



ISOLDE

Hall Extension Possibilities

100th ISCC meeting 21 June 2024, CERN

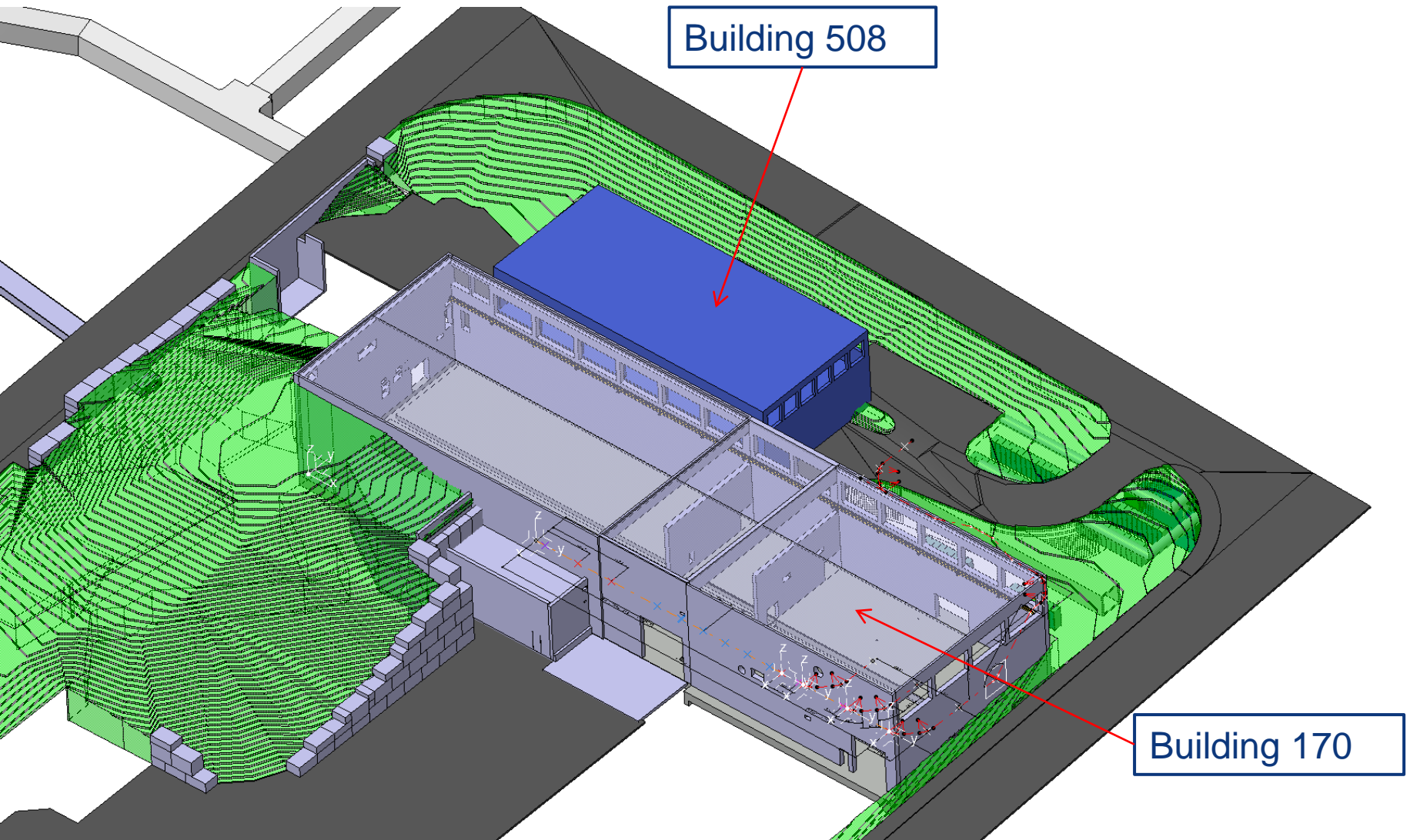
Erwin Siesling BE-OP-ISO

Blast from the Past:

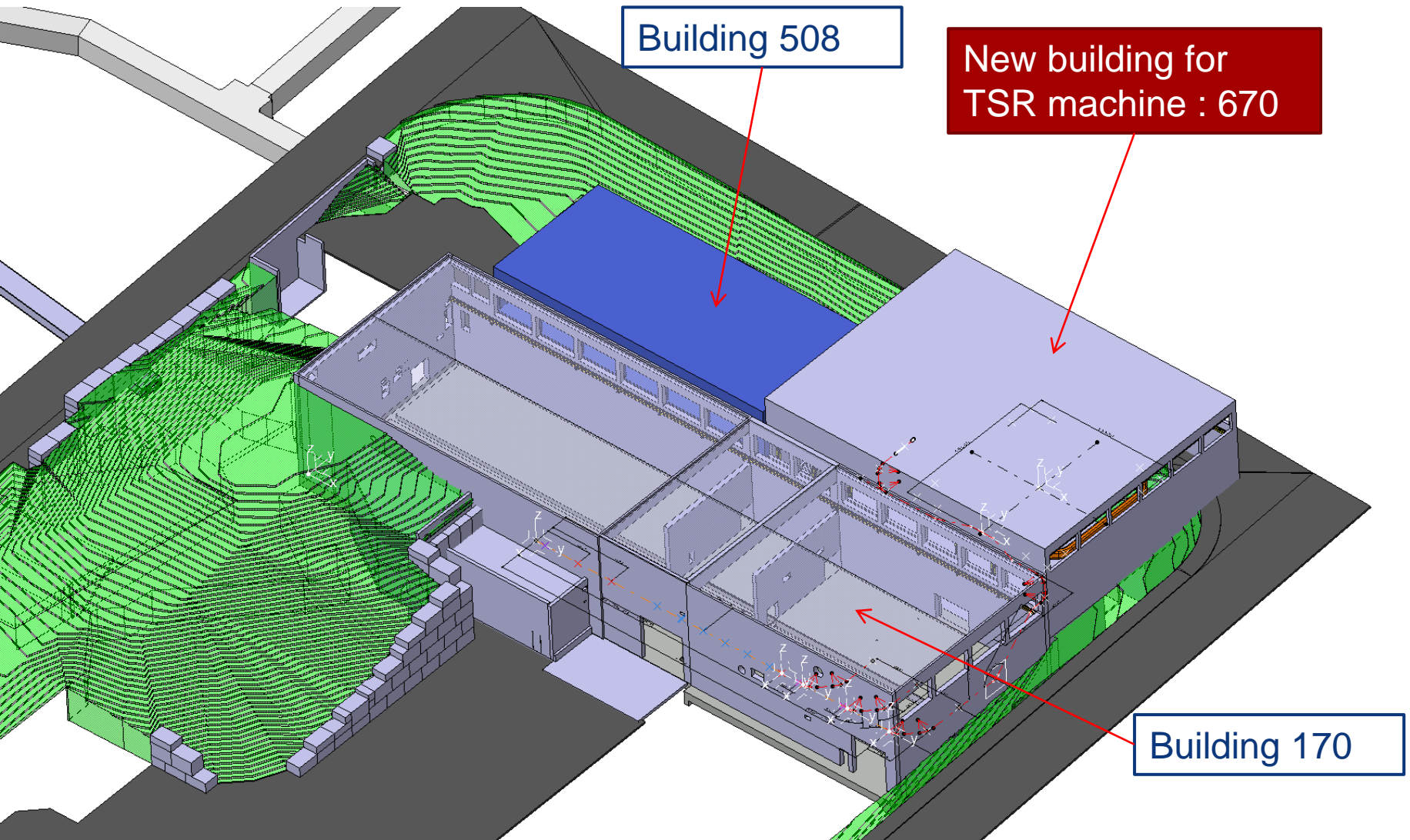
Possible extensions that did not see the light
(but might be a basis for the future)

