AD/ELENA (B193)
Experimental hall conditions

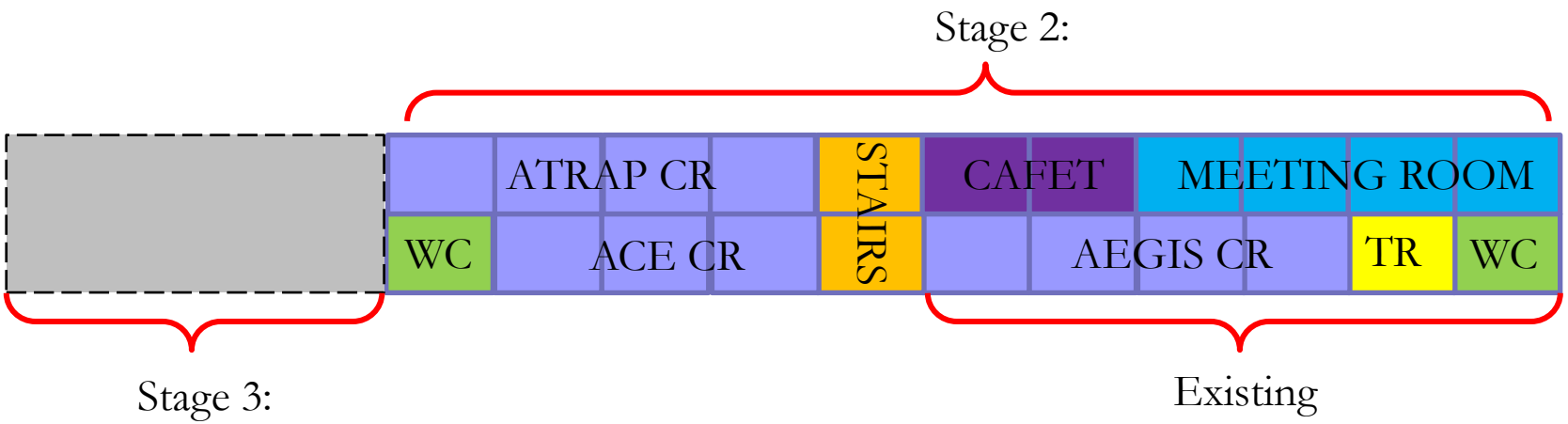
F. BUTIN / ELENA collaboration

Bdg 193…

New control rooms being added…

Stage 1 of new control rooms installed, Stage 2 planned for summer 2012

New control rooms, stage 2 and 3

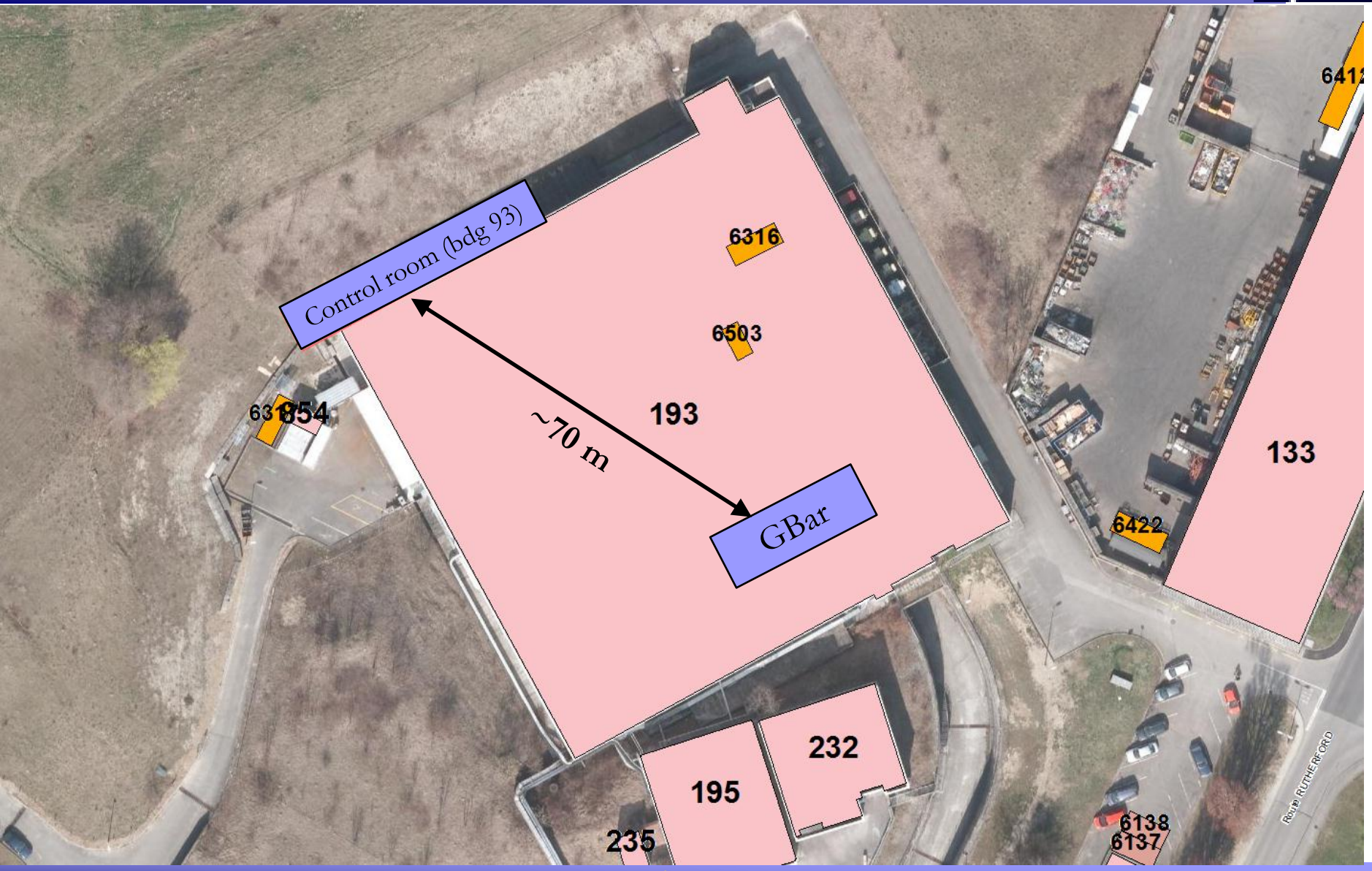


Stage 3 is not completely defined yet but may include CR's for ASACUSA, ALPHA, plus ELENA related experiments, including Gbar

No rack in CR, all racks in AD hall

No work place in AD hall. All work places in CR !

CR is remotely located !

