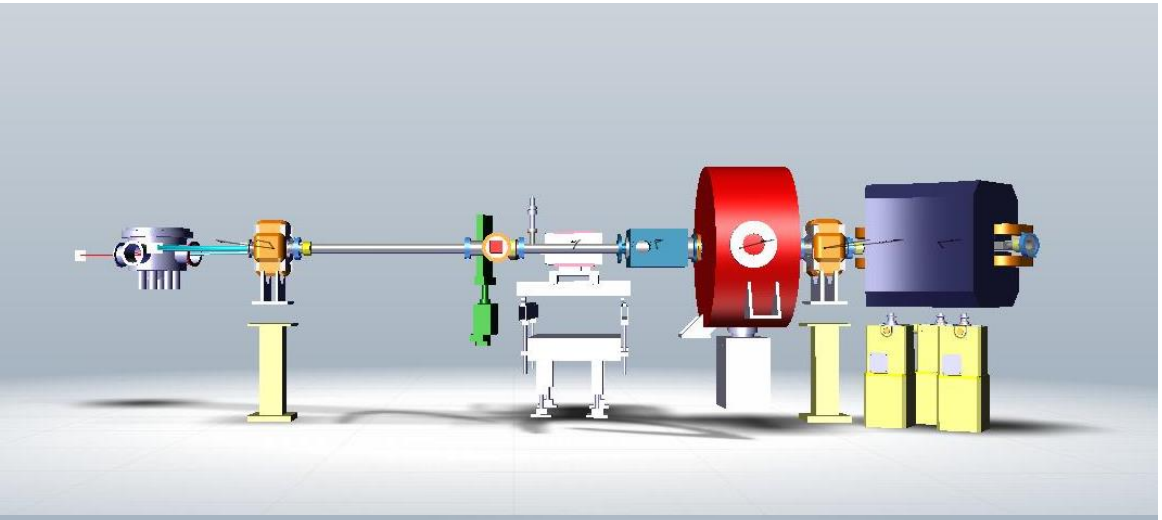
ELENA position in AD hall

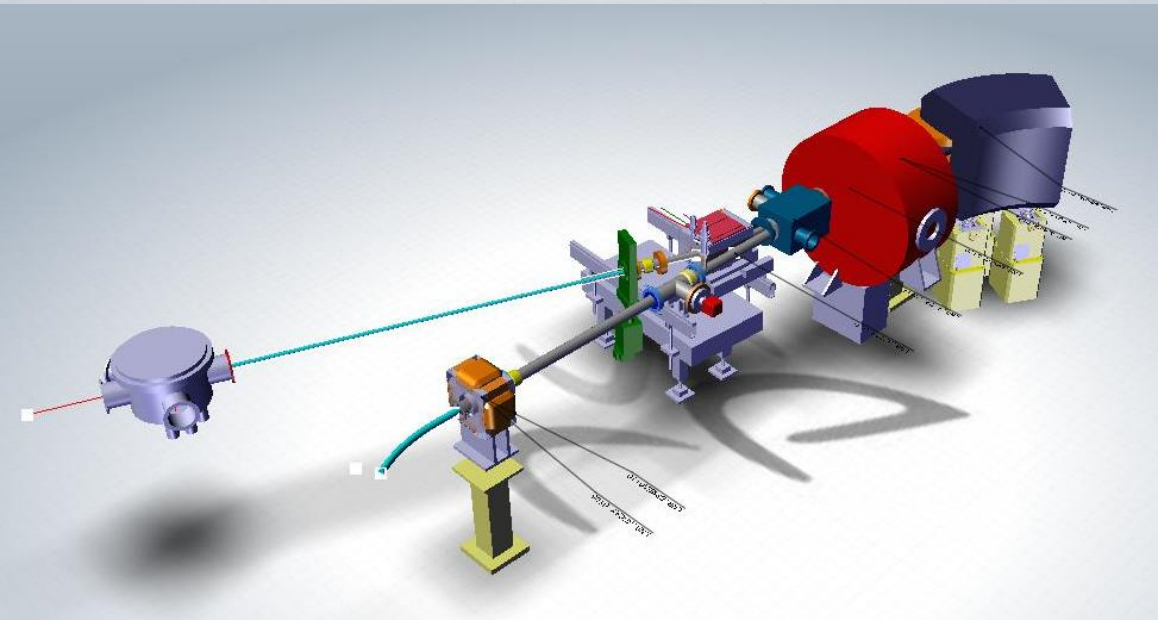


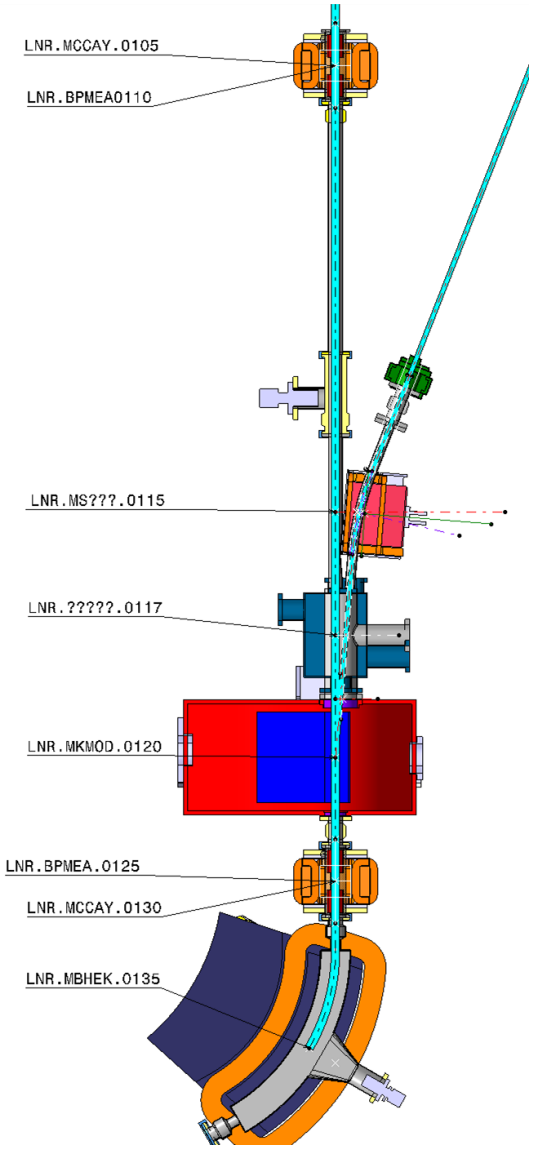
ELENA machine layout