- TSR Storage Ring 2014
- Compact Storage Ring 2016

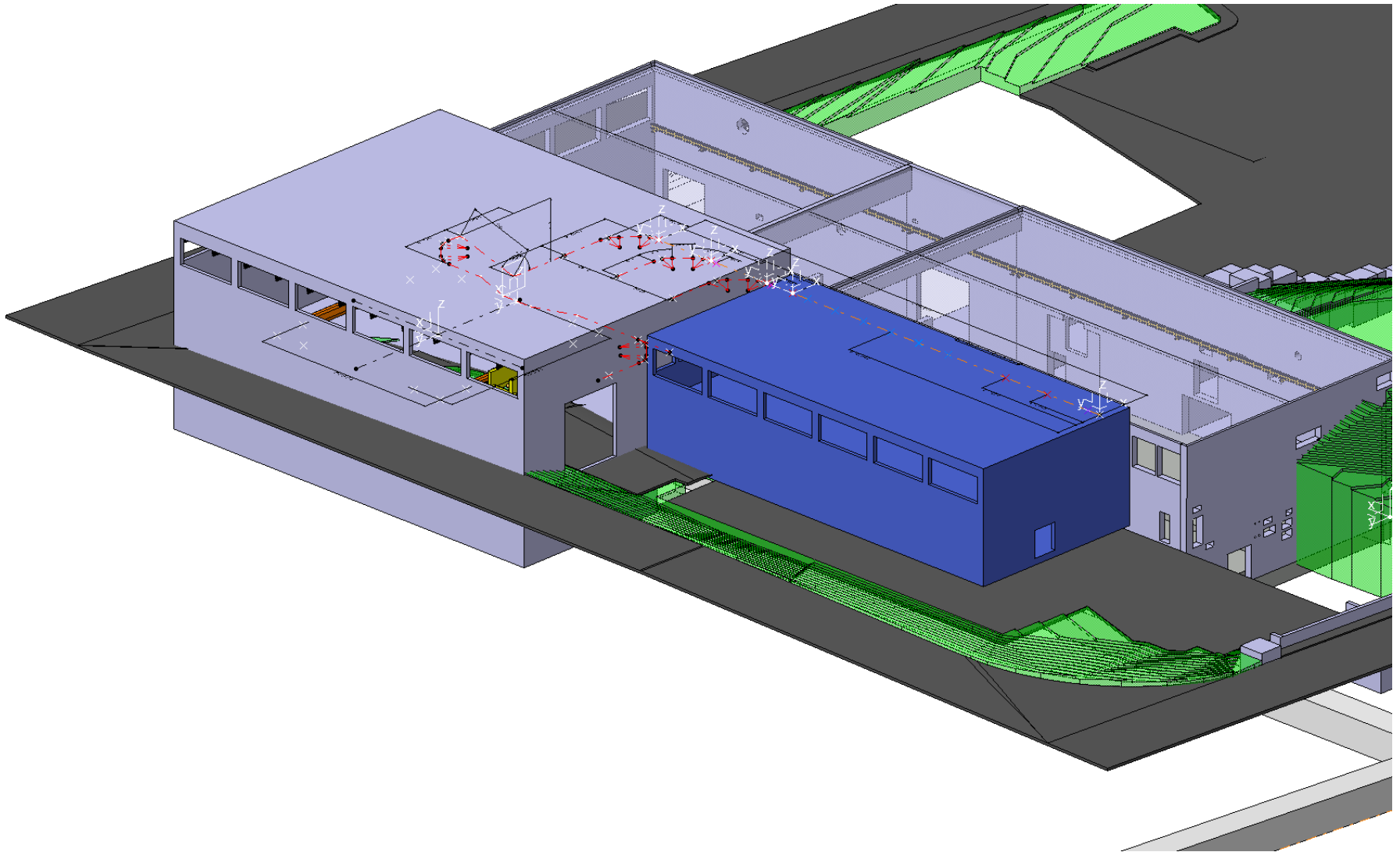
TSR implementation at ISOLDE 2014



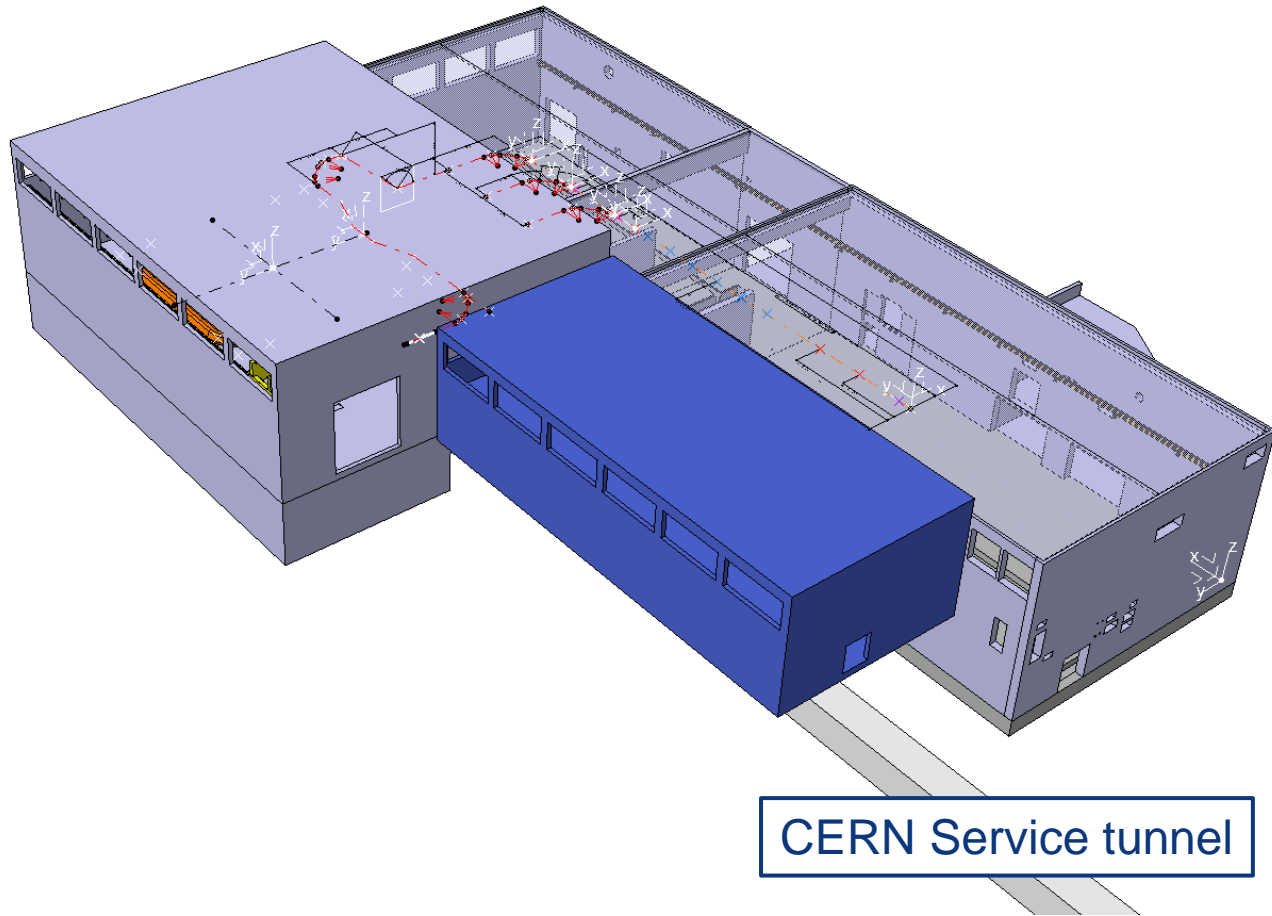
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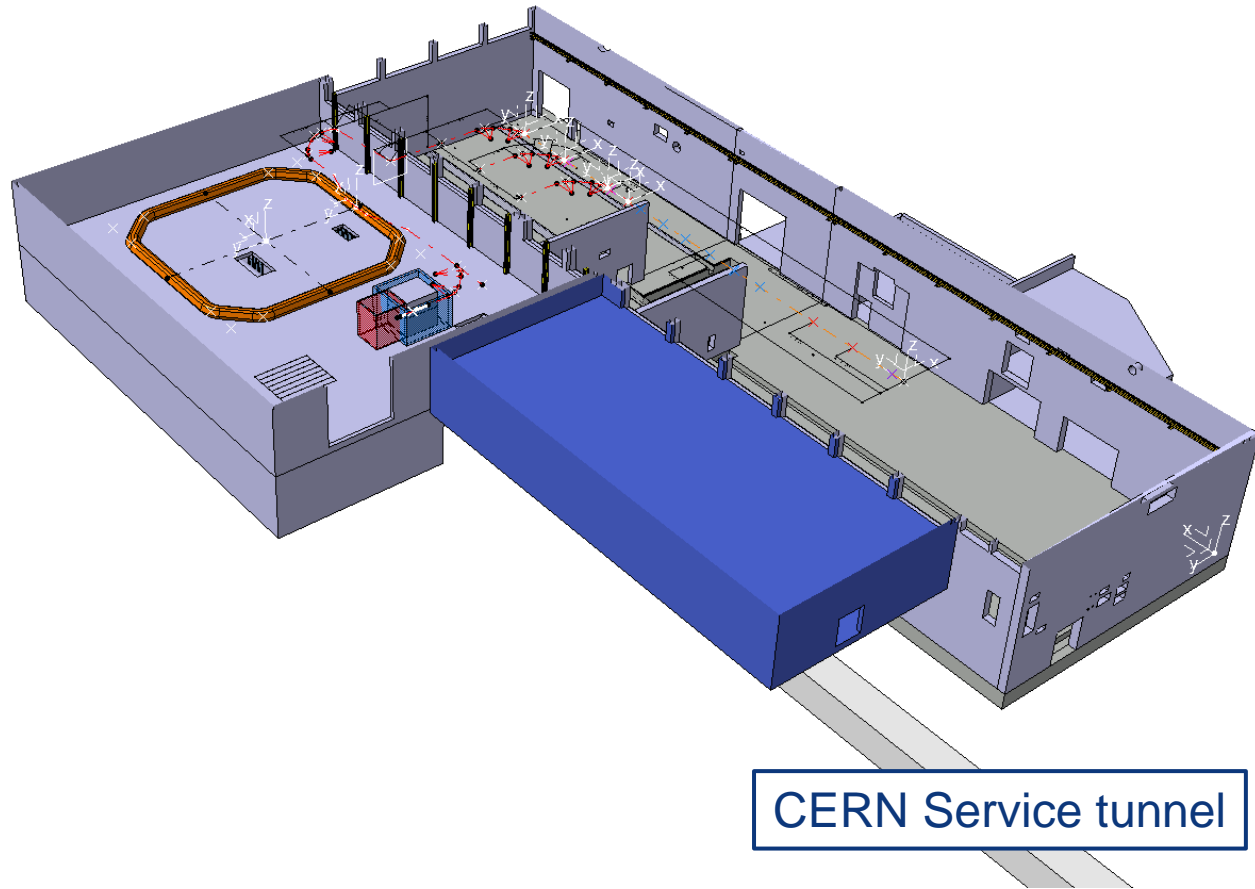
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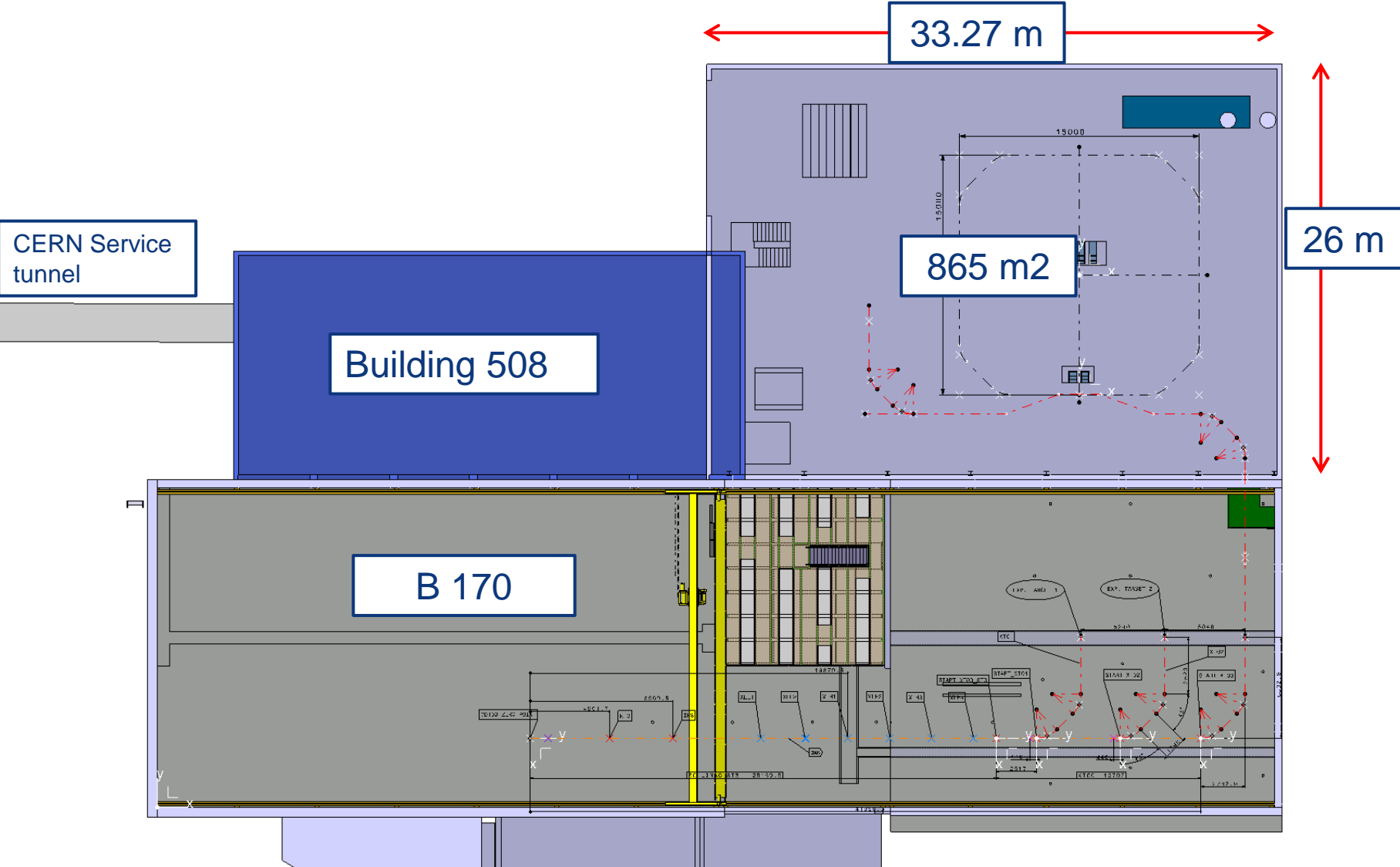
TSR implementation at ISOLDE 2014



