

# AD/ELENA (B193) Hall Extension

F. Butin

# Status



- The need of a new building for AD was already discussed in 2010, First pre-study **shown to GTPE 1st Sept 2010**
- Designed building v1 with CE in Dec 11
- Specific presentation to GTPE on 12/01/2012
- Shown in Site Committe by P. Collier on 23/02/12
- Recommended to proceed with MS/CfT in SPSC on 23/02/12
- Specification document with all services integration is ready on EDMS (<https://edms.cern.ch/document/1207244/1> )
- Decision from directorate still expected

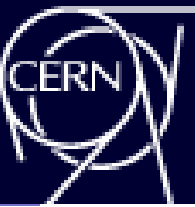
# Reasons for an extension of AD hall



## Four main goals for an extension of AD hall:

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

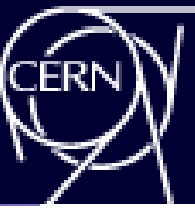
# New building details



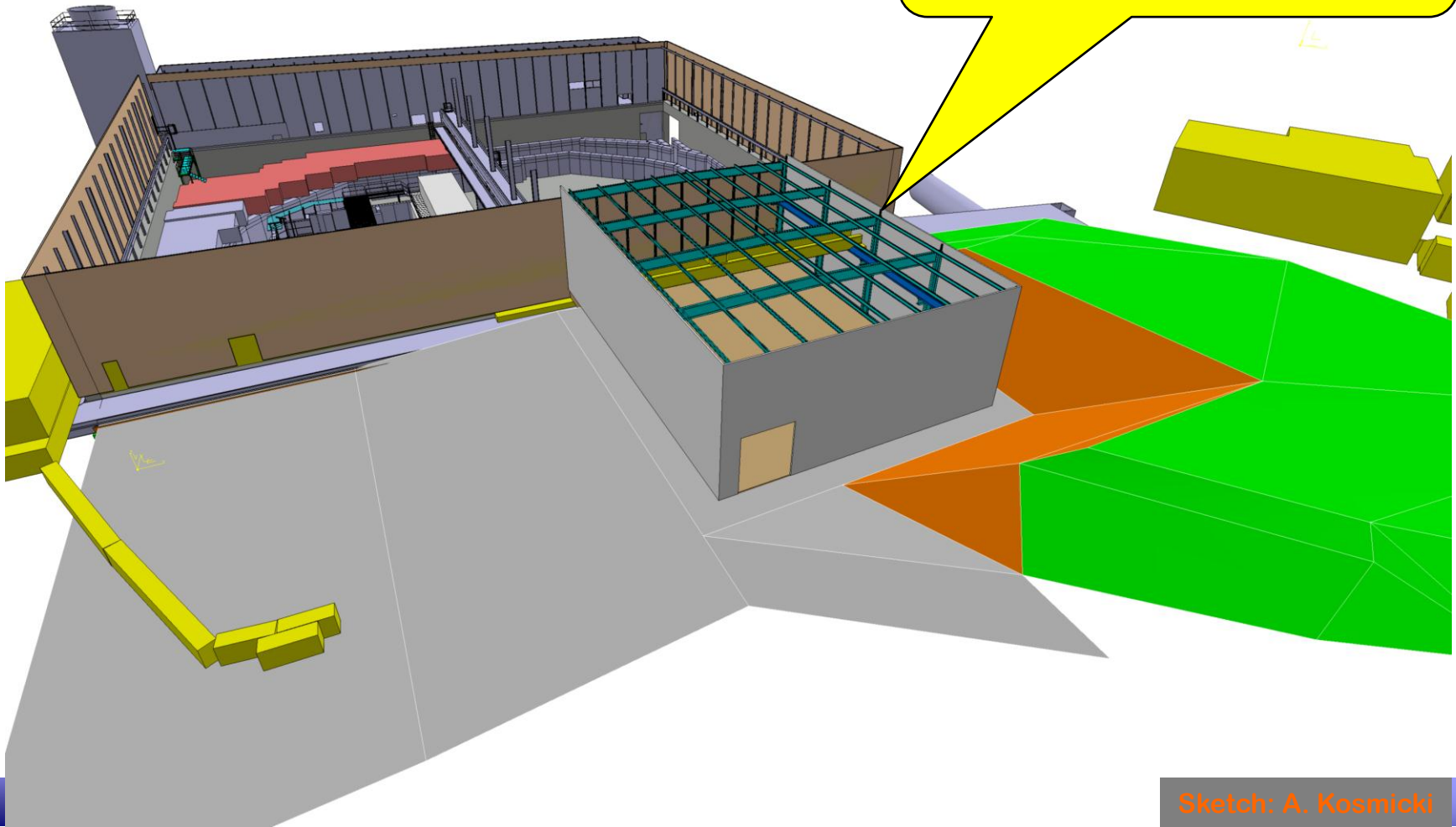
## Surface needed:

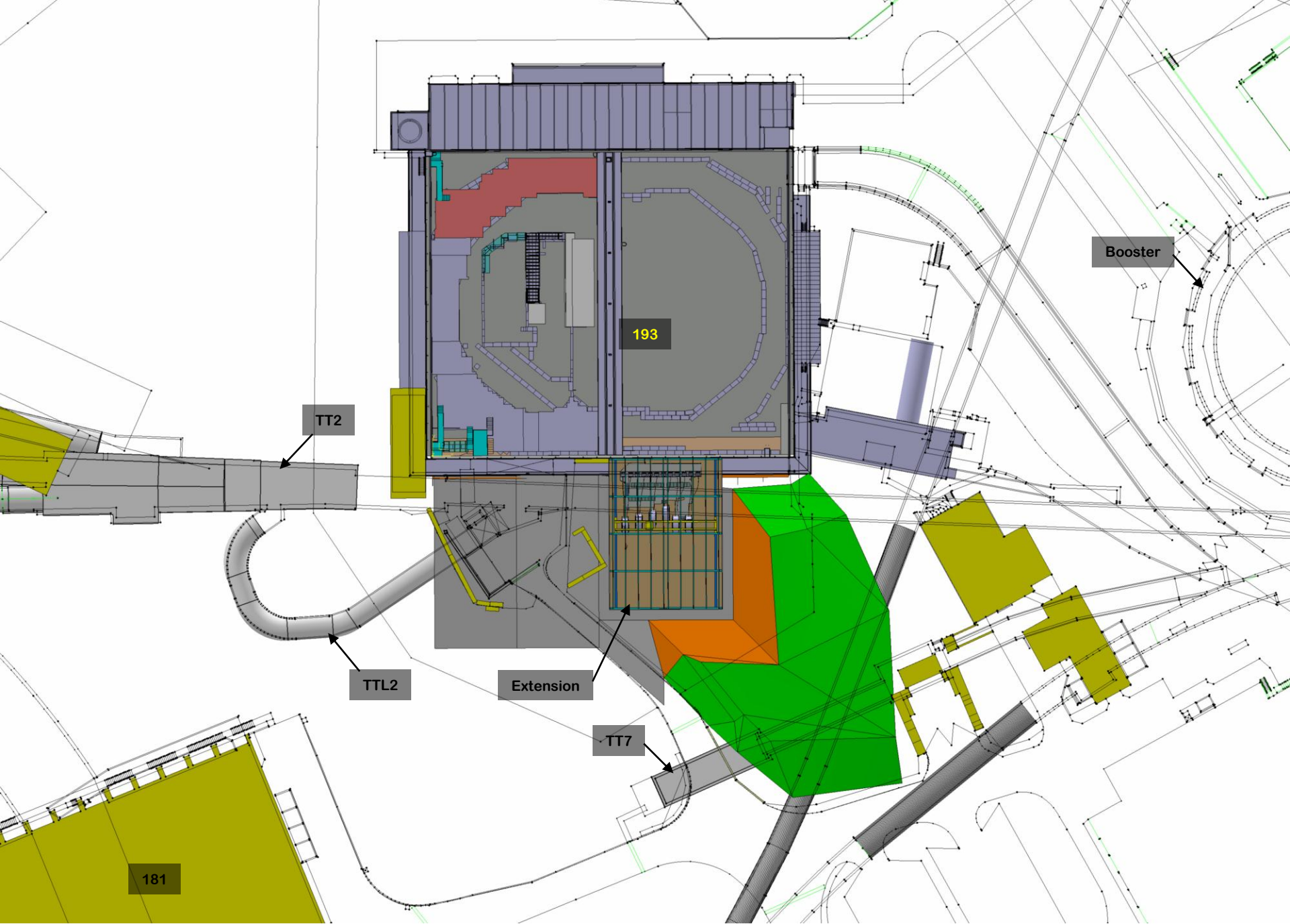
- Storage: 180 m<sup>2</sup>
- Kickers: 200 m<sup>2</sup>
- Workshop: 50 m<sup>2</sup>
- Horn test bench: 70 m<sup>2</sup>
- CV installation: 10 m<sup>2</sup>
- Circulation: 60 m<sup>2</sup>
- **Total: 570 m<sup>2</sup>**

# Extension building proposal



570 m<sup>2</sup> AD hall extension





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TT2

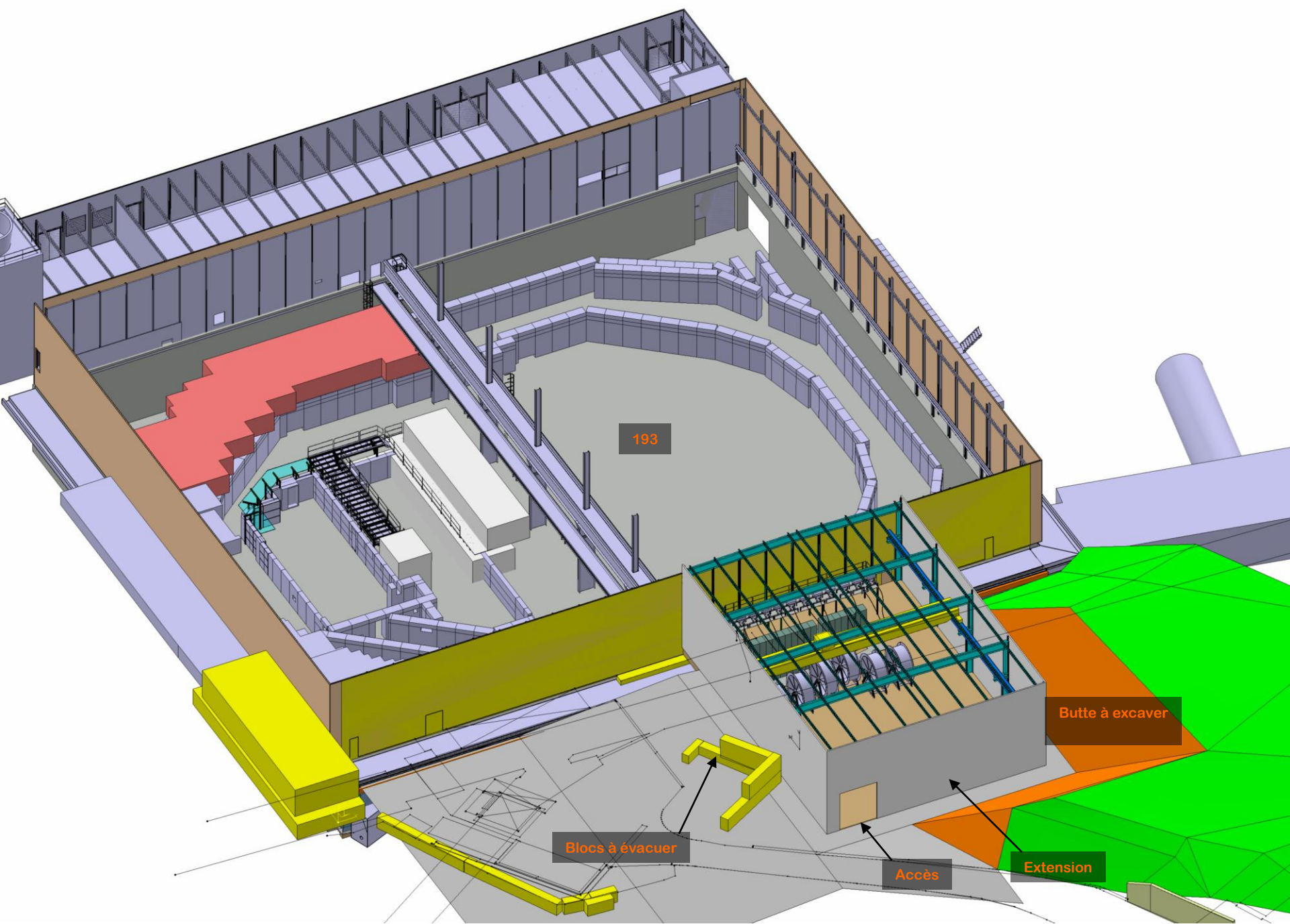
