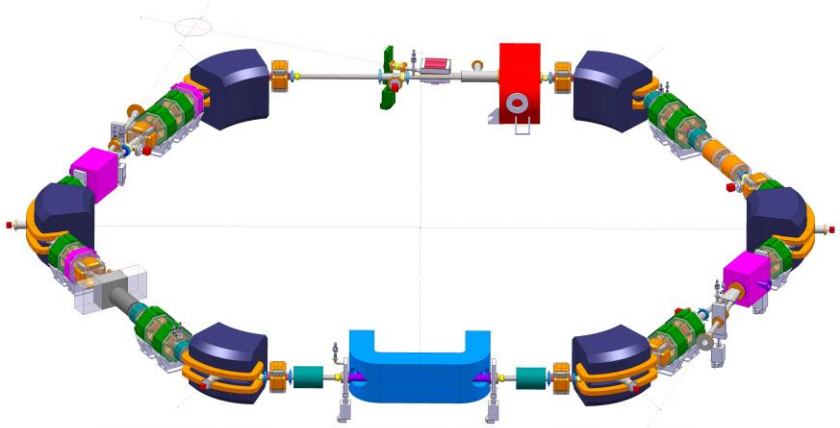
ELENA
Integration Layout Infrastructure



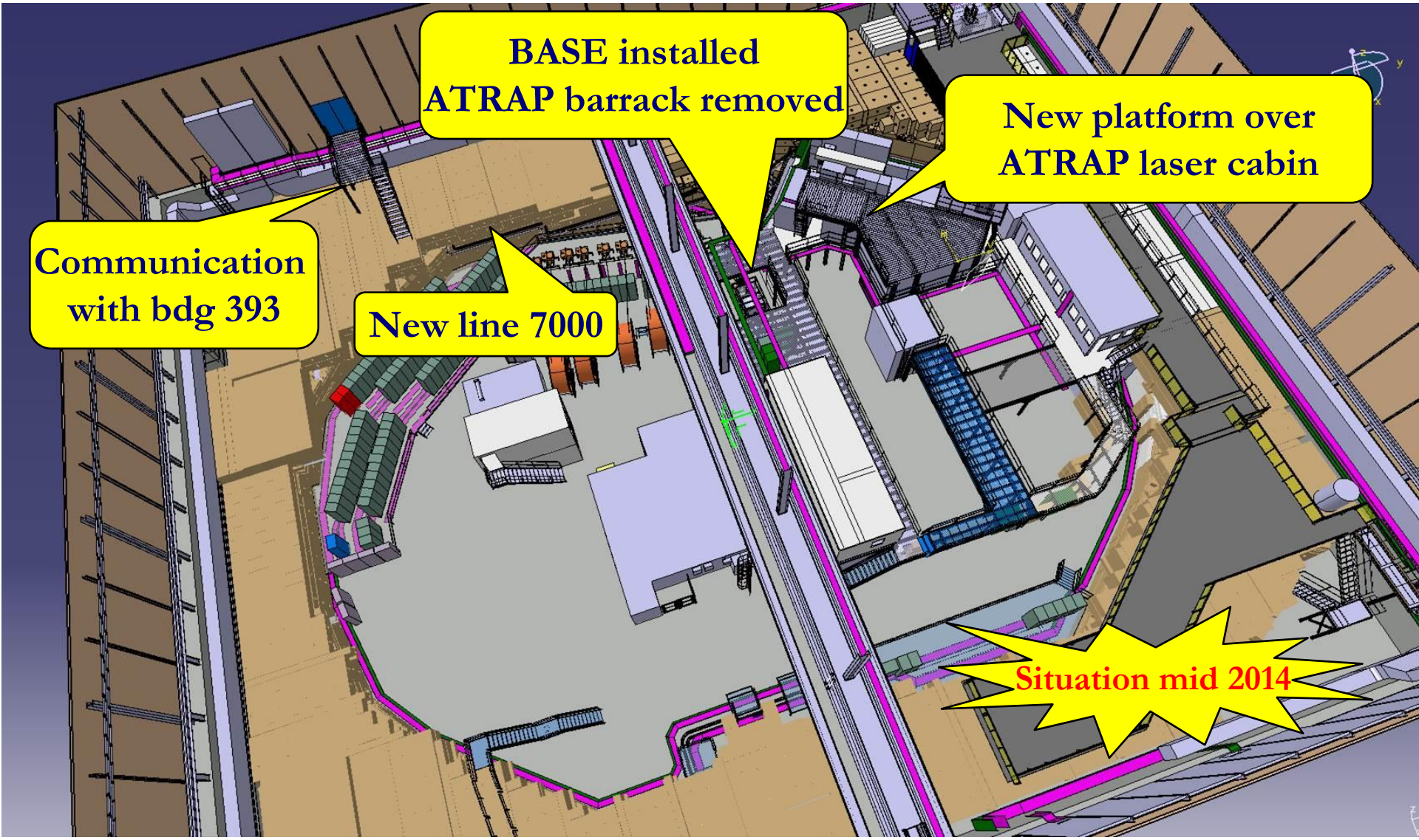
ELENA

Extra Low ENergy Antiprotons

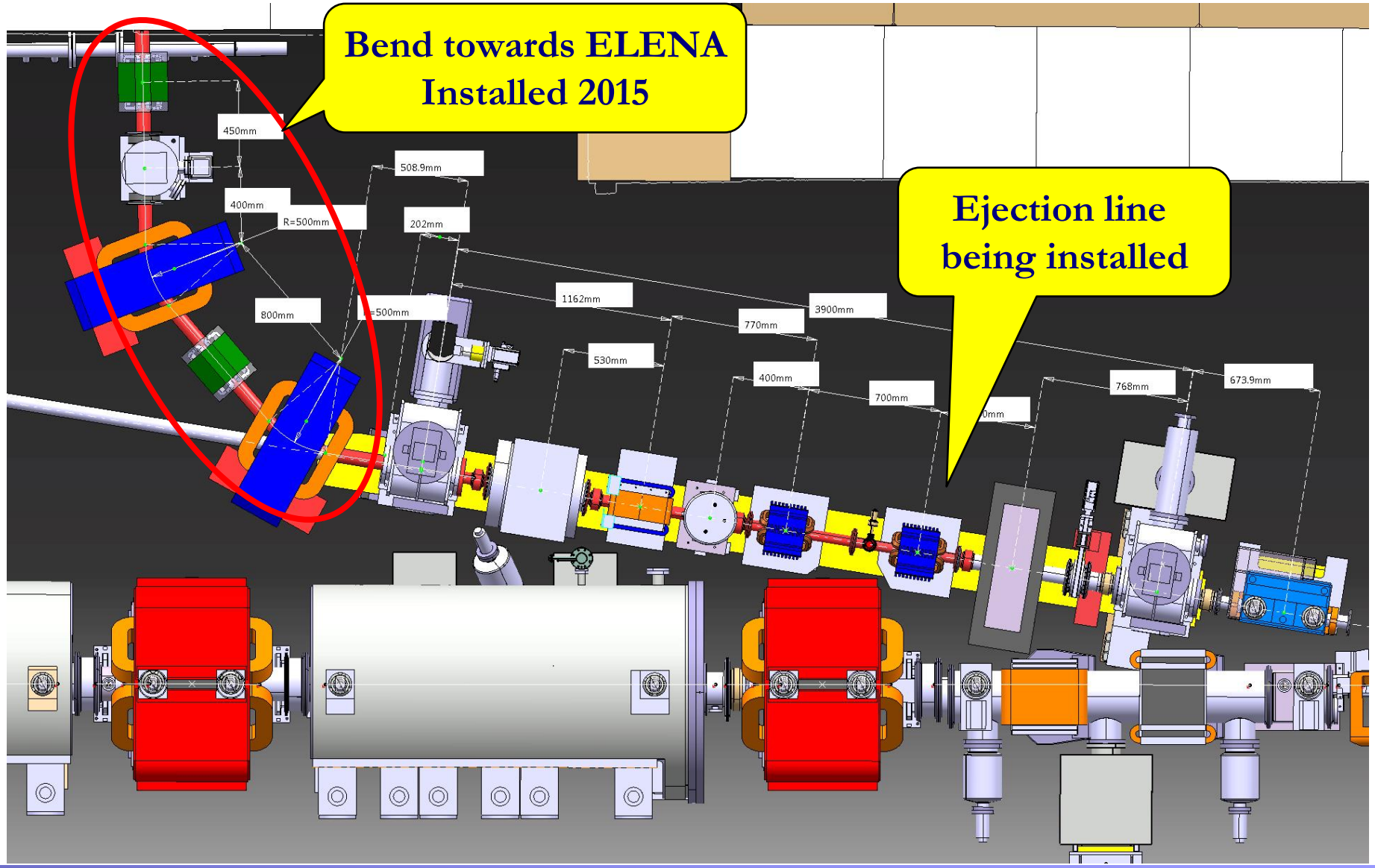
Layout in AD hall
Get prepared for another 20 years

- ELENA comes in a 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)