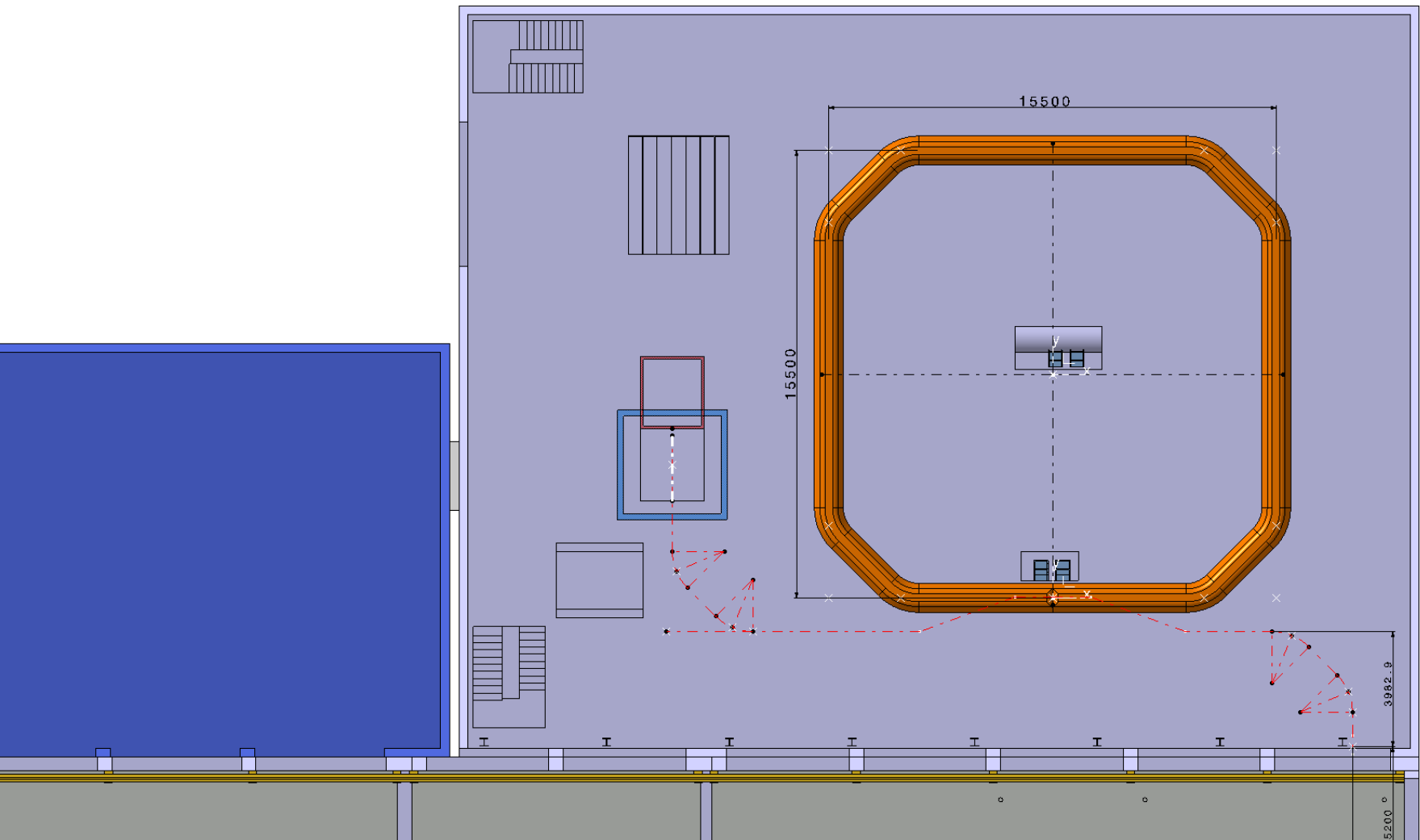
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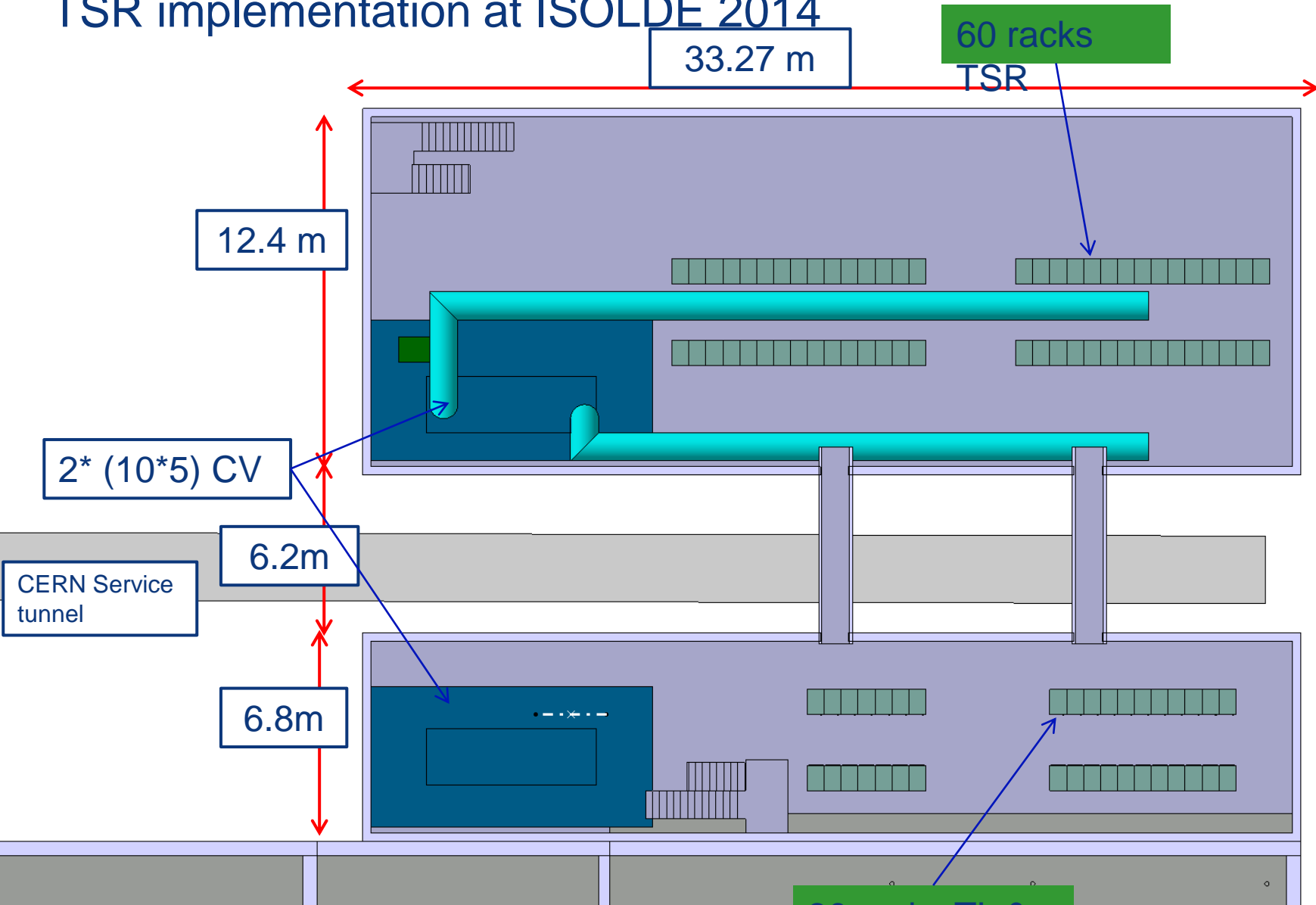
TSR implementation at ISOLDE 2014



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TSR implementation at ISOLDE 2014