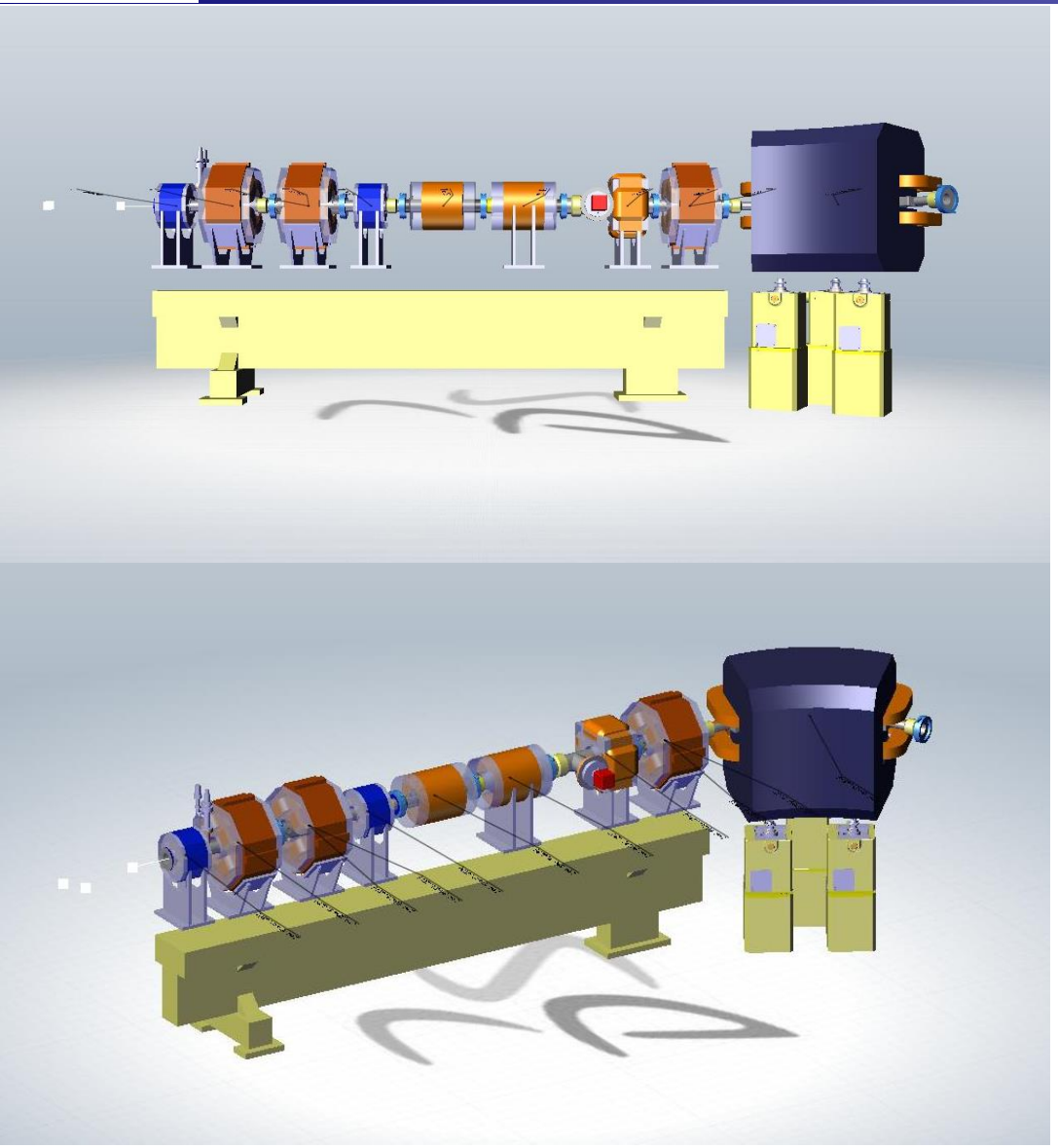
ELENA machine section 1

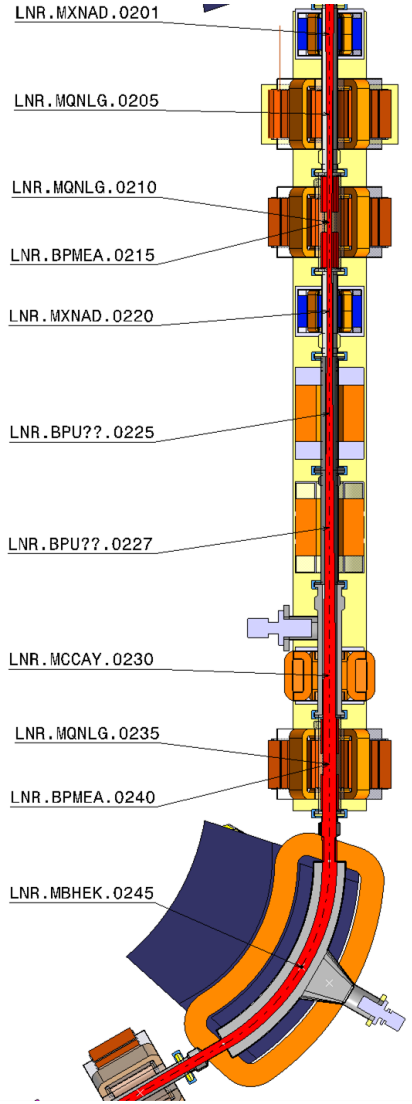




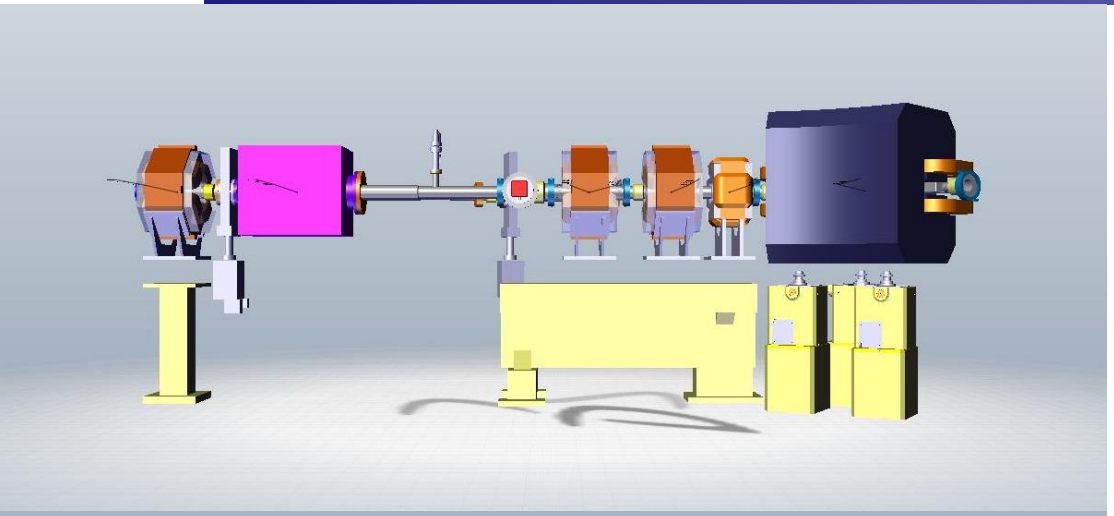


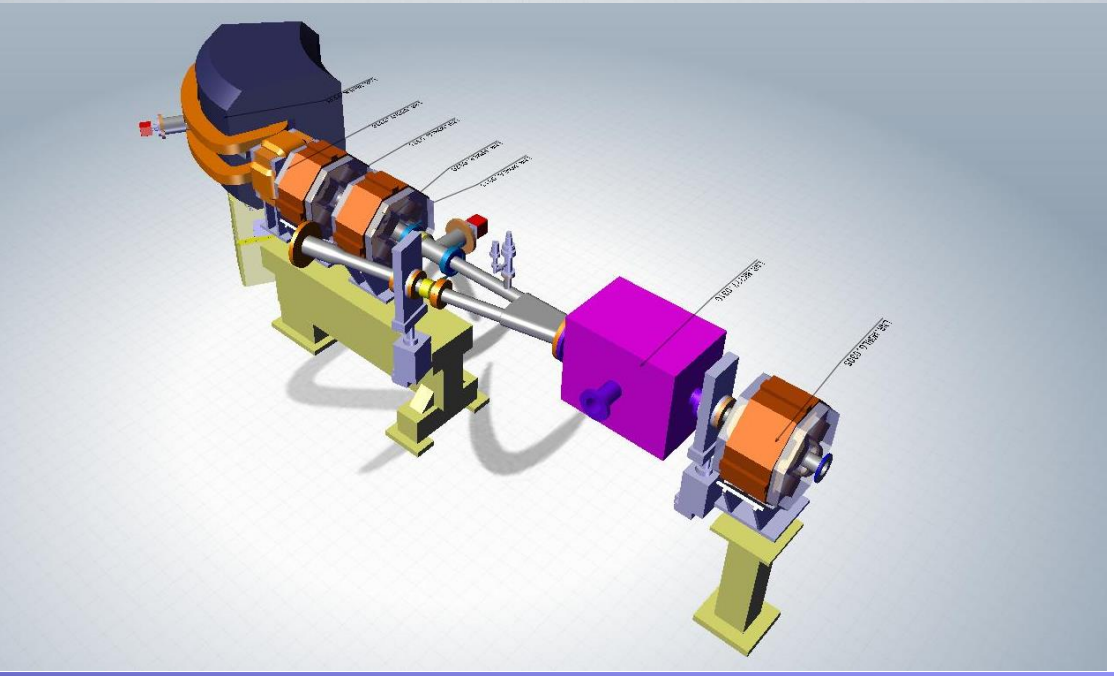