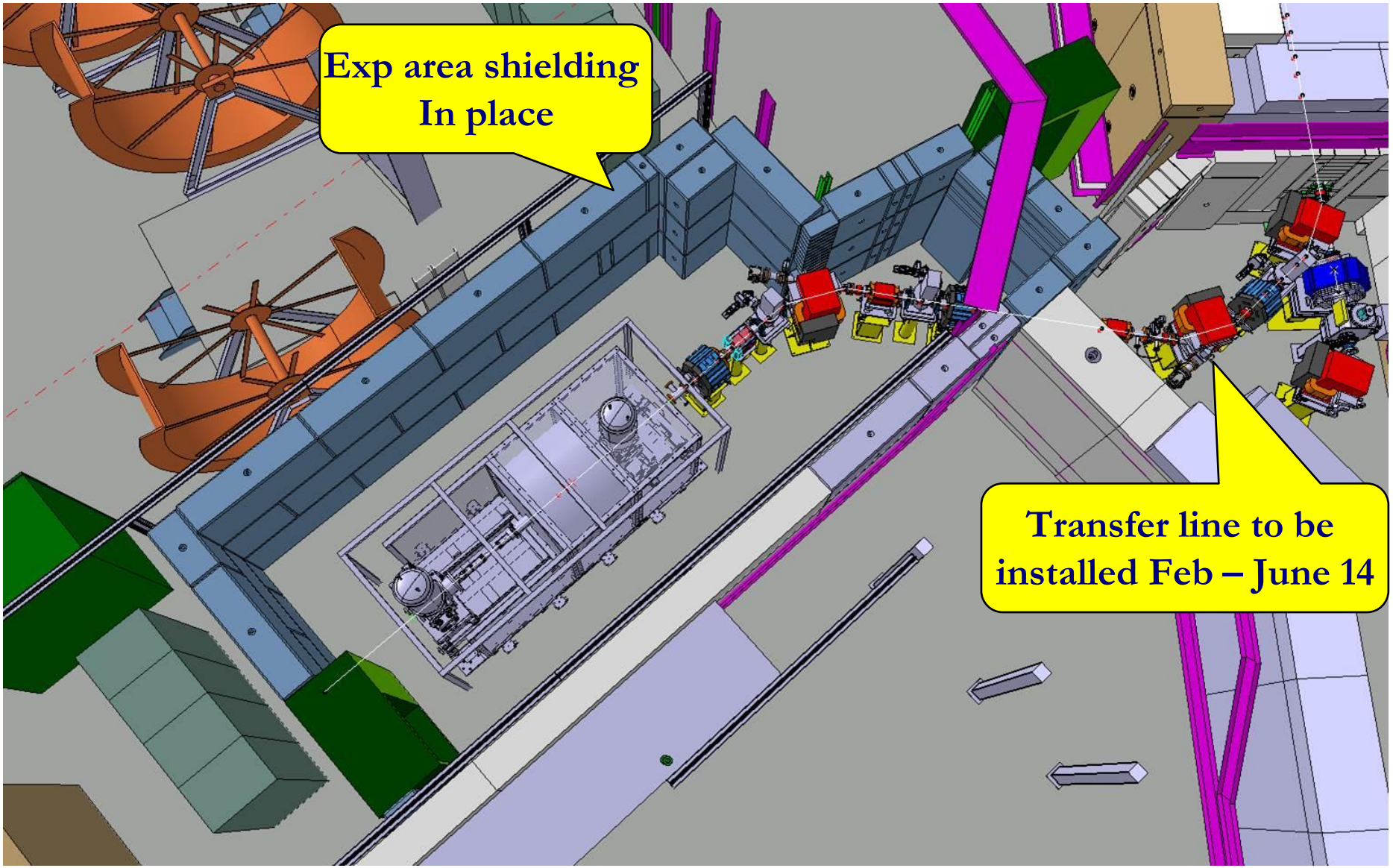
AD hall adaptation stage 1



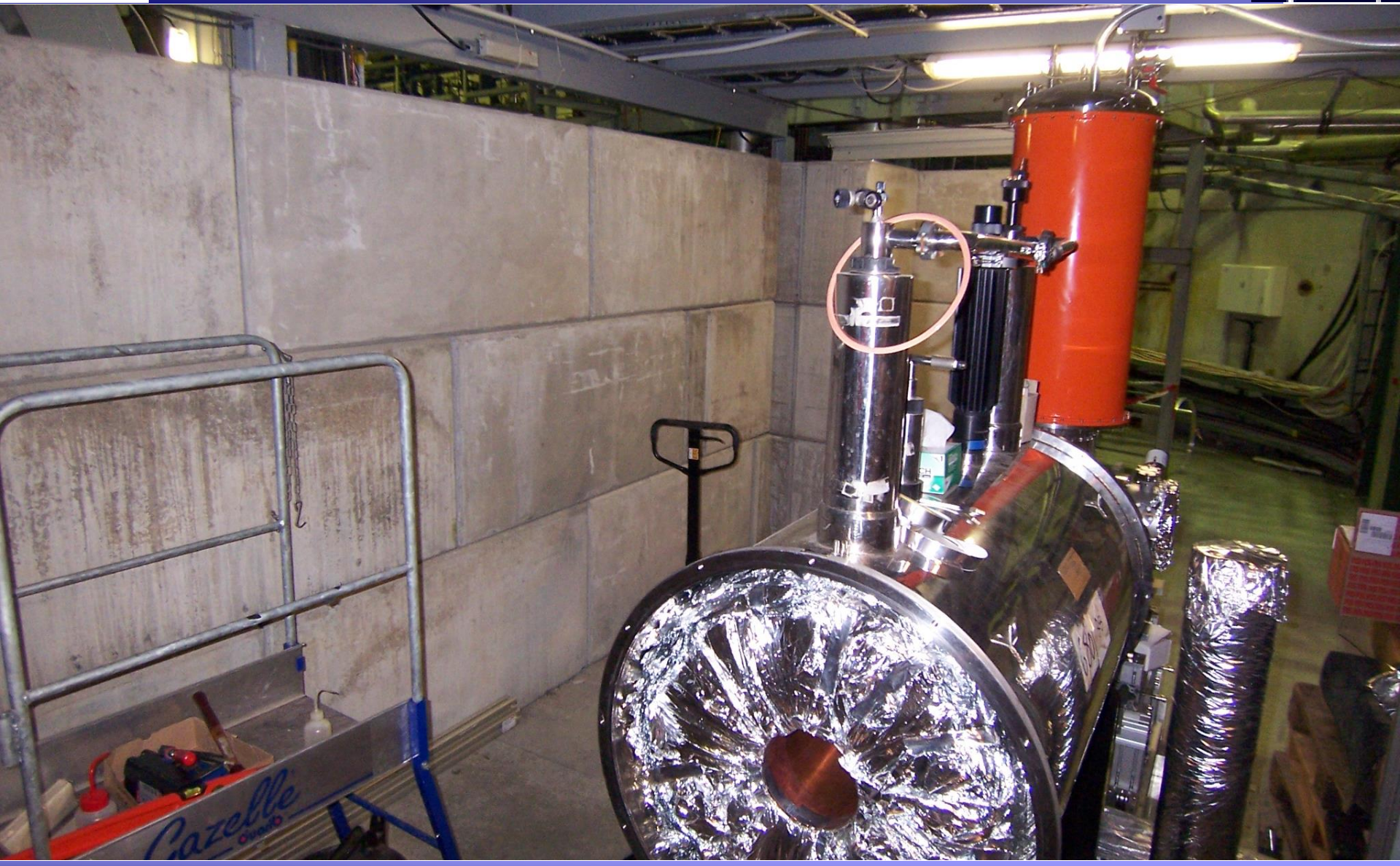
Line 7000 (ejection)



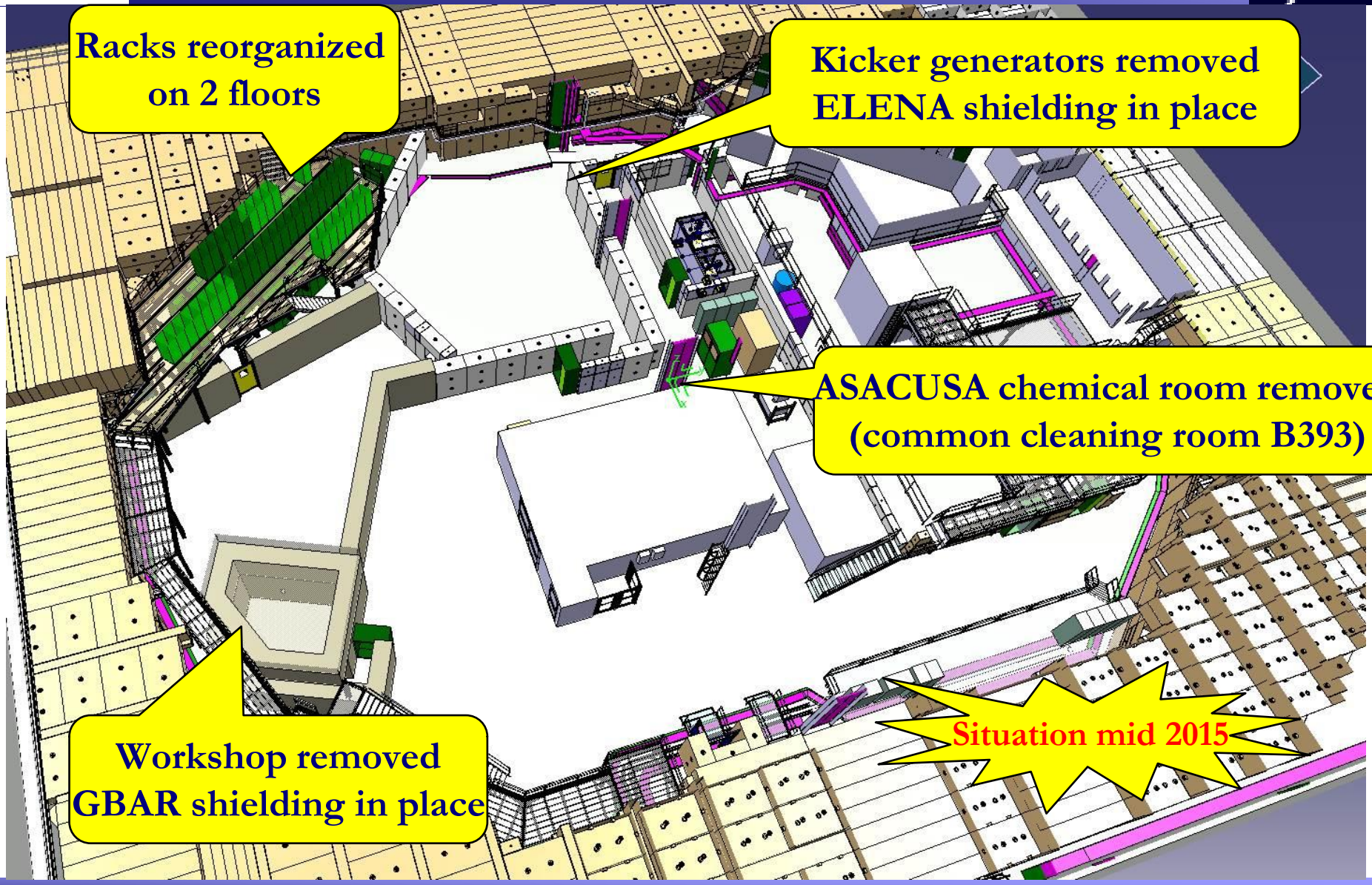
BASE exp area and transfer line



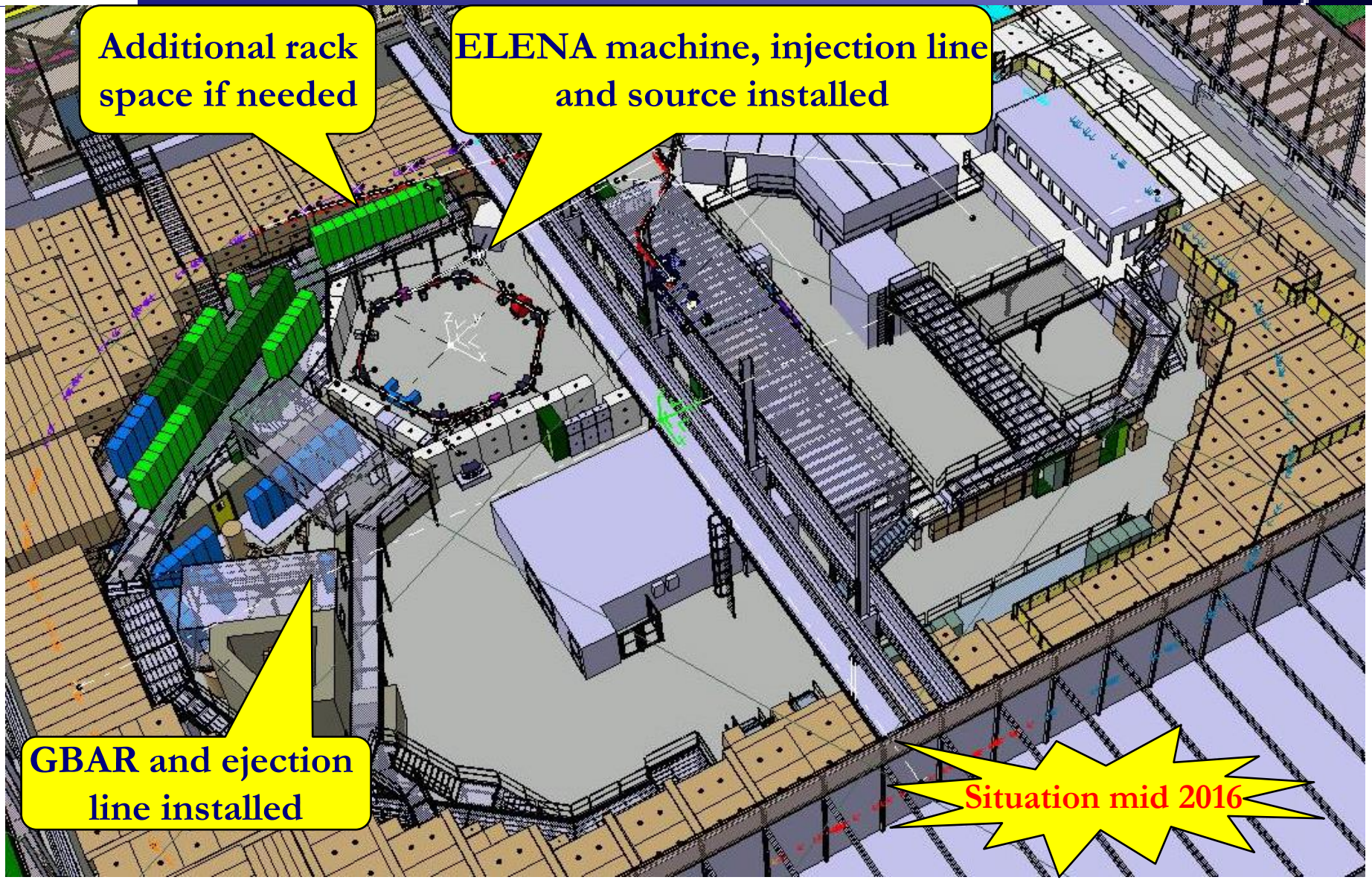
BASE from inside…



AD hall adaptation stage 2

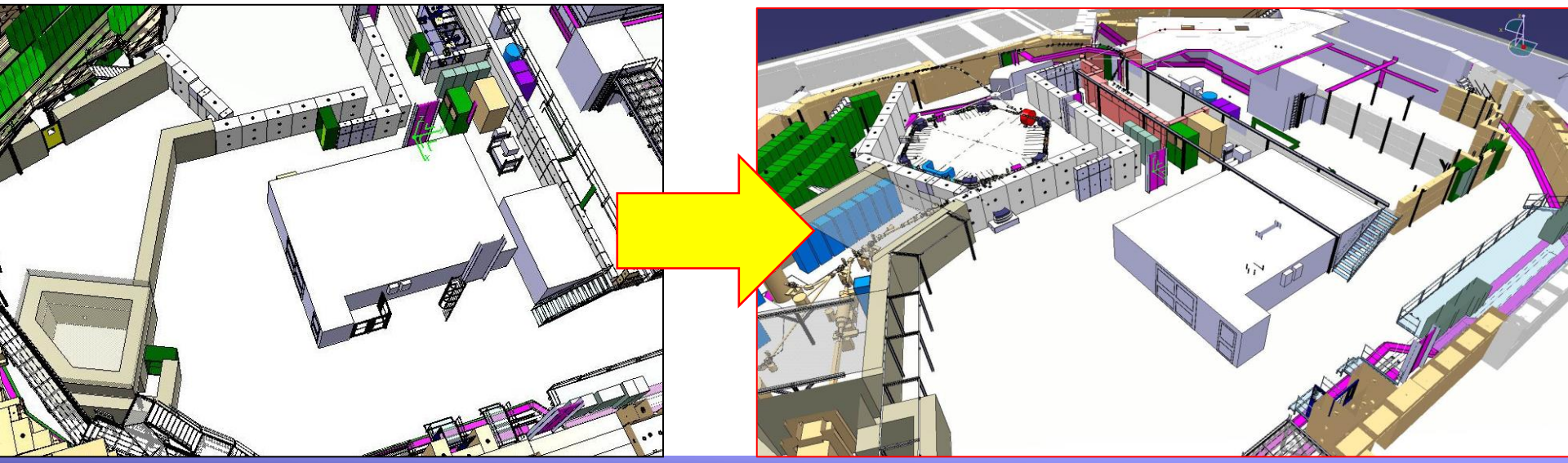


AD hall adaptation stage 3



AD hall adaptation stage 4

- During CERN machines LS2 (2018):
  - 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 !