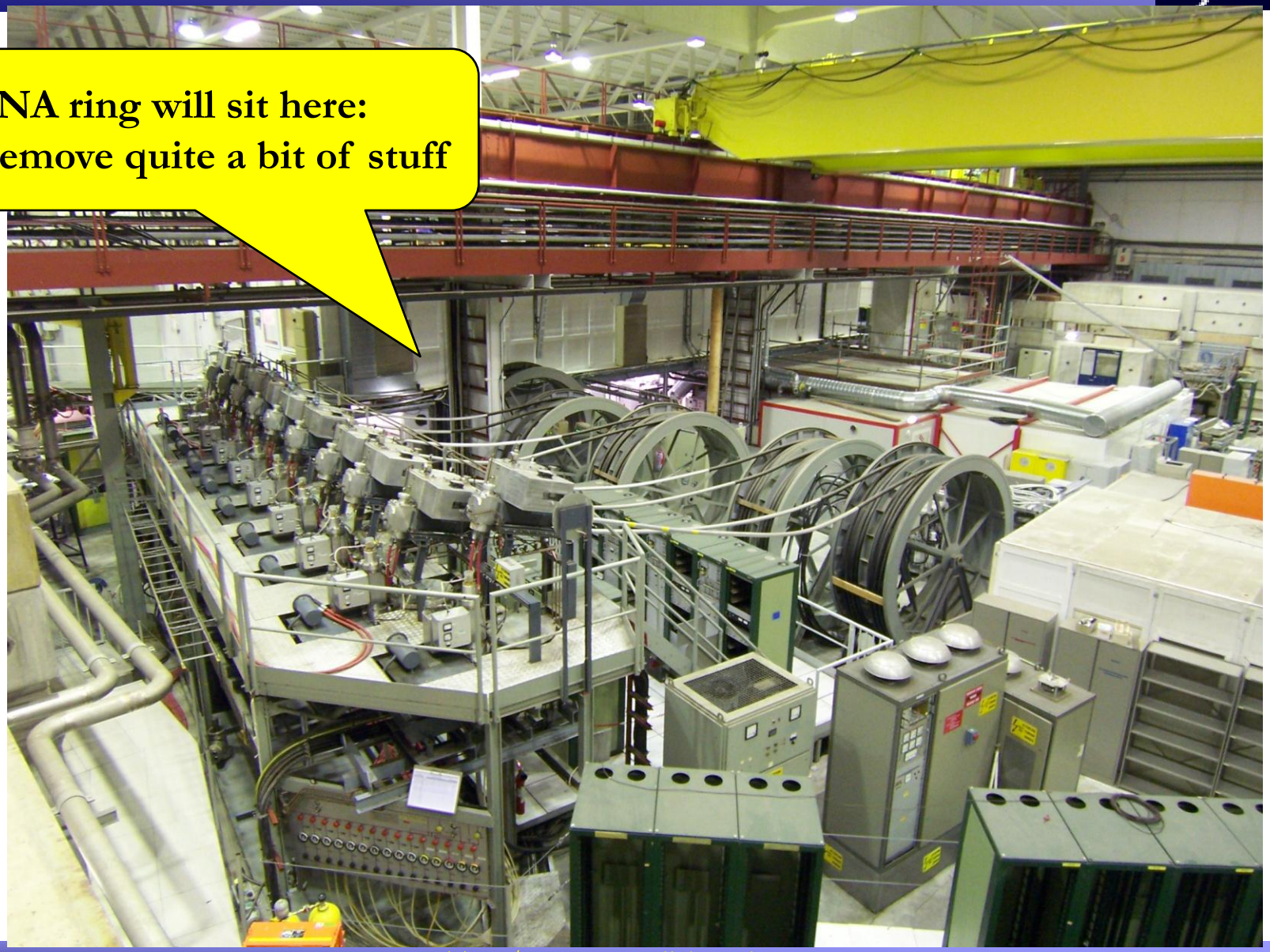


Need for an extension of AD hall

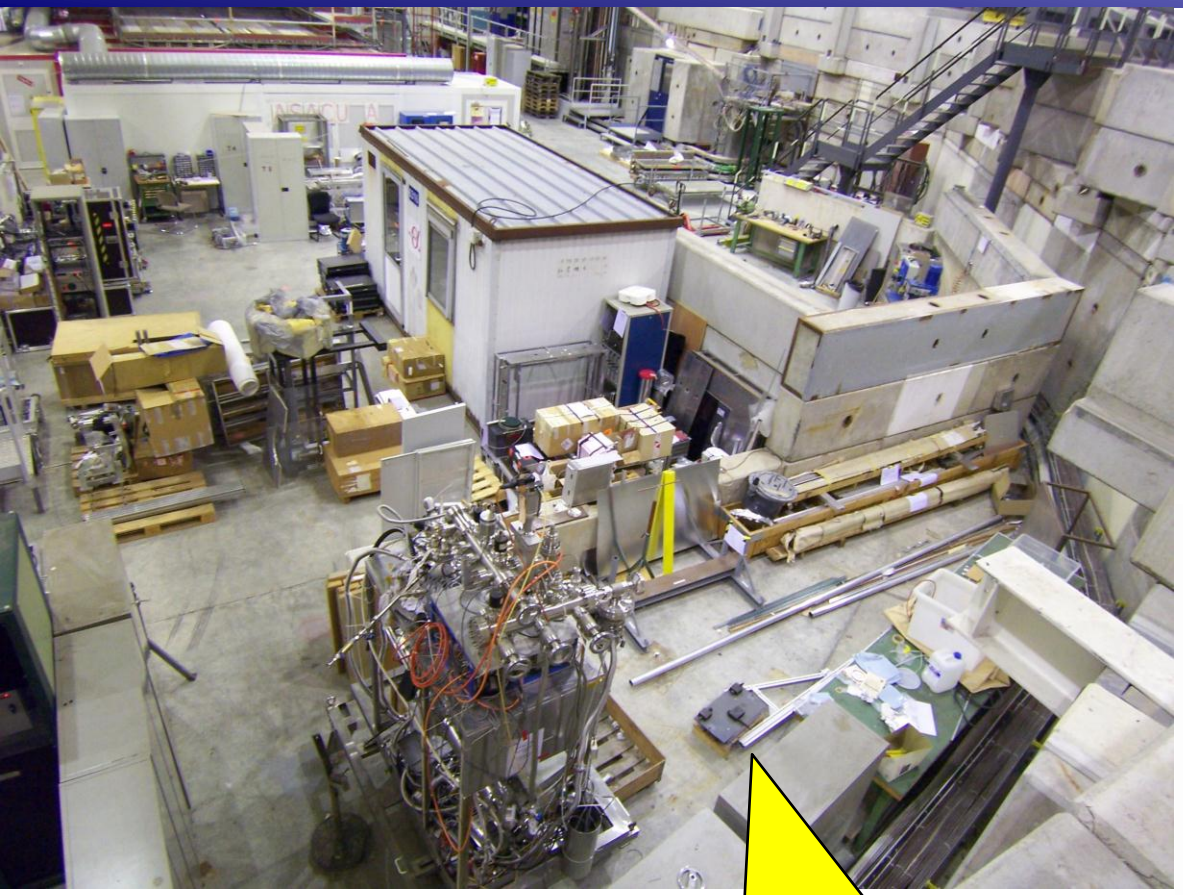
Four main goals for an extension of AD hall:

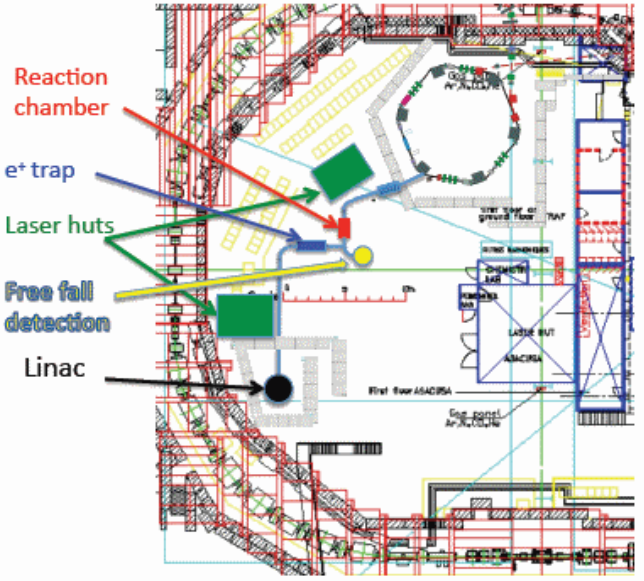
1. **Relocate the existing workshop**
2. **Provide short term storage space for experiments**
3. **Accomodate for ELENA ring and experimental areas**
4. **Host the magnetic horns test bench**

Accomodate for ELENA



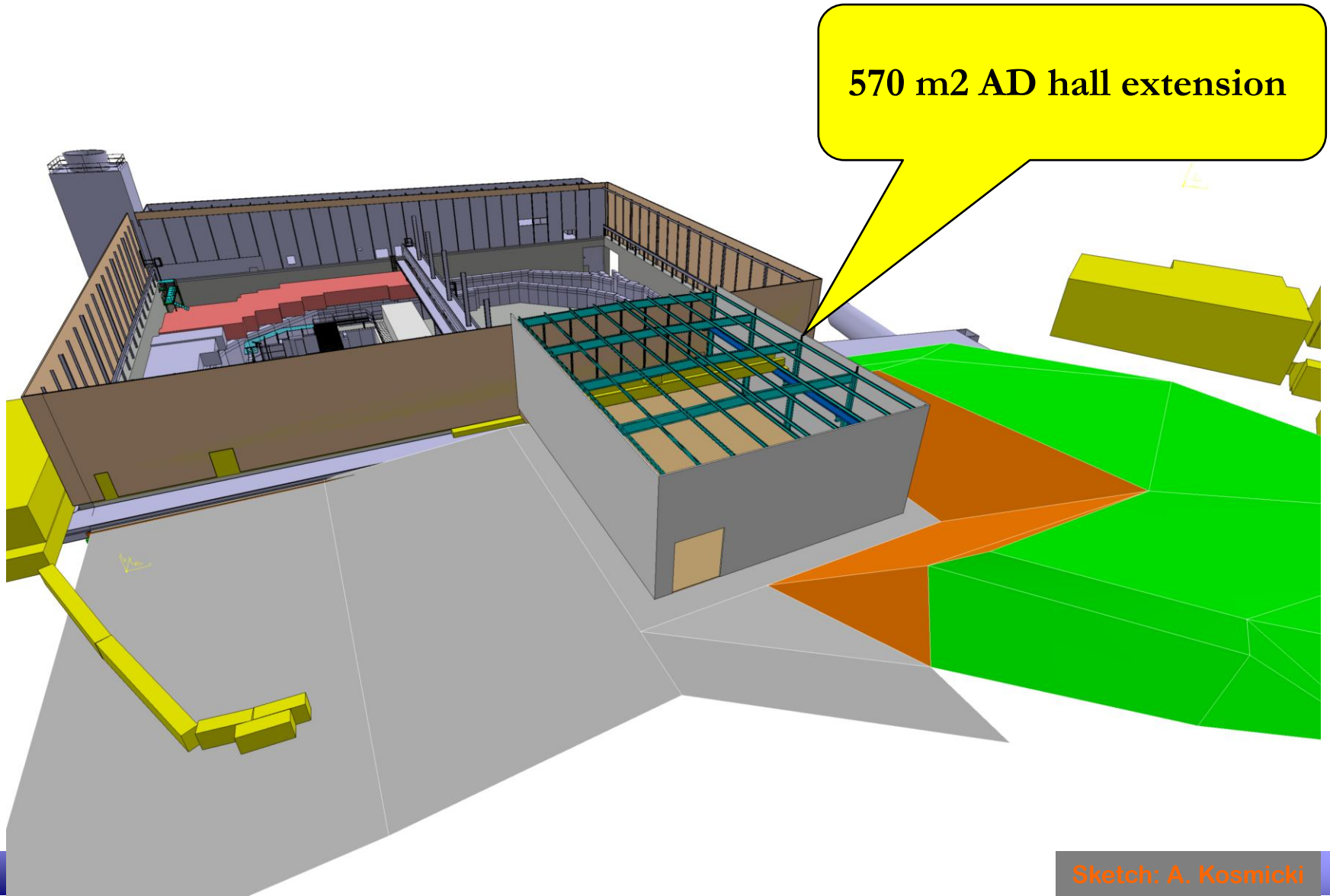
Accomodate for experimental areas



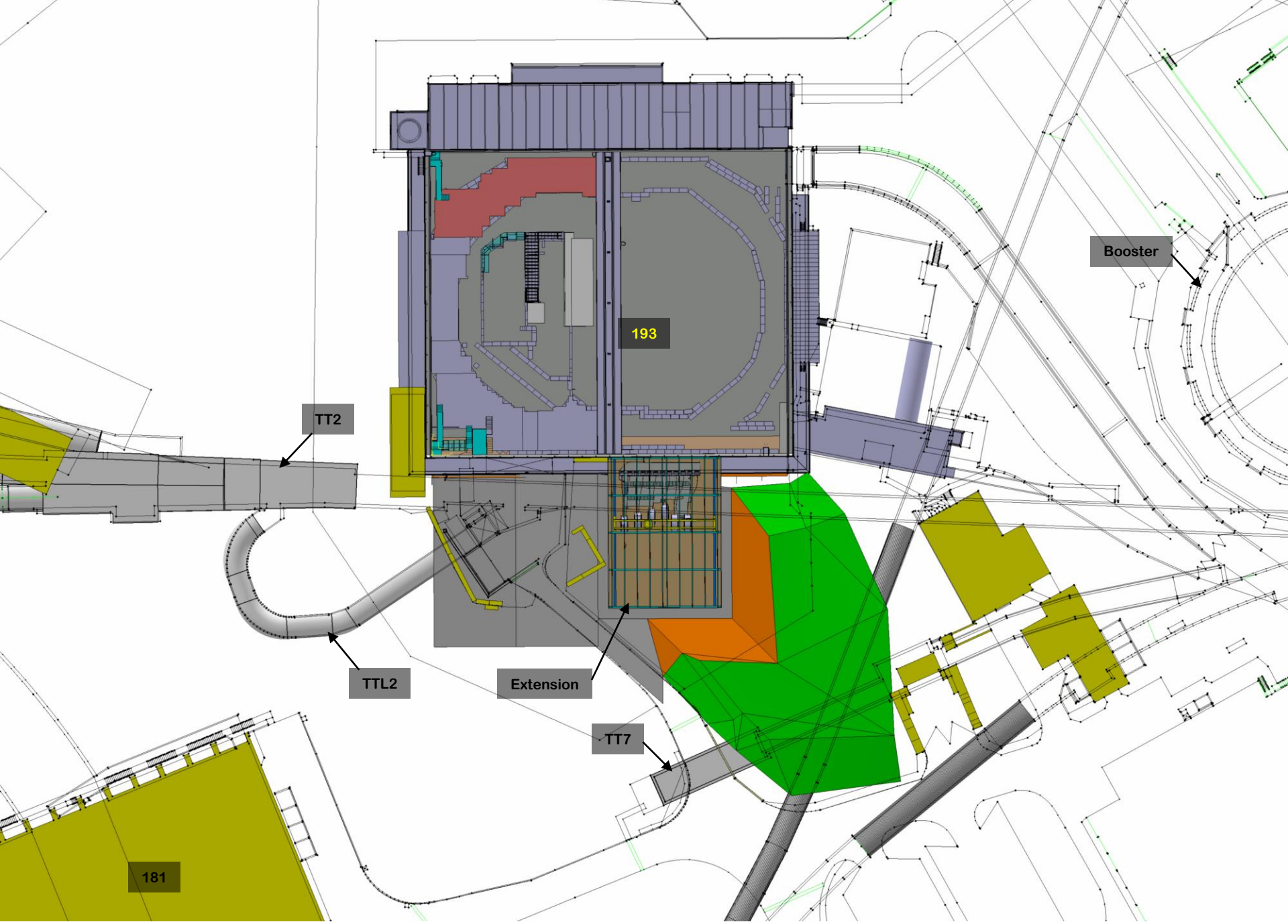


ELENA experiment (Gbar) may sit here

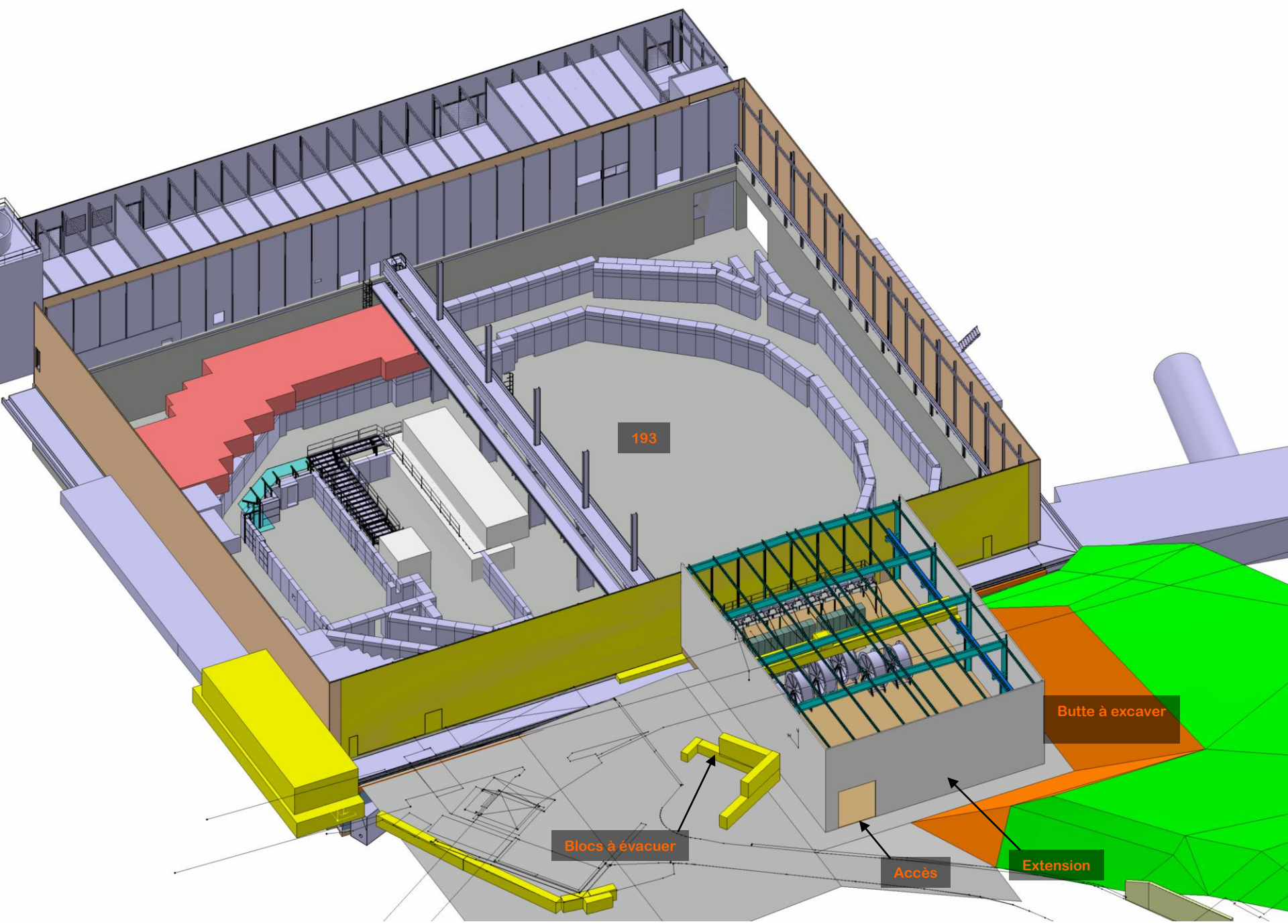
Solution : New building proposal



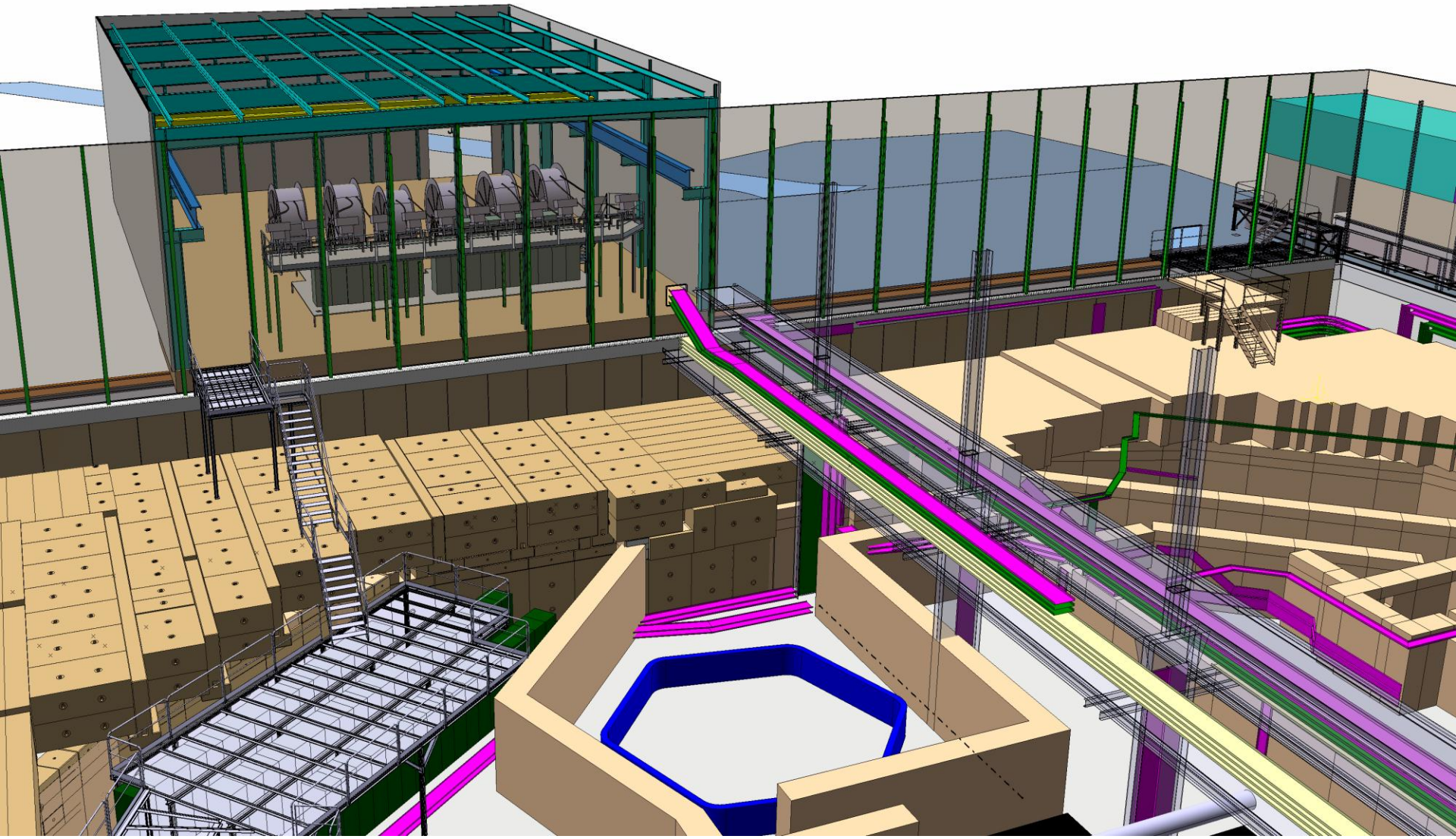
Sketch: A. Kosmicki



Sketch: A. Kosmicki


193
Butte à excaver
Blocs à évacuer
Accès
Extension

Complete CE project by A. Kosmicki and L. Lopez on EDMS# 1176220

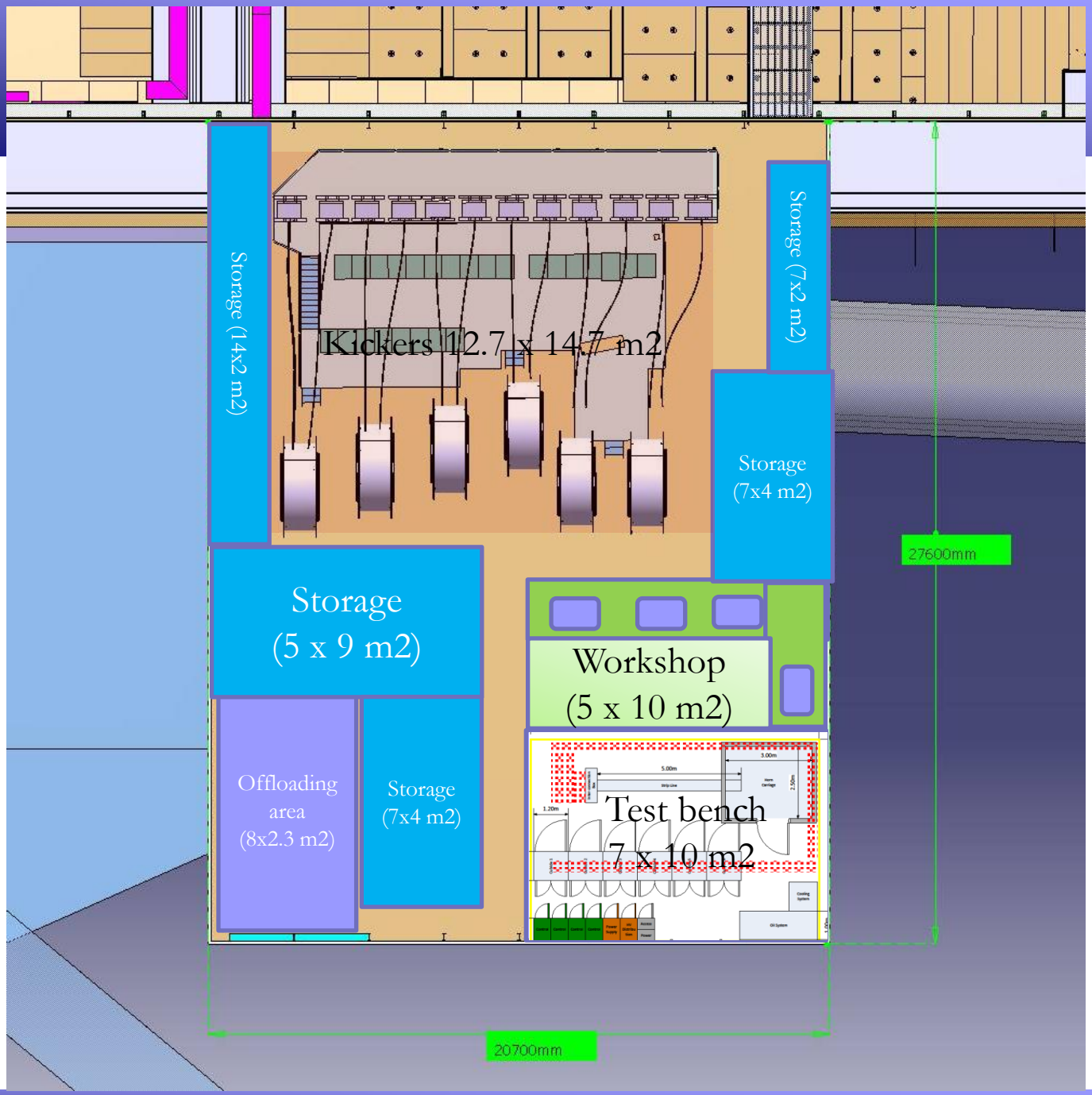


Sketch: A. Kosmicki

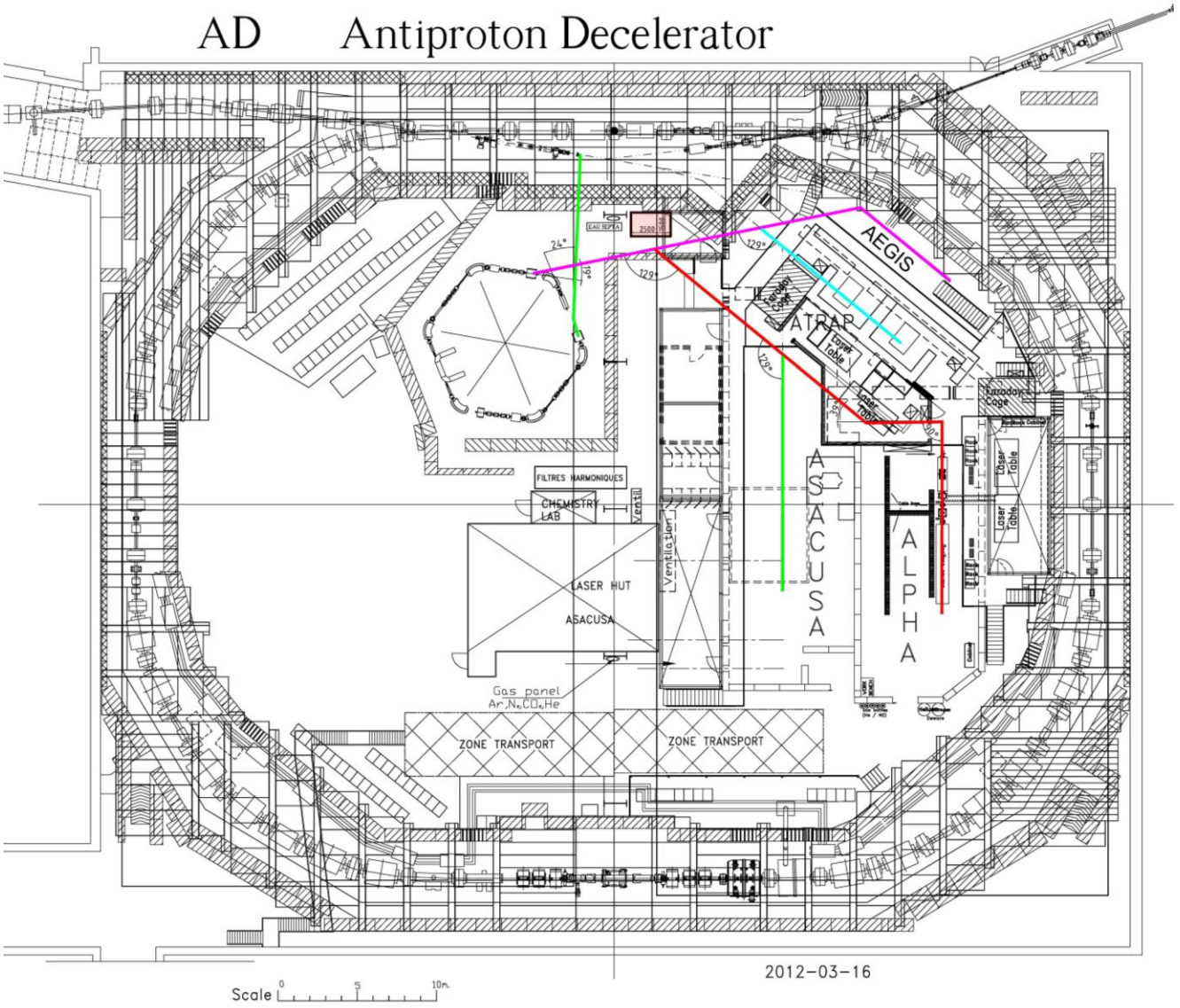
New building details

Surface needed:

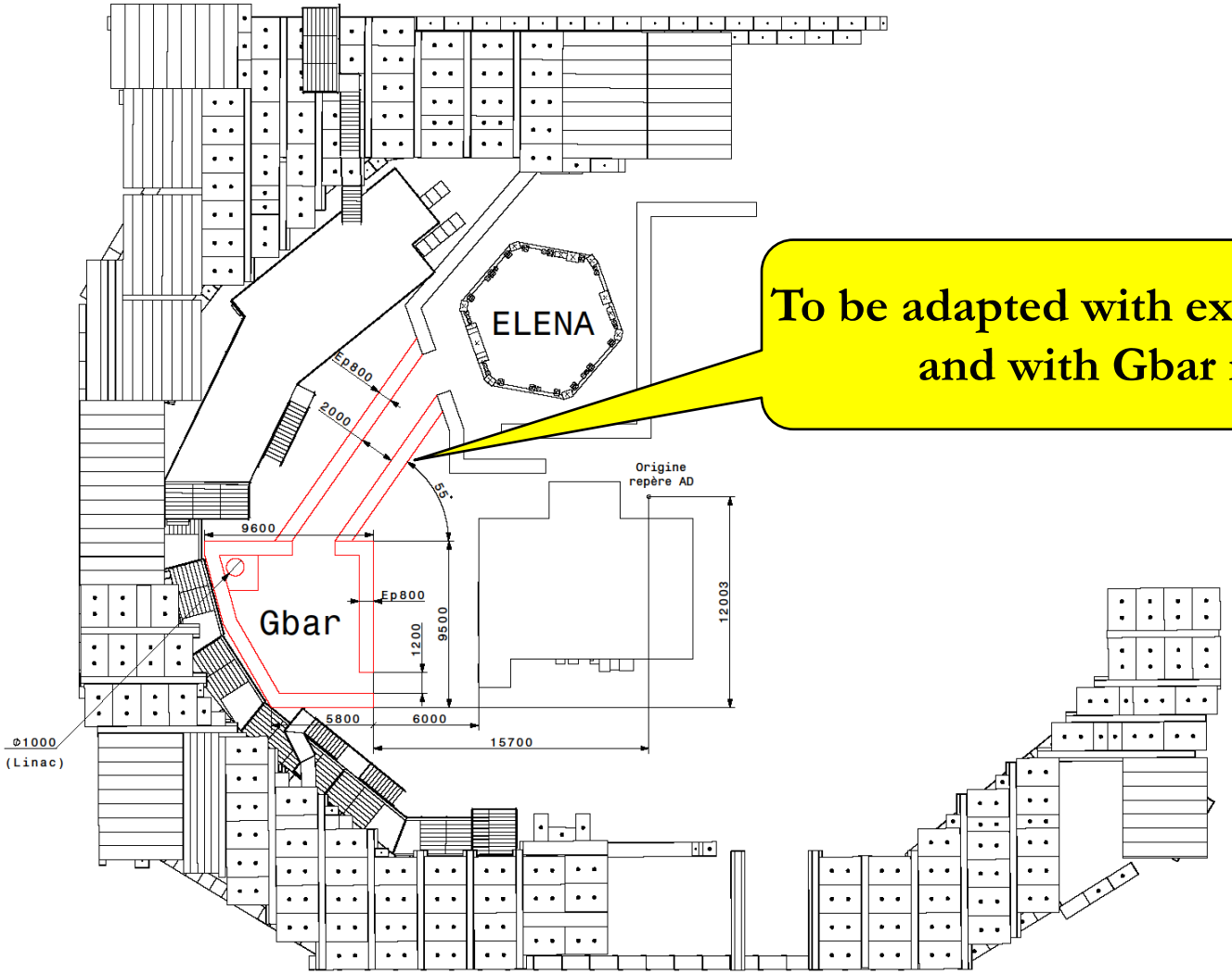
- Storage: 180 m2
- Kickers: 200 m2
- Workshop: 50 m2
- Horn test bench: 70 m2
- CV installation: 10 m2
- Circulation: 60 m2
- **Total: 570 m2**


Storage (14x2 m2)
Kickers 12.7 x 14.7 m2
Storage (7x2 m2)
Storage (7x4 m2)
27600mm
Storage (5 x 9 m2)
Workshop (5 x 10 m2)
Offloading area (8x2.3 m2)
Storage (7x4 m2)
Test bench 7 x 10 m2
20700mm

What AD hall will look like after ELENA's installation



Rough proposal of Gbar area



To be adapted with extraction line and with Gbar needs

Work conditions in AD environment

To access and work in AD hall:

- Valid CERN access card
- Safety training level 1 and 2.
- Radiation + electrical training mandatory
- Dosimeter (medical certificate)
- Specific AD area access right (when operational)
- No particular EPI, except during heavy handling operations

Visits are possible and regulated

General rules for AD experiments

- 40 cm shielding around exp area. Access controled. No access inside shielded zone during run
- Linac case to be treated with great care
- CRs are located in bdg 93, racks are in 193
- Radiations (eg. generated by Linac): shielding to be put in place to reach <3μSv/h at working/circulation places
- Visit circuit nearby: < 0.5 μSv/h

Specific constraints with GBar

- Electronics cooling: max 10 kW released in air, how much with water ?
- Use of gases (N_2, Ar, Ne, SF_6, O_3), no cryogens: Distribution ? Extraction ? Need of ODH detection ?
- Test stands ? Assembly area ? Clean room ?
- Number of racks that can be accomodated is limited (about 25)
- Position of laser hut is tricky (location/stability)…

Conclusions 2

- ELENA project is on its way
- Space reserved for at least 1 new experiment and corresponding control room, pending approval of AD hall extension building
- Waiting for official approval to launch serious integration work for Gbar in AD/ELENA environment