ELENA machine section 2

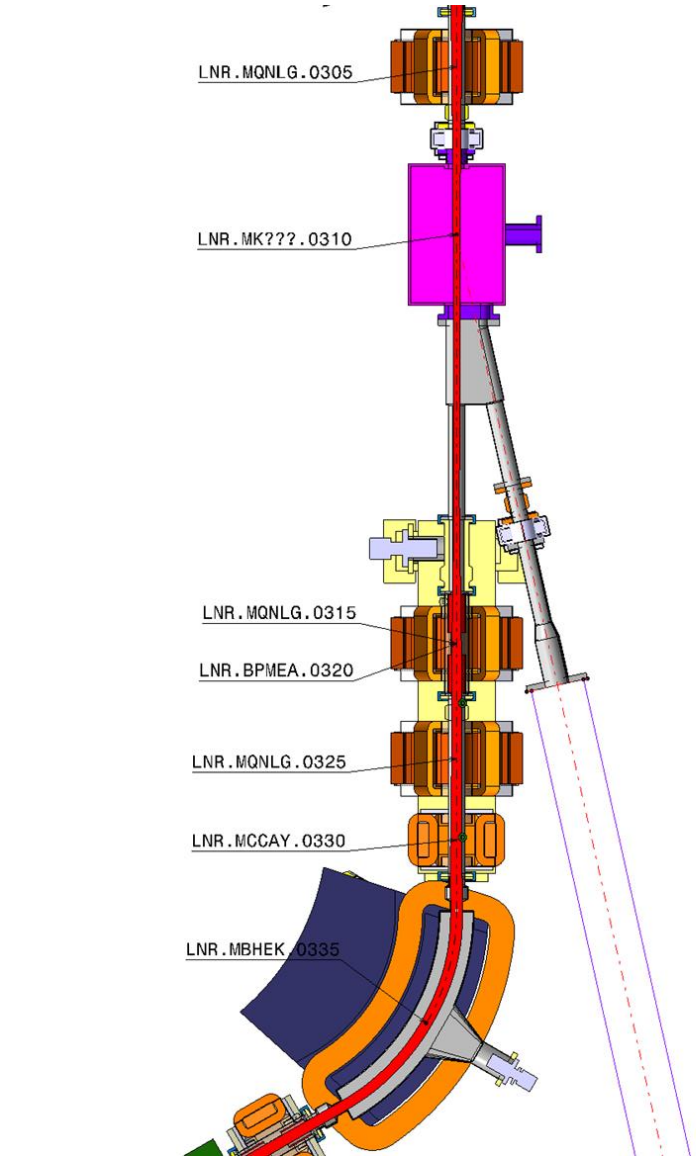




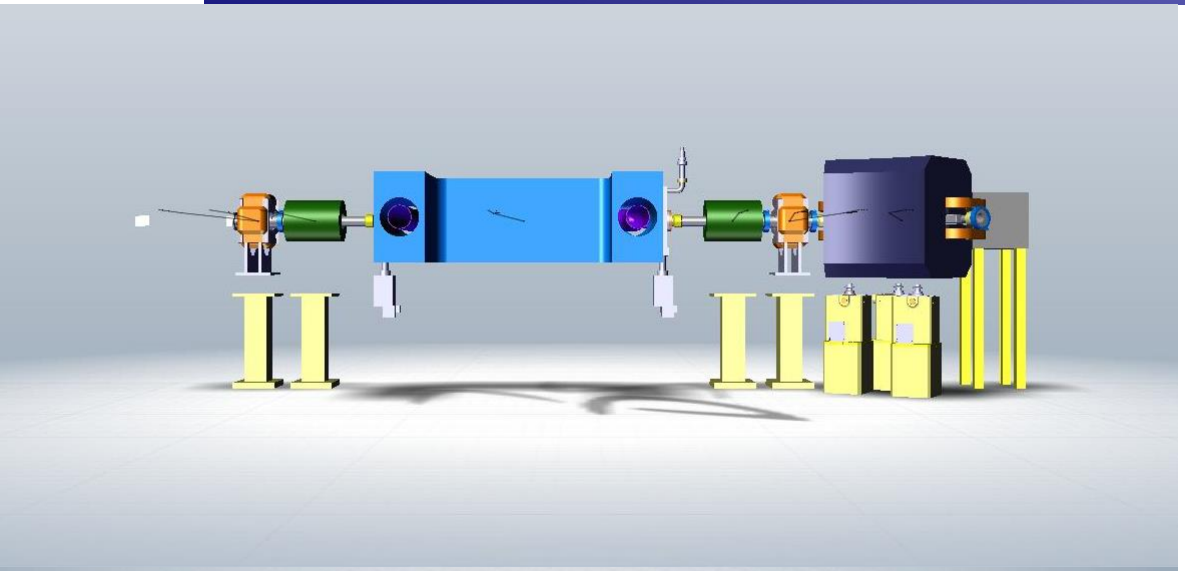
ELENA machine section 3

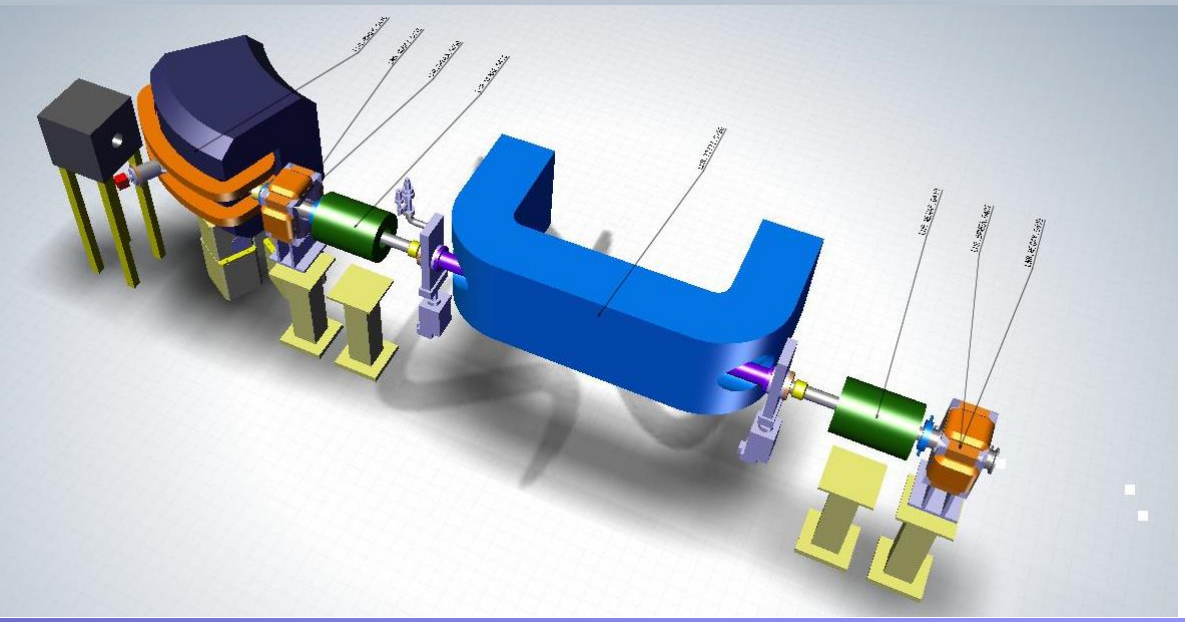


