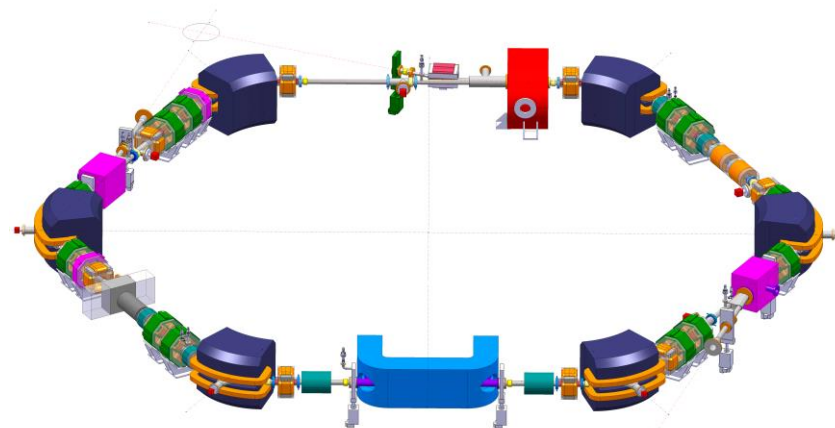


ELENA TDR Review

Integration and Layout

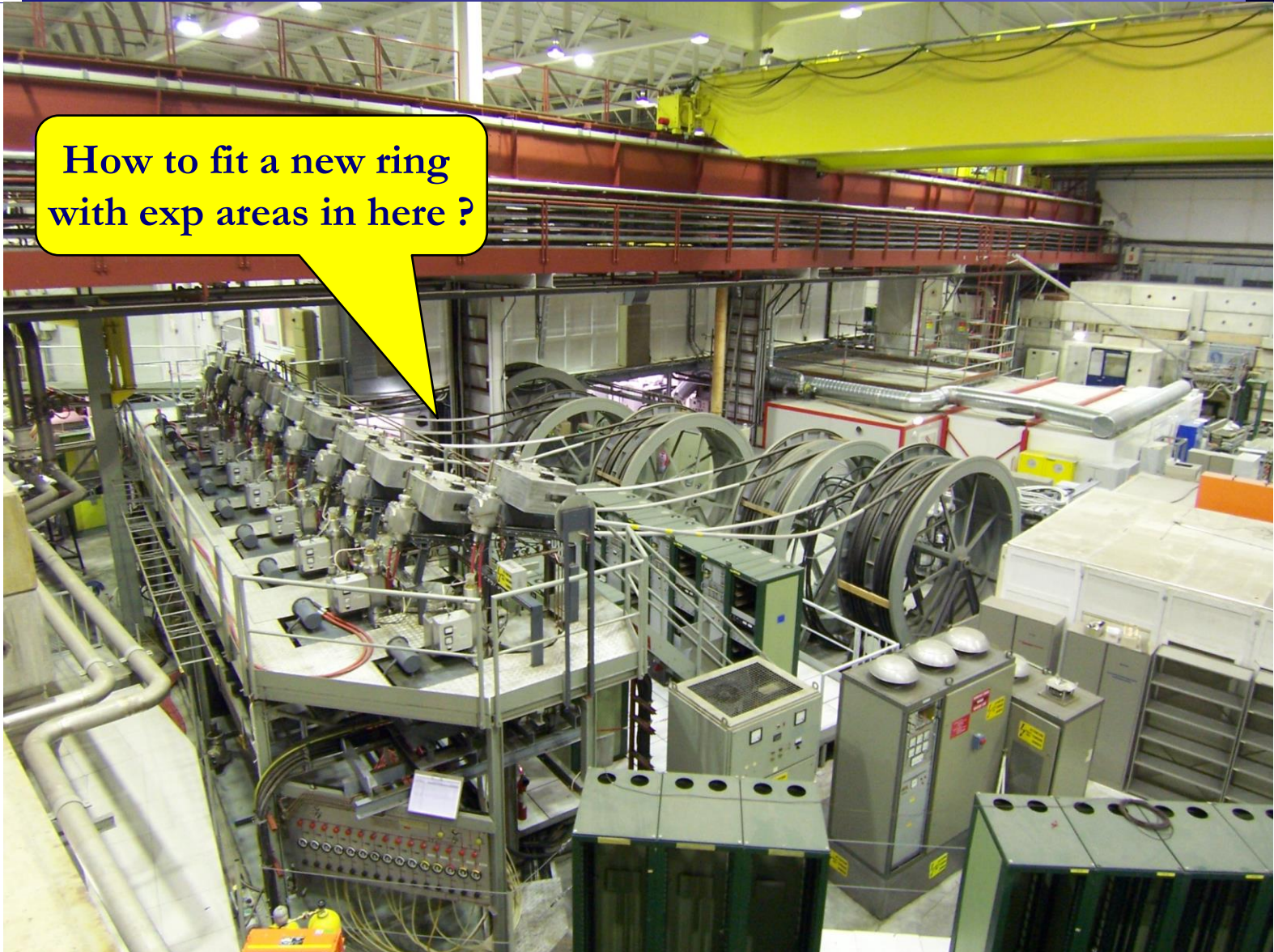


ELENA
Extra Low ENergy Antiprotons

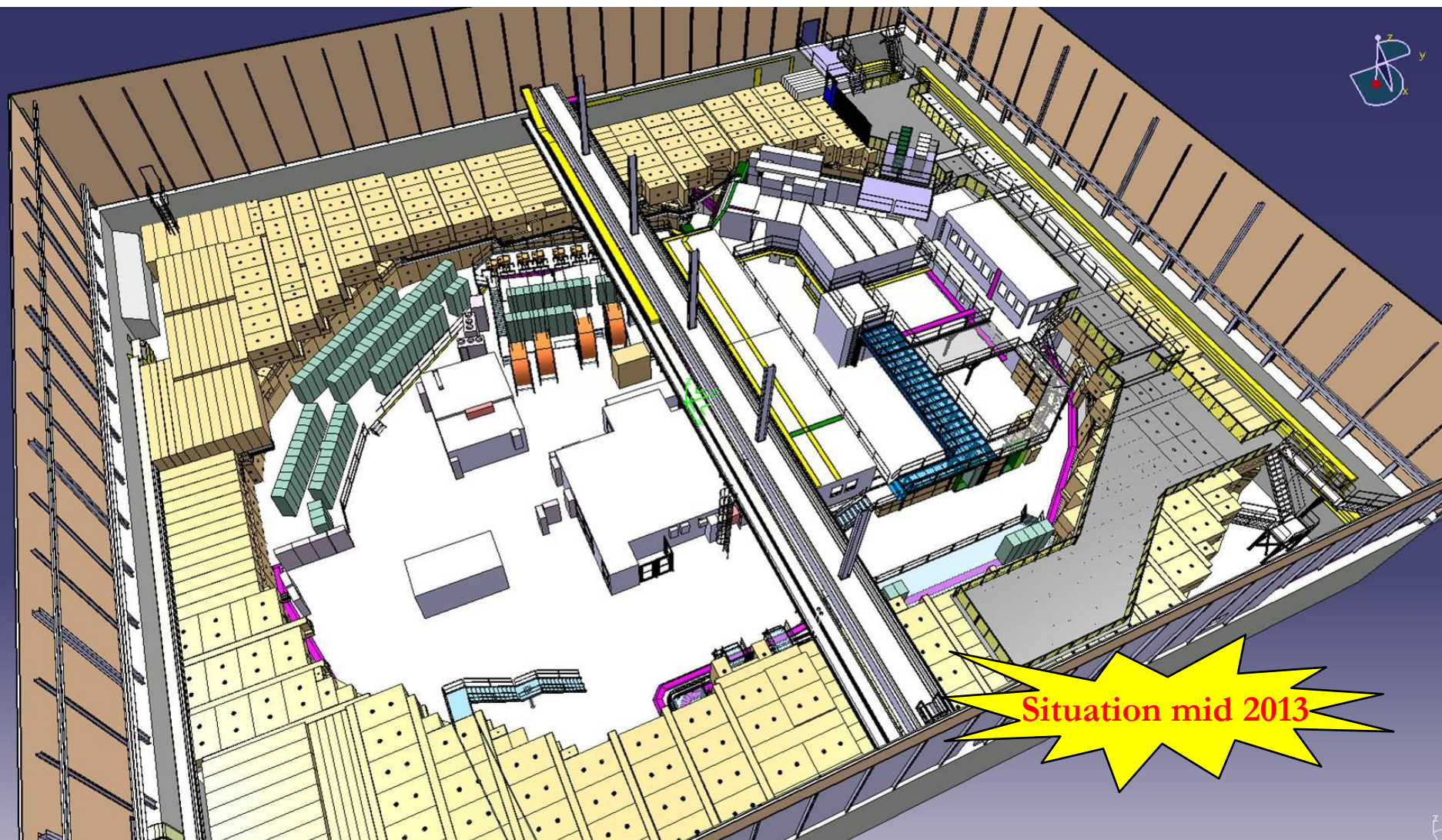
- ELENA = large prospect for antiproton physics for another 20 years
- Wide context of AD facility consolidation
 - AD machine
 - AD hall infrastructure
 - Experimental areas and control rooms (present and future)
 - Space for experiments preparation and hardware storage (mostly inexistent today)

First challenge: fit ELENA in AD hall

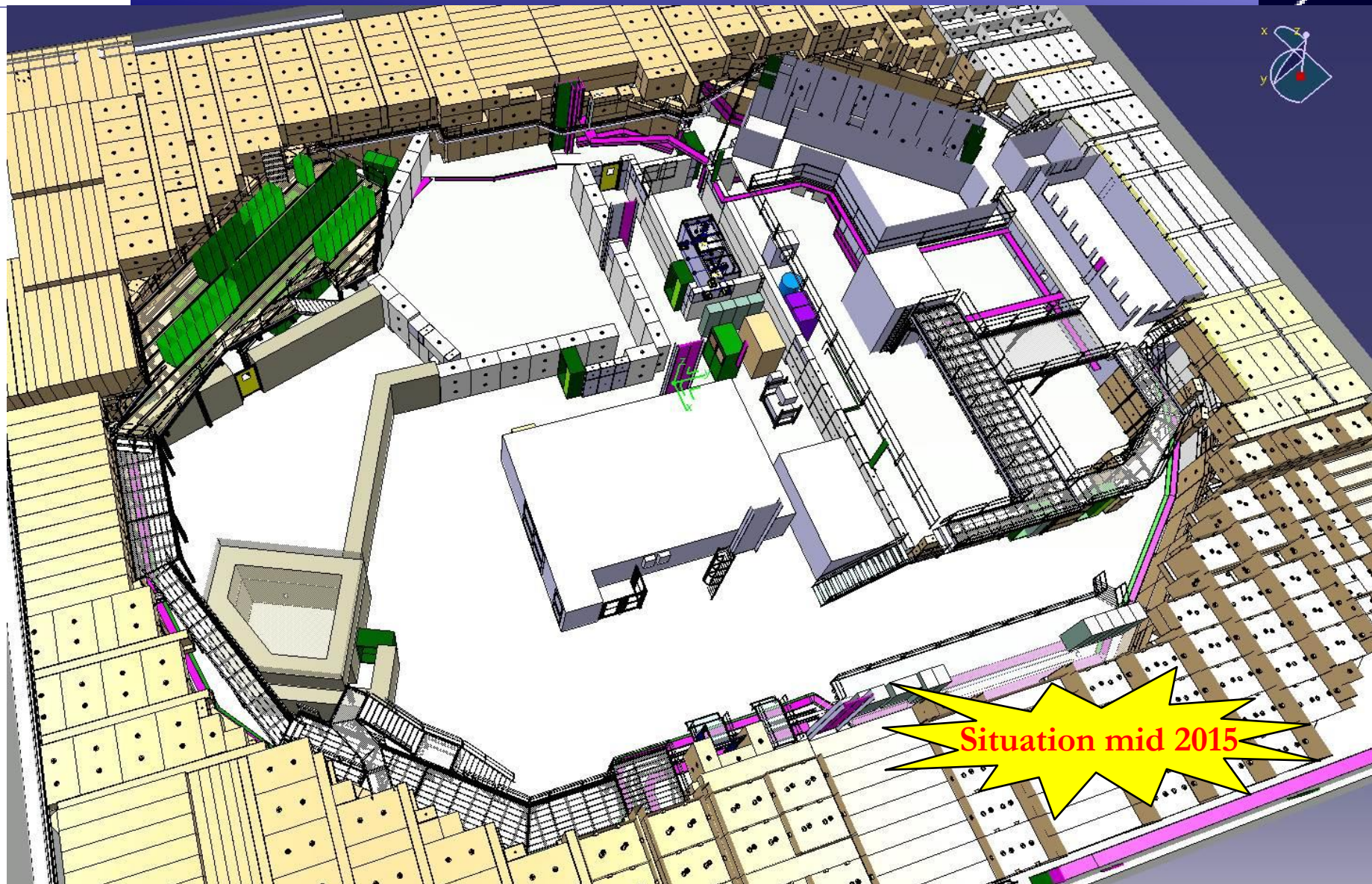
How to fit a new ring with exp areas in here ?



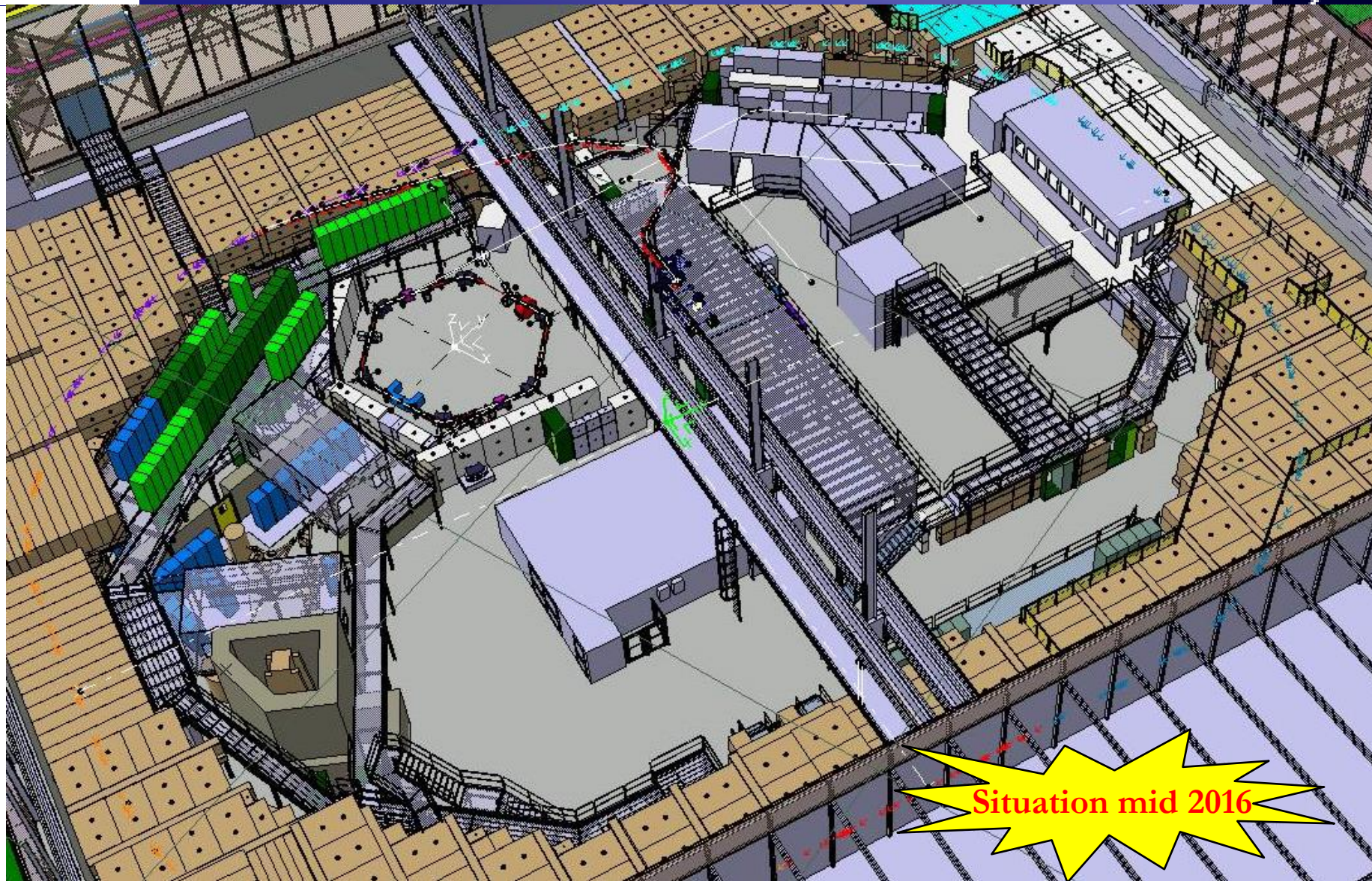
AD environment adaptation stage 1



AD environment adaptation stage 2



AD environment adaptation stage 3



Situation mid 2016

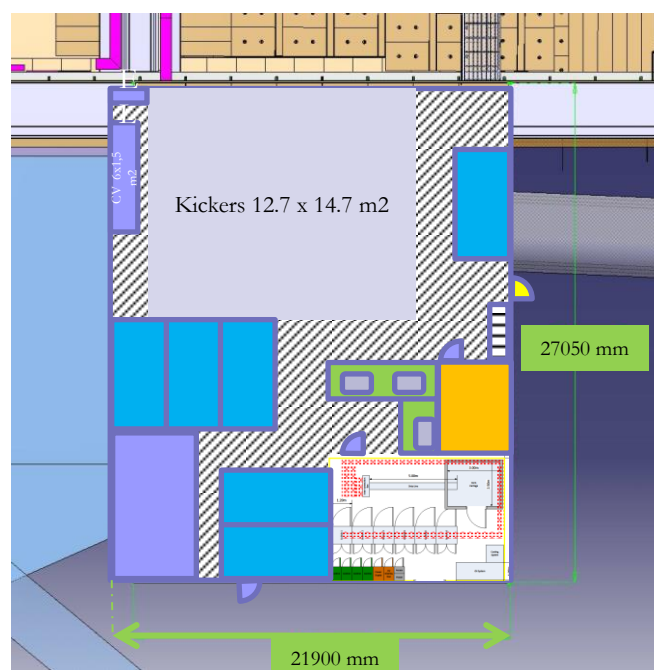
- During CERN machines LS2:
 - Upgrade AD hall air conditioning system
 - Proposal to shift ASACUSA laser room by 5m to make space for another experiment in AD hall
 - Adapt to new ideas that will have emerged by then !

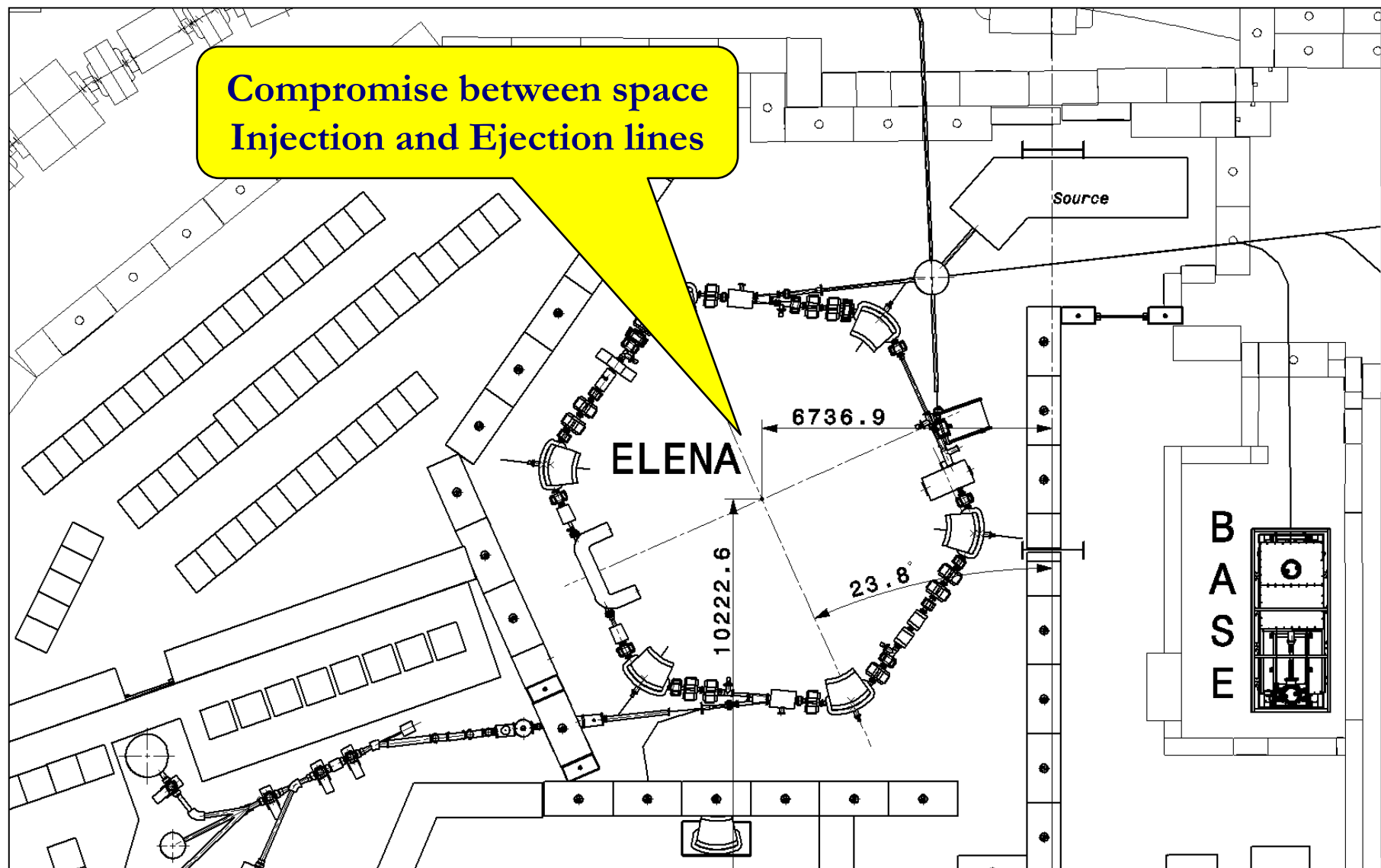


- New adjacent building (bdg 93) for experiments control rooms, meeting room and cafeteria:
 - OK for AegiS, ATRAP and BASE
 - Planned for GBAR (early 2015)
 - In discussion for APLHA and ASACUSA (2017 ?)

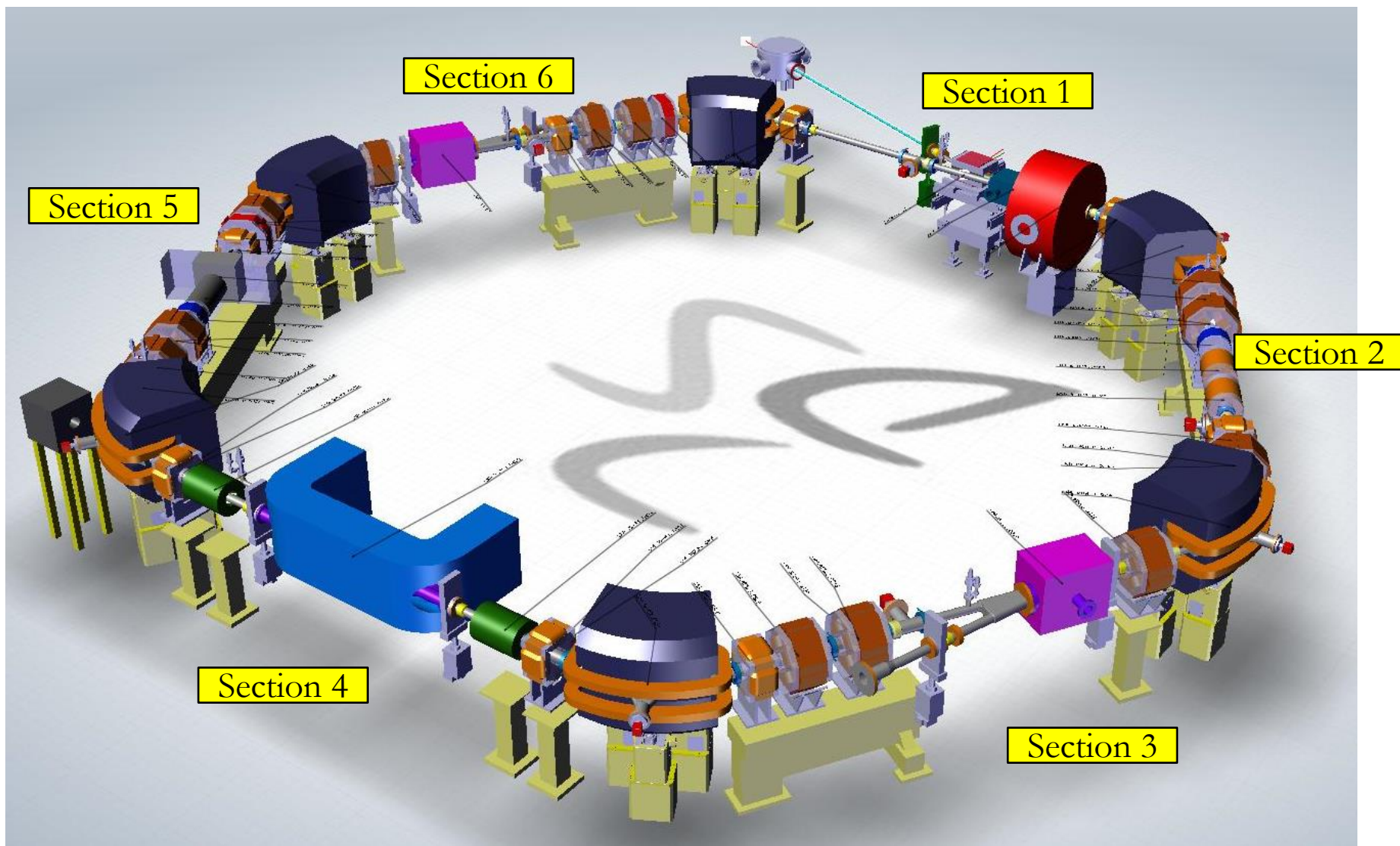


- New technical building (bdg 393) construction:
 - AD kicker generators and existing workshop relocation
 - Experiments hardware preparation /storage space;
 - Experiments common cleaning room
 - AD magnetic horn test-bench relocation

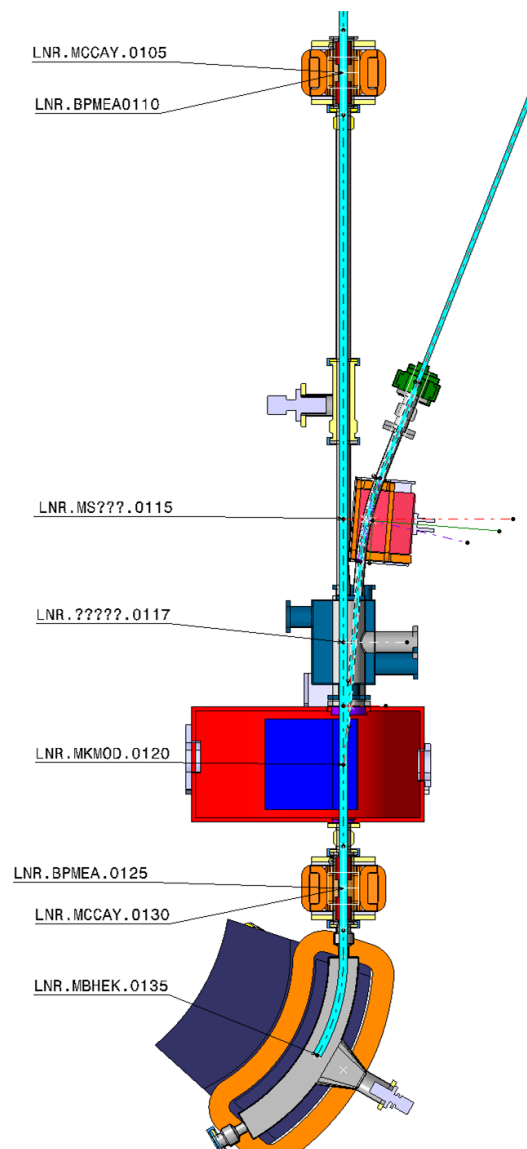
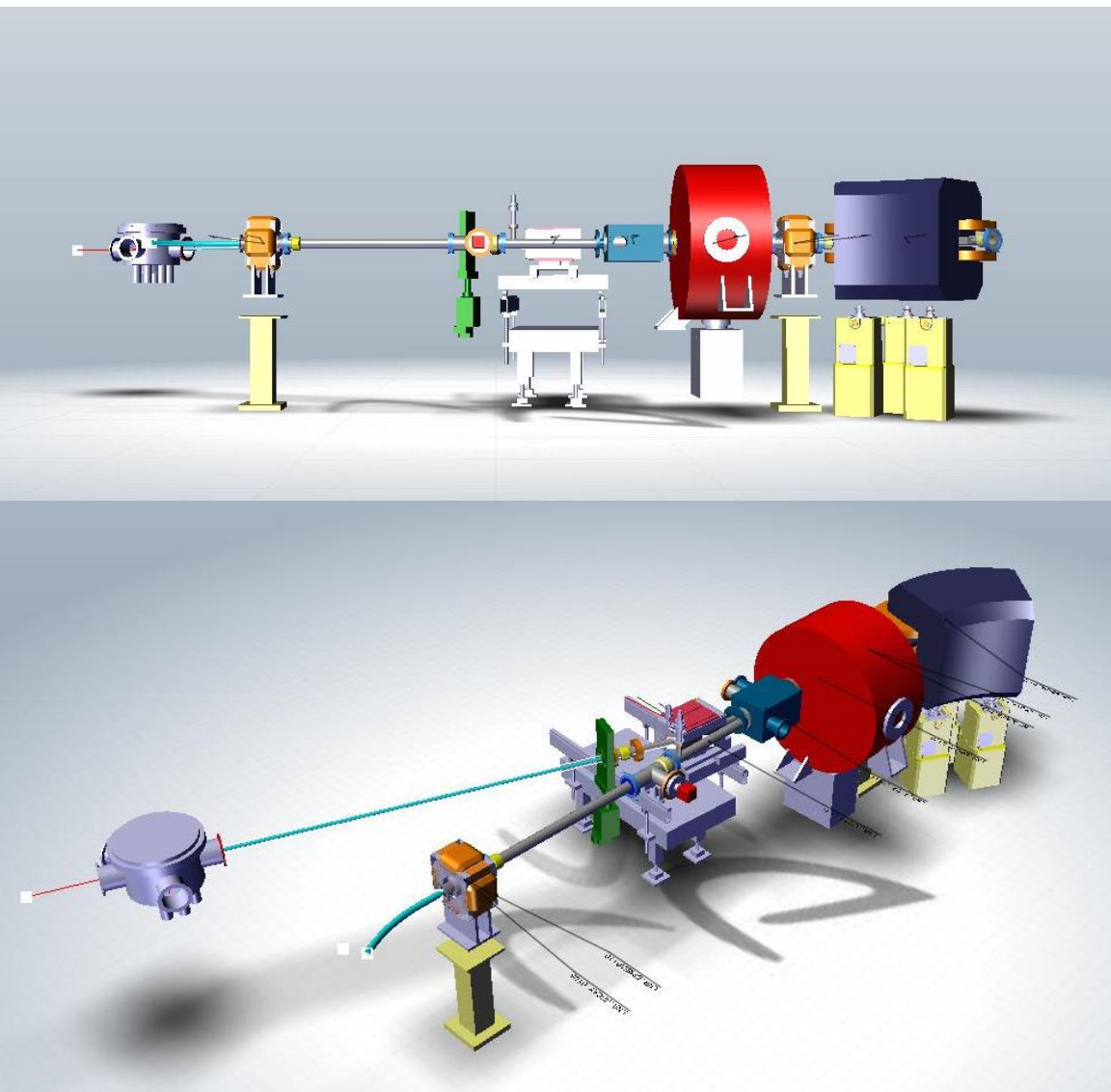




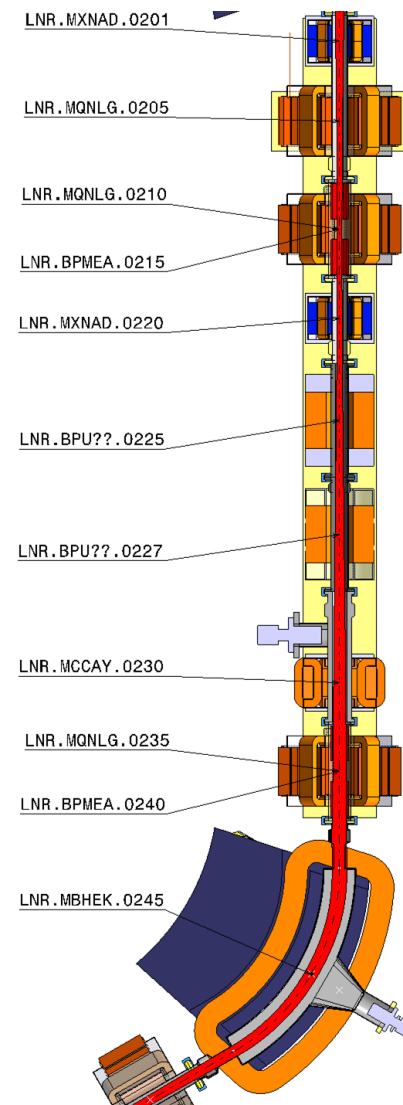
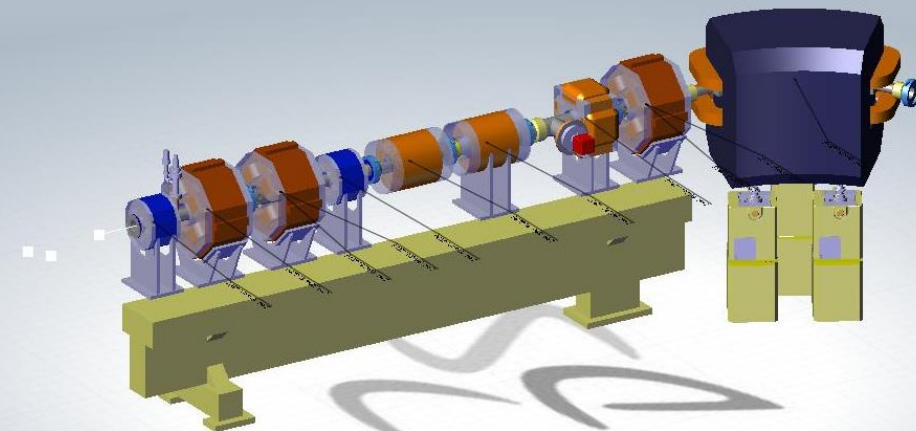
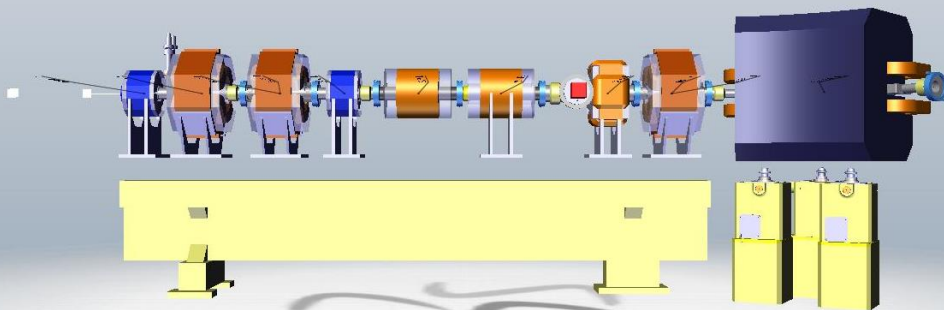
ELENA machine layout



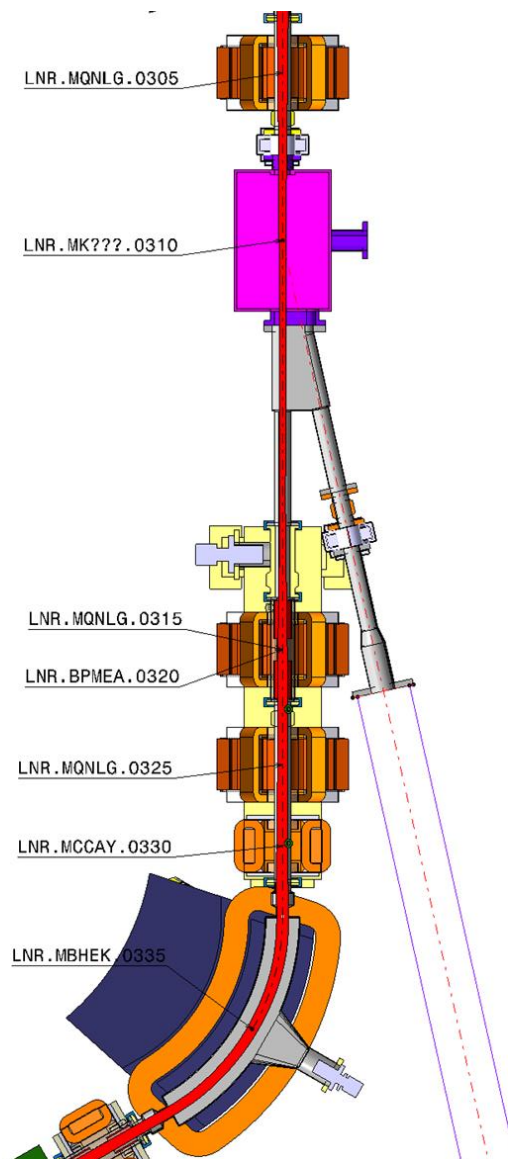
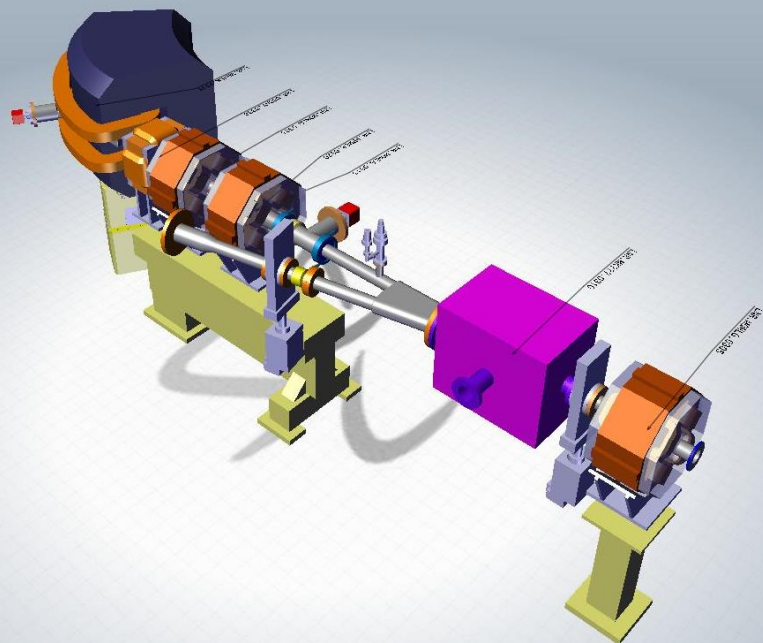
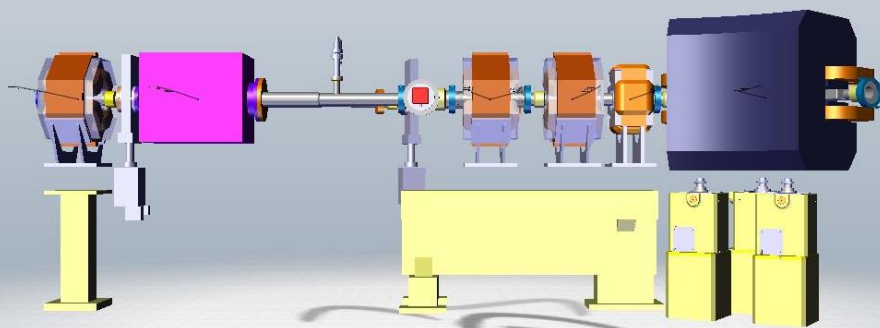
ELENA machine section 1



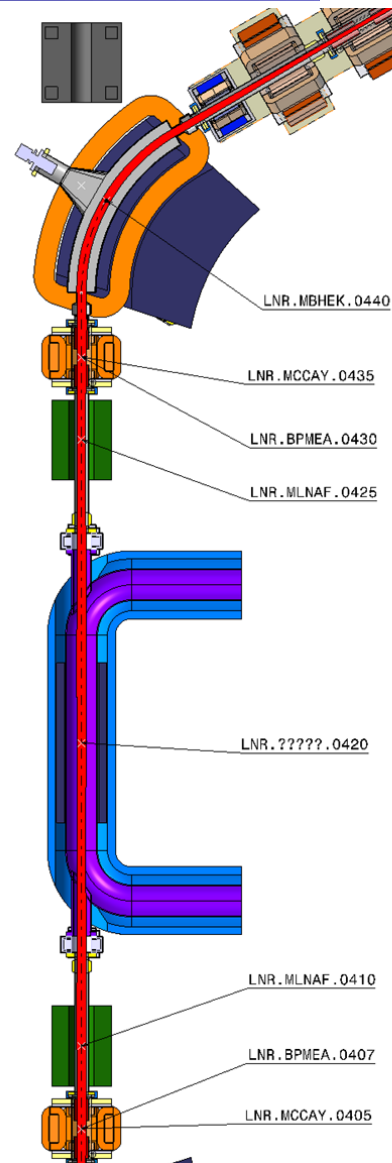
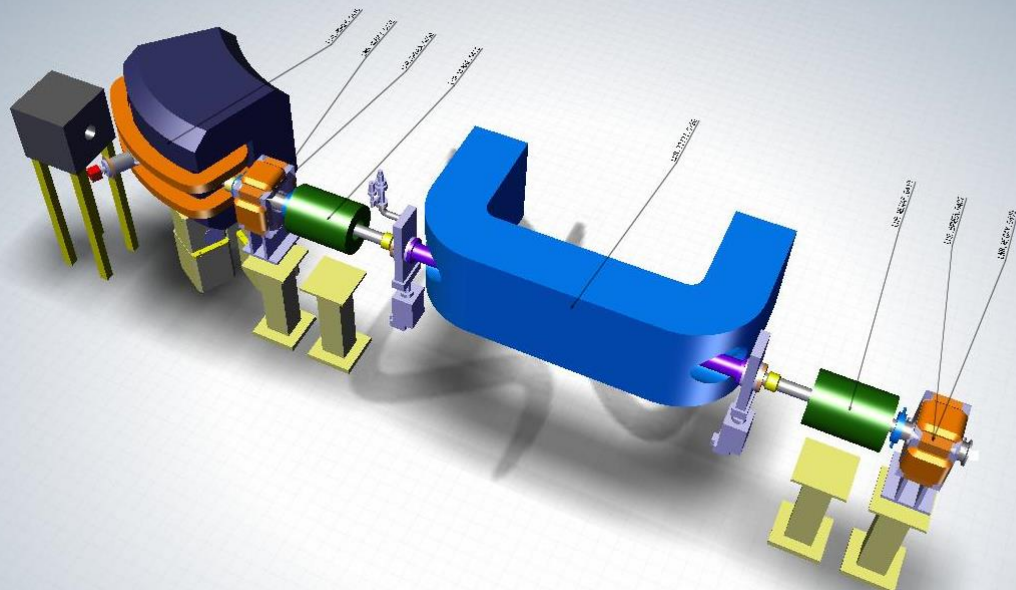
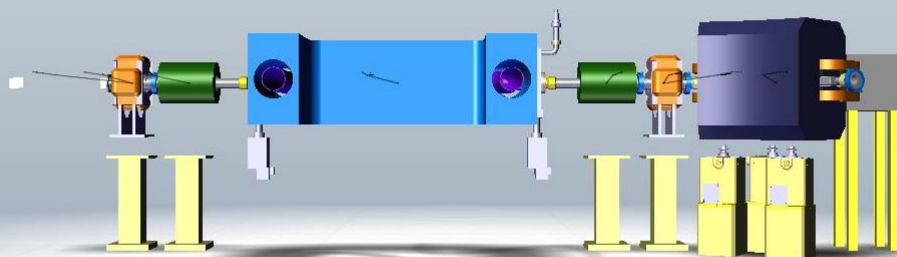
ELENA machine section 2



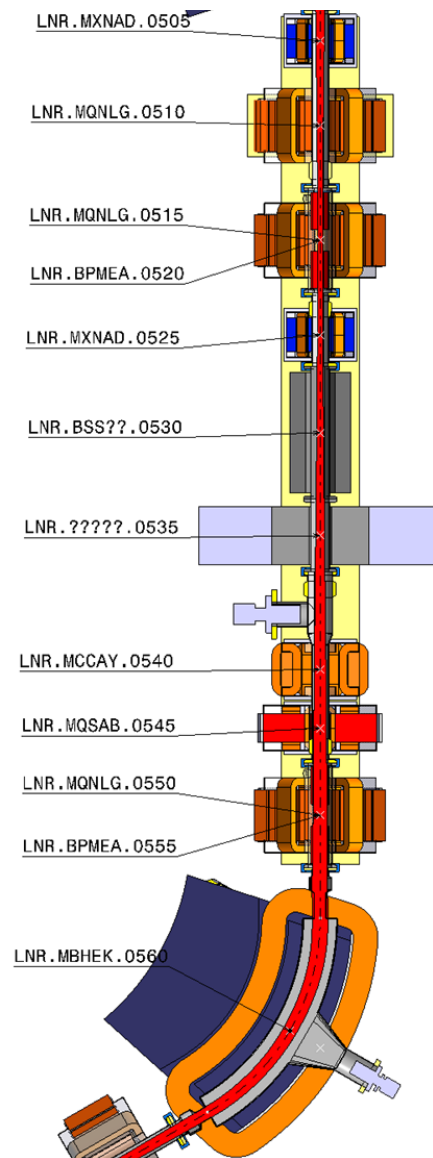
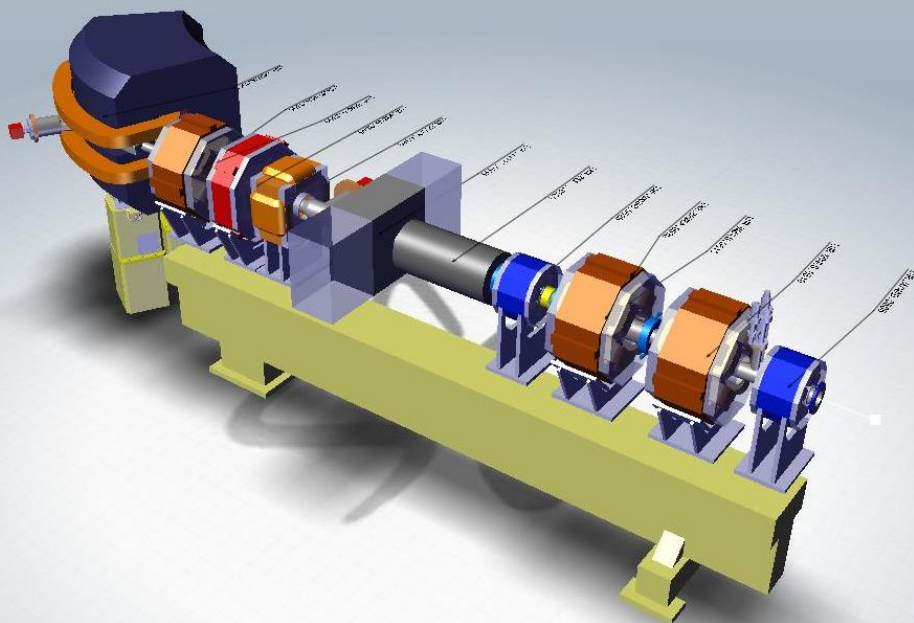
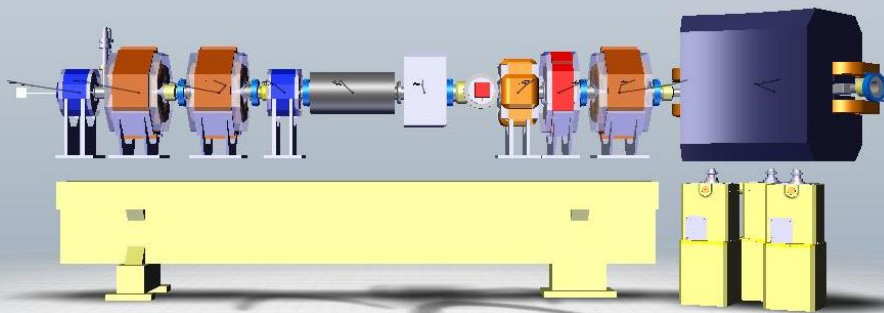
ELENA machine section 3



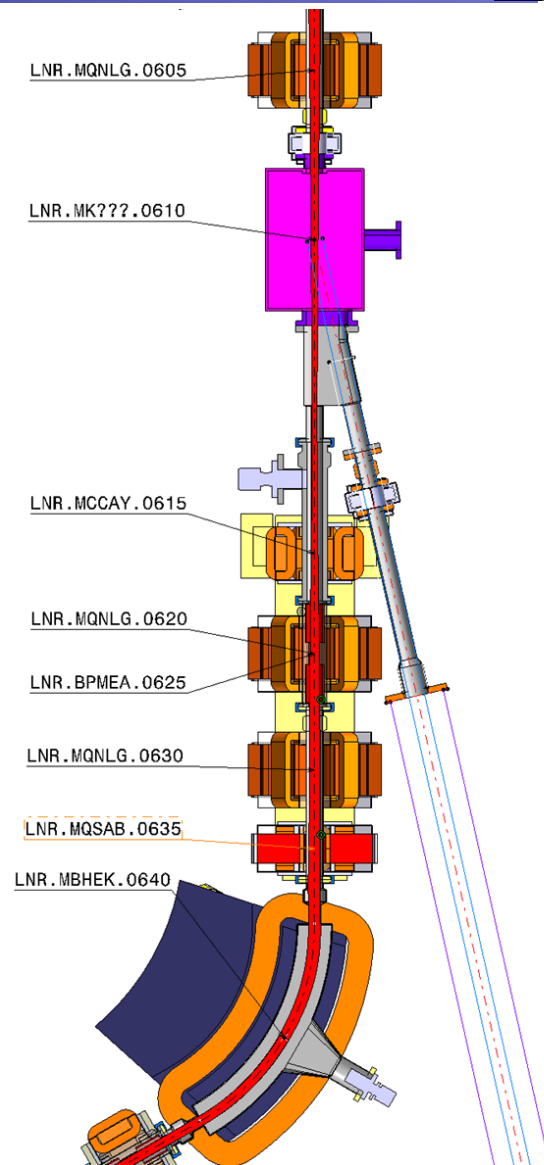
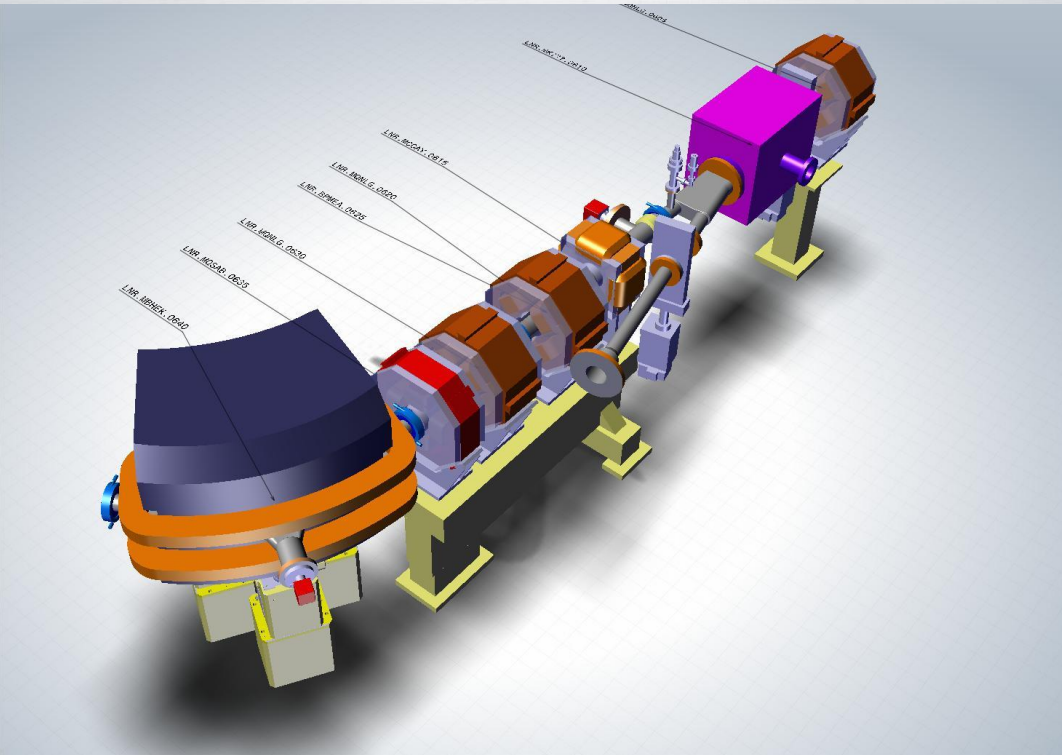
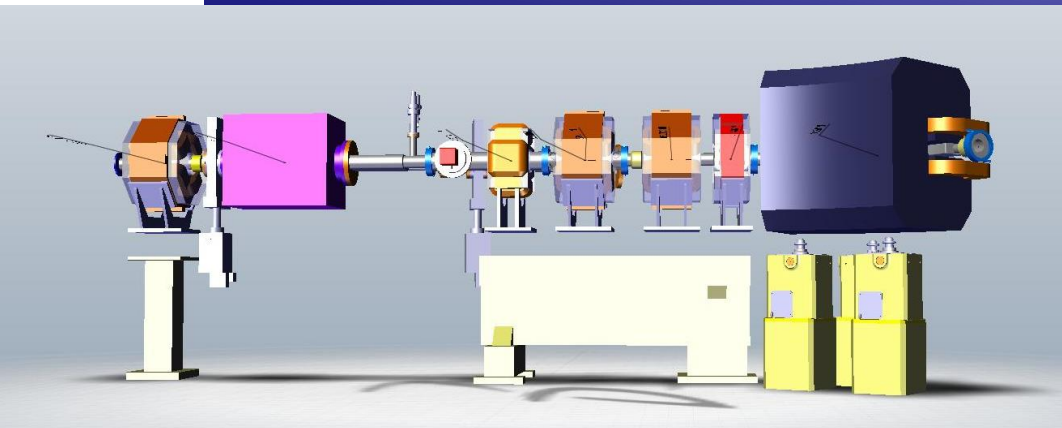
ELENA machine section 4