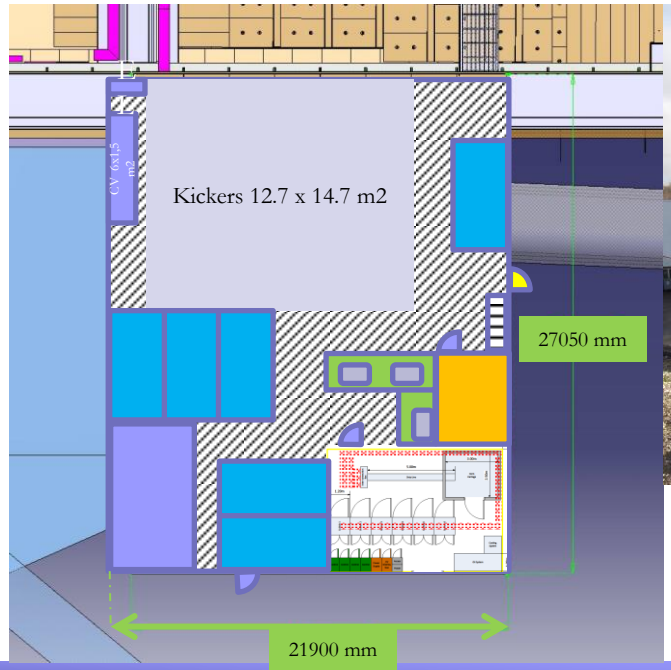


Layout of ELENA surroundings (1)

- New adjacent building (bdg 93) for experiments control rooms, meeting room and cafeteria:
  - OK for AegiS, ATRAP and BASE
  - Planned for GBAR (2015)
  - Principle agreed for APLHA and ASACUSA (2017)
  - Financing to be secured