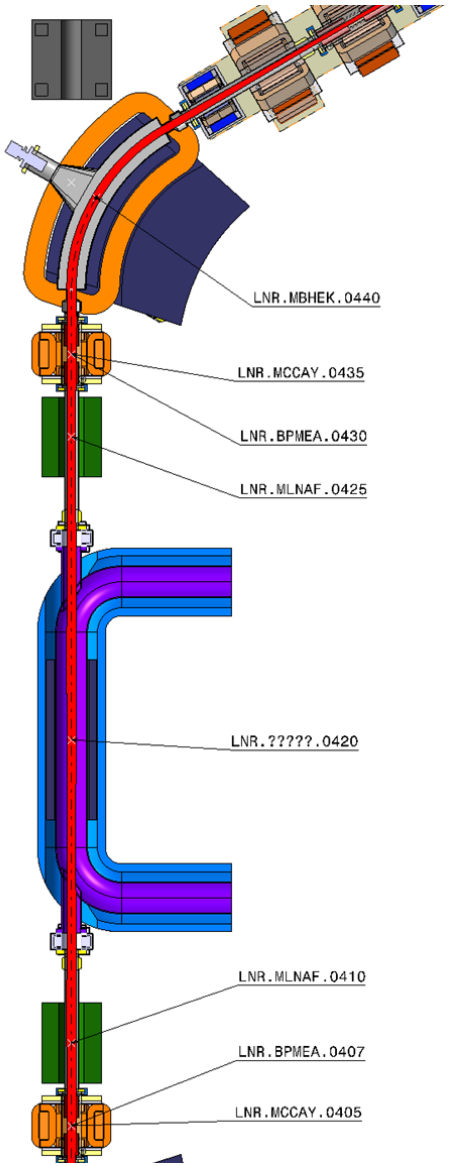




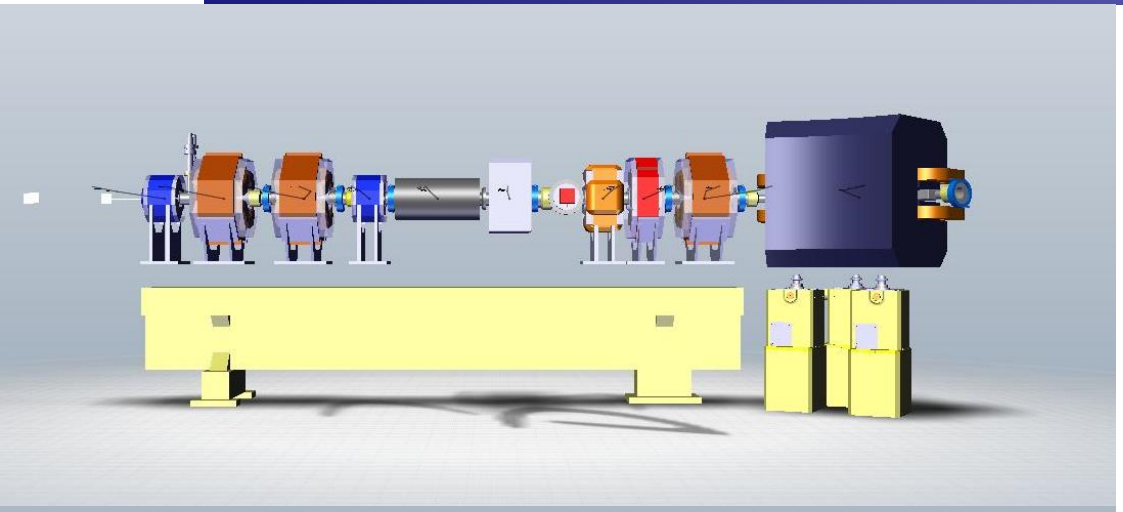
ELENA machine section 4

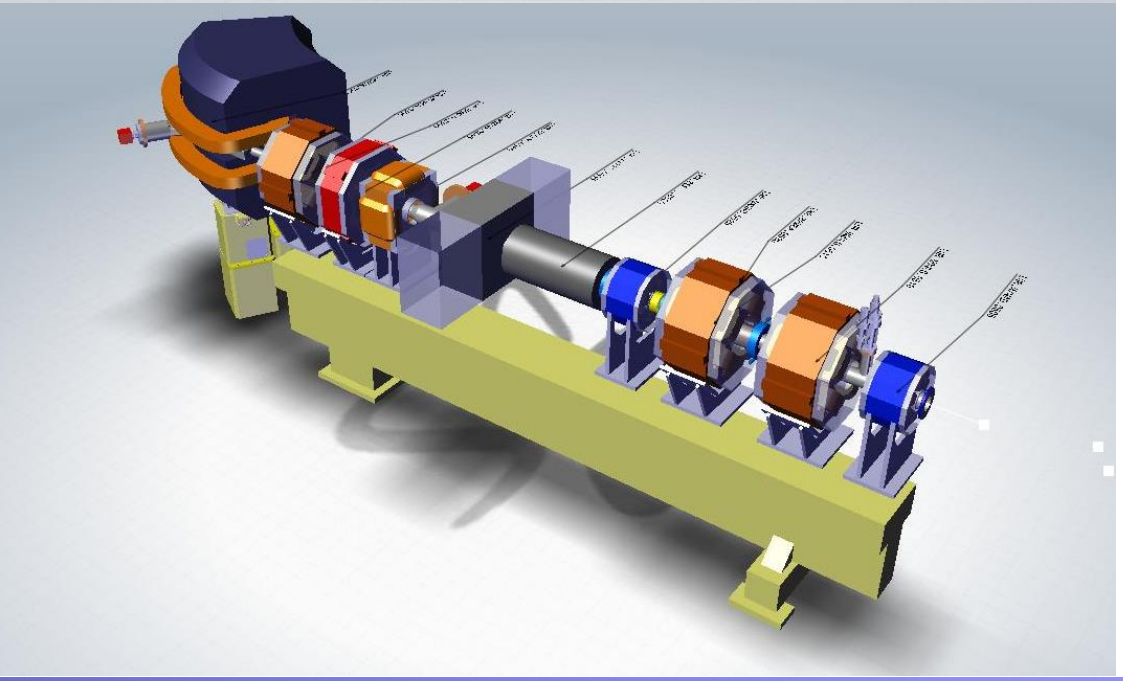