Booster

TTL2

Extension

TT7

181



193

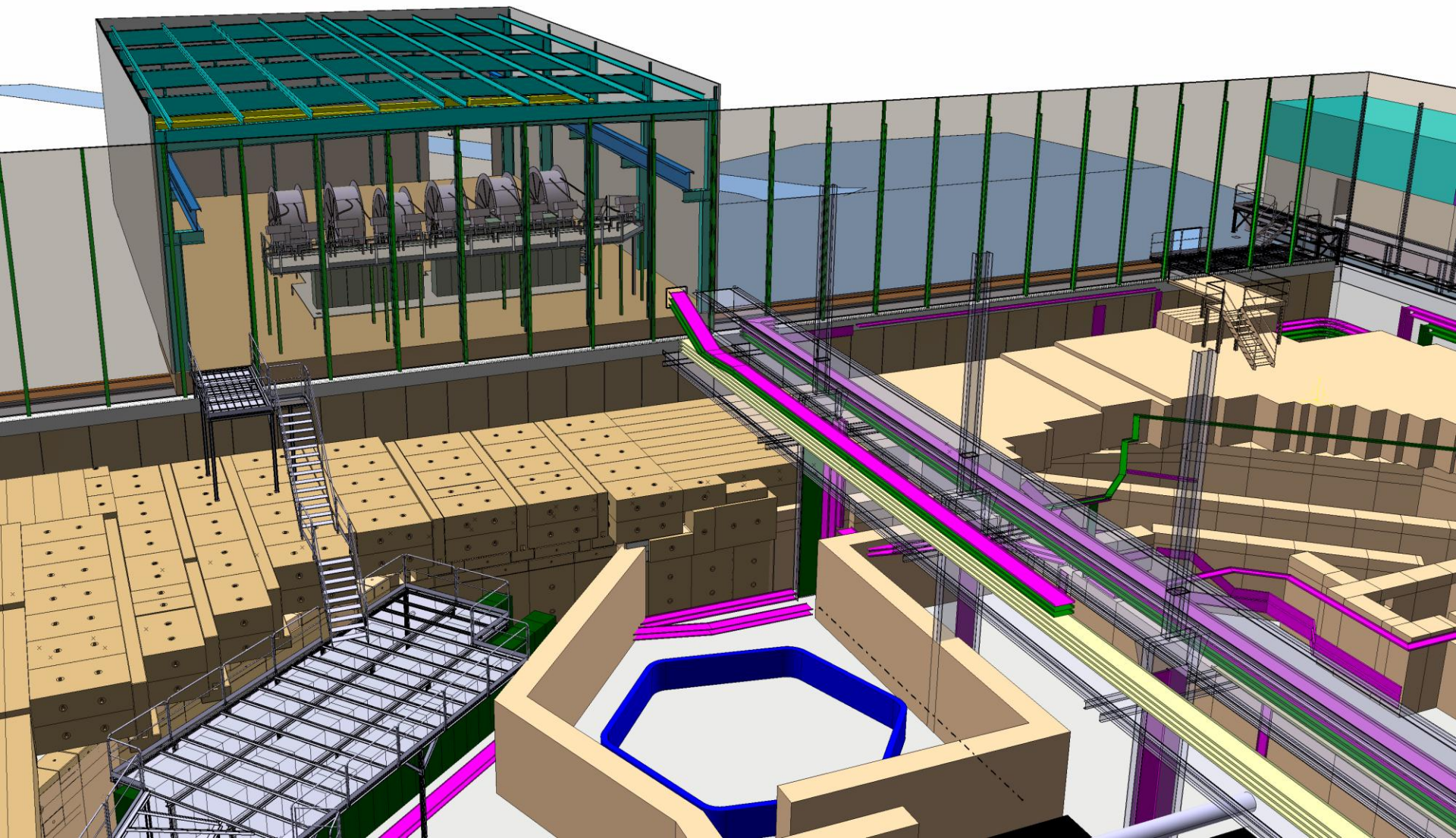
Blocs à évacuer

Accès

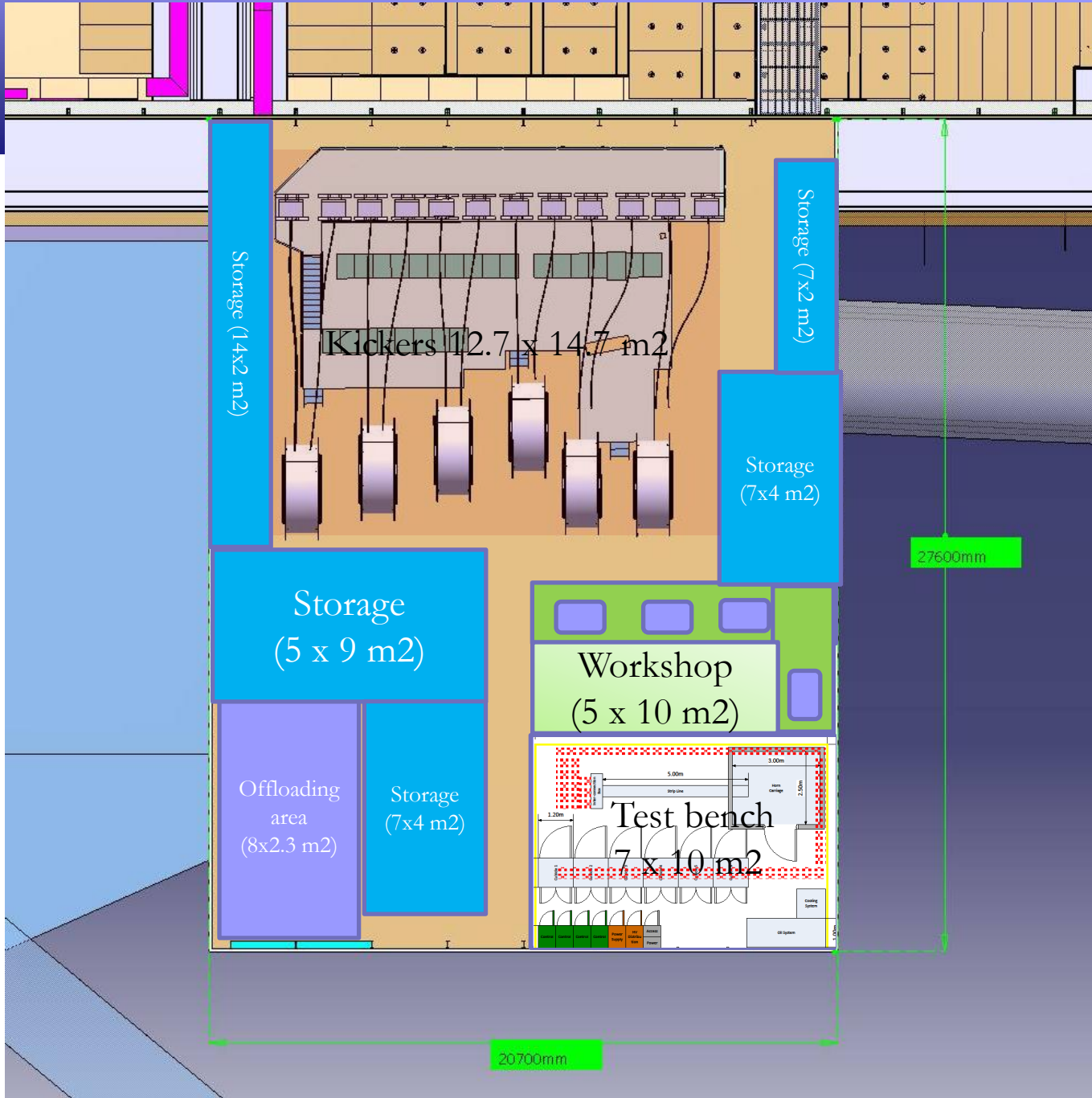
Extension

Butte à excaver

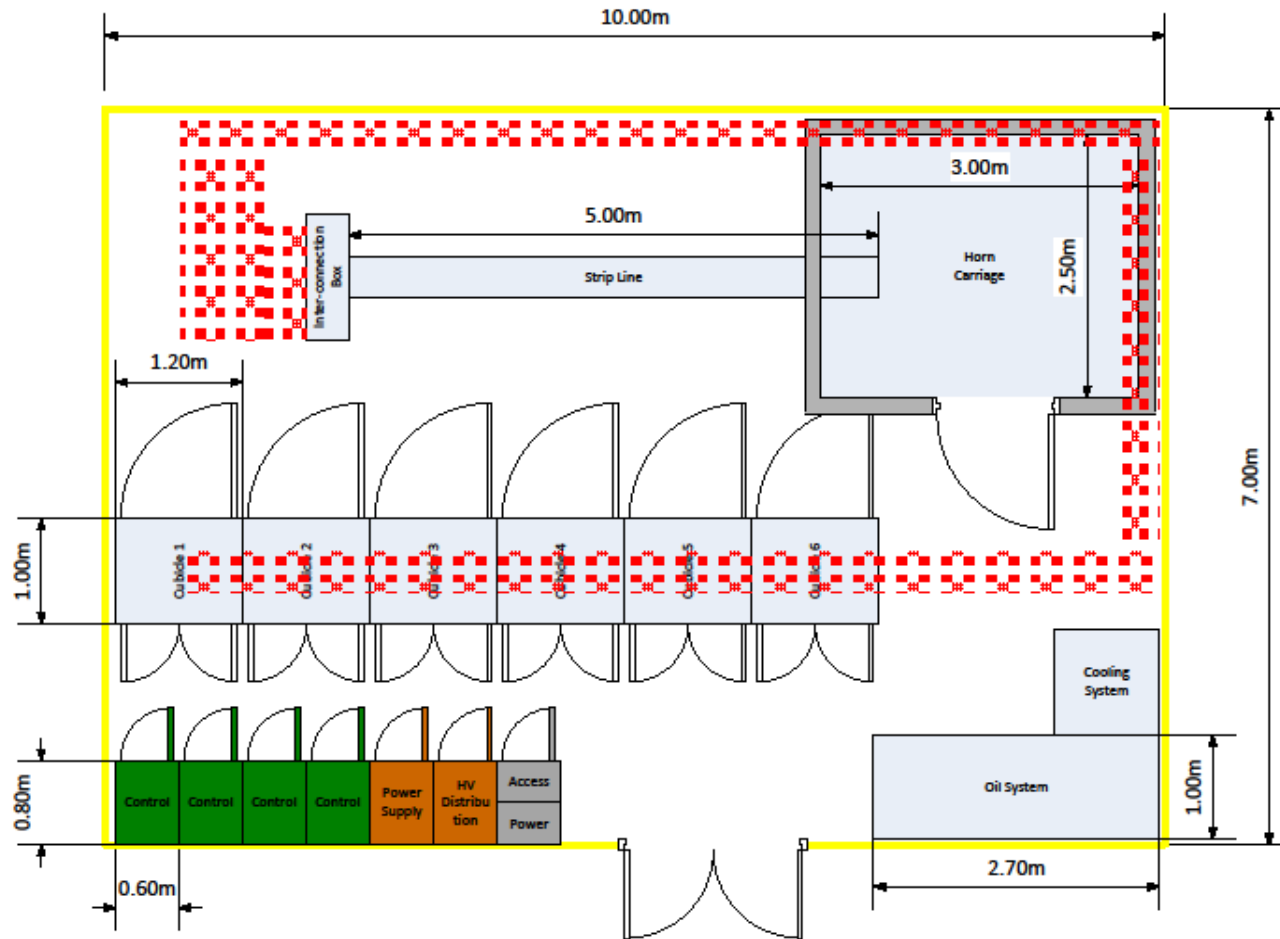
Complete CE project by A. Kosmicki and L. Lopez on EDMS# 1176220





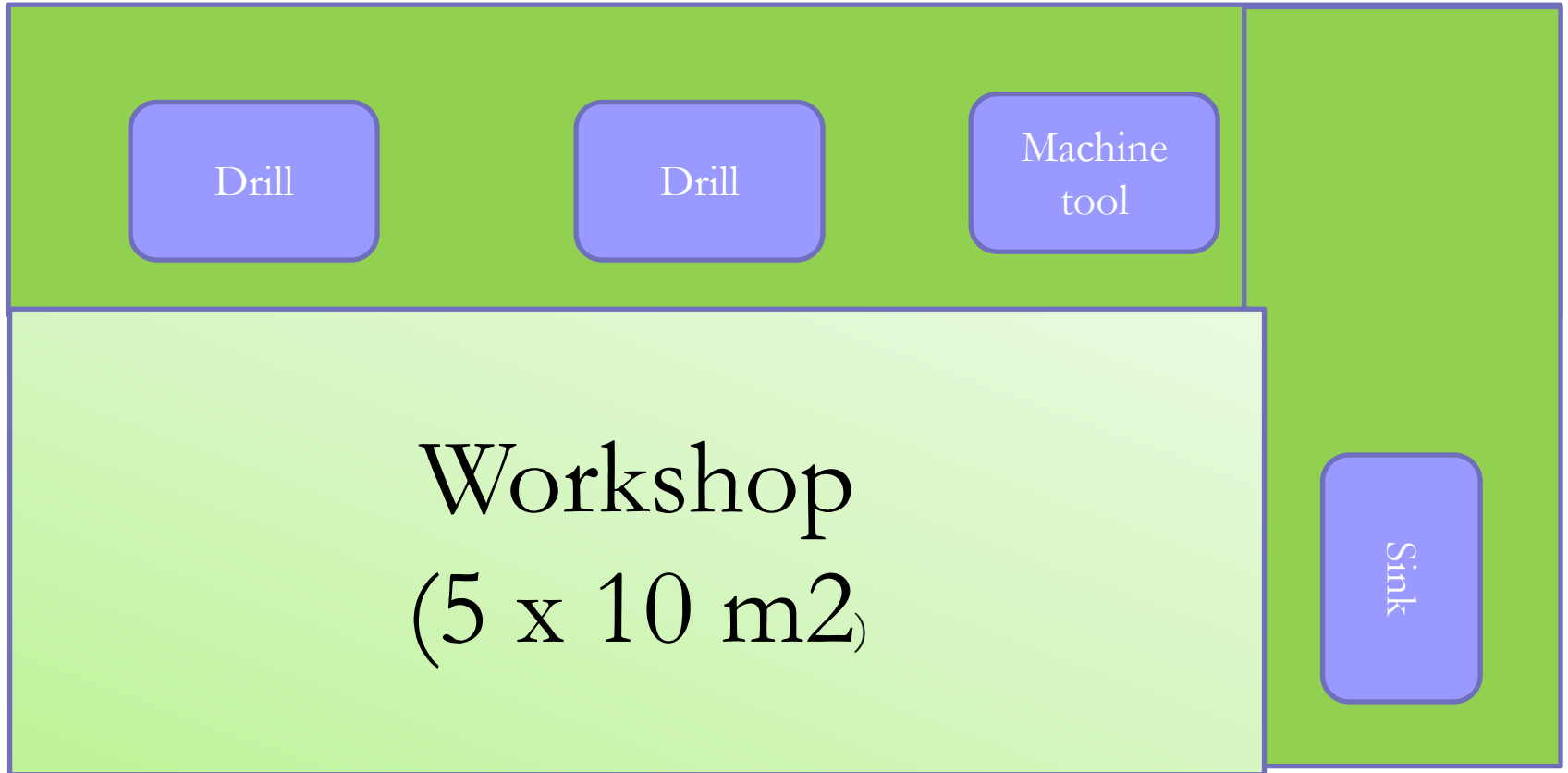


# Magnetic horns test bench

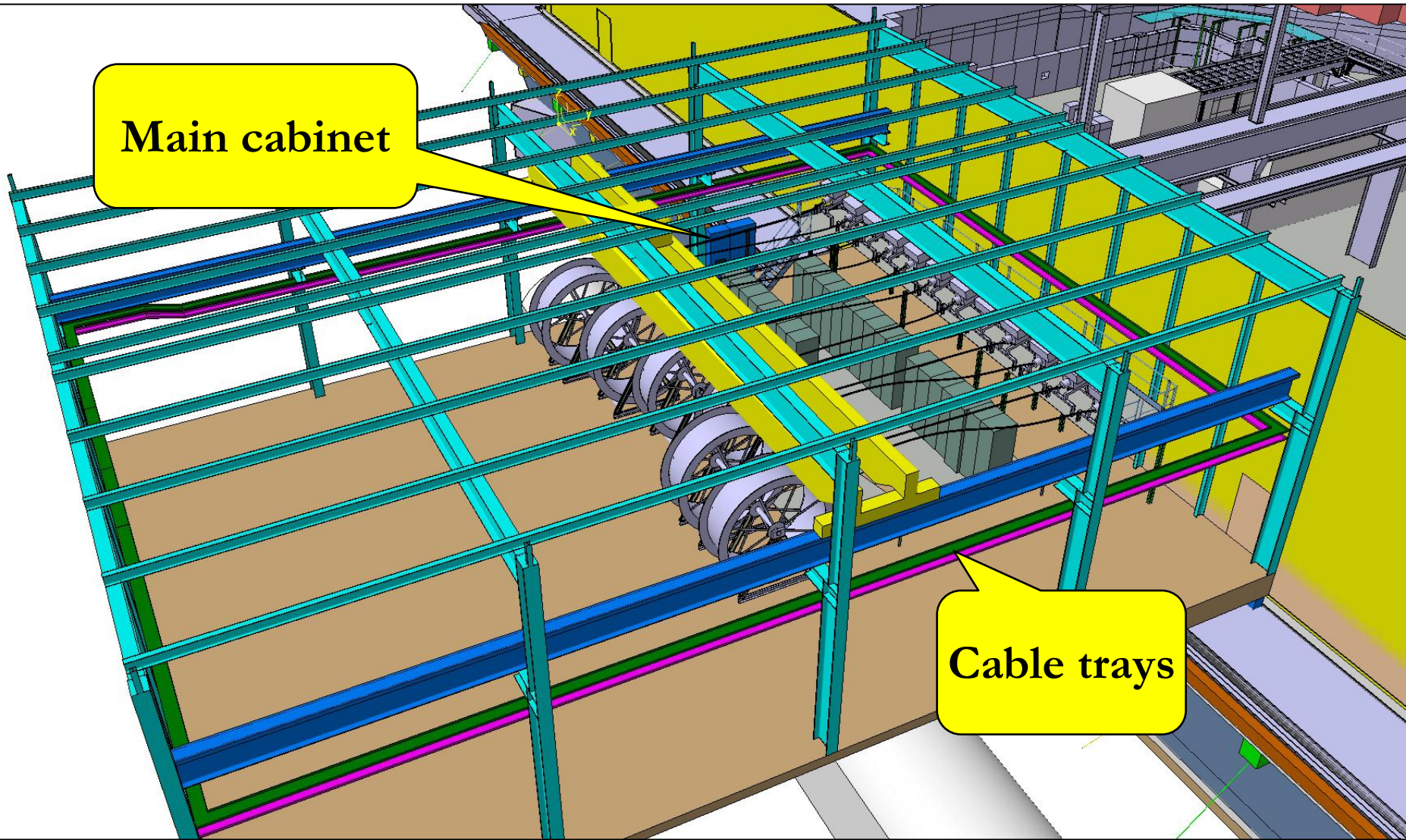
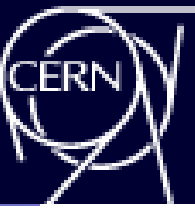


AD Horn Test Bench Setup  
 03/02/2012  
 Etienne CARLIER  
 TE/ABT

# Workshop layout



# EL integration



# EL integration



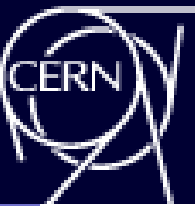
- Distribution cabinet on NE wall
- Kickers: 380 V – 200A
- Crane (10t, 6m below hook): 380 V – 15 kW
- HVAC: 380 V – 80 A plus 380 V – 25 A
- Power sockets blocks (3 x 16 A + 1 x 32 A) every 7 m, plus additional in workshop
- 3x 63 A sockets, 1 for test bench
- Lighting on the ceiling

# EL integration



Cables trays  
have to go

# CV integration



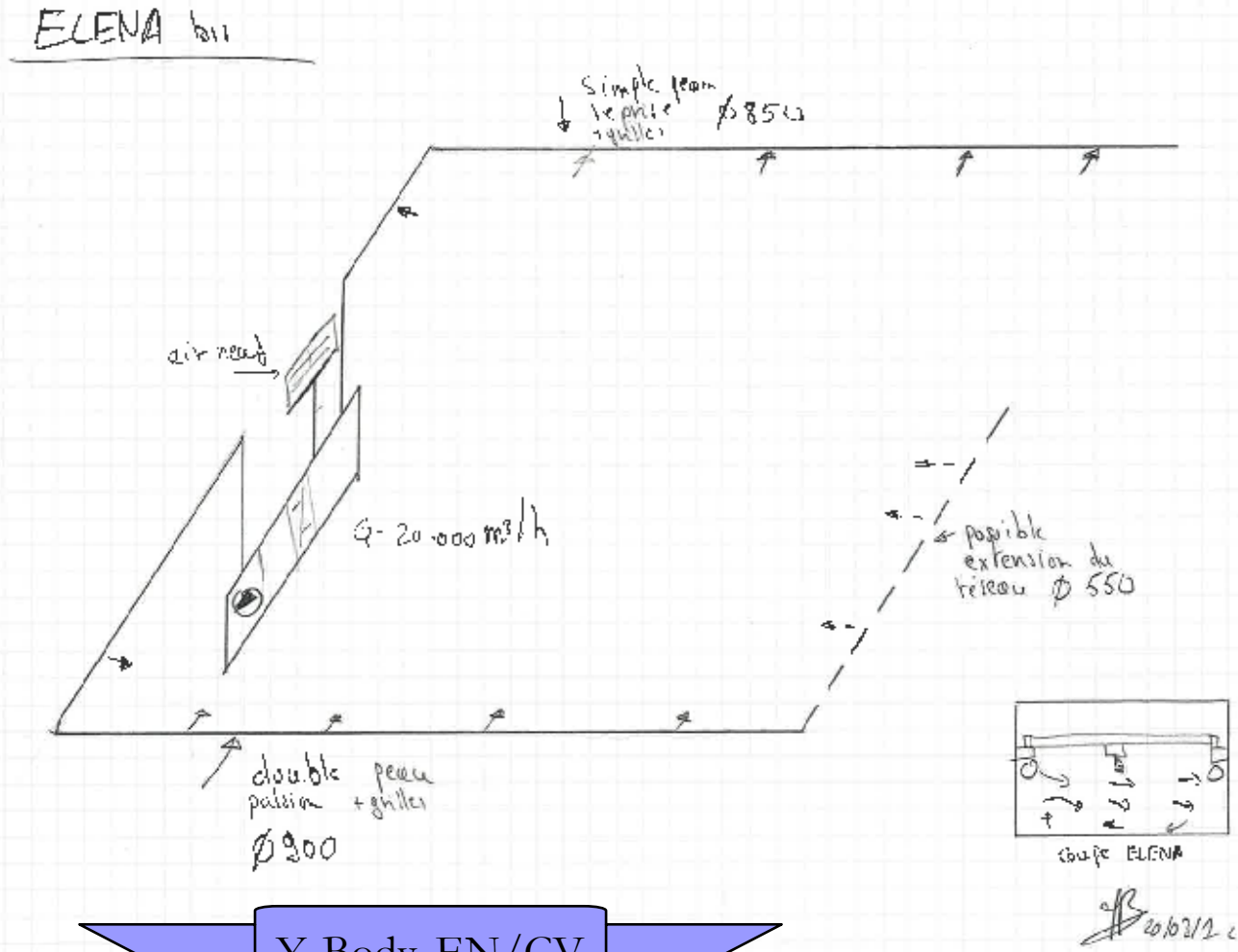
- HVAC system for 20 kW internal heat load
- Demineralized water for detector cooling tests (100 l/s)
- Tap water, sink
- Compressed air (6 outlets)
- Smoke extraction

# CV integration, HVAC system



Komponenten für Sicherheit und hohe Ansprüche

Quelle: [www.massstrahl.ch](http://www.massstrahl.ch)



Y. Body, EN/CV



- IT network: Wifi + internet sockets
- Access control: on all doors, same access rights as AD hall
- Radiation classification: Supervised area
- Radiation monitoring: Interlock with TT2 operation. 80 cm thick slab above void surrounding AD

# Conclusion



- A new multipurpose building is urgently **needed** for :
  - AD/ELENA kickers generators
  - Short term storage for delicate physics detectors, for existing and future experiments
  - Workshop for the experiments
  - Magnetic horn test bench
- It is **absolutely mandatory** if Gbar exp is approved
- This will give vital space for ELENA machine, approved experiment (Gbar) and new antiproton experiments in the future.
- We are in the starting blocks !