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

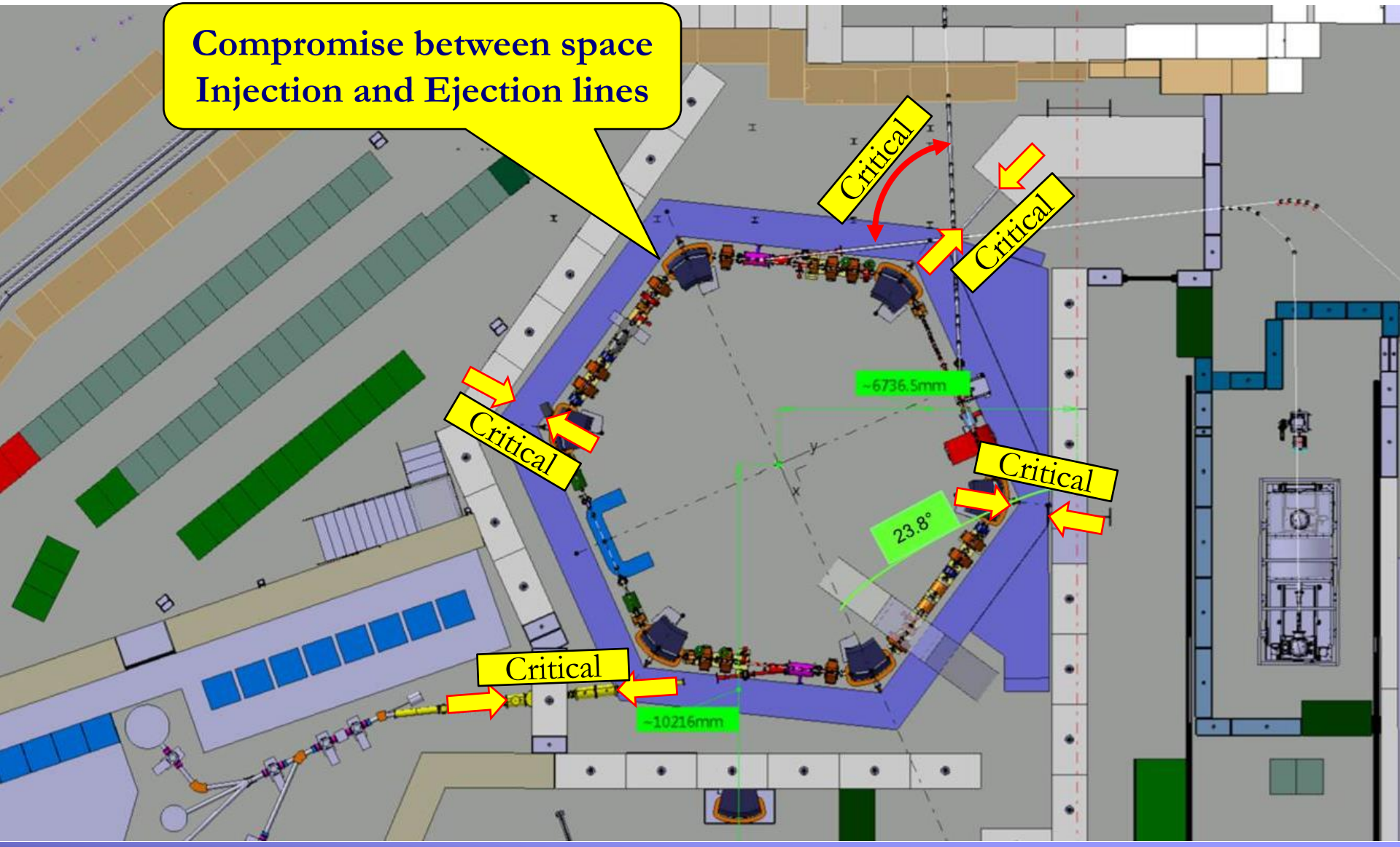


Delivery: mid 2014

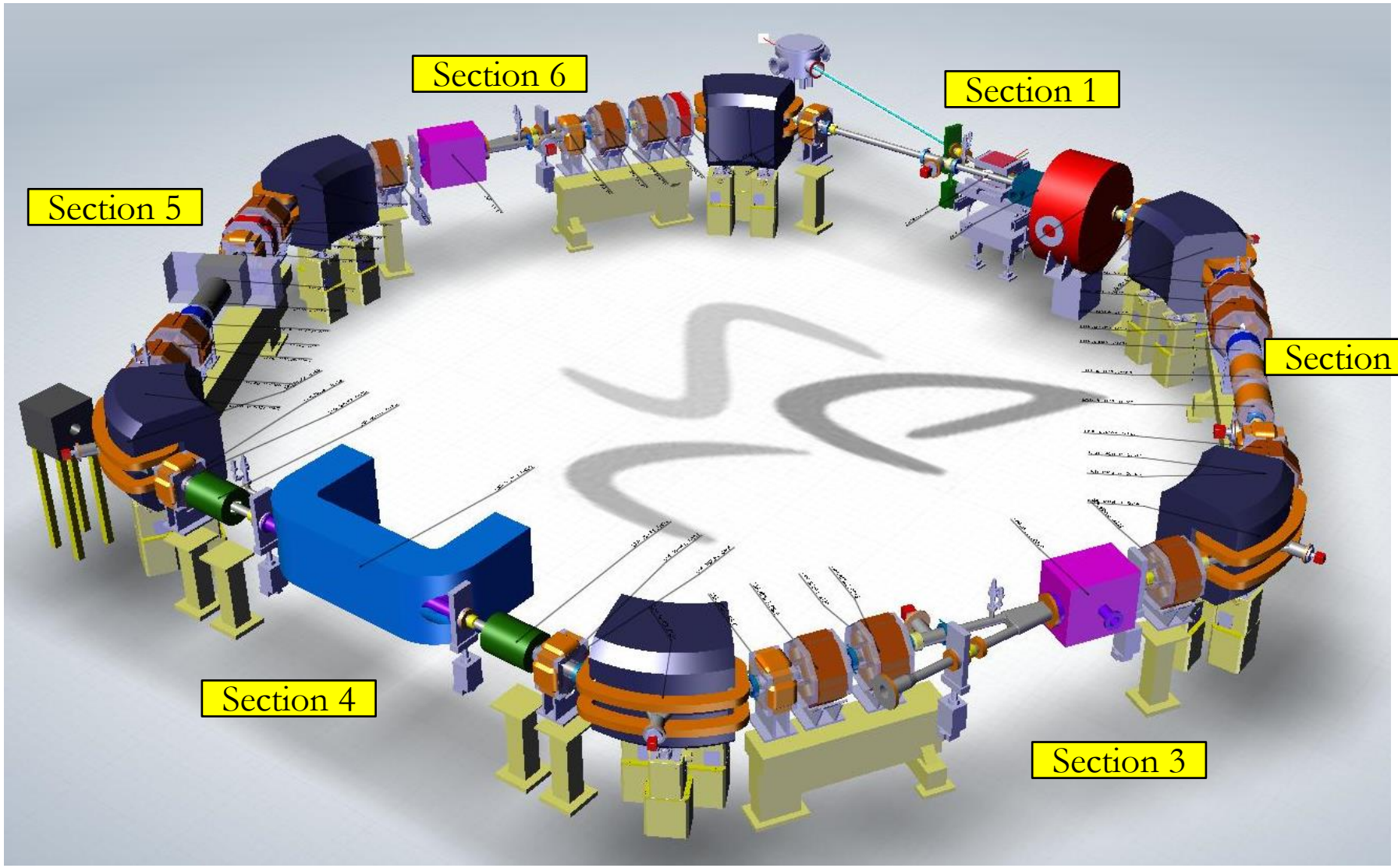
B393 from inside…

And from outside…

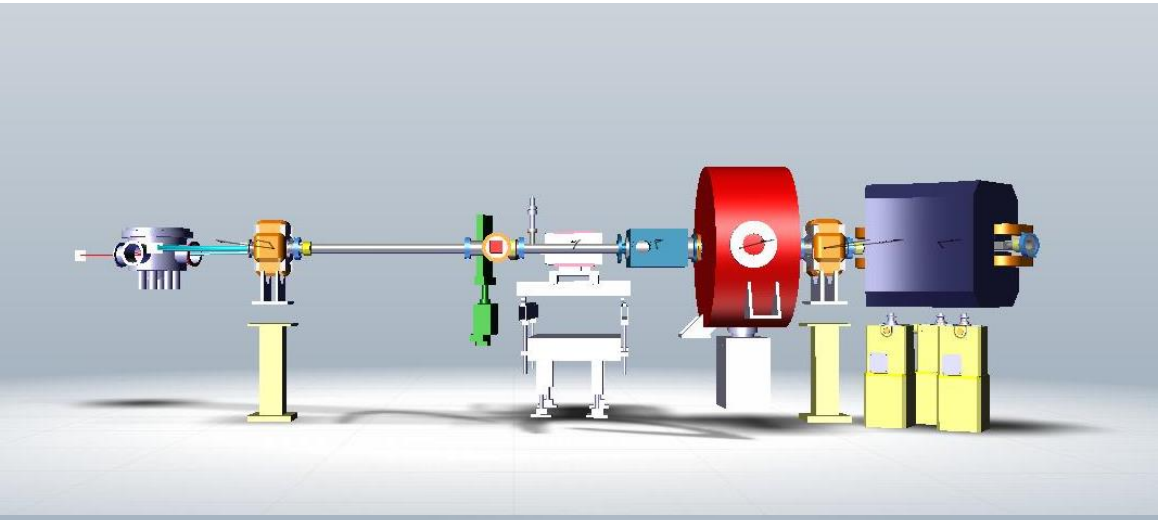
ELENA position in AD hall

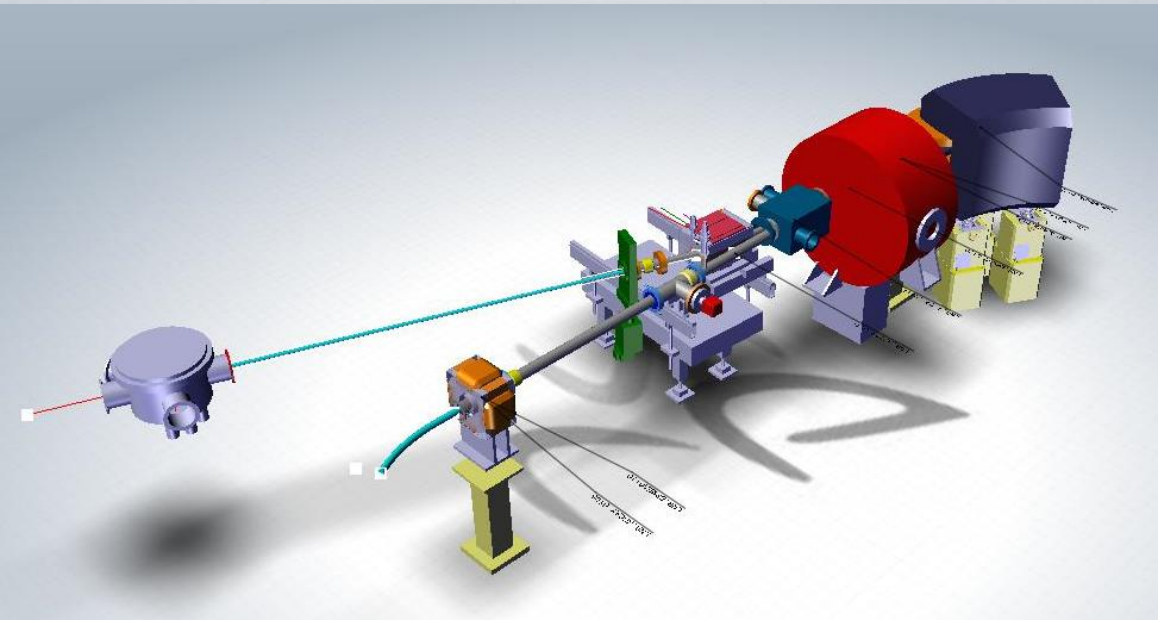


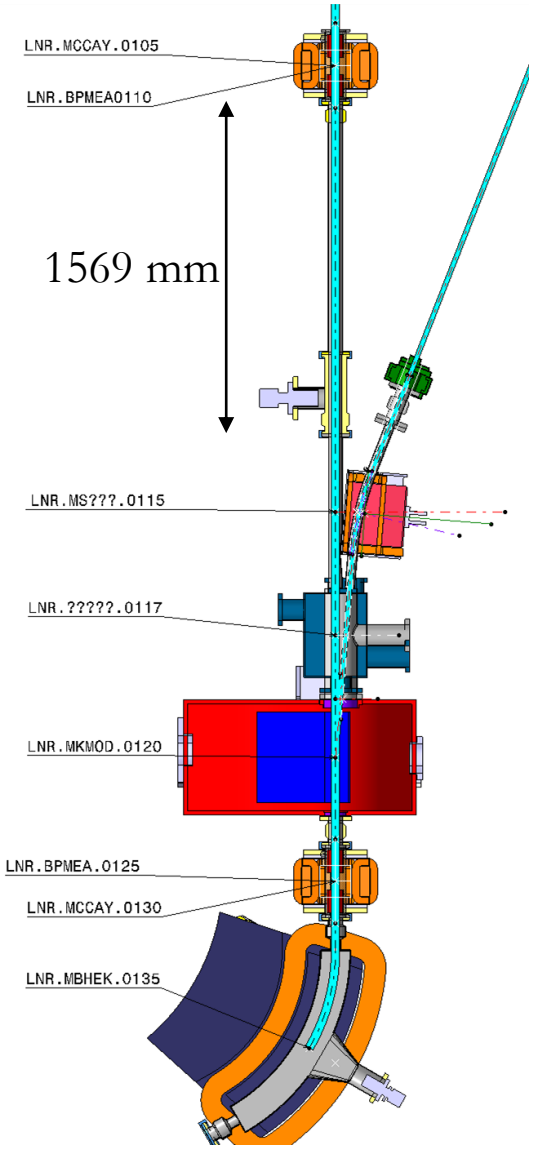
ELENA machine layout



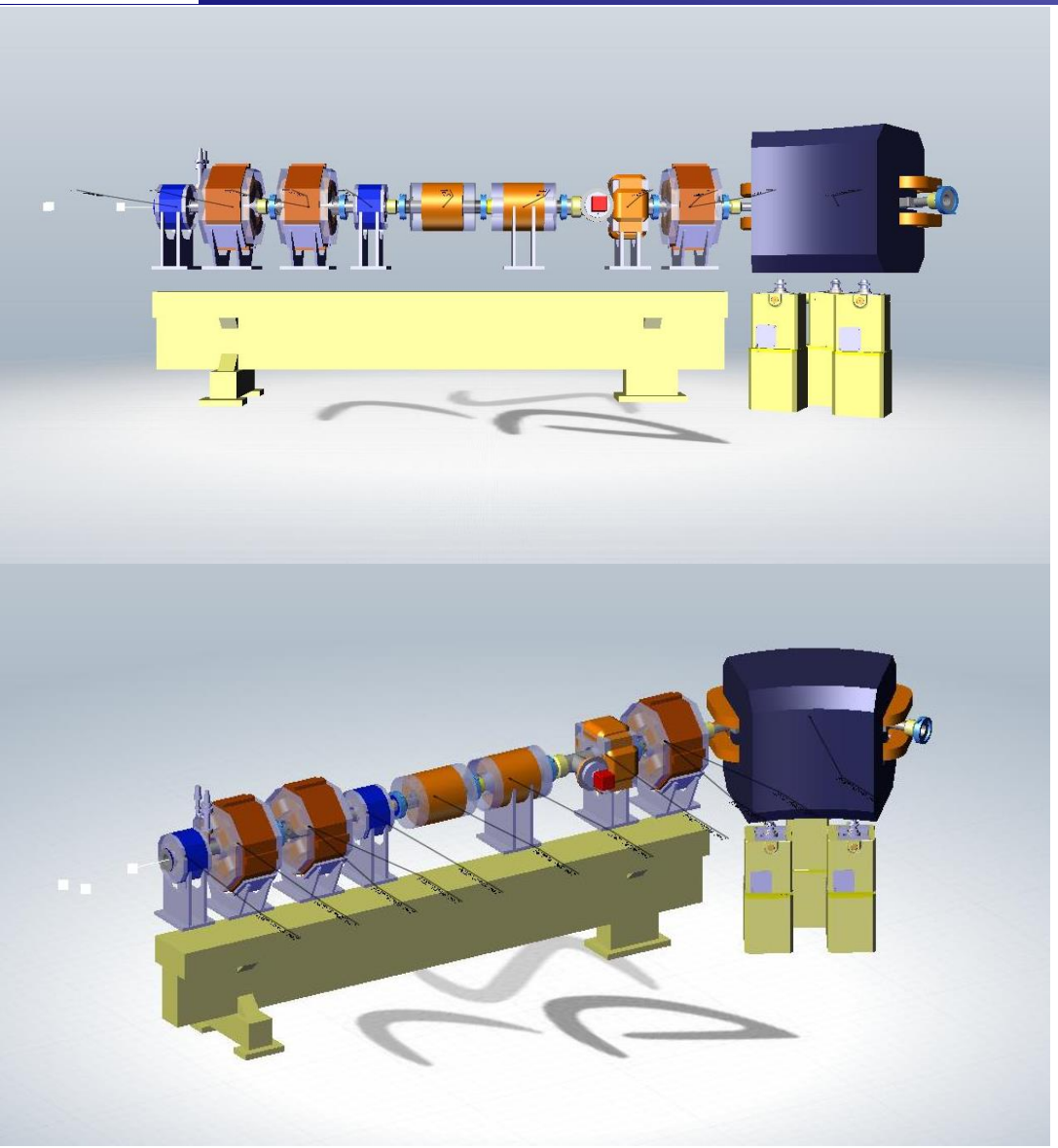
ELENA machine section 1

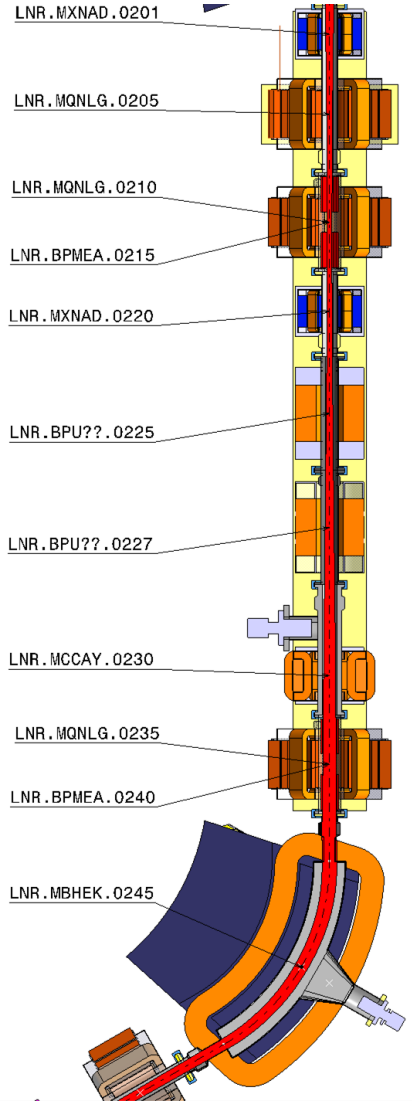




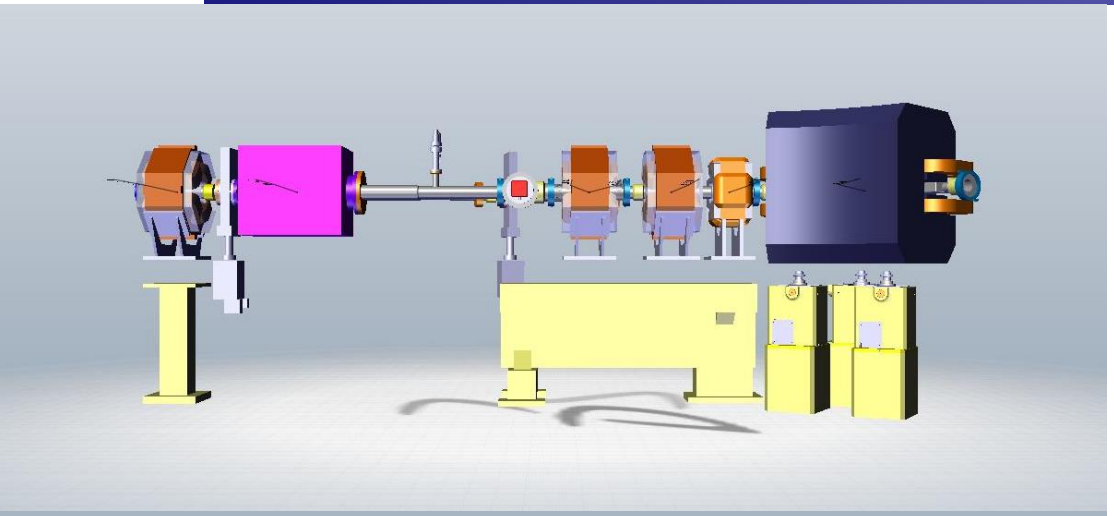


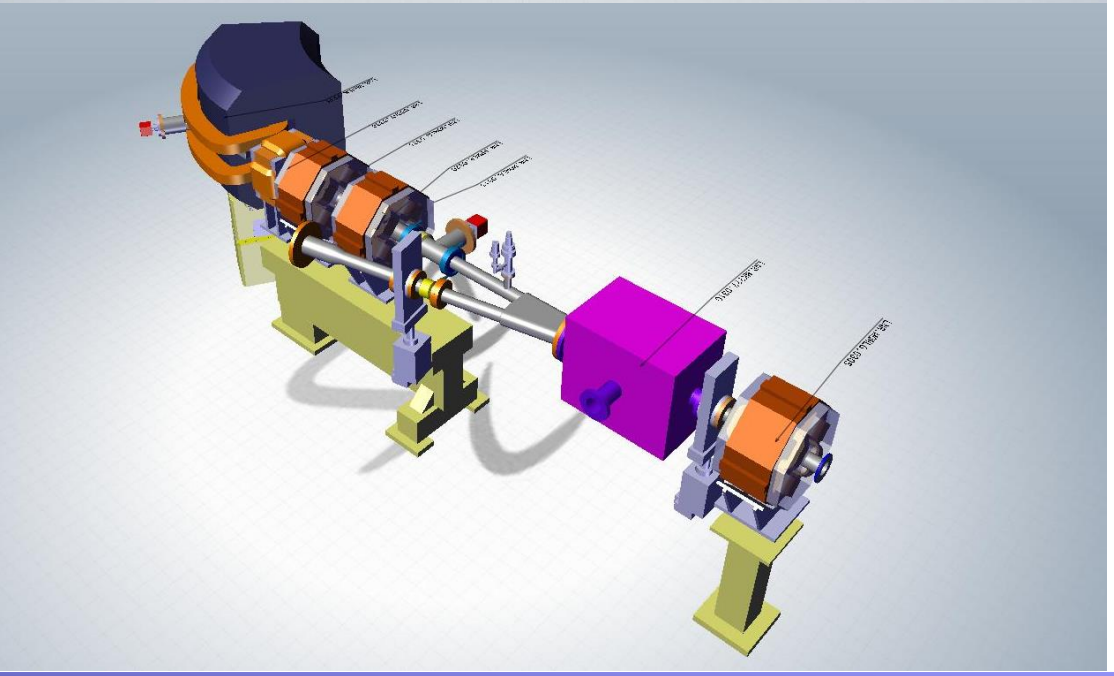
ELENA machine section 2

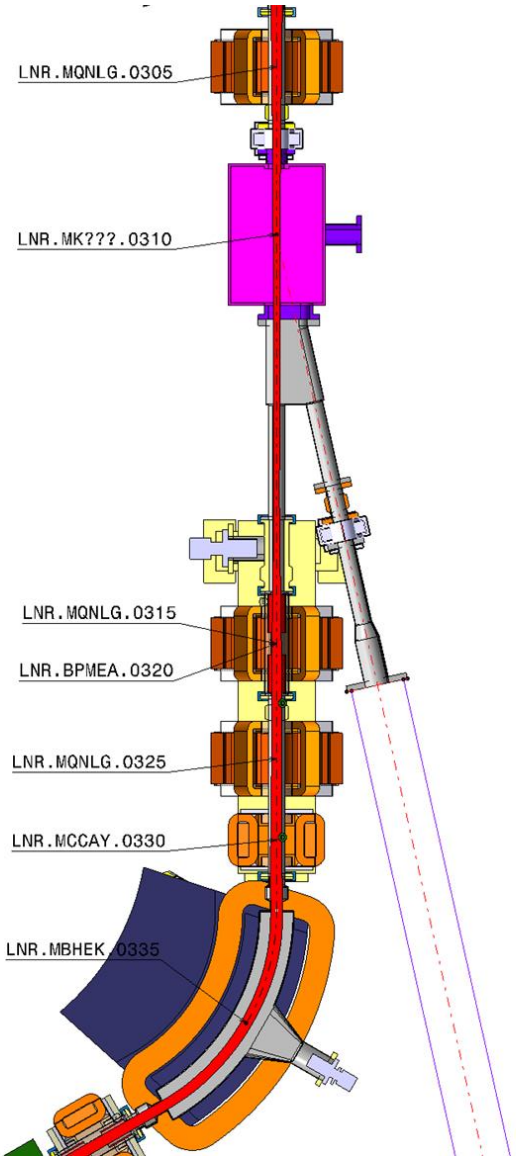




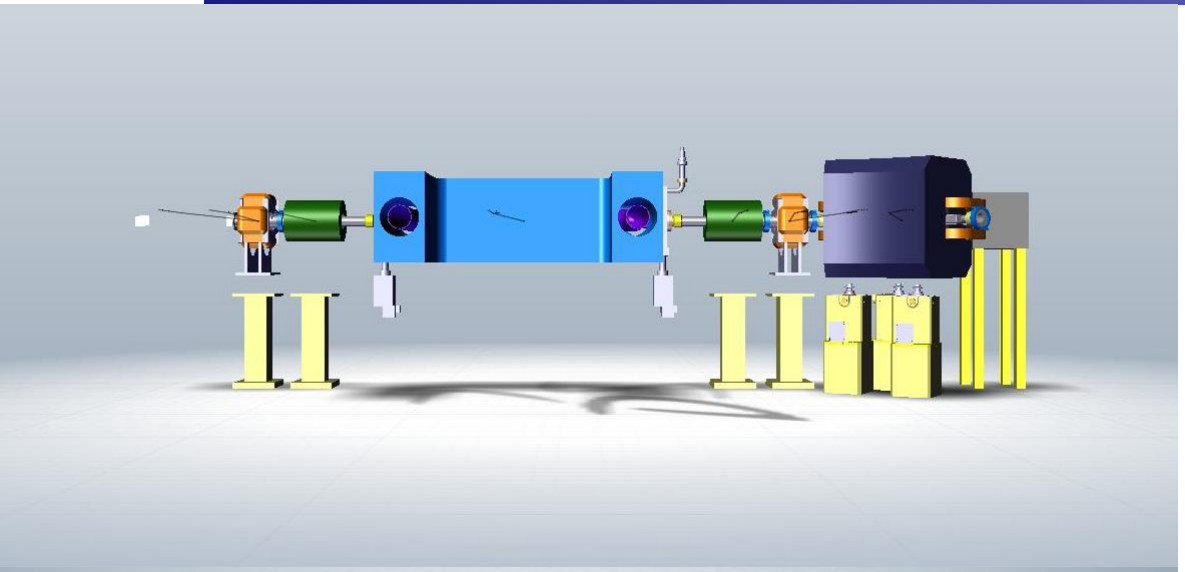
ELENA machine section 3

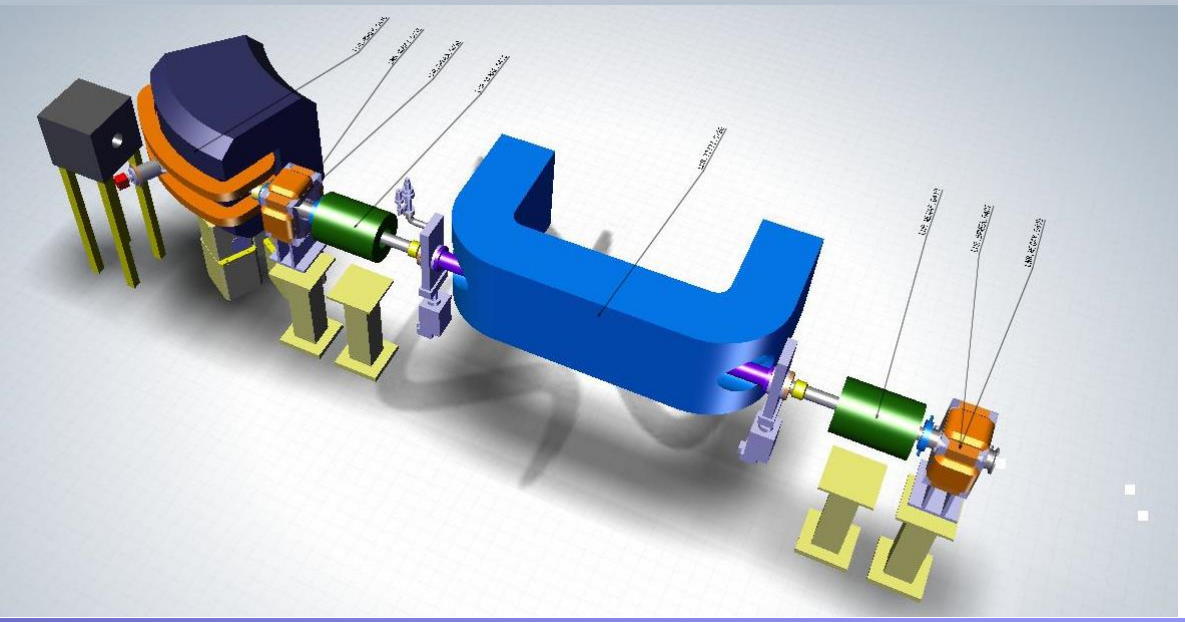


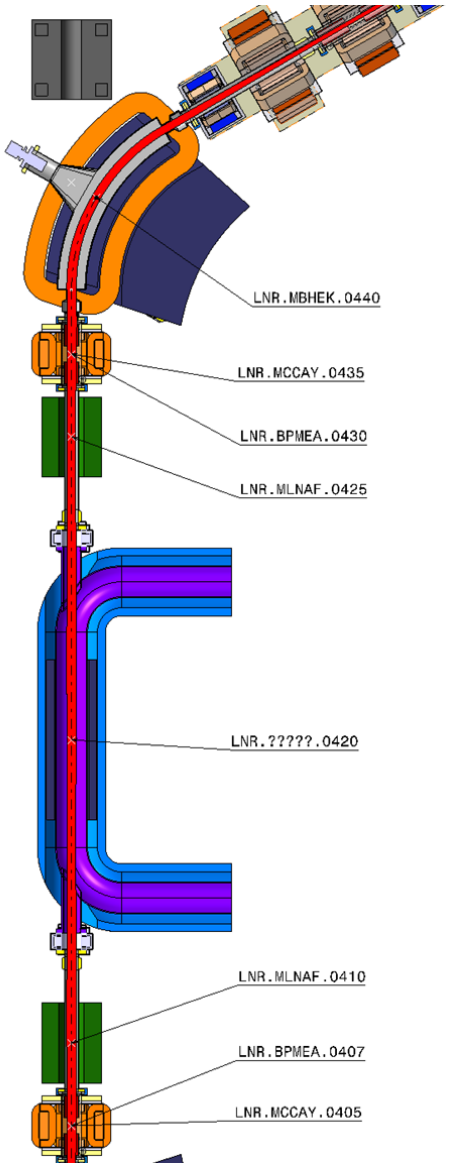




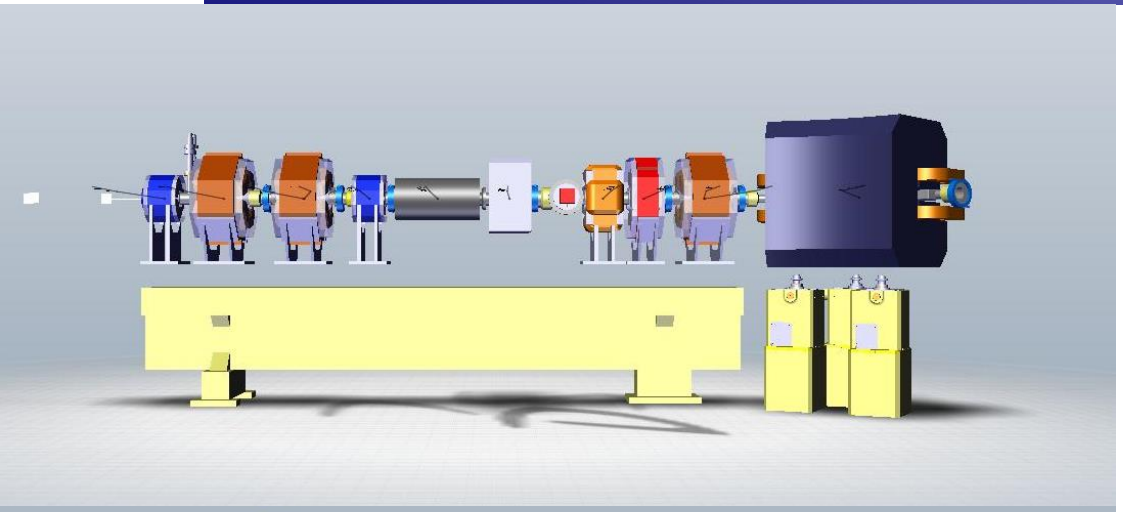
ELENA machine section 4

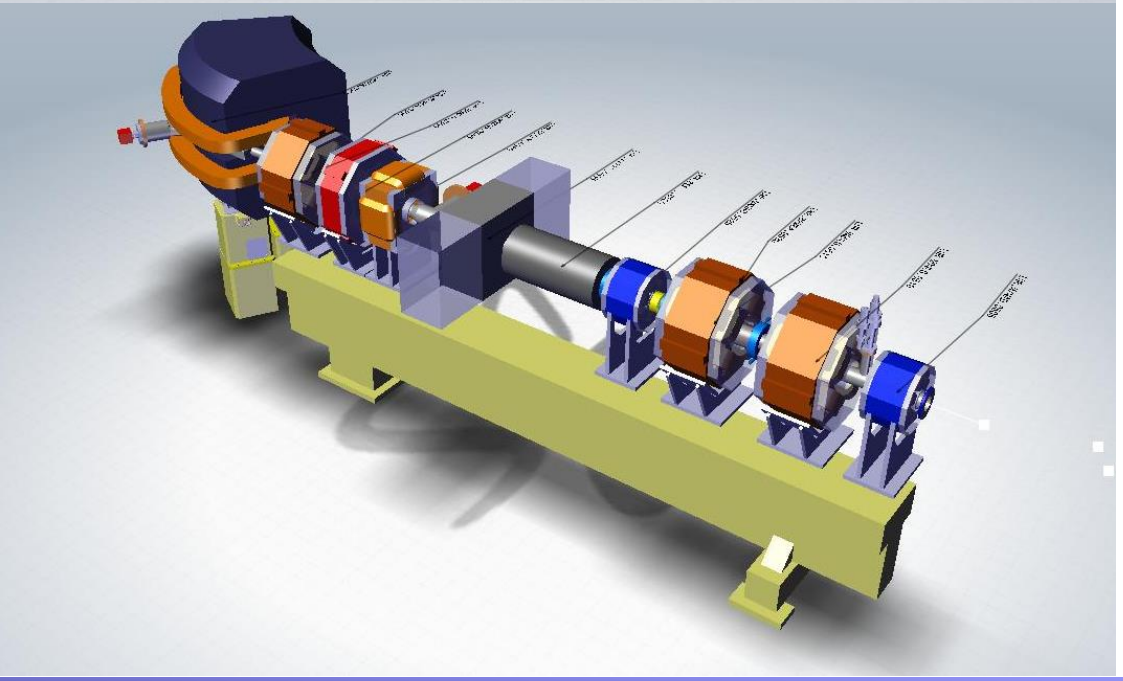


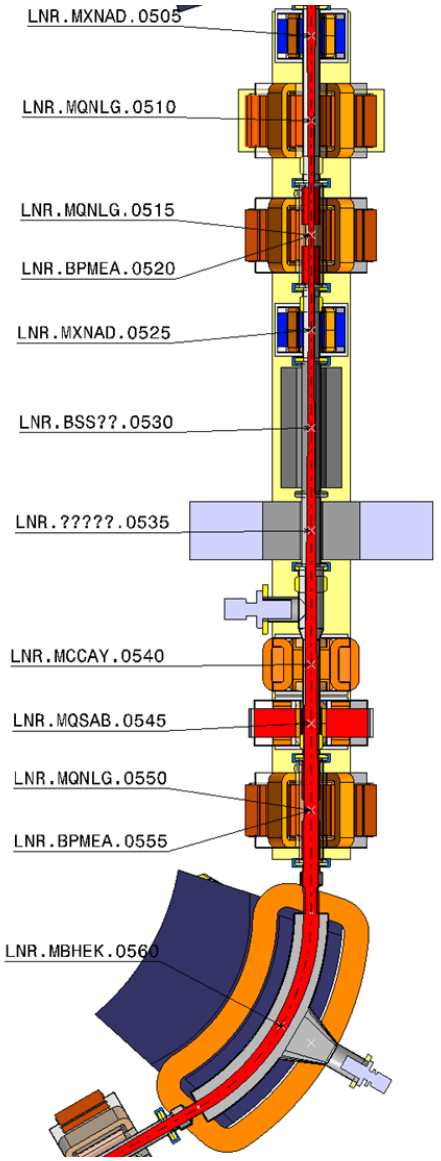




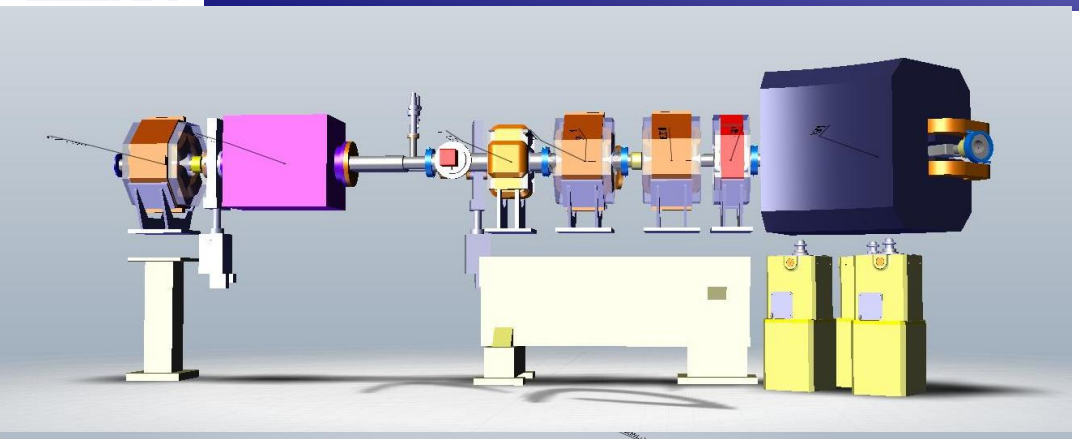
ELENA machine section 5

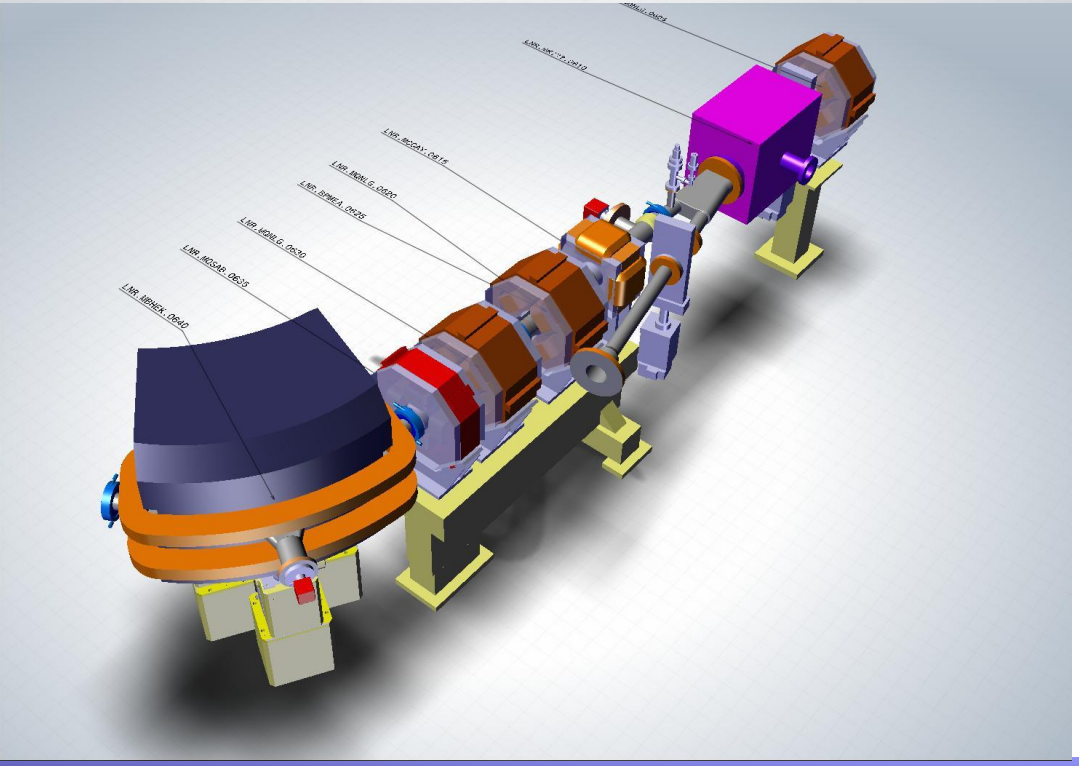


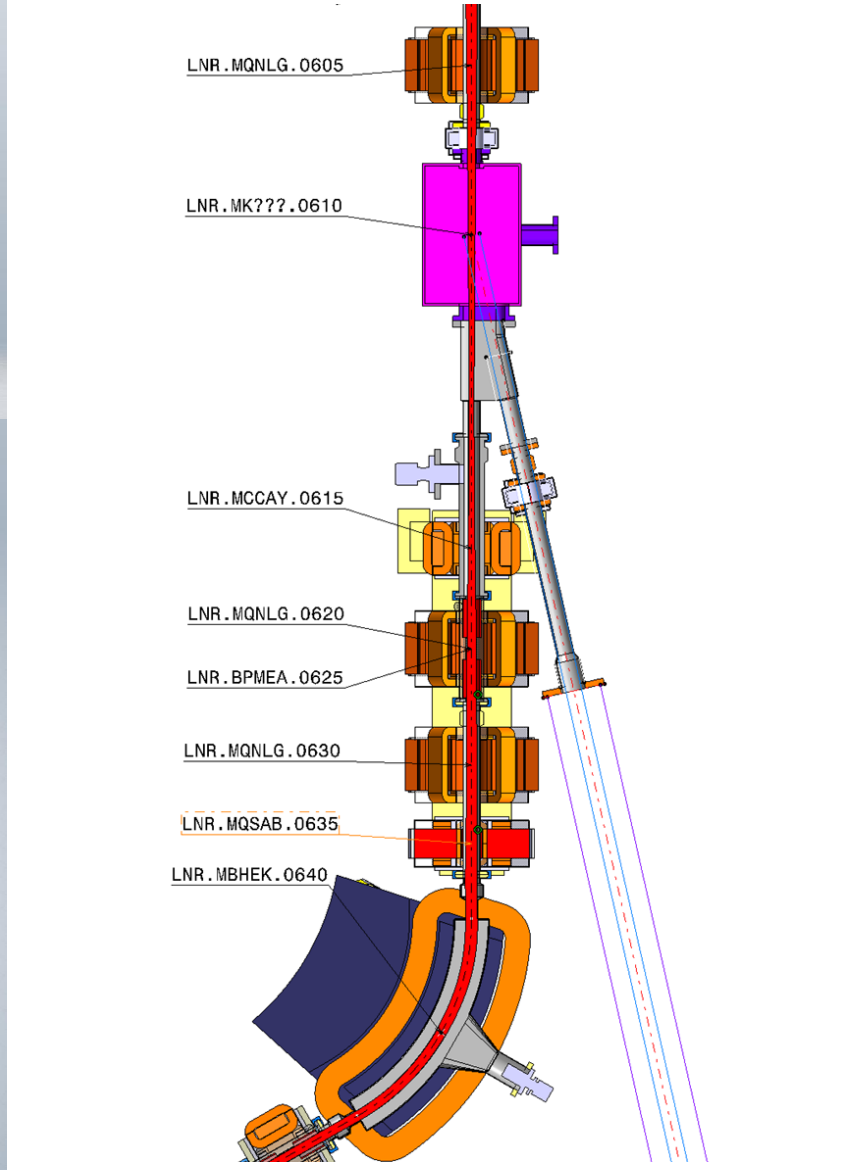




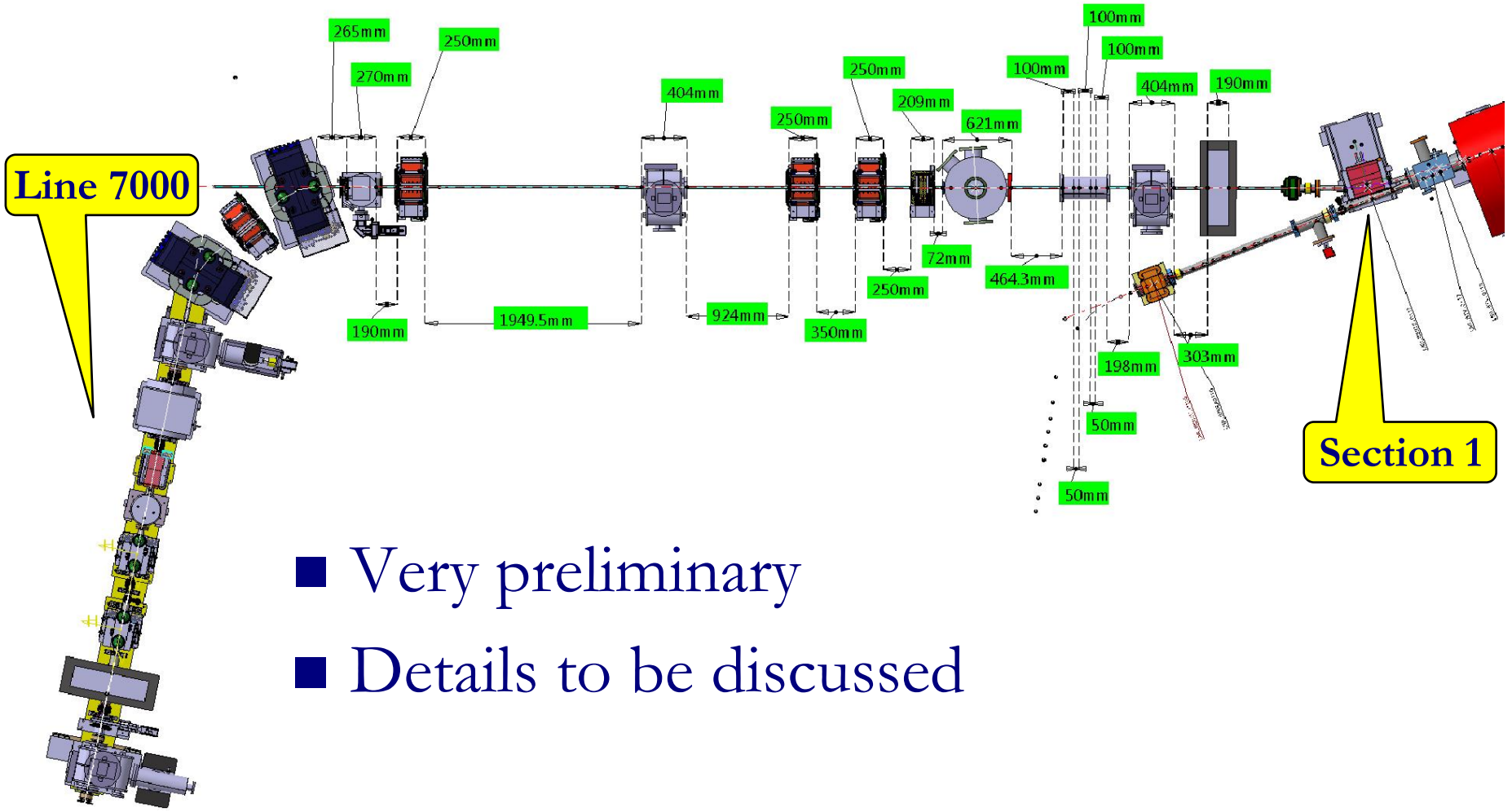
ELENA machine section 6





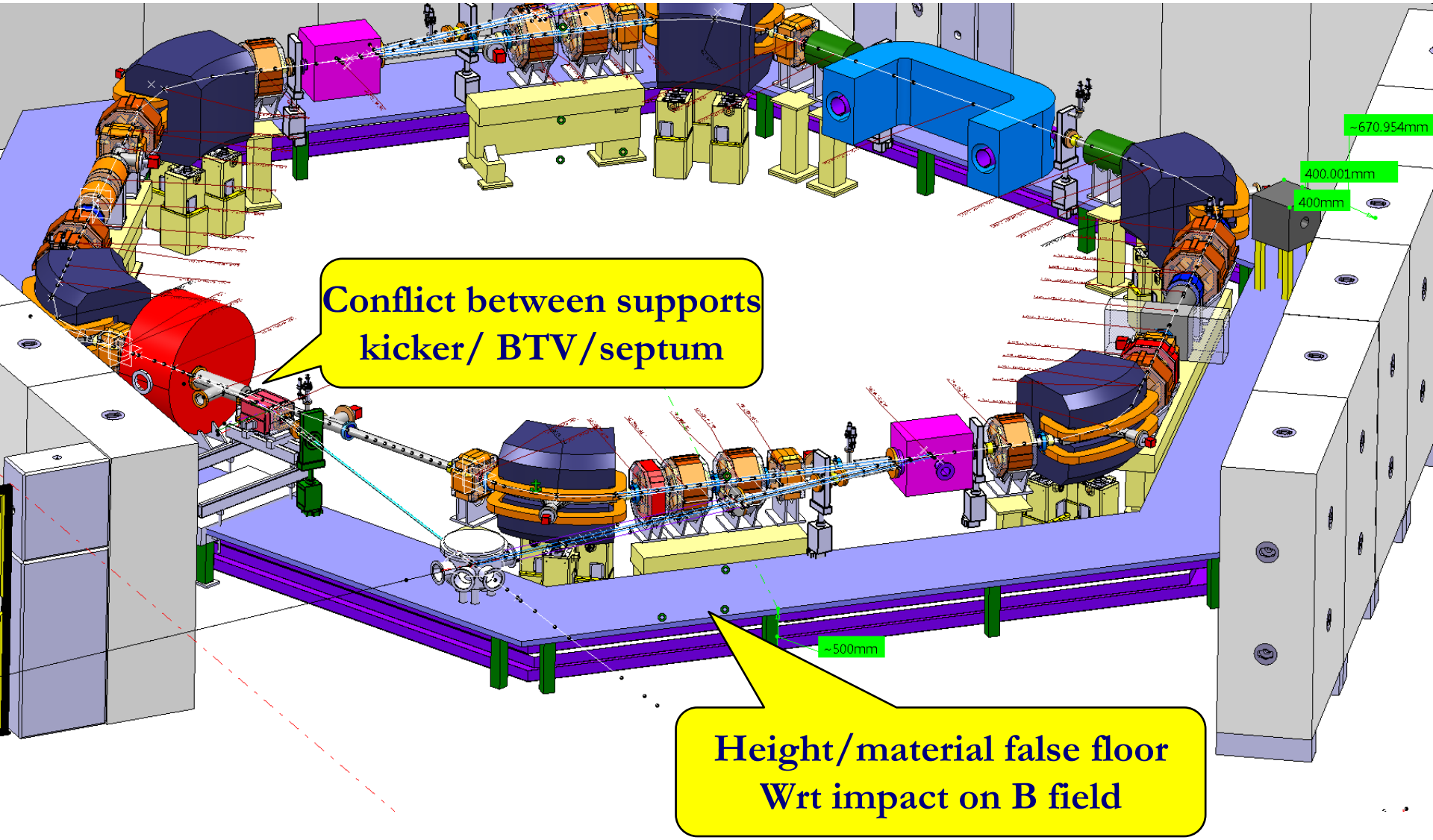


LNI (AD-ELENA transfer line)