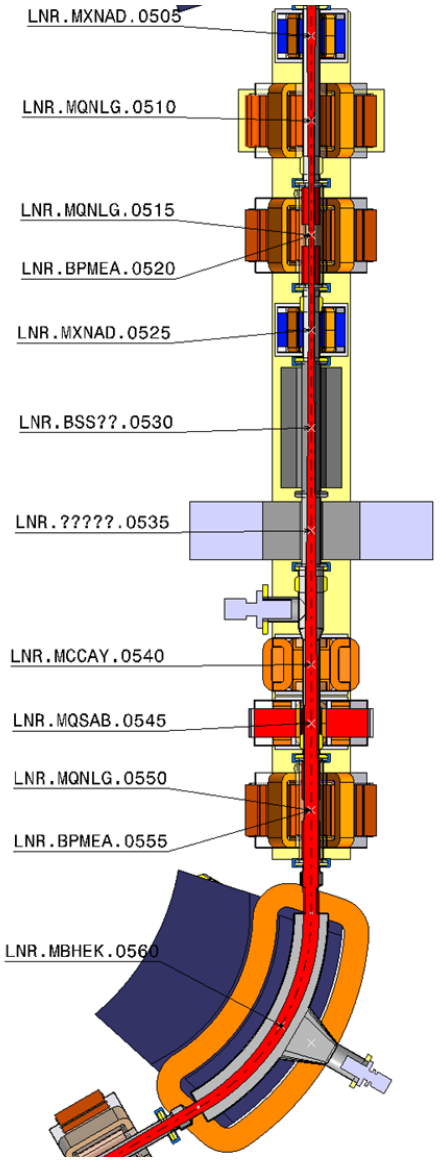




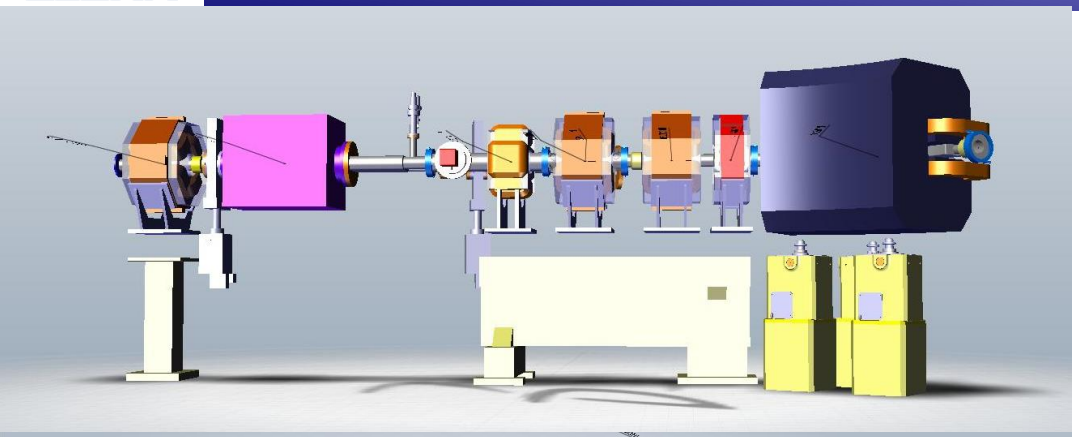
ELENA machine section 5

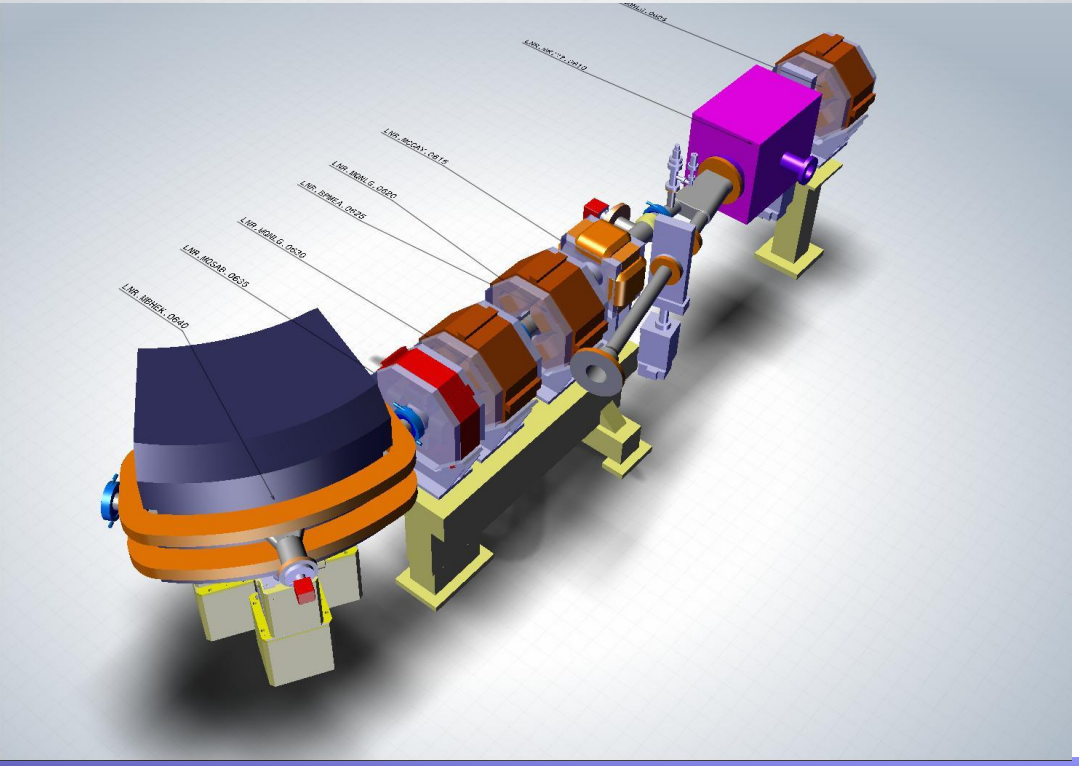


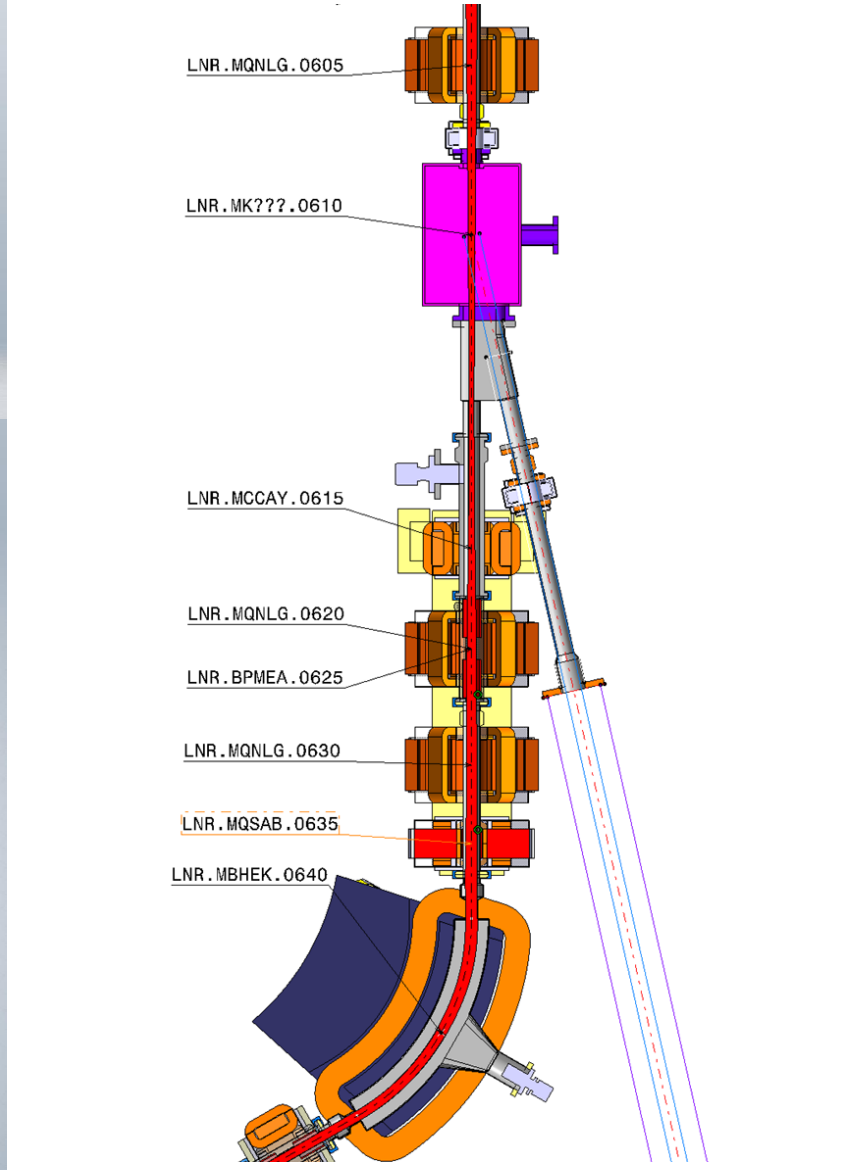