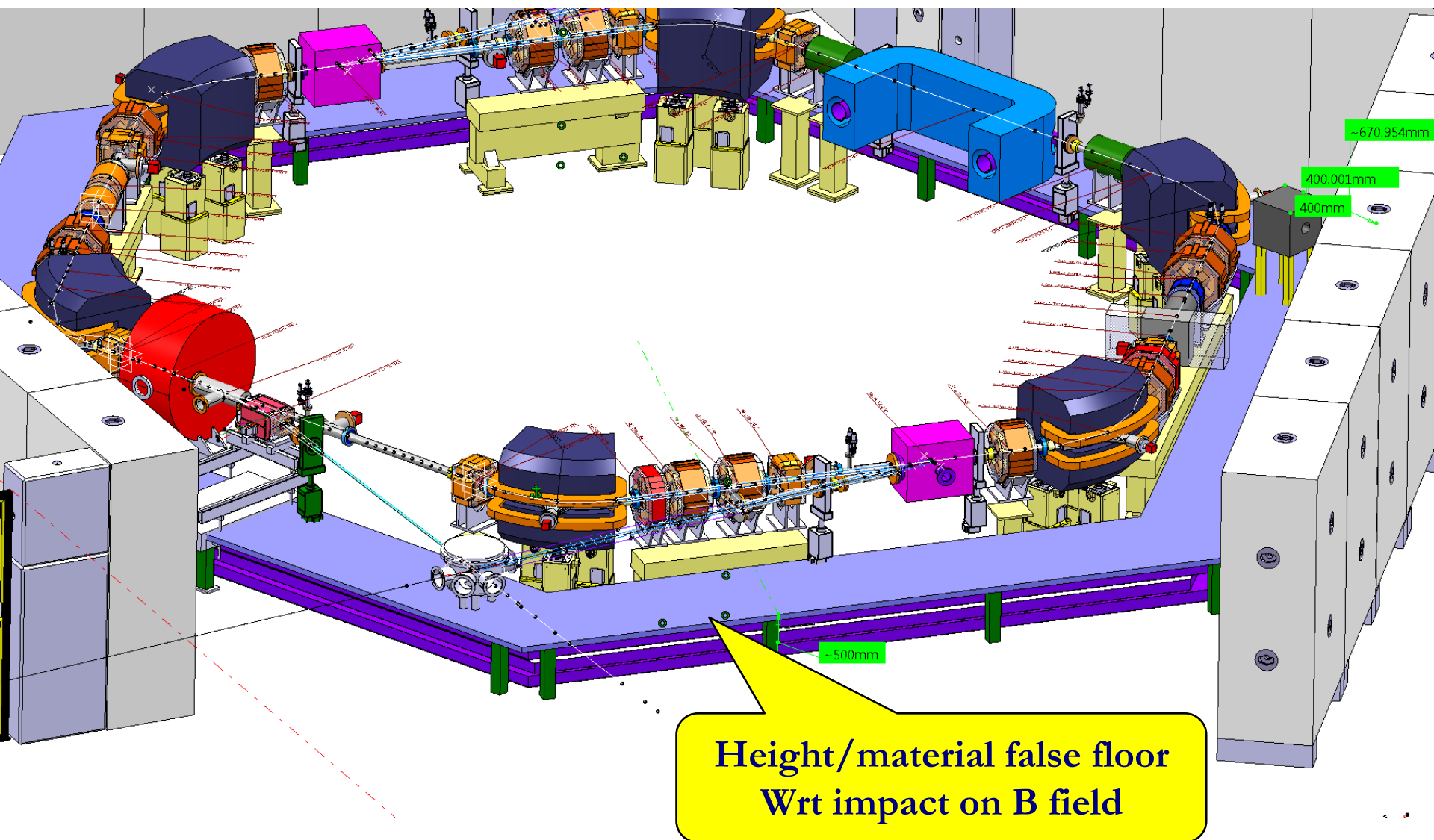


ELENA machine section 5

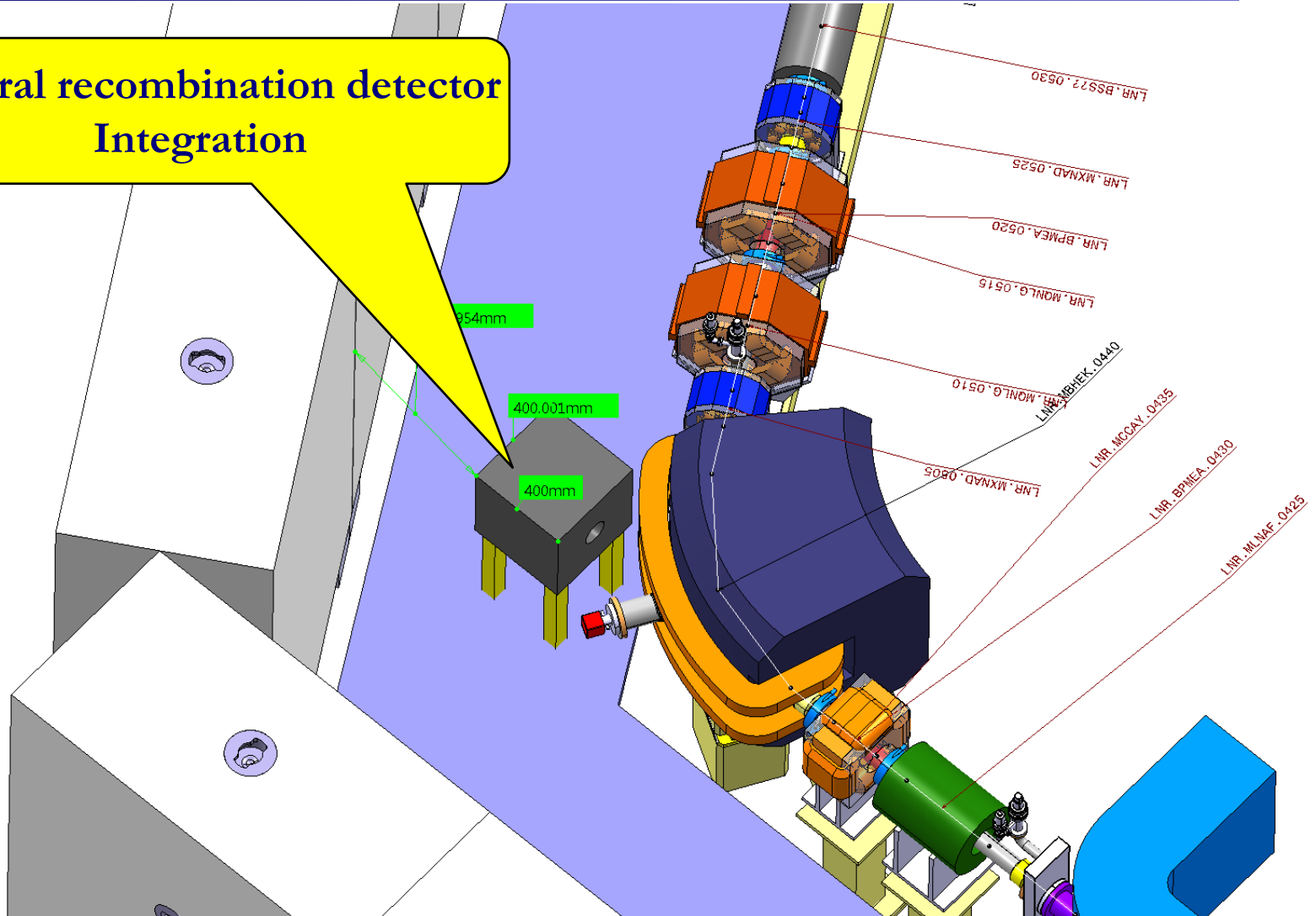


ELENA machine section 6



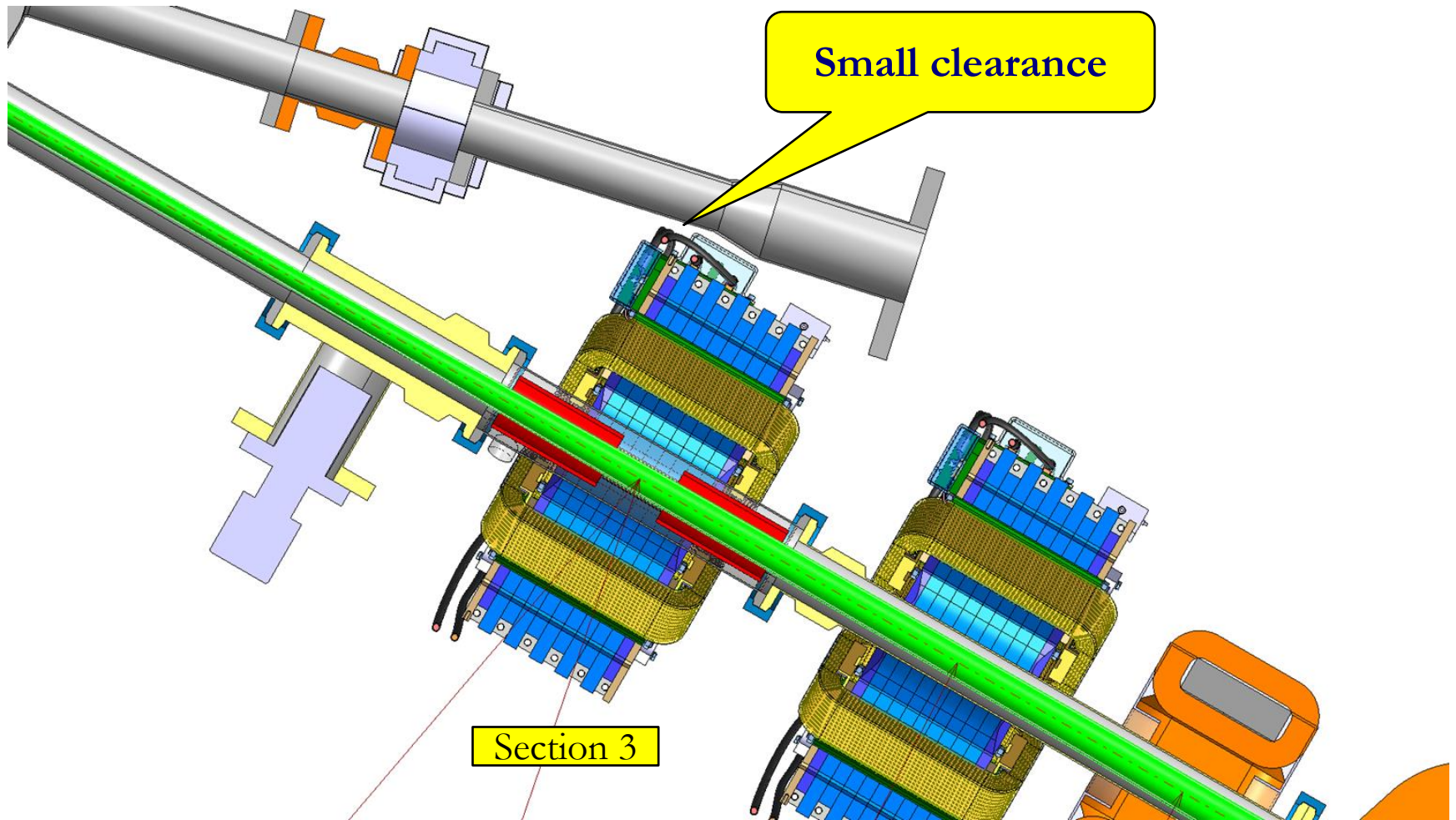


Neutral recombination detector Integration



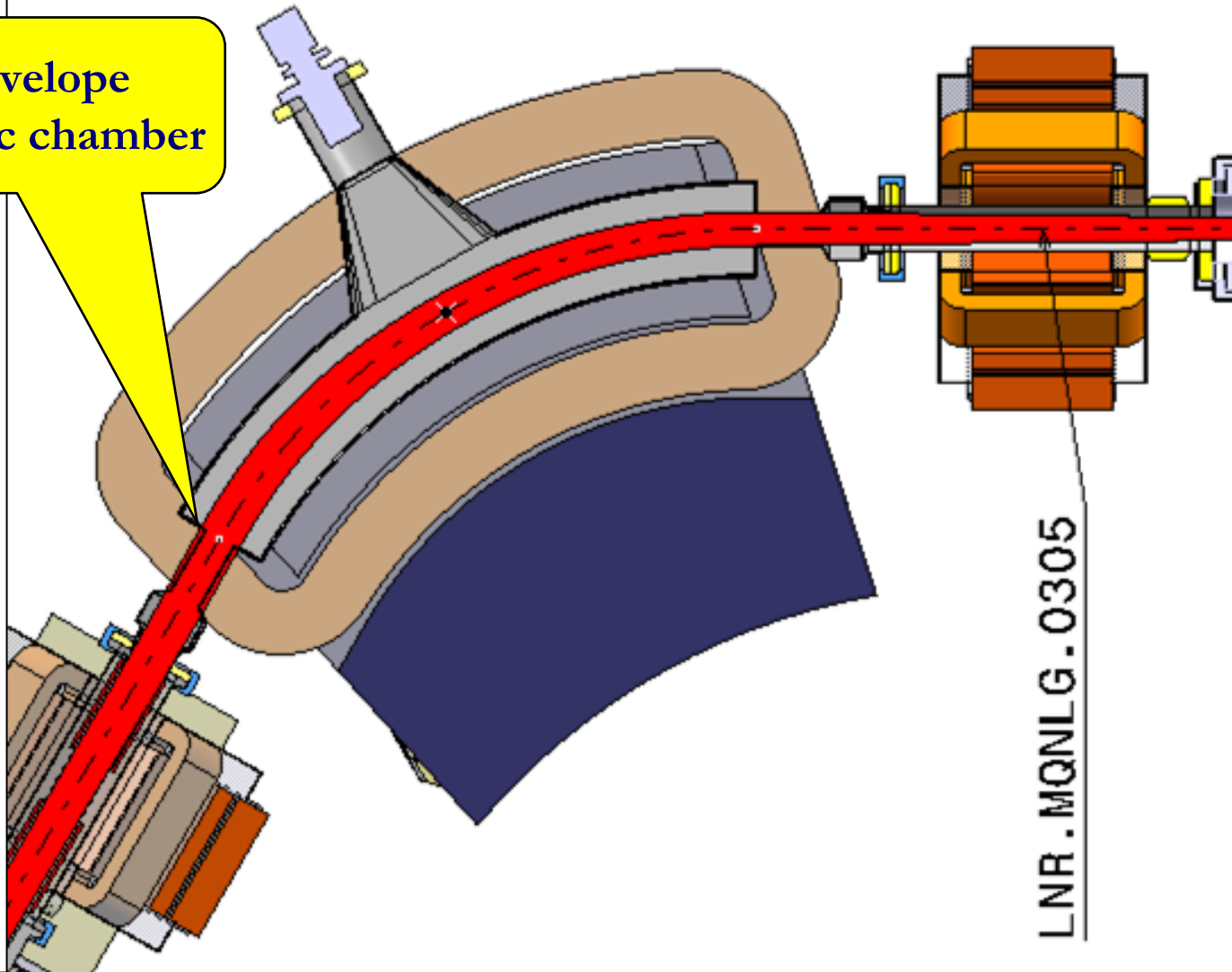


Integration issues (4)



Integration issues (5)

Beam envelope
Redesign vac chamber



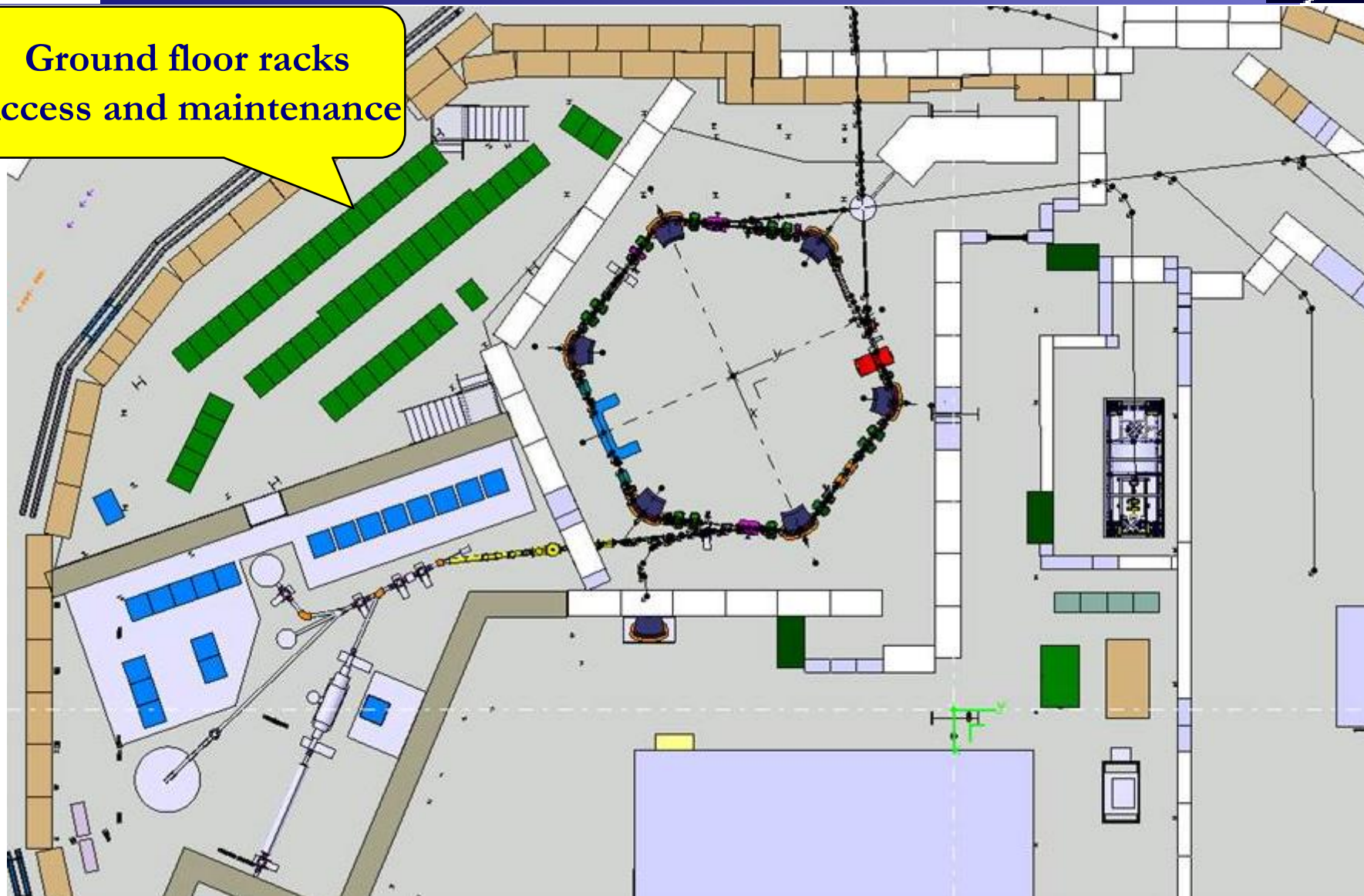
Integration issues (6)



Large gangway also
for GBAR access
LINAC ?

Integration issues (7)

Ground floor racks
Access and maintenance



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

| | | | | |
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| REFERENCE LNA-QA-002 | | | | |
| ELENA | | | | |
| Date : 2012-04-02 | | | | |
| Quality Assurance Definition | | | | |
| Naming conventions for the layout of ELENA | | | | |
| <p>ABSTRACT:</p> <p>This document outlines the naming conventions to be used for the layout of the ELENA facility. The layout naming convention is defined from the connection with the AG machine and the layout of the power distribution system. The scope of the layout concerns the power distribution system, the power electrical circuits, the layout of the PS-Complex, combined...</p> | | | | |
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| REFERENCE LNA-PM-QA-0001 | | | | |
| ELENA | | | | |
| Date : 2013-08-30 | | | | |
| Quality Assurance Definition | | | | |
| ELENA QUALITY ASSURANCE PLAN AND PROJECT ORGANISATION | | | | |
| <p>ABSTRACT:</p> <p>This document outlines the quality assurance plan and the project organization to be put in place for the ELENA project, based on experience gained with previous projects such as LHC and LHC.</p> | | | | |
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