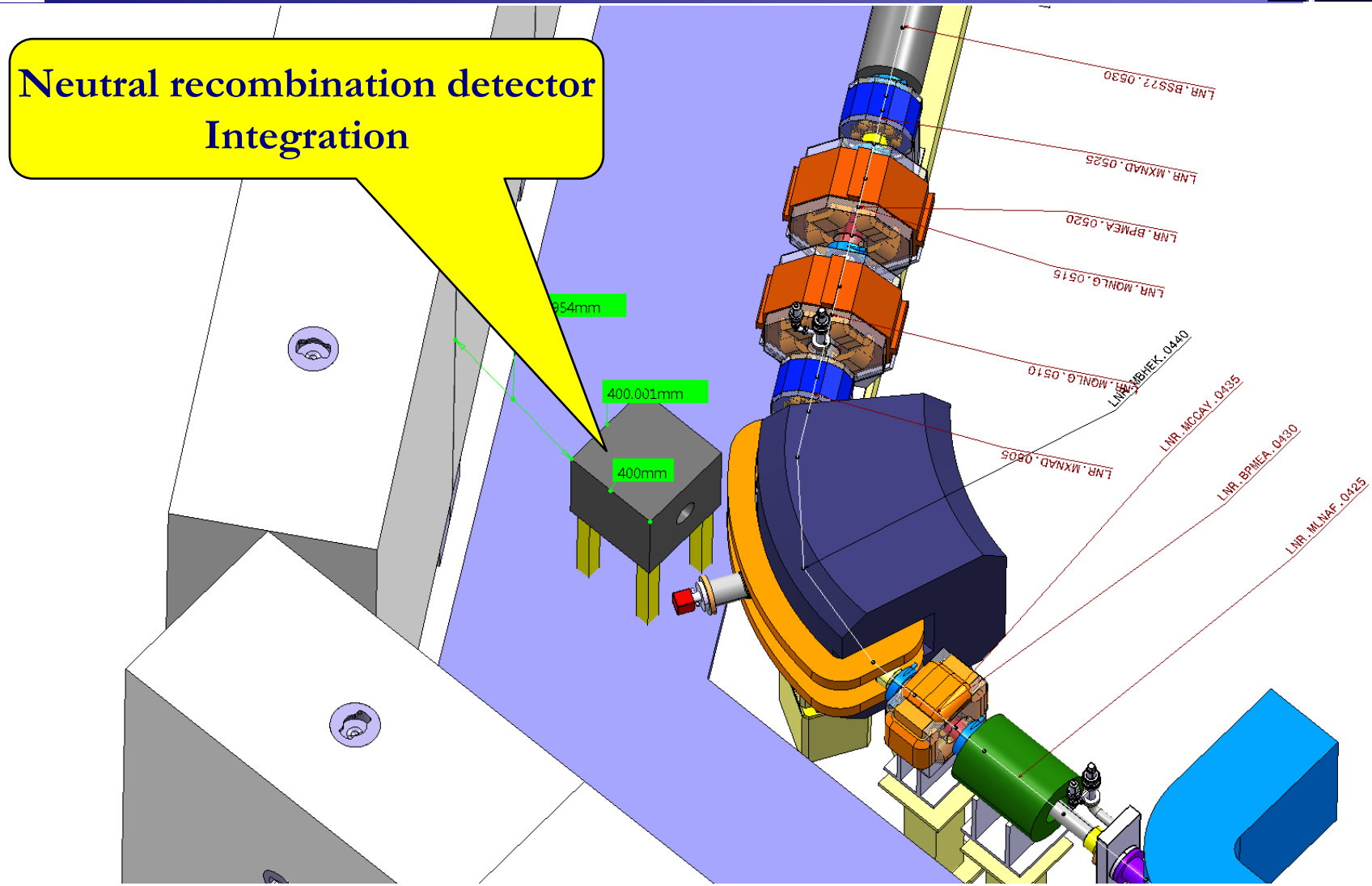


- Very preliminary
- Details to be discussed

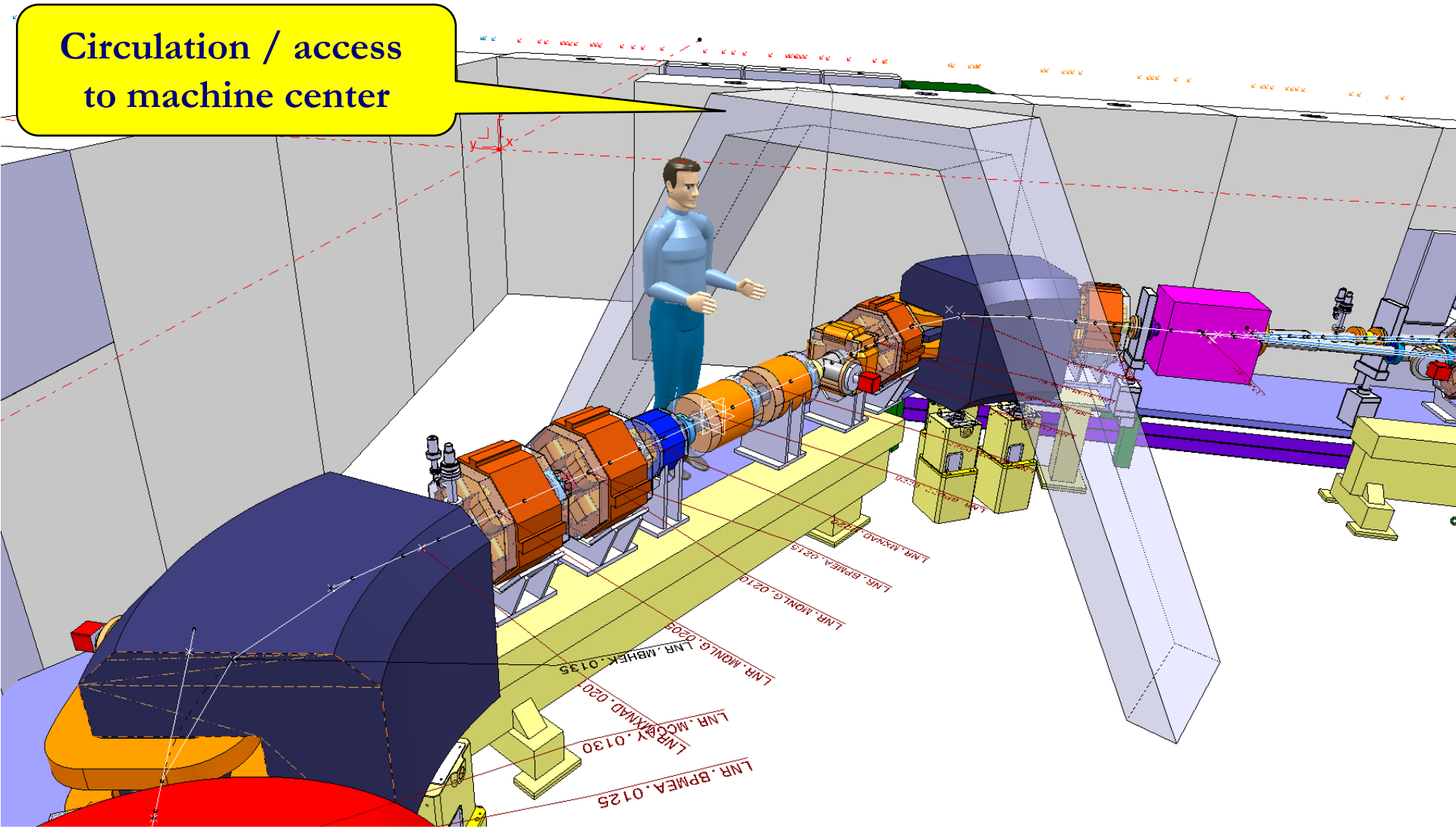
Integration issues



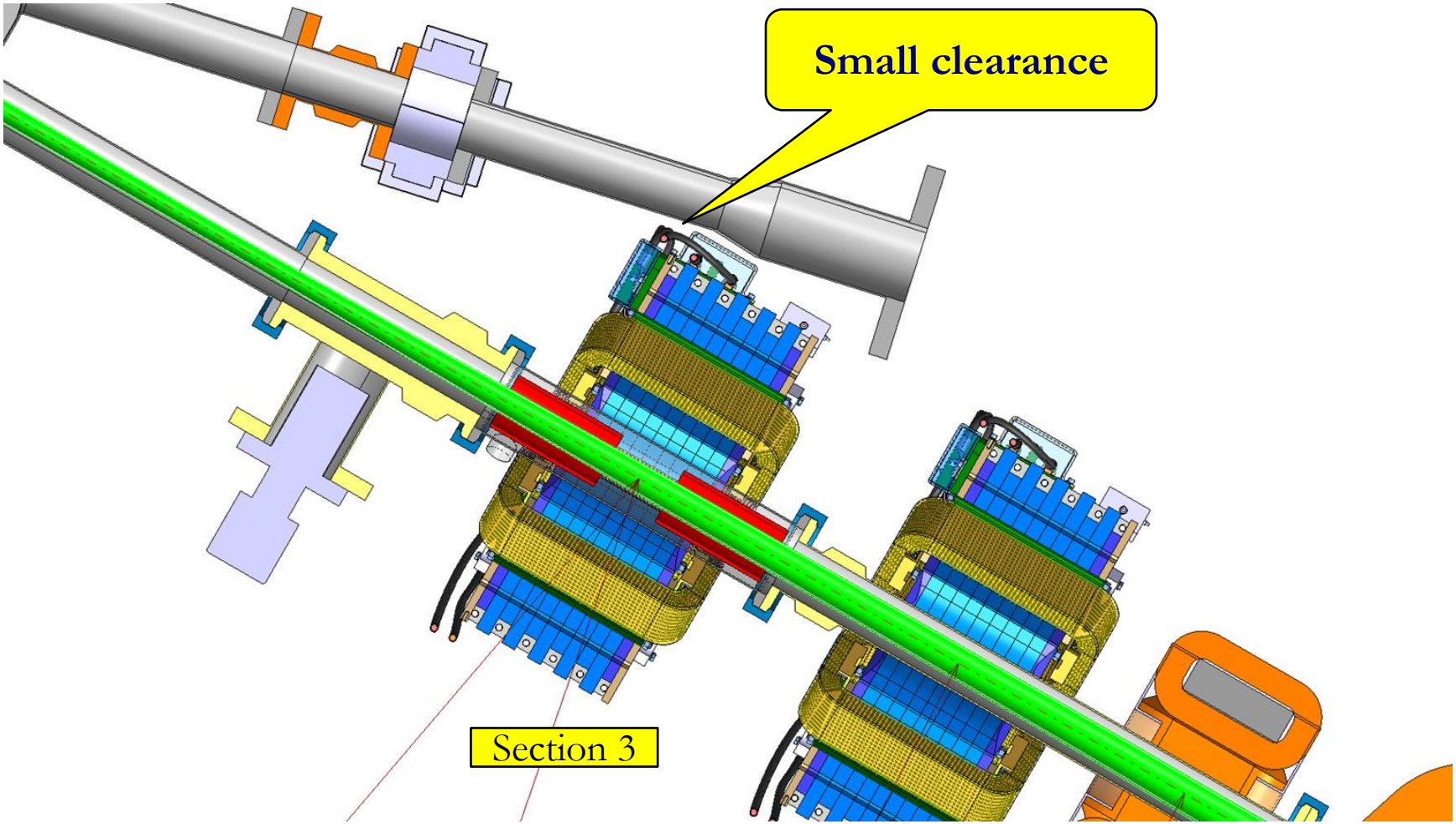
Integration issues (2)



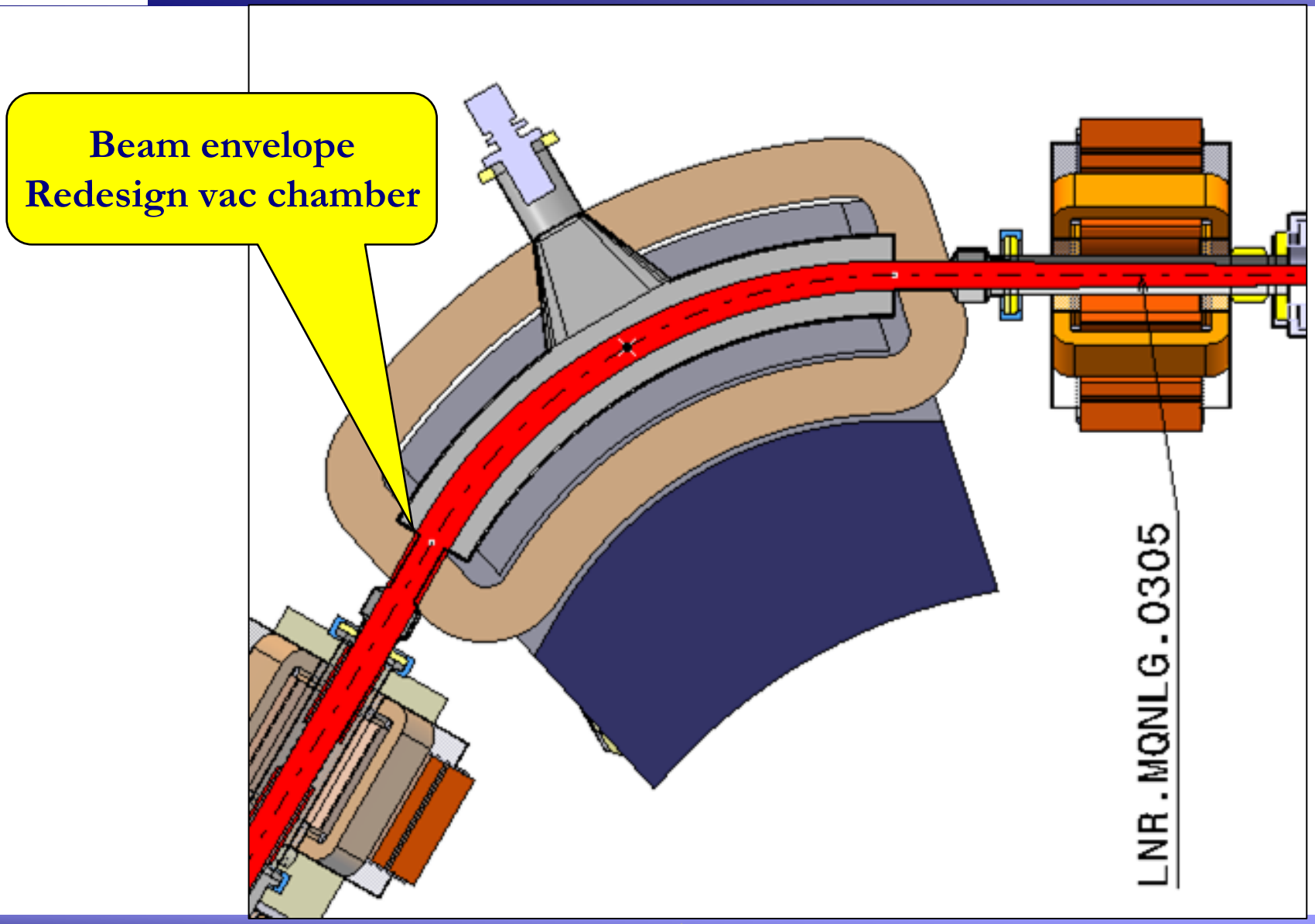
Integration issues (3)