33.27 m

60 racks
TSR

12.4 m

2* (10*5) CV

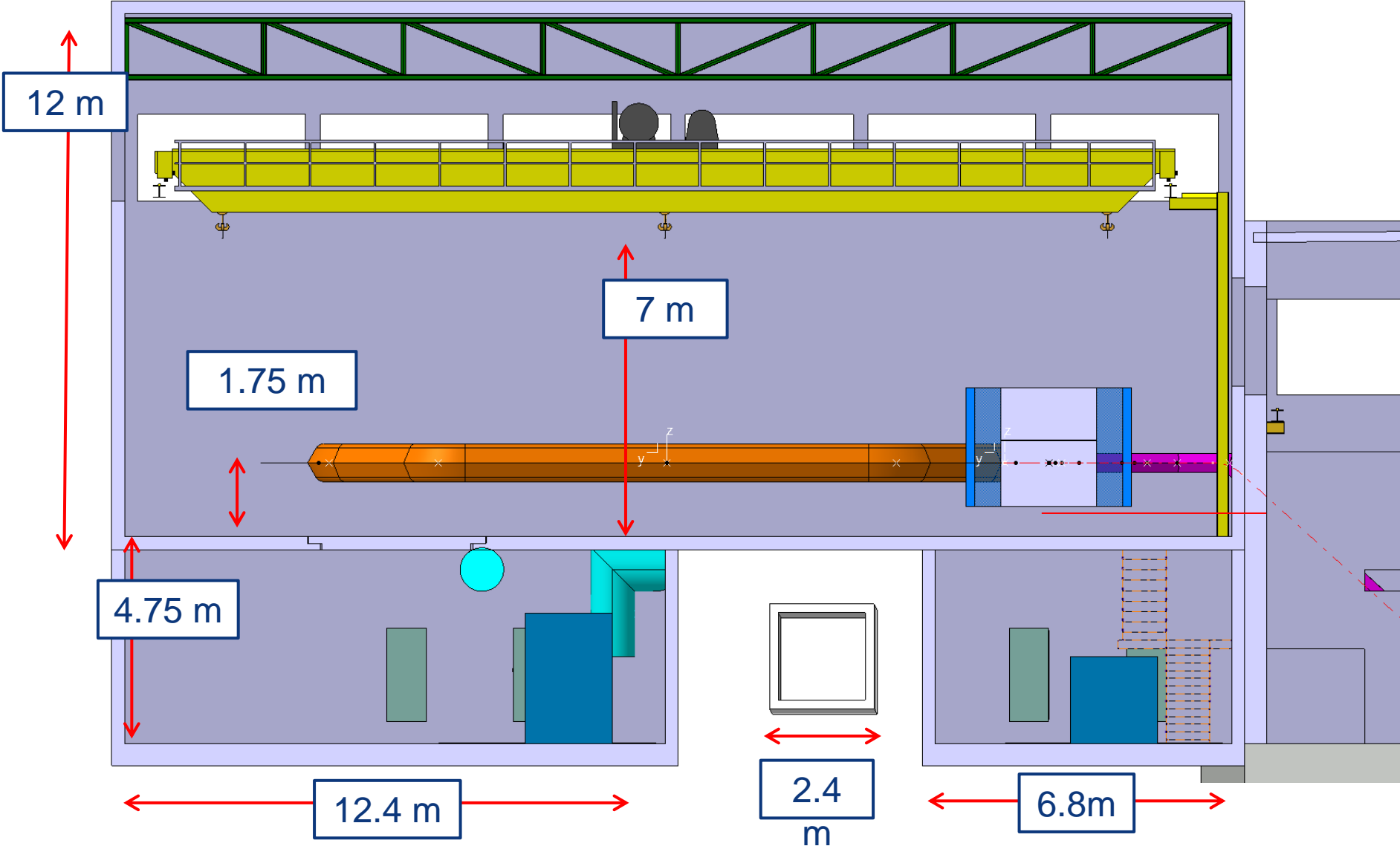
CERN Service tunnel

6.2m

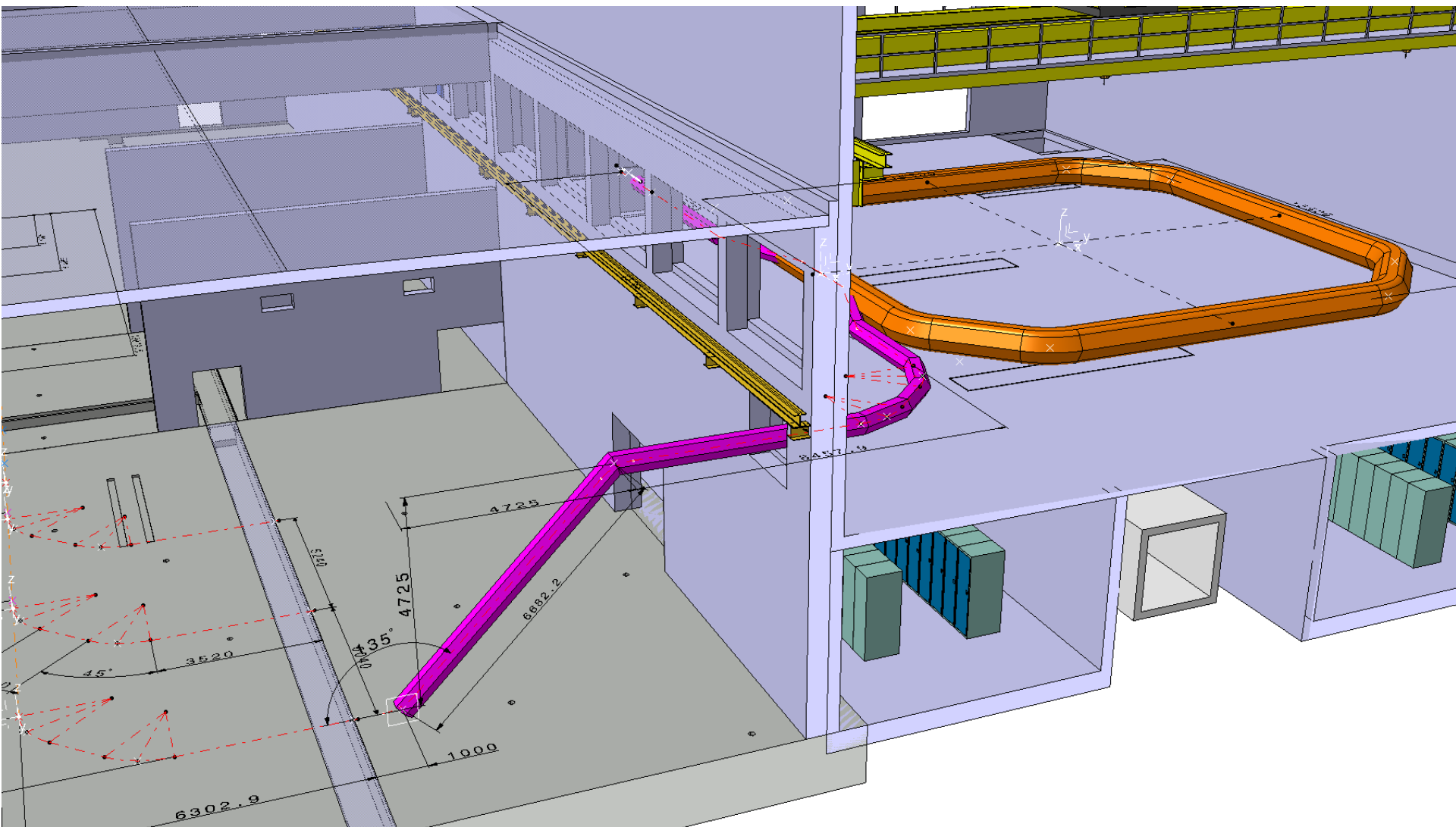
6.8m

30 racks TL &
XT04

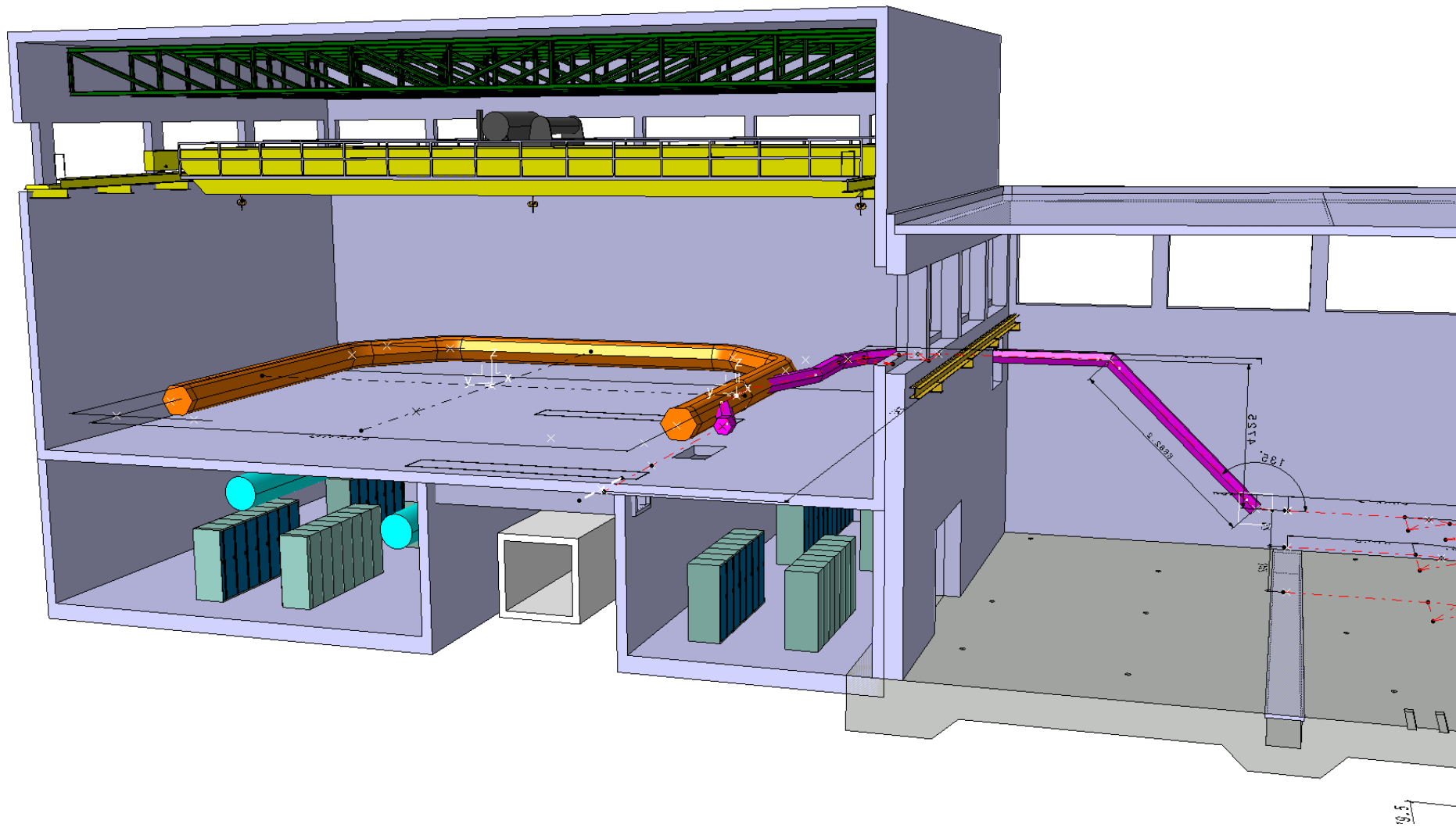
TSR implementation at ISOLDE 2014



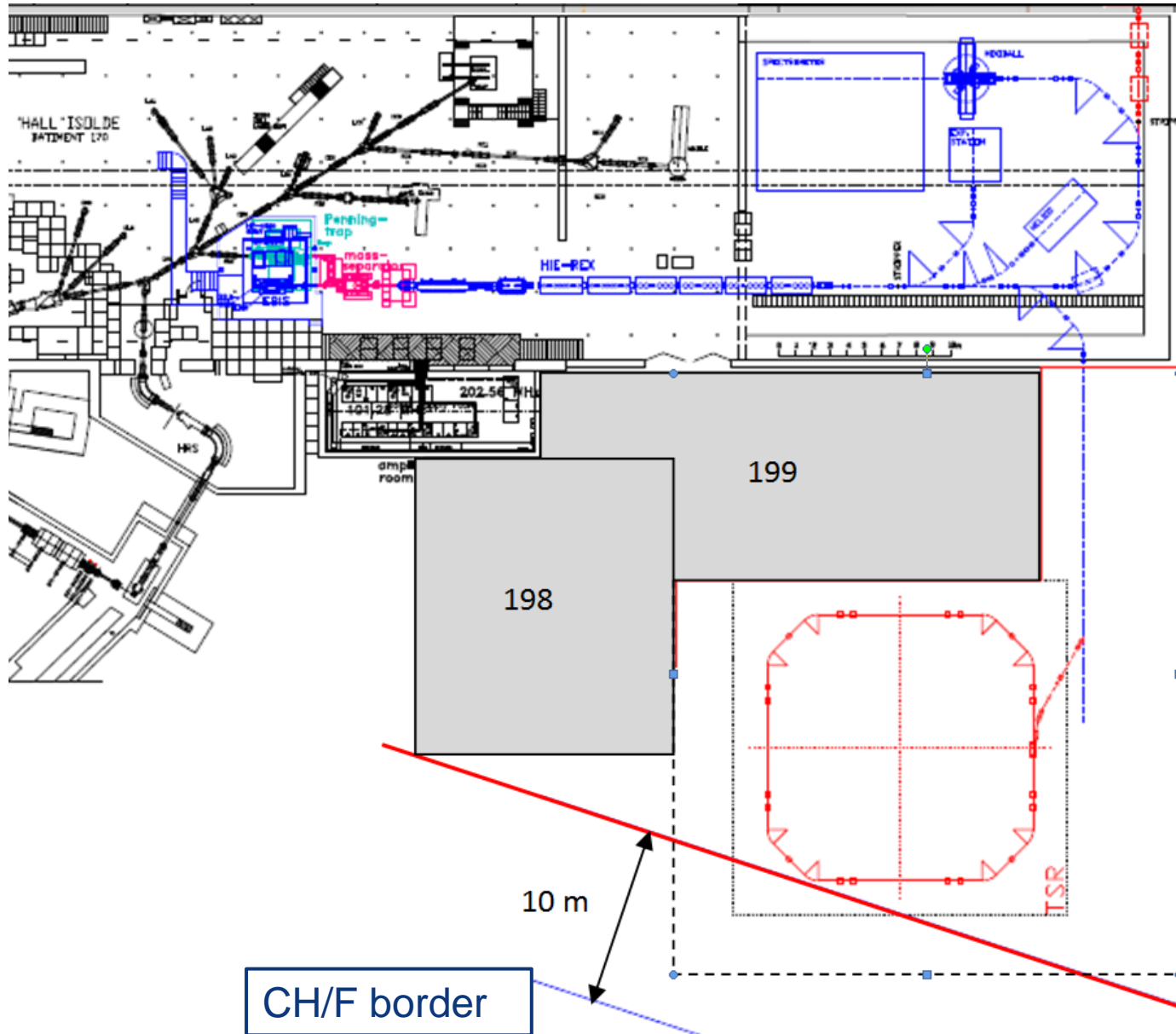
TSR implementation at ISOLDE 2014



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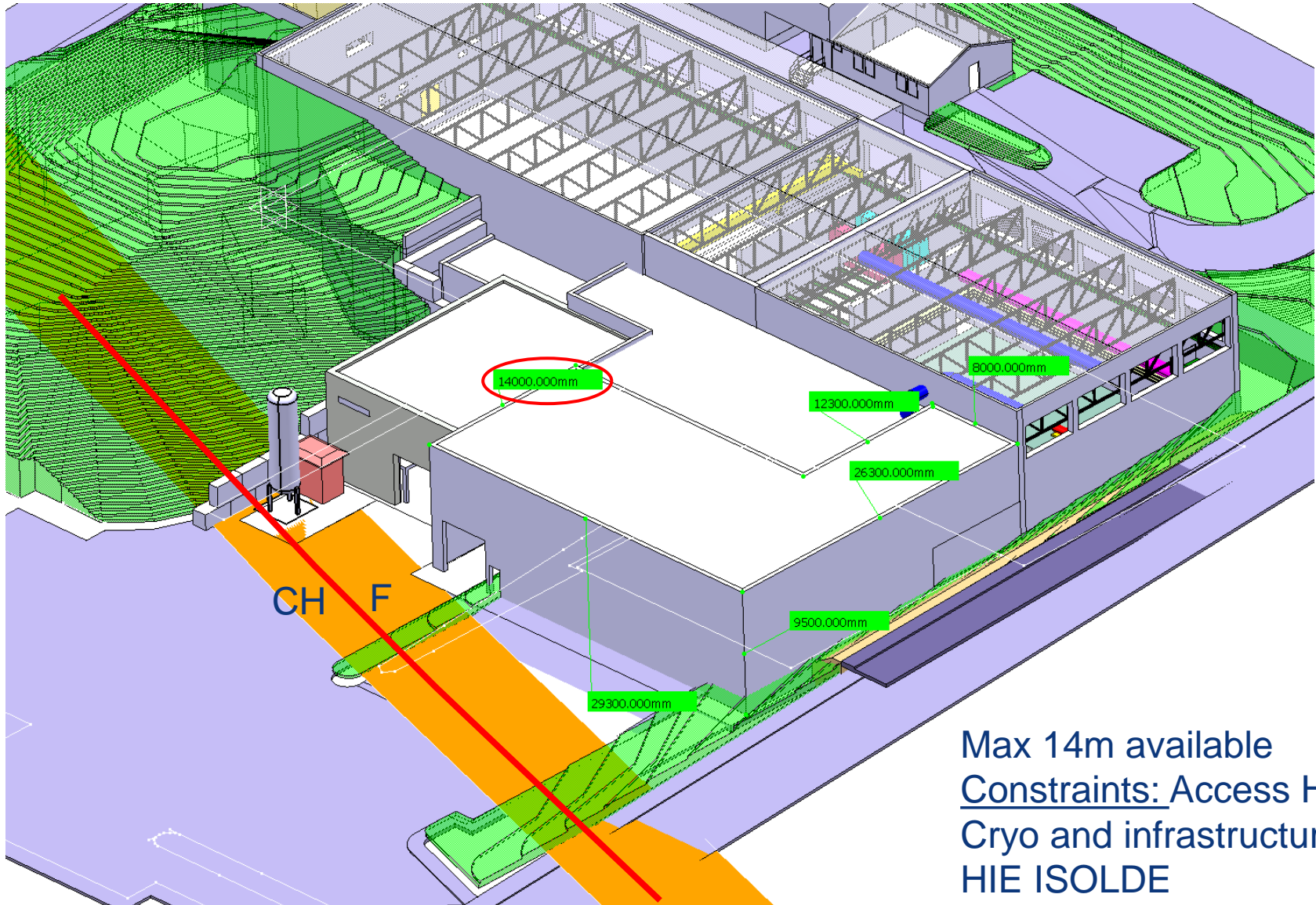


Alternative TSR building position 2011: At the border side



Constraints: Stay off the border on the F side by 10m. Not enough space for the TSR machine. Other constraints: Access Hall, Cryo and HIE ISOLDE infrastructure

Possible extension 2011: At the border side



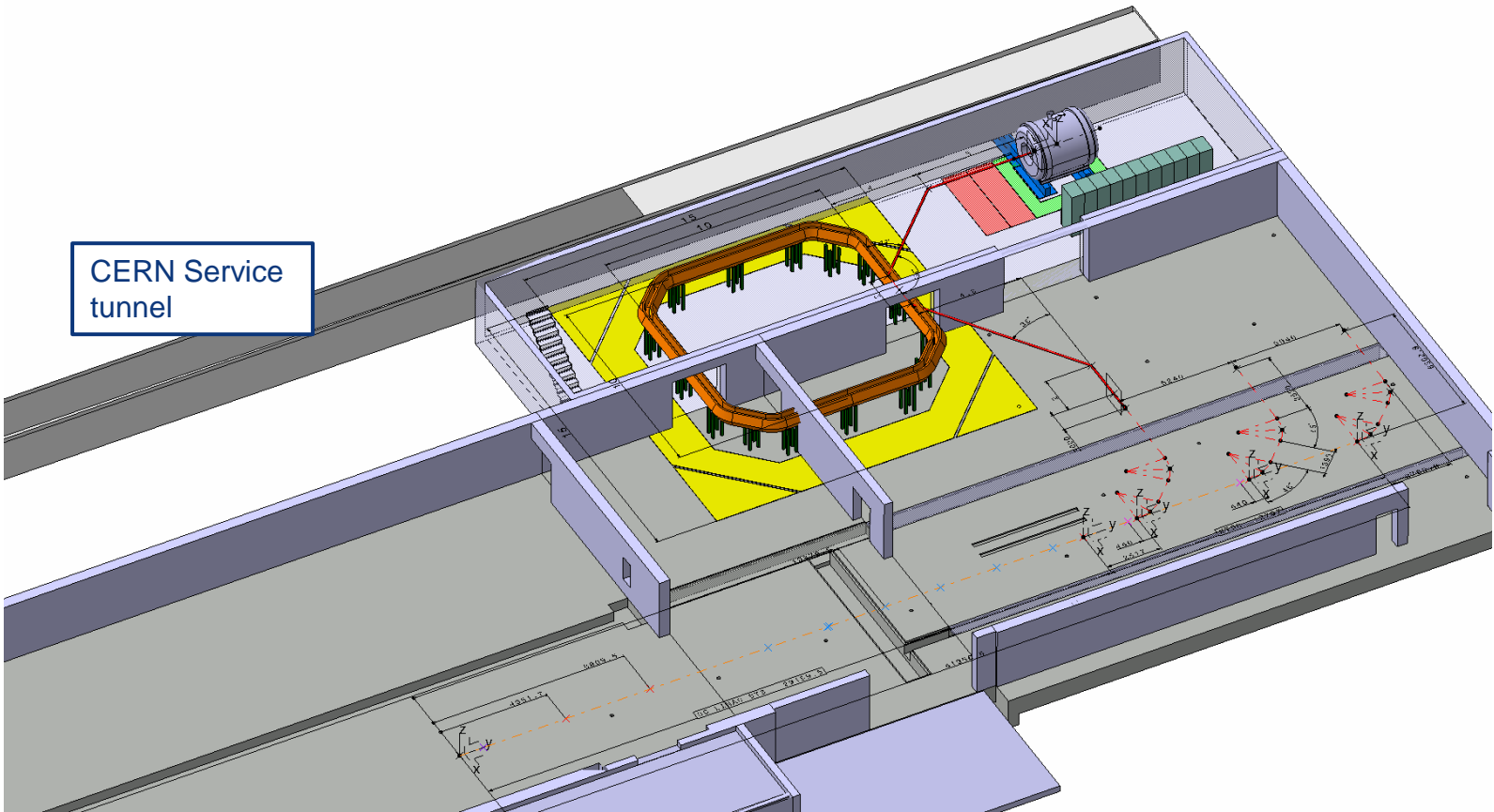
Max 14m available
Constraints: Access Hall,
Cryo and infrastructure
HIE ISOLDE

Blast from the Past:

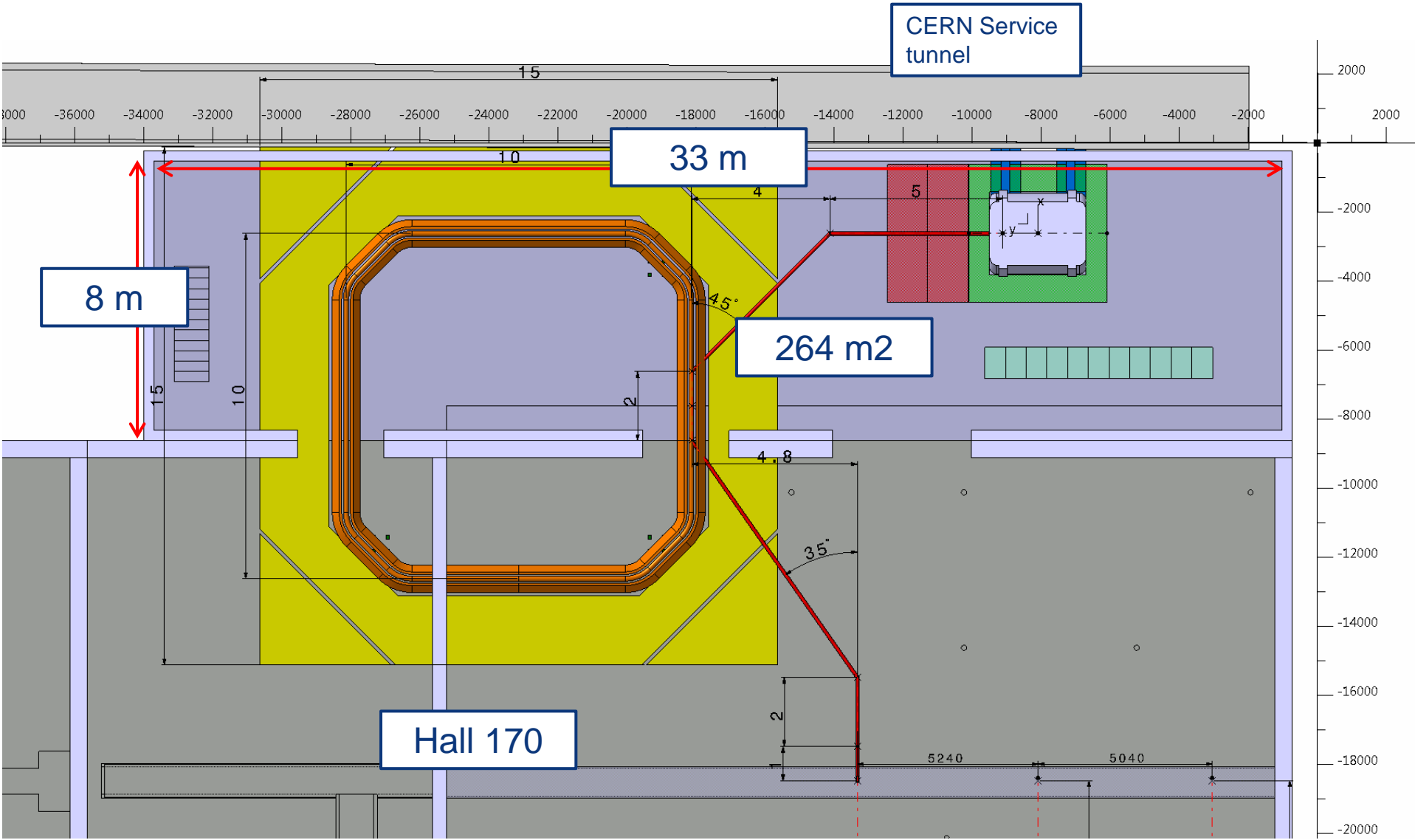
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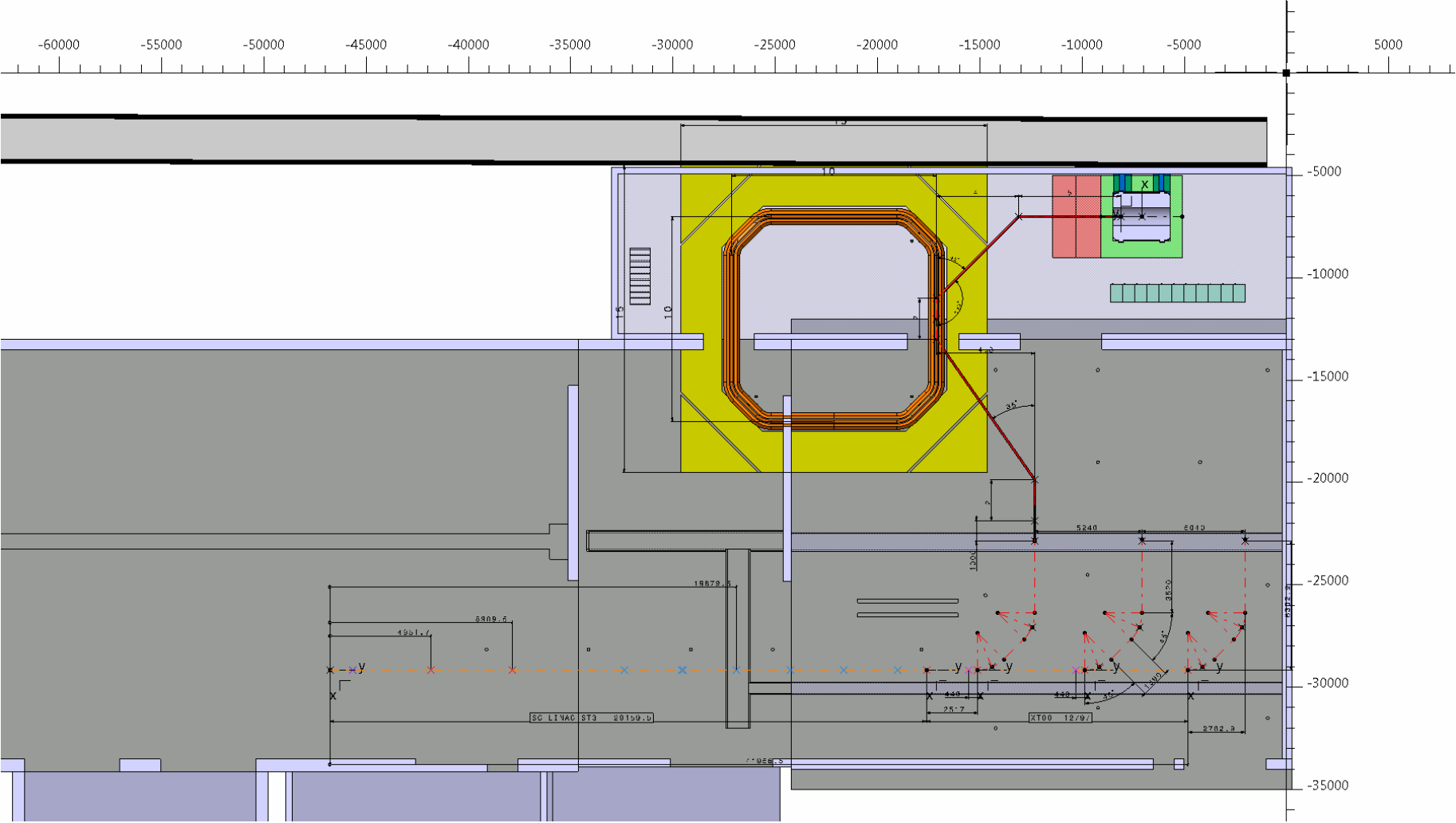
Compact Storage Ring implementation at ISOLDE 2016



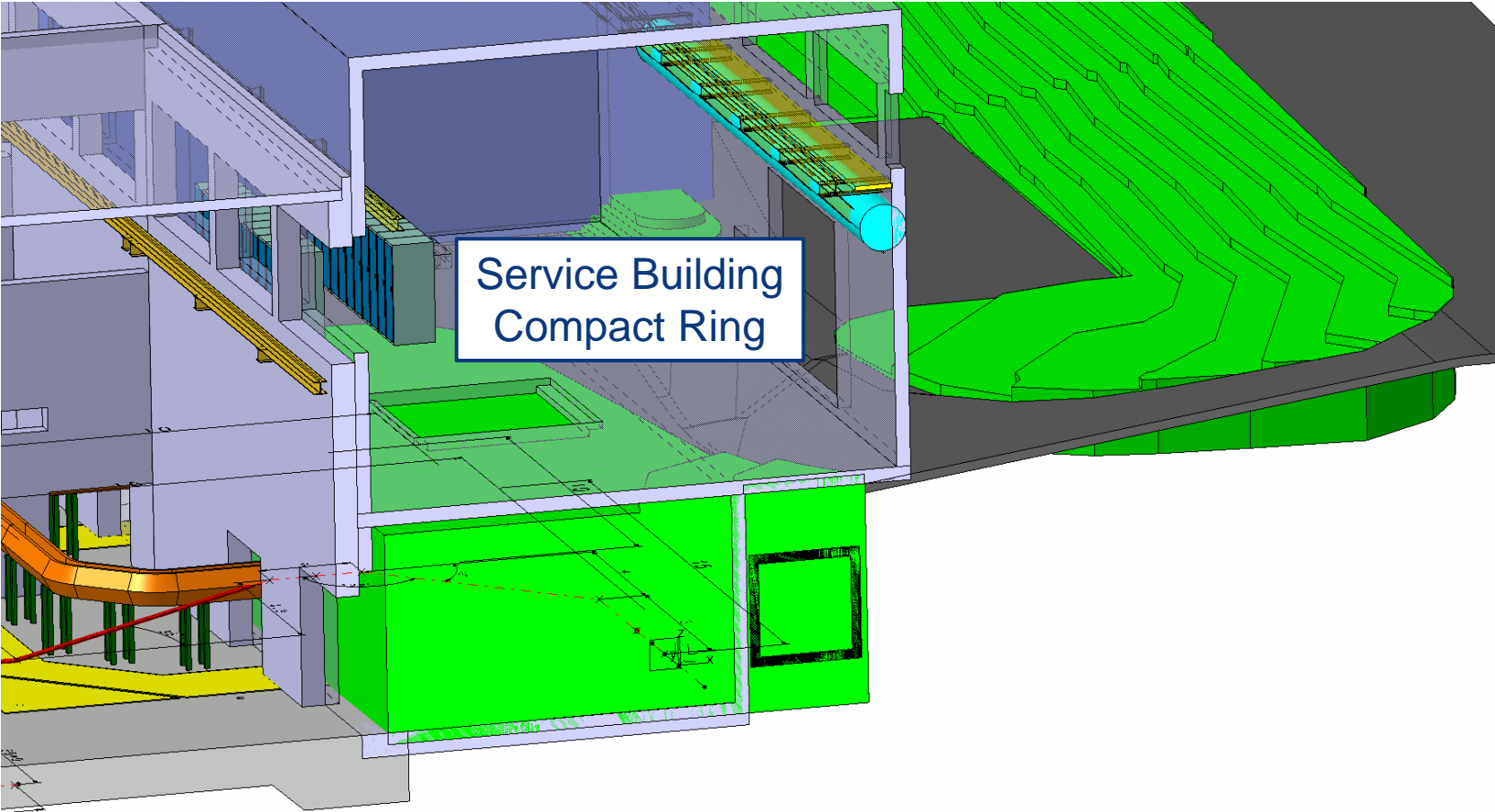
Compact Storage Ring implementation at ISOLDE 2016



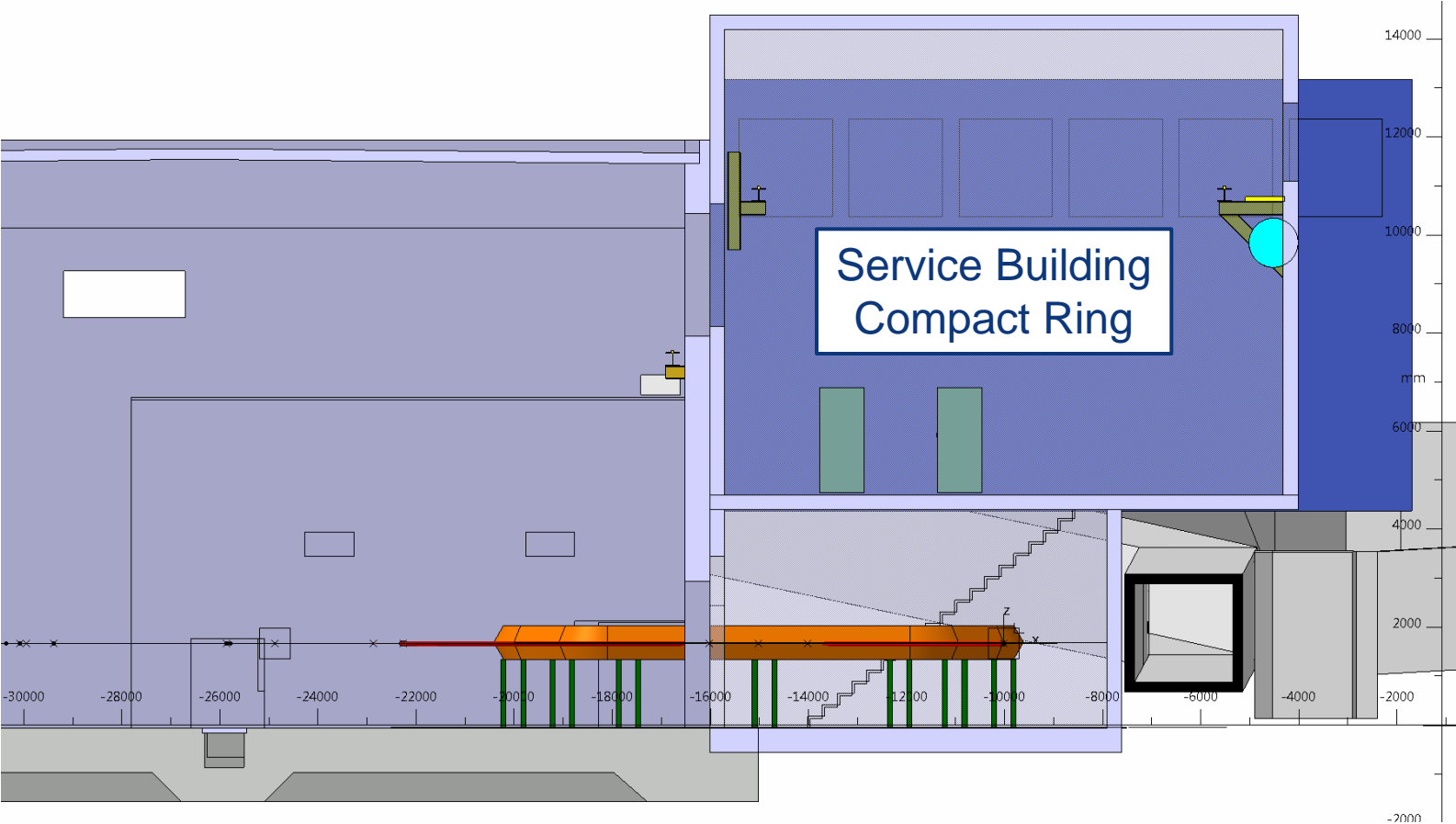
Compact Storage Ring implementation at ISOLDE 2016



Compact Storage Ring implementation at ISOLDE 2016



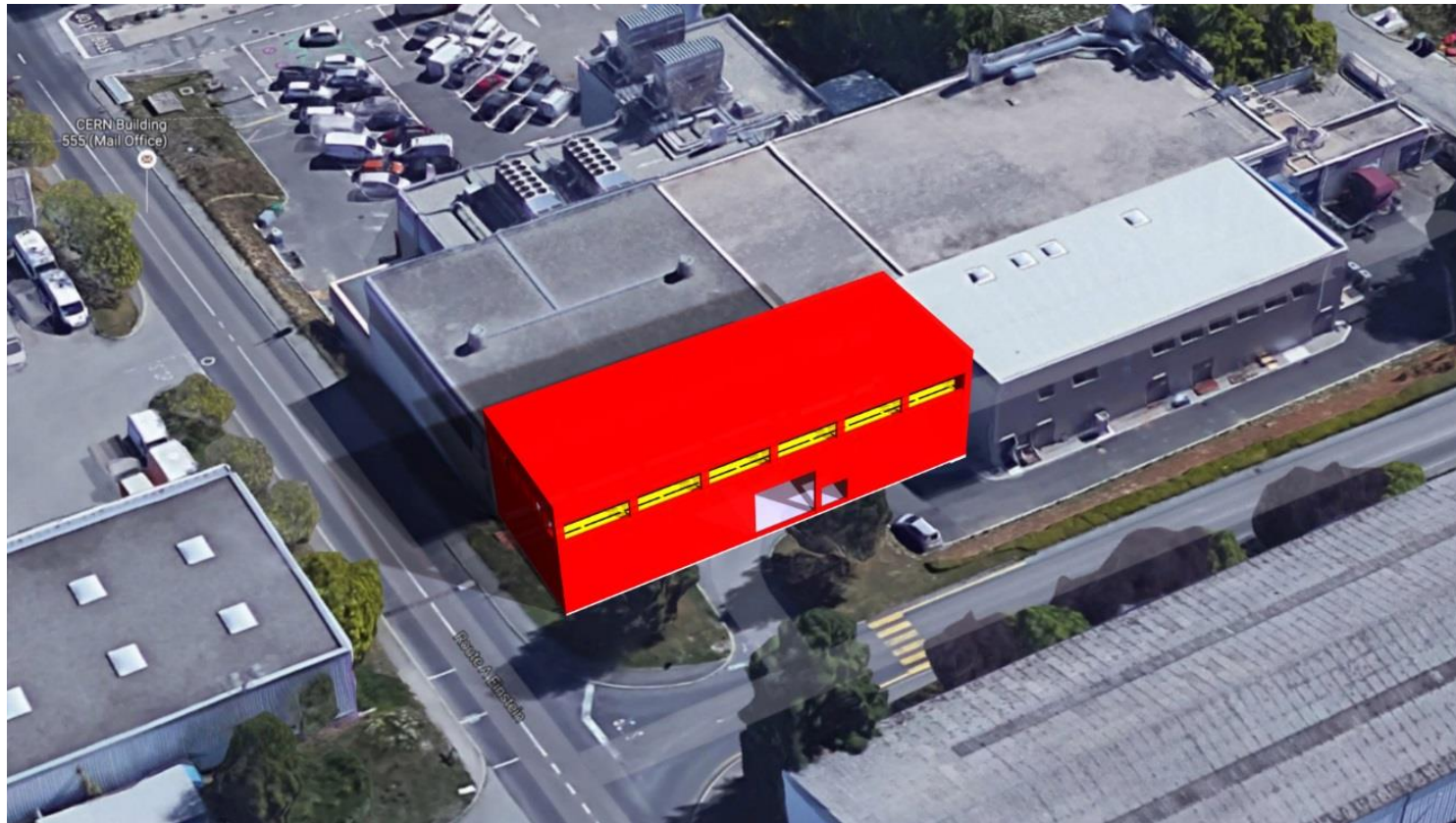
Compact Storage Ring implementation at ISOLDE 206



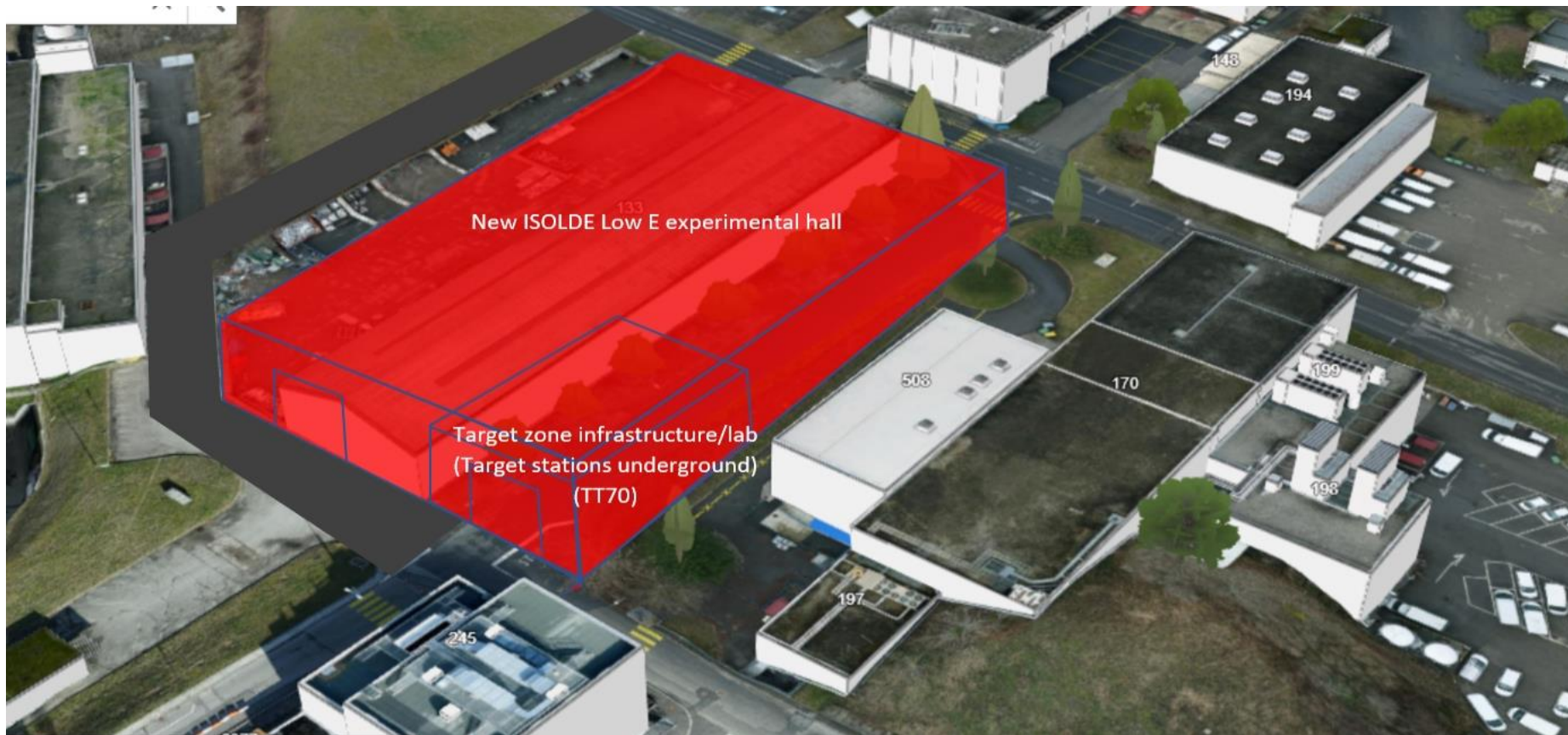
Compact Storage Ring implementation at ISOLDE 2016



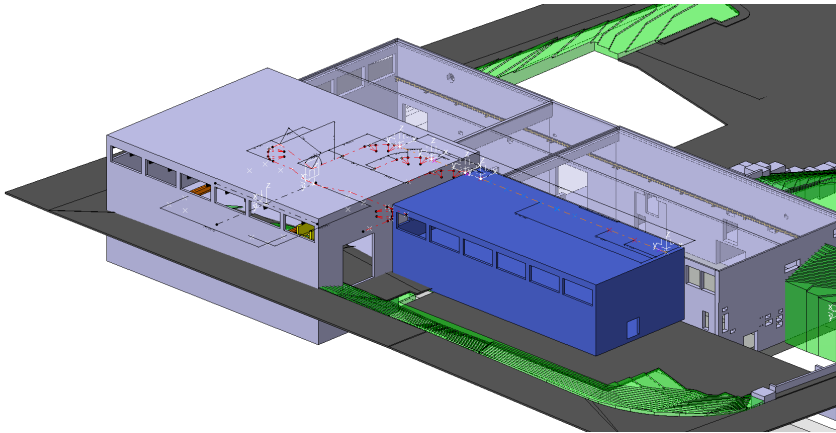
Compact Storage Ring implementation at ISOLDE 2016



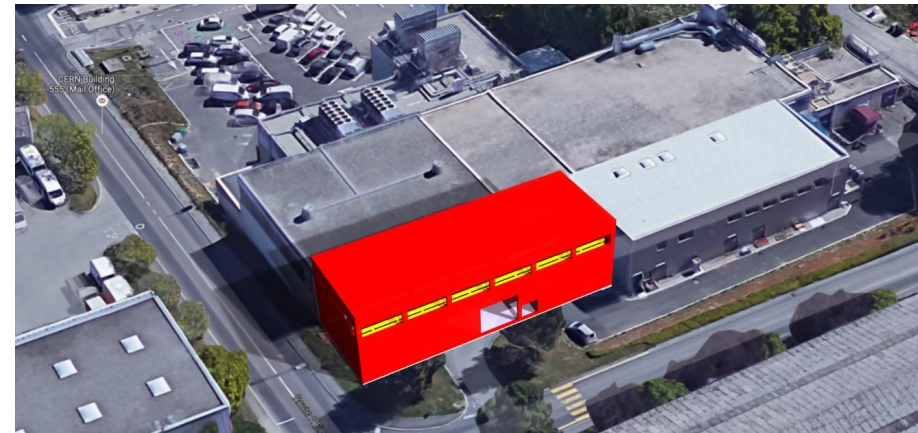
Final solution? EPIC



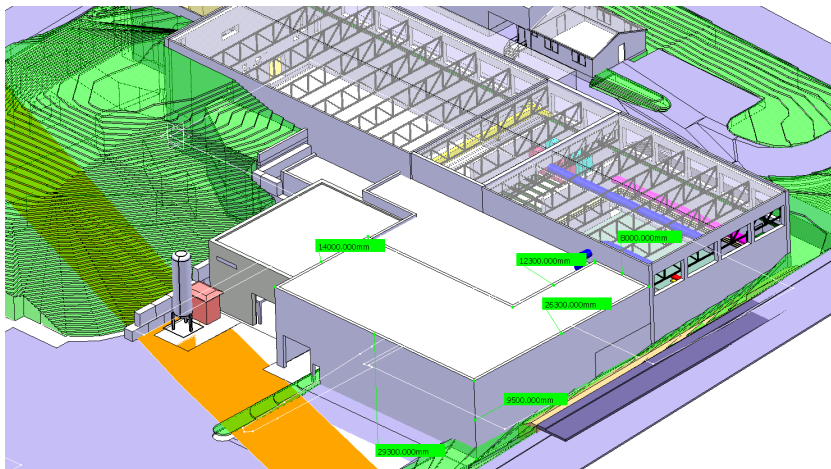
Hall extensions concepts:



Large TSR building 2014



Compact Storage Ring 2016



Parking lot building 2011



EPIC study 2020

Remarks:

- The drawings and studies for the TSR and Compact Storage Ring can surely serve for discussion and new studies on an extension to the present experimental hall
- The TSR building 670 would give a floor of 865 m², however:
 - The Service tunnel requires a work floor ~4.7m above the existing experimental hall floor
 - Tilted Low E (electrostatic) and HIE (magnets=expensive) beamlines would be needed to bring the beam up to the work floor
 - A hall 170 floor extension under the 'TSR' floor would not require any tilted beamlines
- A Compact Storage Ring building comparable to the 'underground area' of the TSR building at hall 170 floor level would give a floor space of ~264 m²
 - Depending on the purpose of the extension the Compact Storage Ring service building might not be necessary
- Constructing on the 170 parking area for the TSR building was considered in 2011 but discarded due to the legal issues when constructing on the CH/F border (earth covered necessary – like the target zone)
 - A smaller building might be considered. Rule: 2m from the CH border, 10m from the French border.
 - Low Energy beamline 'impossible'? HIE beamline expensive and complicated
 - Constraints: SAS access for material and Cryo Modules, etc. HIE ISOLDE auxiliary buildings, Coldbox, transformers and diesel (HIE & PUMA), etc.