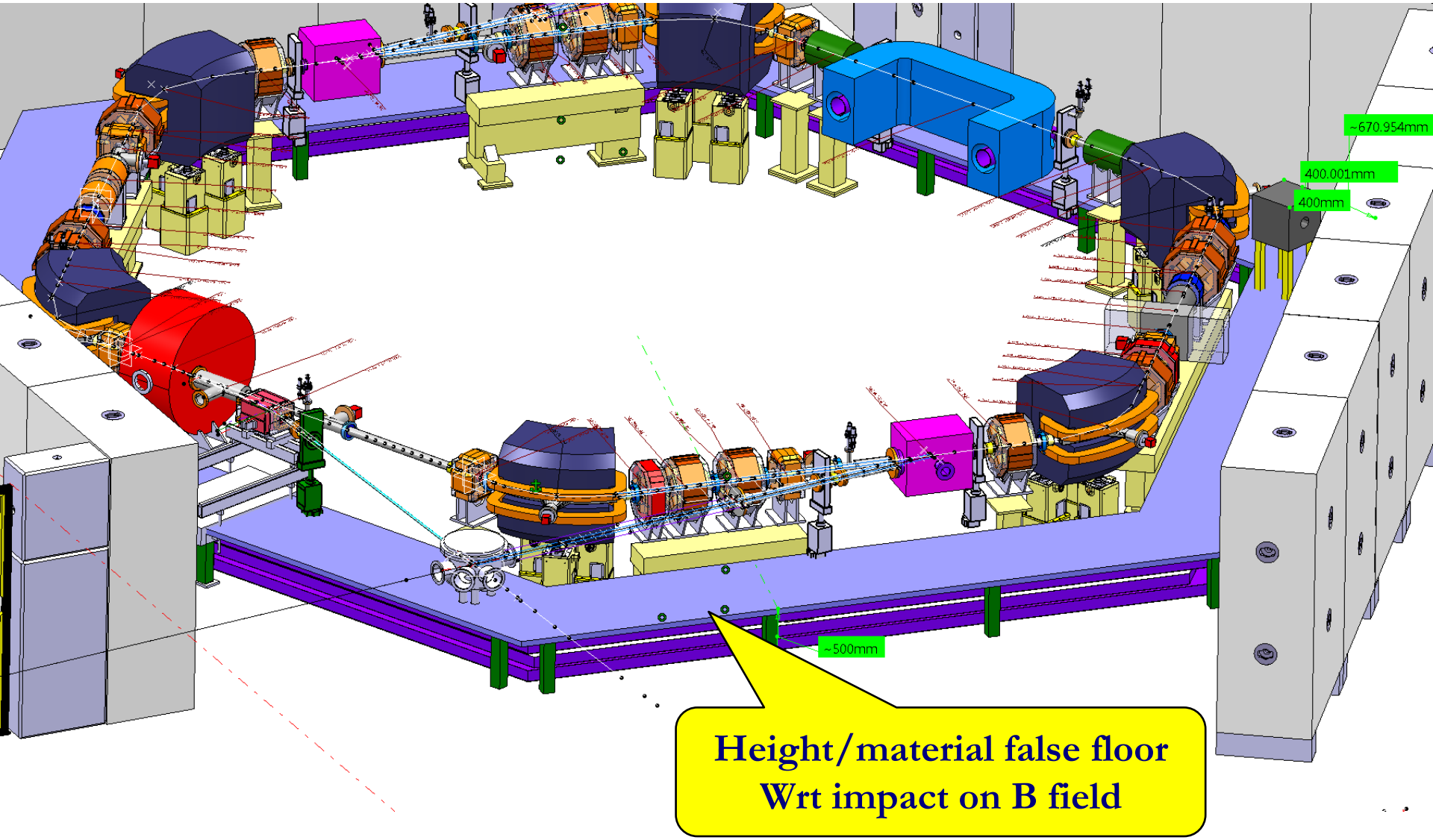
ELENA machine section 6





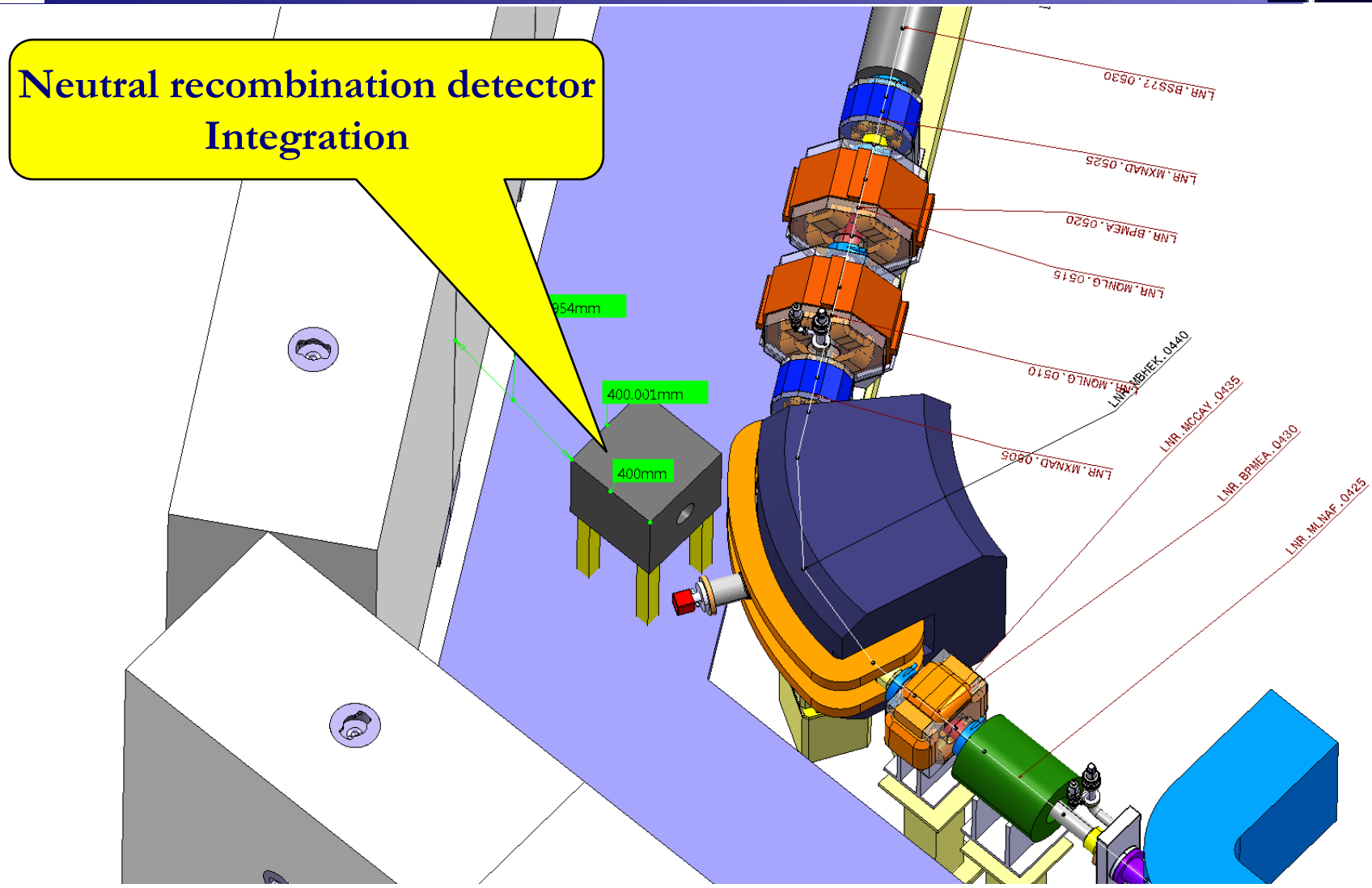


Integration issues

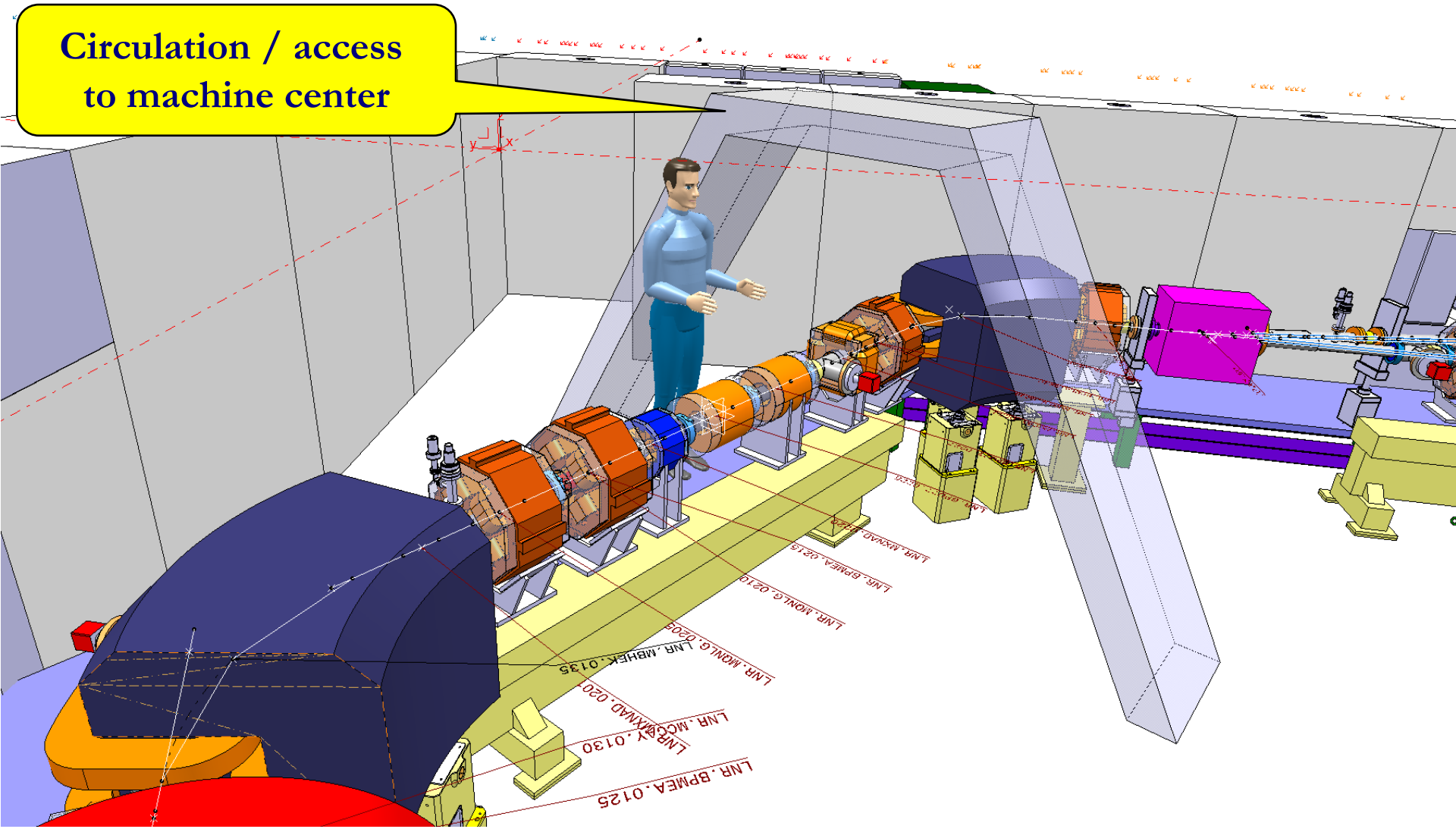