Integration issues (4)



Integration issues (5)



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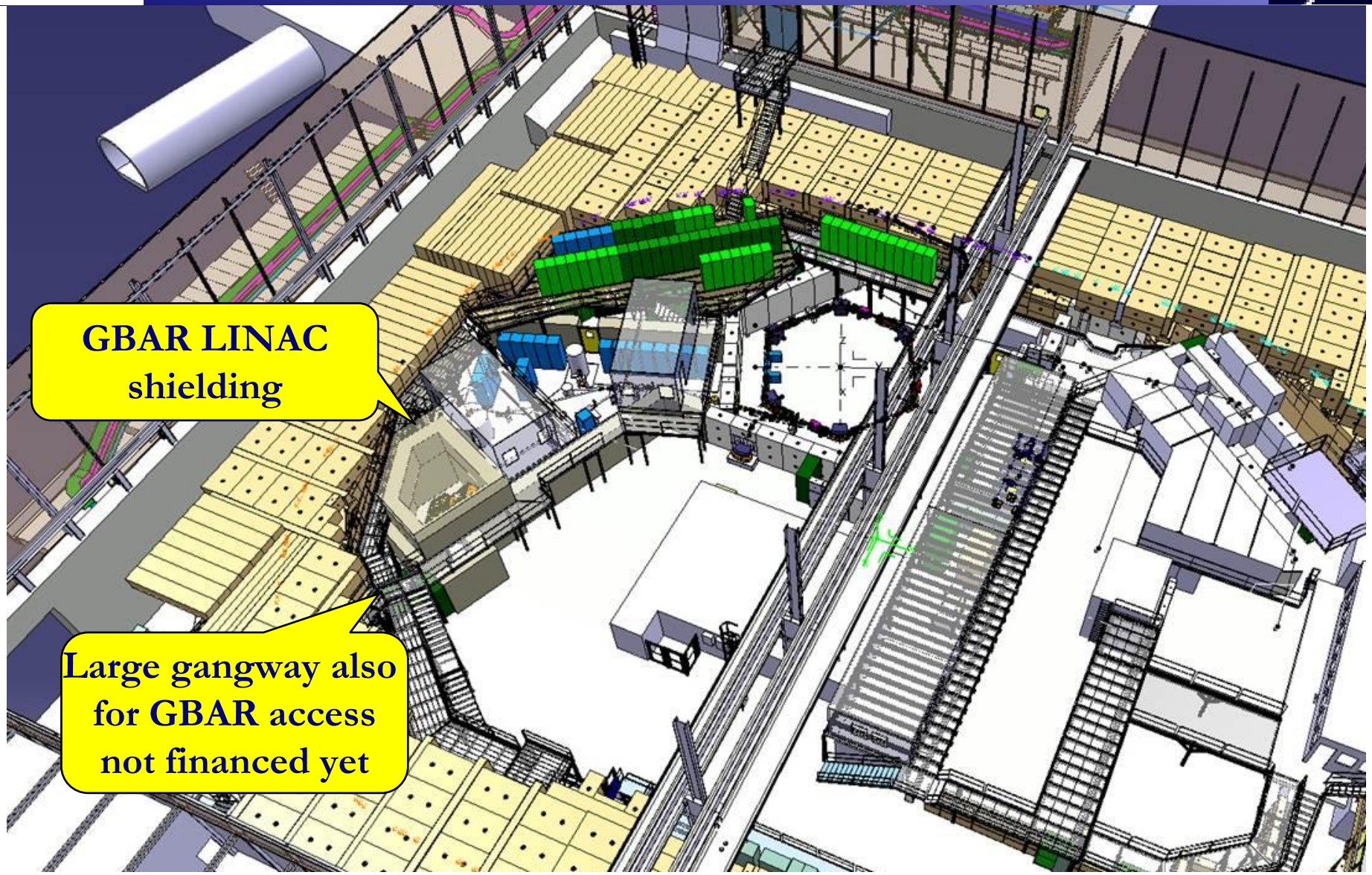

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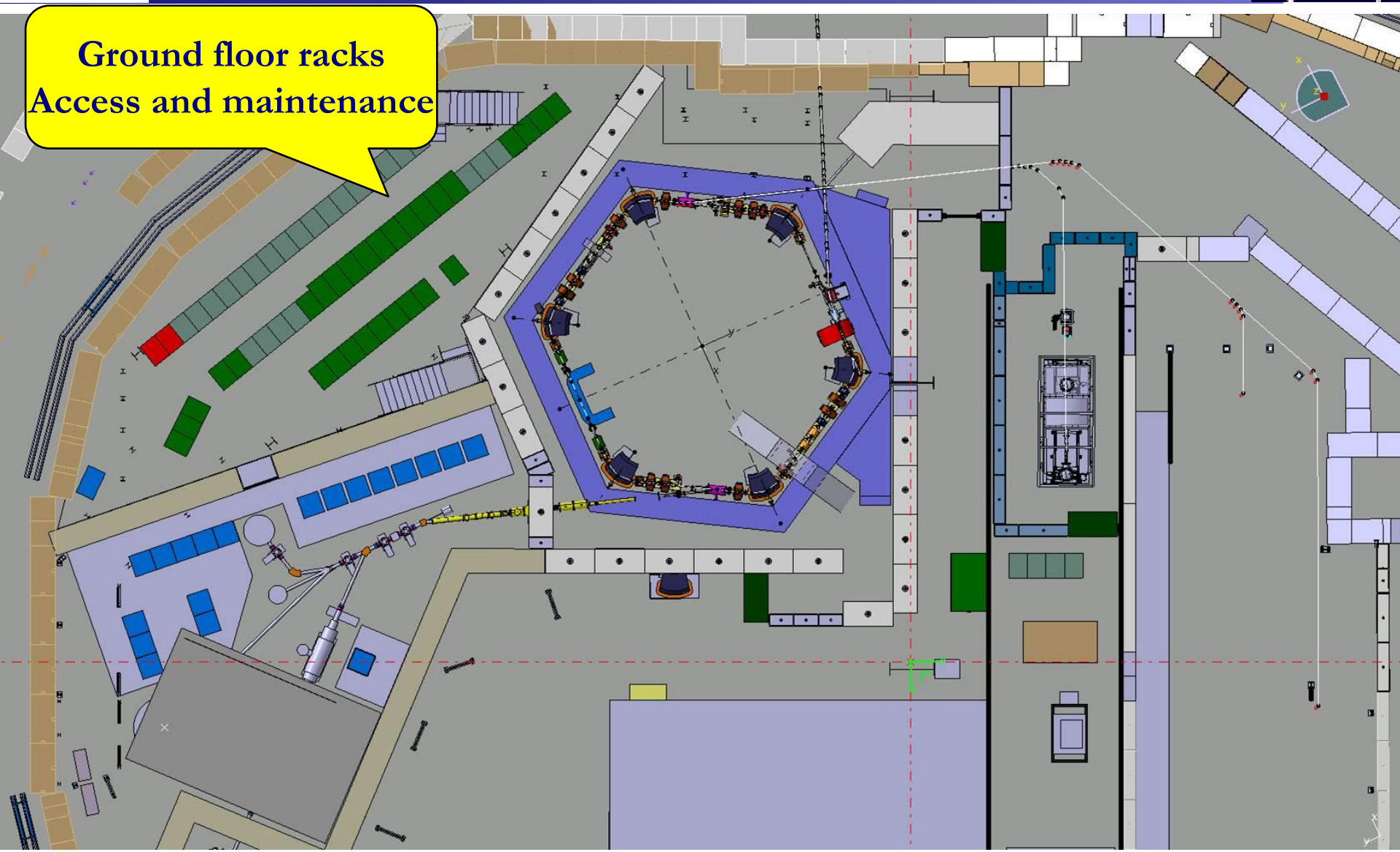
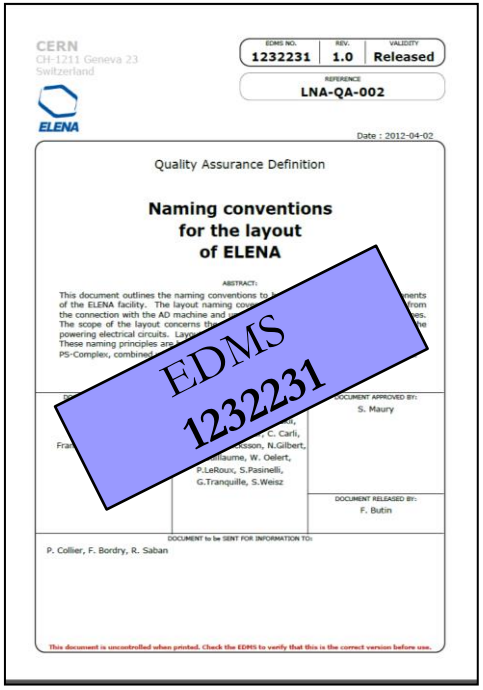
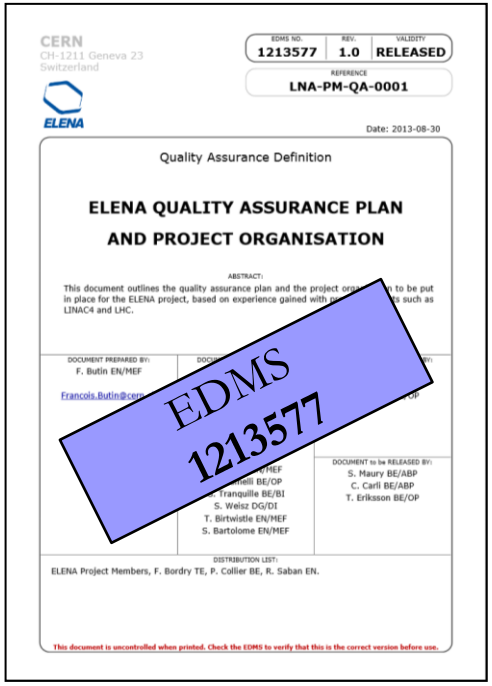


Quality assurance in ELENA project

- Quality assurance ensured via the quality assurance manager and quality management team.
- EVM being setup, planning being revisited
- Standards are defined in 2 reference docs:





ELENA WP progress monitor

ELENA WP's progress monitor

WP ID	WP Name	Owner	TDR status	EVM Data	WP Description functional spec	Design review	Technical Spec	Market Survey	Tender	Contract	Production complete	Installation complete	Commissioning complete
1,1	Optics & Machine Parameters	P. Belochitskii											
1,2	Integration, Commissioning & Operation	T. Eriksson											
1,3	User Interface & safety	H.Breuker											
1,4	Software Definition & Integration	S. Pasinelli											
1,5	External Institutions Contact	W. Oelert											
1,6	Integration, Production & Validation	F. Butin											
1,7	Installation & Planning	F. Butin											
1,8	Integration	S. Maridor											
1,9	Webmaster	S. Pasinelli											
1,1	Radio Protection	R. Froeschl											
2,1	Mechanical Design & Construction	D. Perini											
2,2	Magnets	T. Zickler											
2,3	RF & Schottky Pick-Up	ME. Angoletta											
2,4	Power Converters	J. Baillie											
2,5	Vacuum System	R. Kersevan											
2,6	Electron Cooler	G. Tranquille											
2,7	Beam Instrumentation	G. Tranquille											
2,8	Injection & Ejection Kickers Electronics	E. Carlier											
2,8	Injection & Ejection Kickers	L. Sermeus											
2,9	Injection & Ejection Septa Electronics	E. Carlier											
2,9	Injection & Ejection Septas	J. Borburgh											
2,1	Injection, Extraction & Tranfer Lines	W. Bartmann											
2,11	Experimental Areas	I. Efthymiopoulos											
2,12	Controls	M. Cattin											
2,13	B-Train	M. Buzio											
2,14	Interlock System	B. Puccio											
2,15	H- Source	D. Kuchler											
2,16	Magnetic Measurements	P. Galbraith											
3,1	Survey	T. Dobers											
3,2	Handling & Transportation	S. Pelletier											
3,3	Civil Engineering (B393)	L. Lopez-Hernandez											
3,4	Cooling & Ventilation	A. Broche											
3,5	Access System	D. Chapuis											
3,6	Cabling	J.C. Guillaume											
3,7	Electrical Distribution	R. Necca											
3,8	Scrapers	F. Loprete