Height/material false floor
Wrt impact on B field

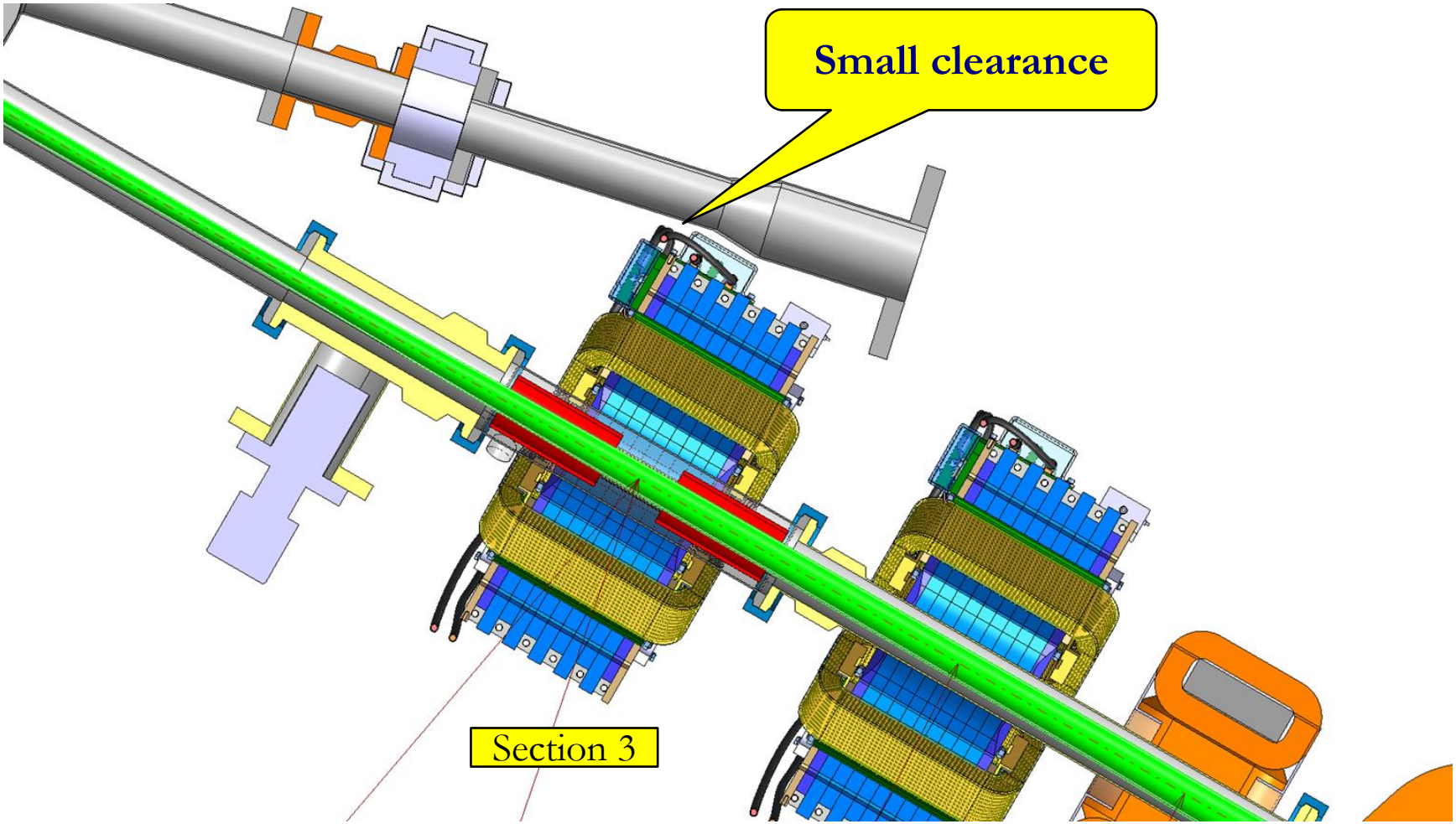
Integration issues (2)



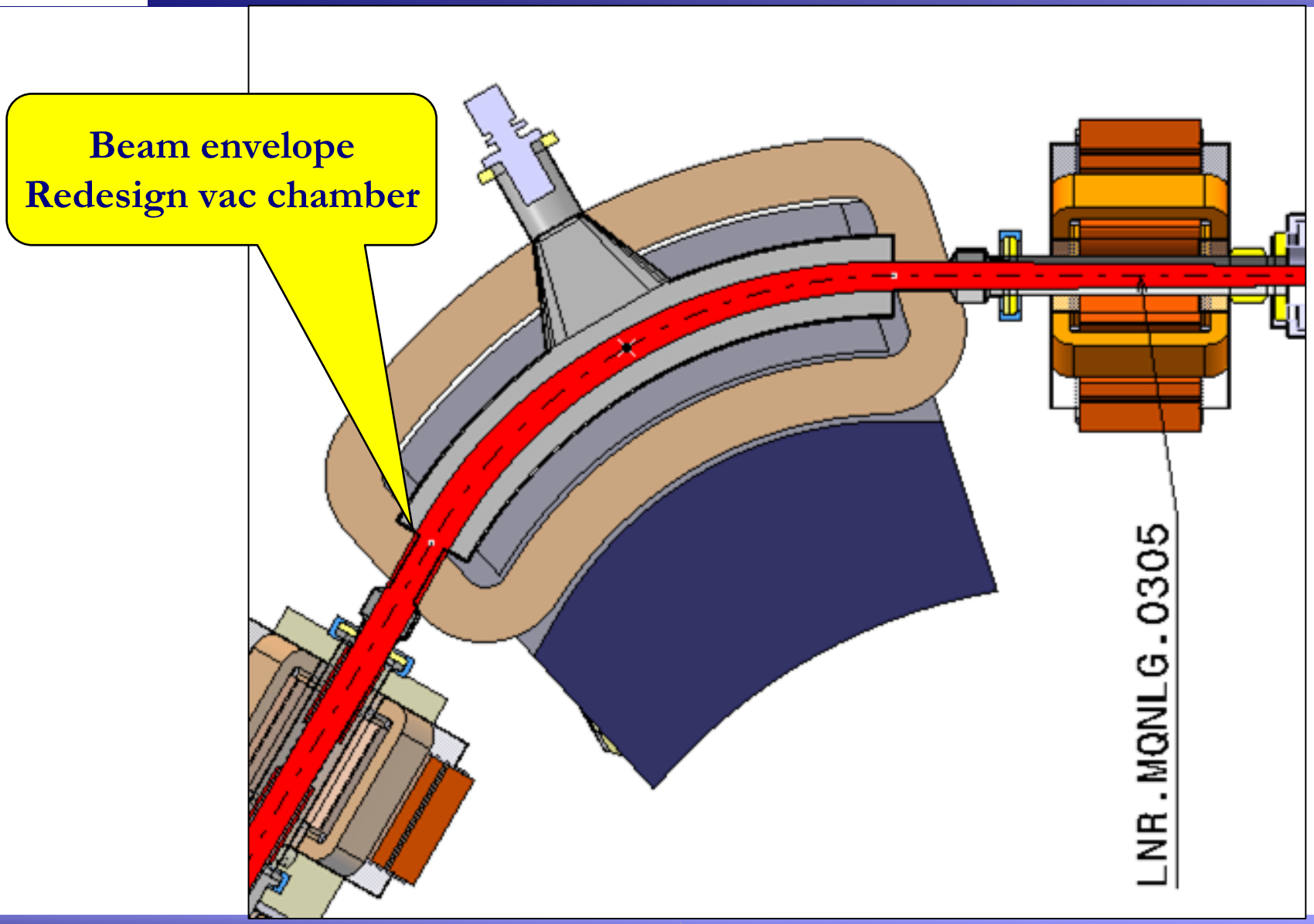
Integration issues (3)



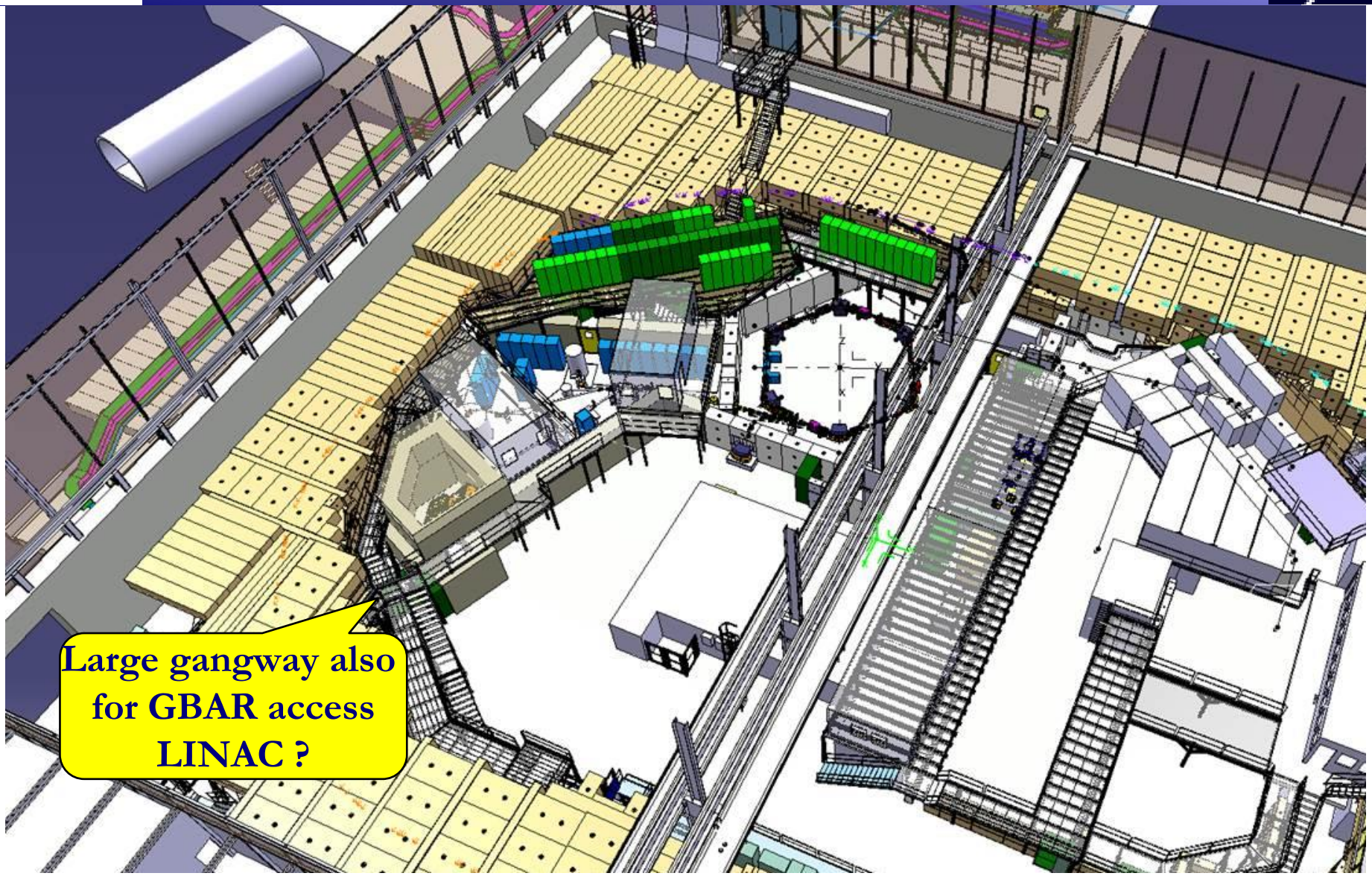
Integration issues (4)



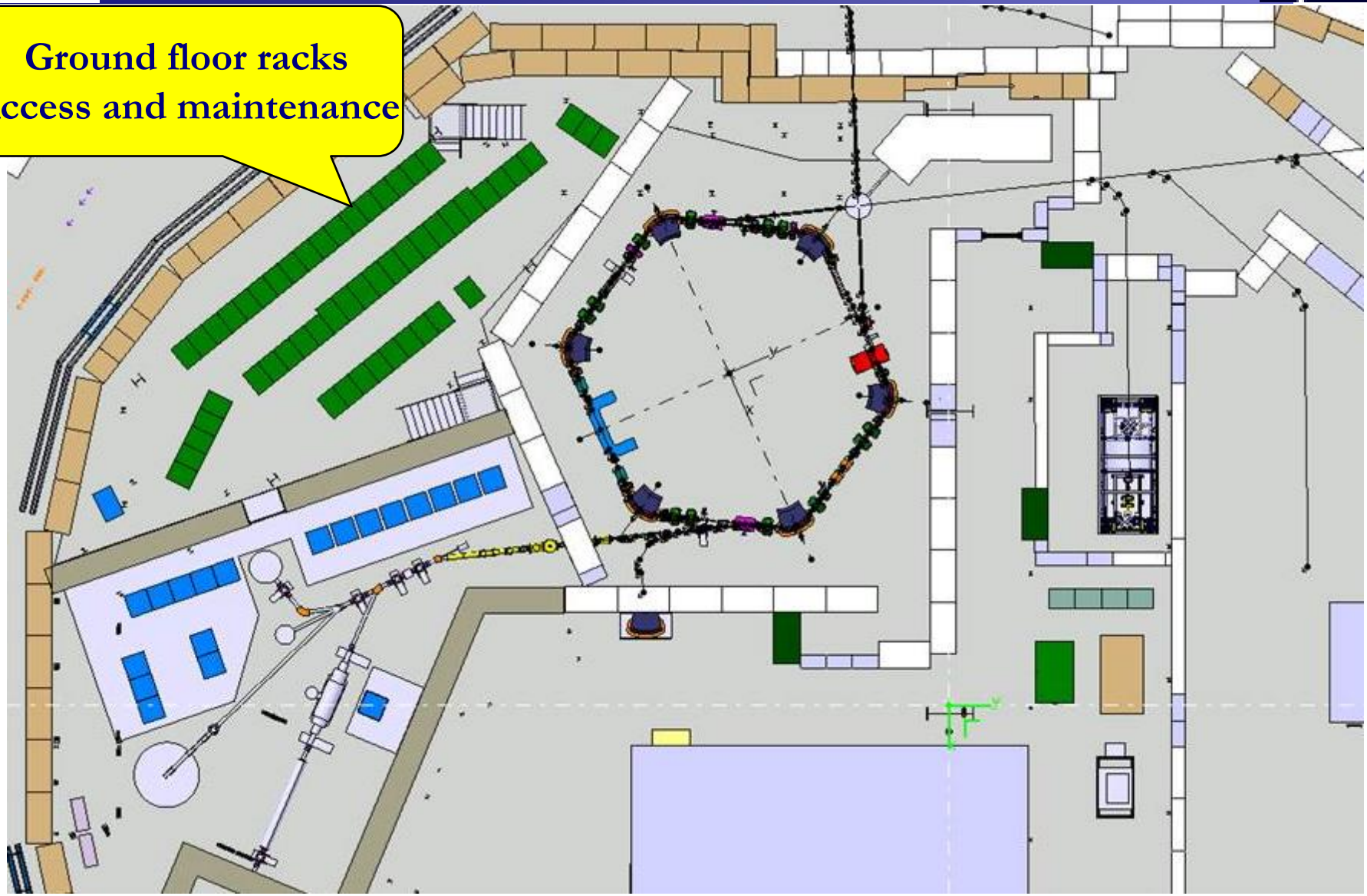
Integration issues (5)



Integration issues (6)



Integration issues (7)



Quality assurance in ELENA project

- Quality assurance of the project is ensured via the quality assurance manager and the quality management team.
- Standards are defined in 2 reference docs: