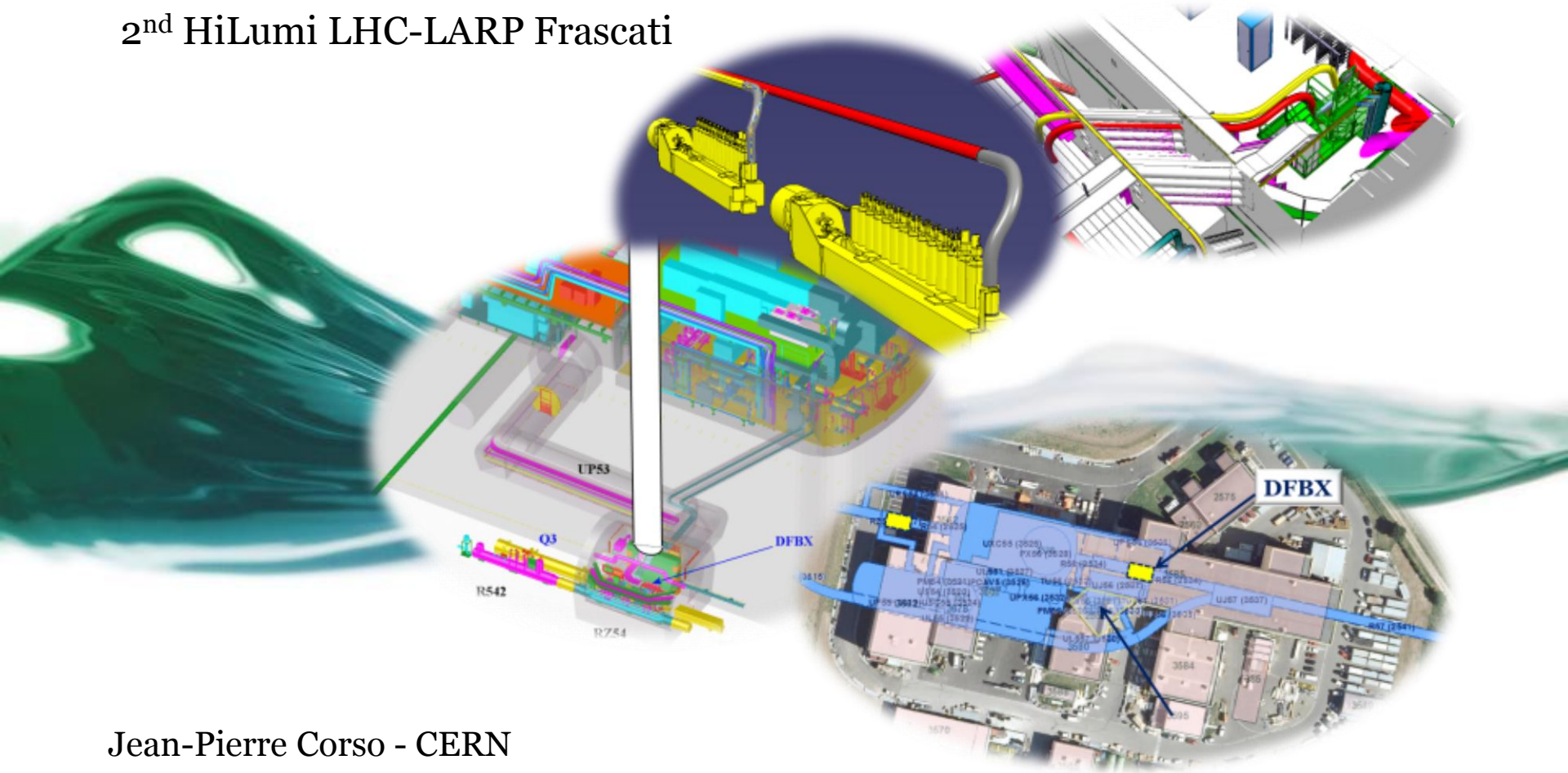


Integration Studies at Points 7, 1 & 5

Available Space and Possibilities

2nd HiLumi LHC-LARP Frascati



Jean-Pierre Corso - CERN

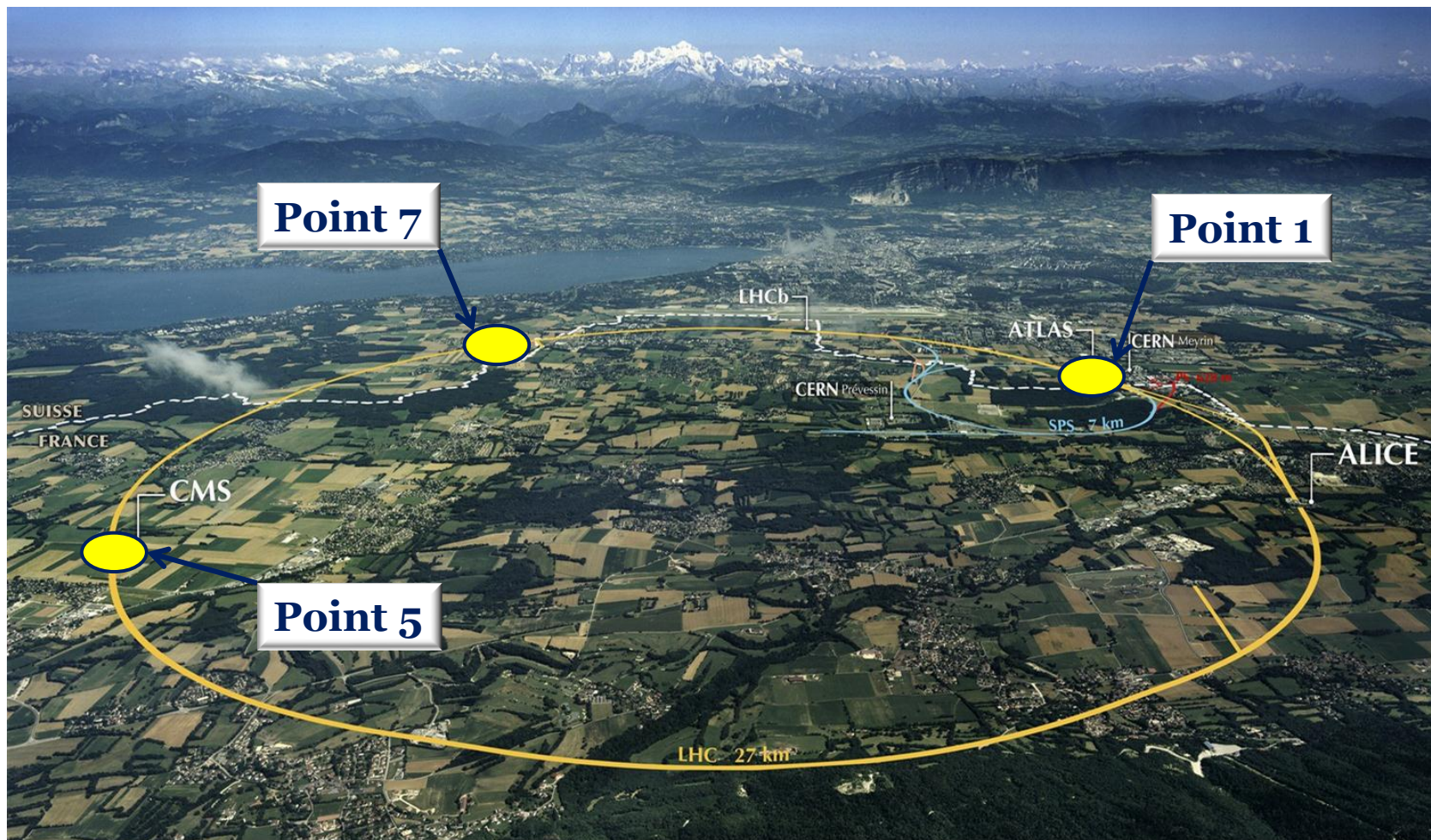
14th November 2012

EDMS No 1249553

Outline

- LHC Quick Overview
- Links at Point 7 (DFBA)
- Links at Point 1 (DFBX)
- Links at Point 5 (DFBX)

LHC Quick Overview

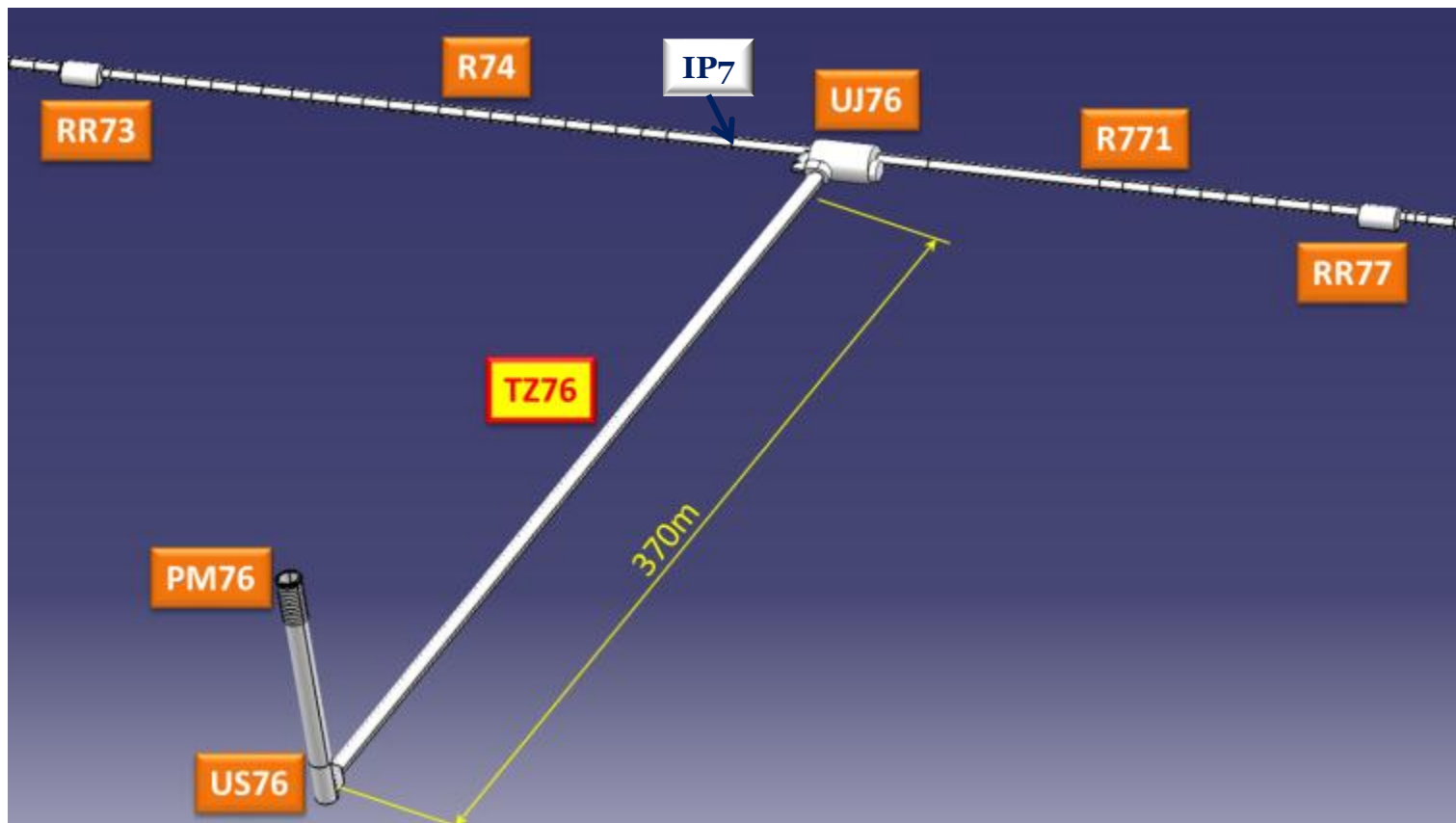




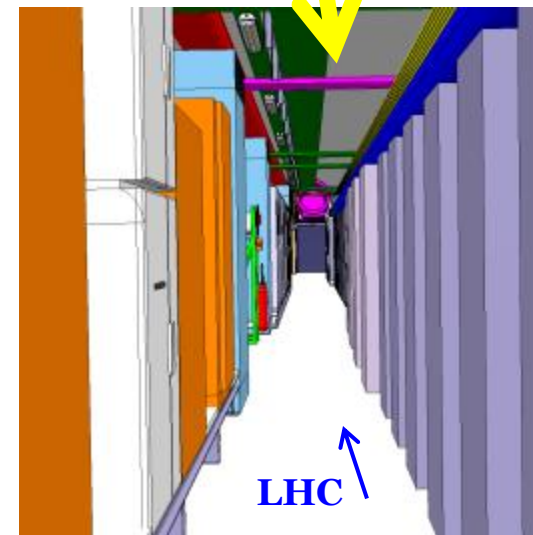
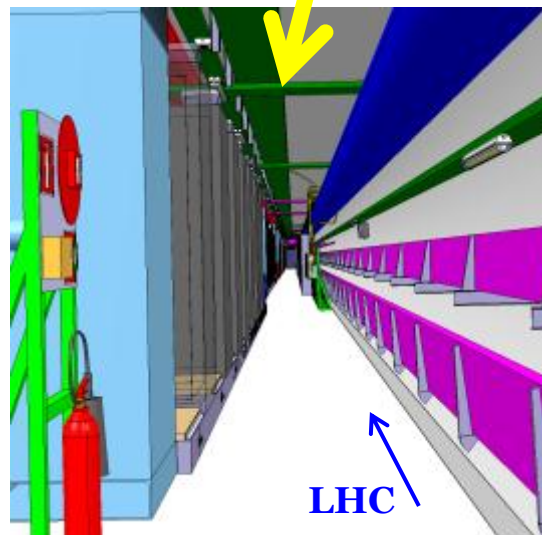
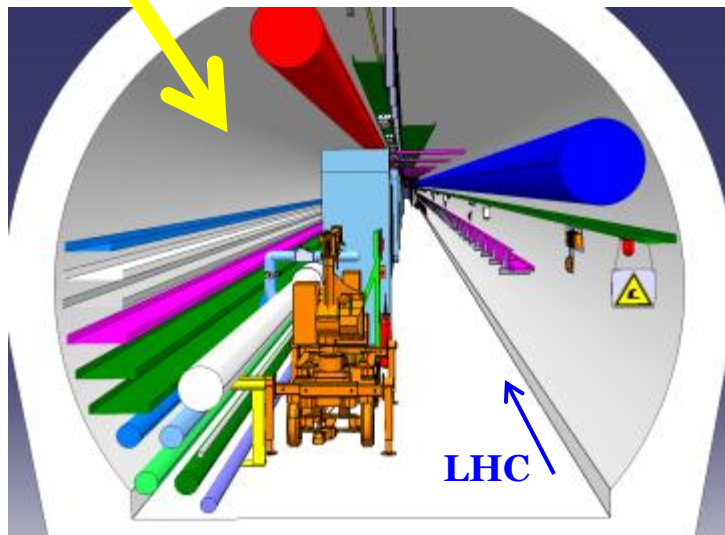
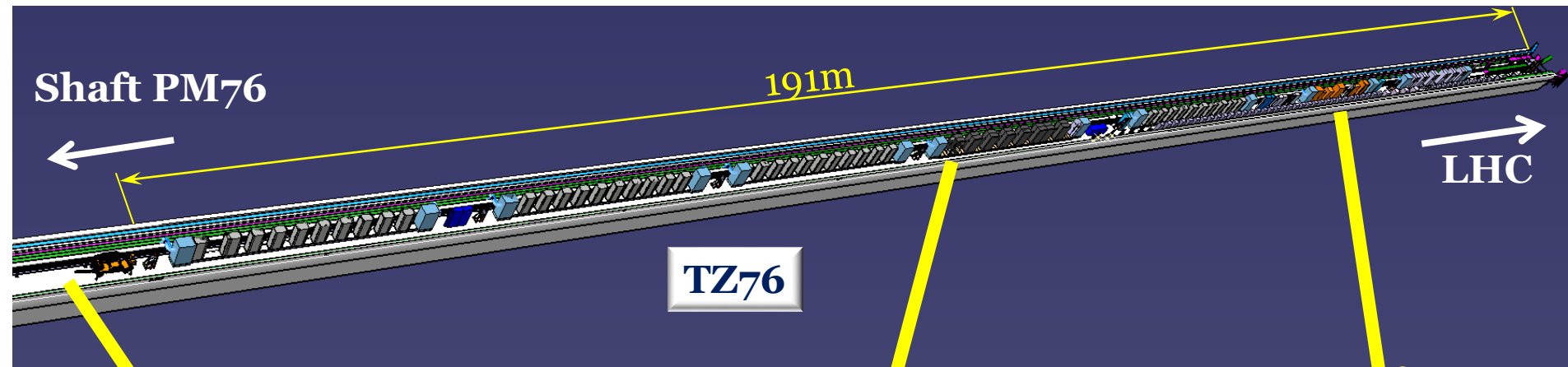
Links at Point 7

- Situation of the area
- Limitations
- Available space for HiLumi

Situation of Point 7

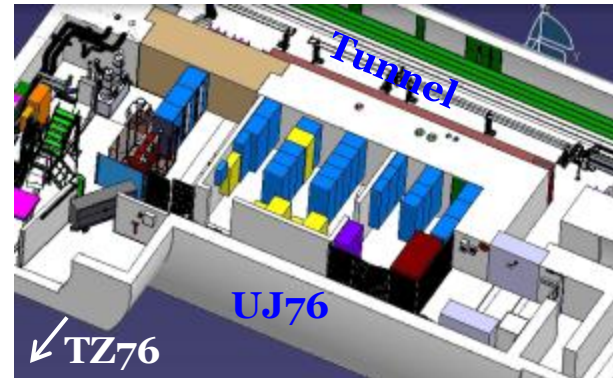
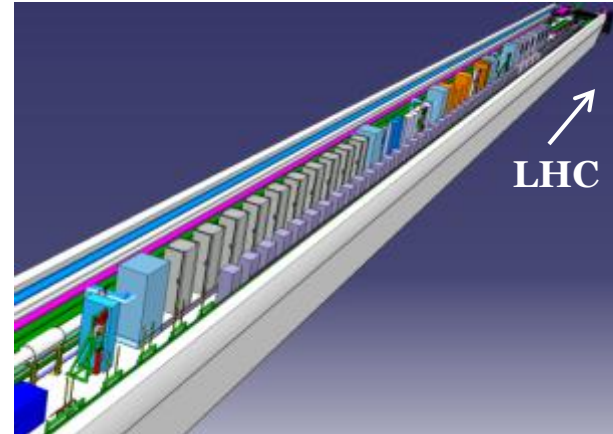


Situation of Point 7

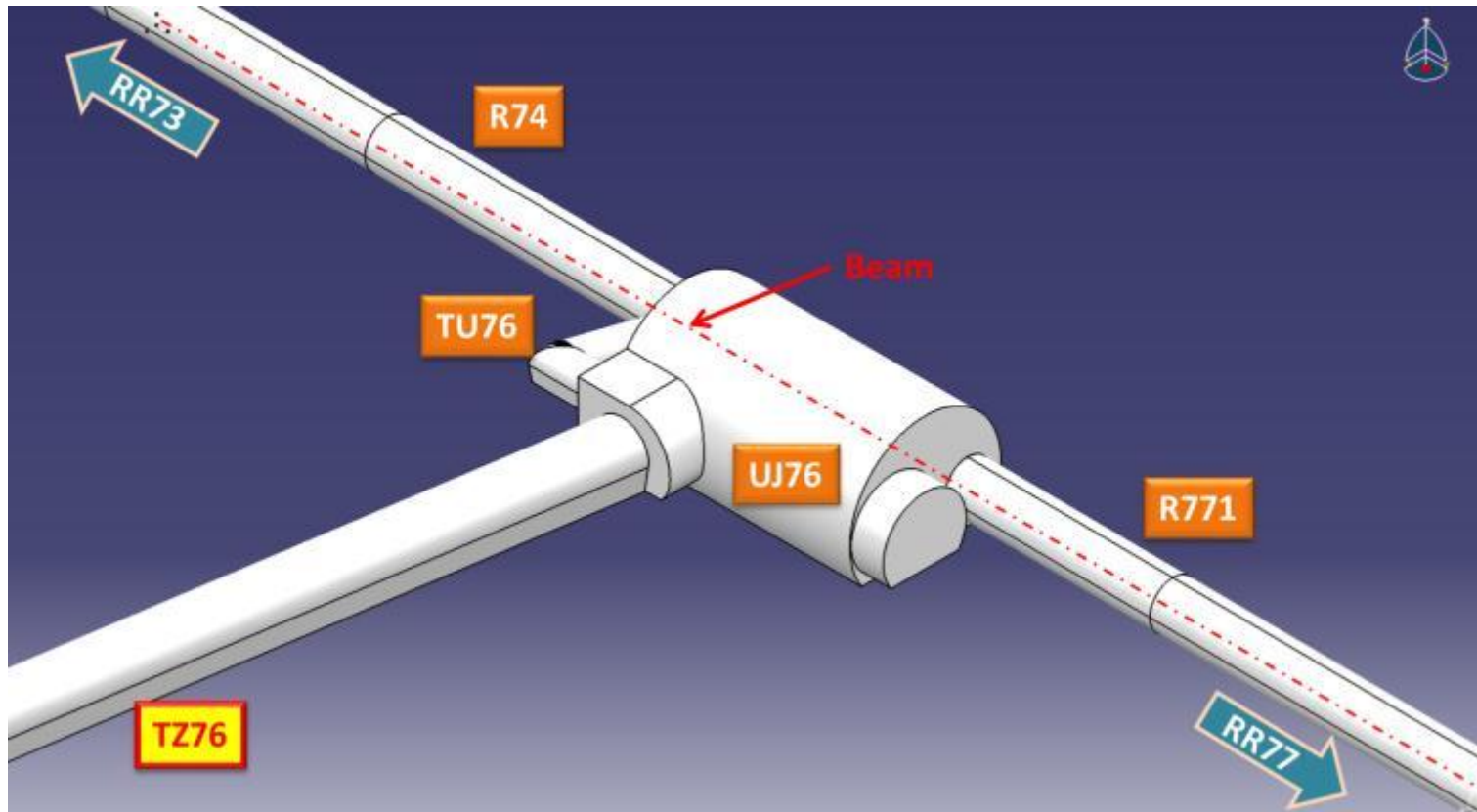


Limitations of Point 7

- PM76 lift access
 - 1000kg max.
 - 900 x 1950 x 2500 (w,d,h)
- Tunnel access
 - Width: 1050mm into TZ76
 - Height: 2020 into UJ76
 - 3 chicanes to pass into UJ76 !!!

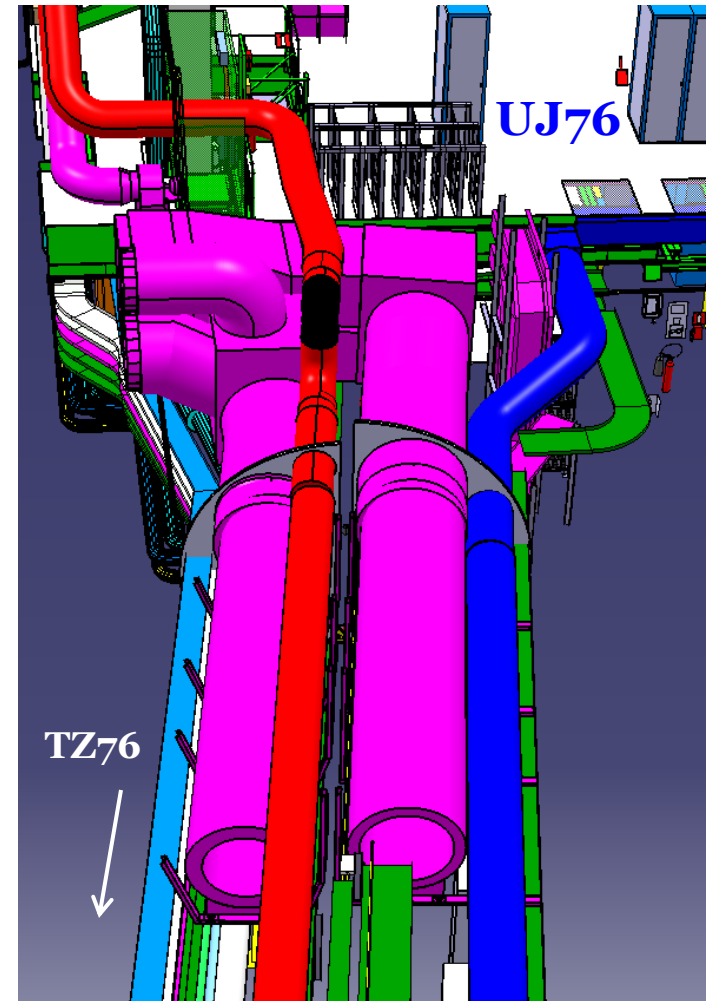


Bottle Neck UJ76 → TZ76

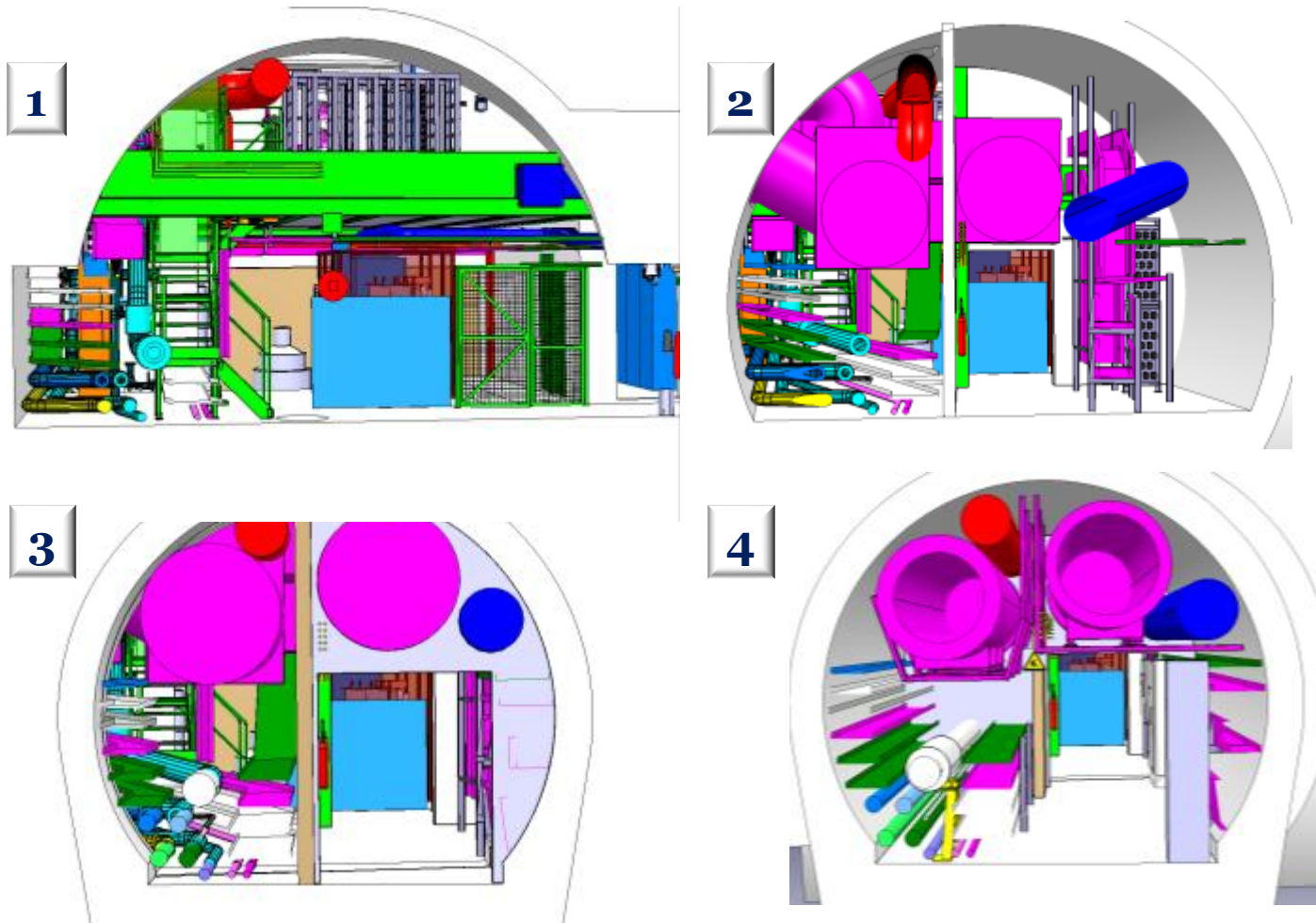


Bottle Neck UJ76 → TZ76

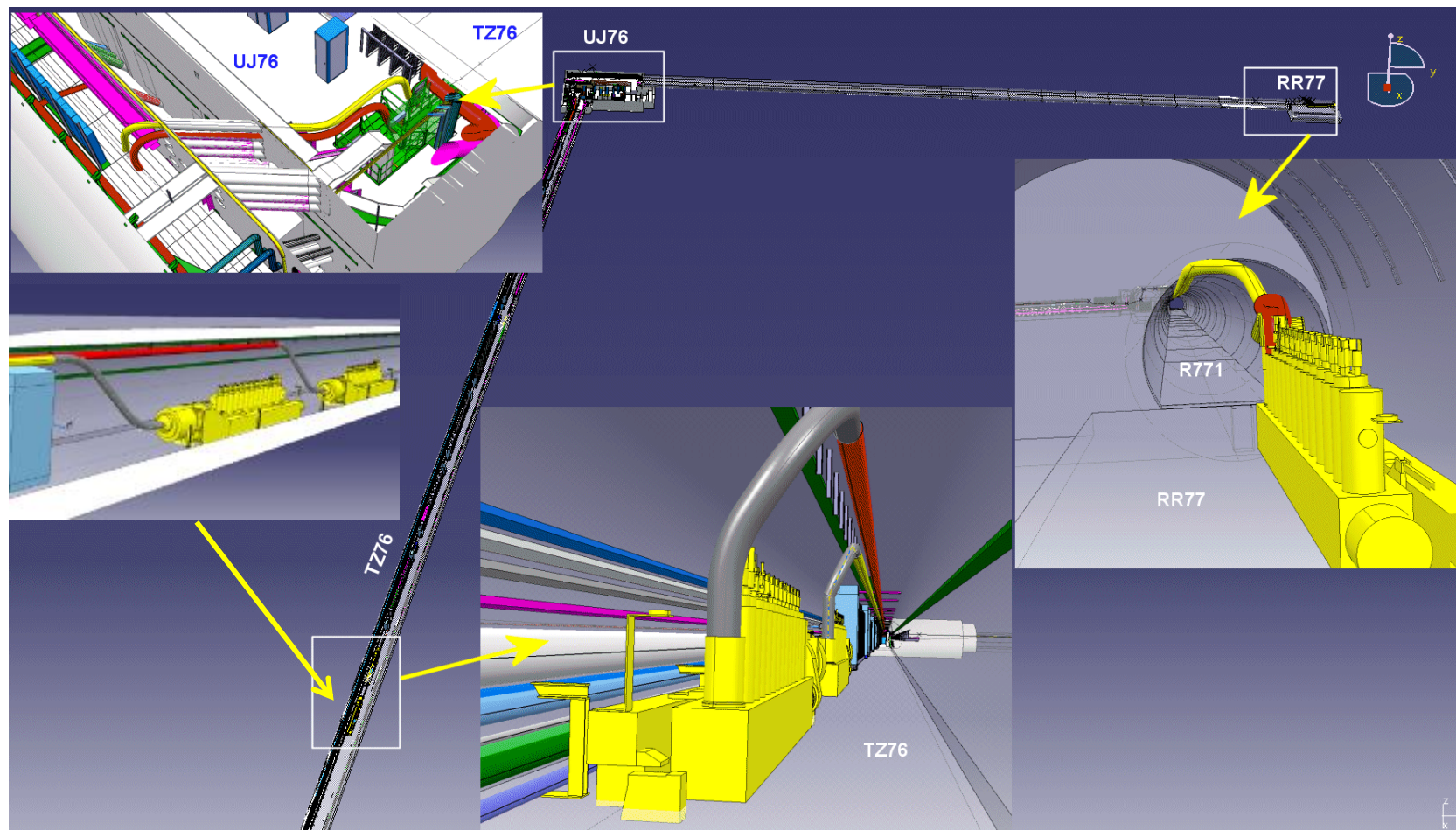
- Cables, Pipes coming from:
 - Surface towards UJ76 & Tunnel (2 sides)
 - Tunnel (2 sides) towards TZ76
 - UJ76 towards TZ76
 - And back...
- Tunnel Ventilation
 - 2 wind collectors □1250
 - 1 smoke extraction duct
 - 1 input duct



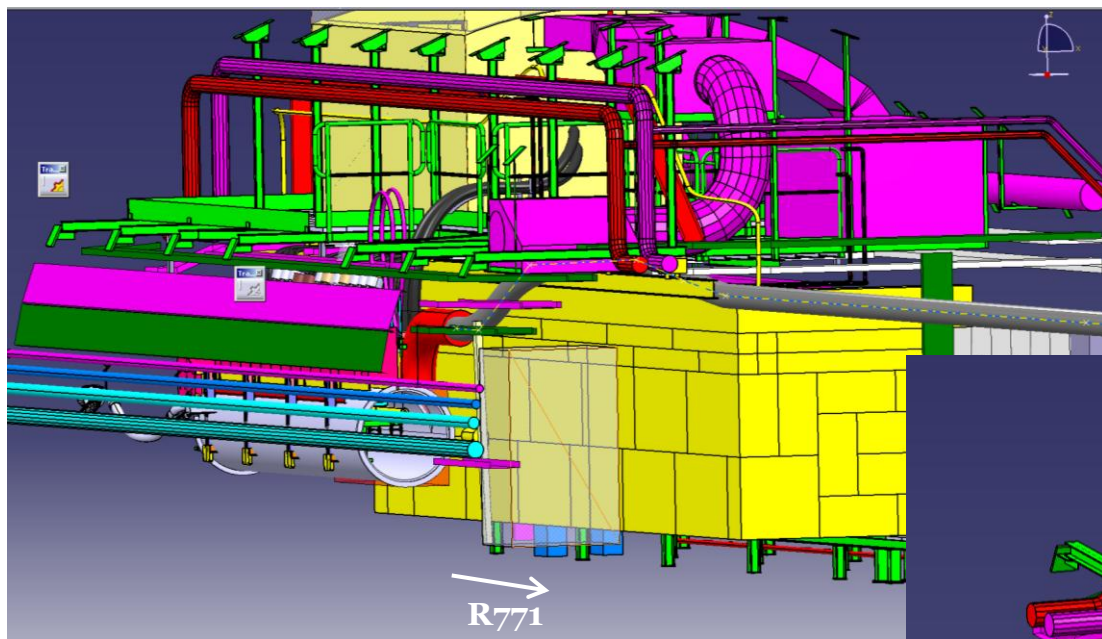
Bottle Neck UJ76 → TZ76 (view from TZ76)



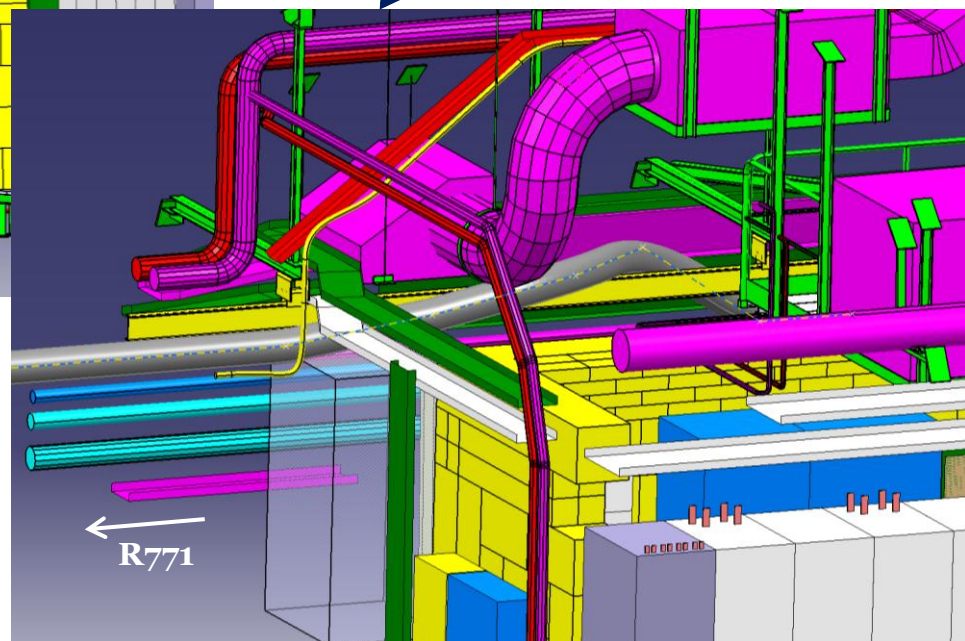
Links HiLumi Integration



Links HiLumi Integration

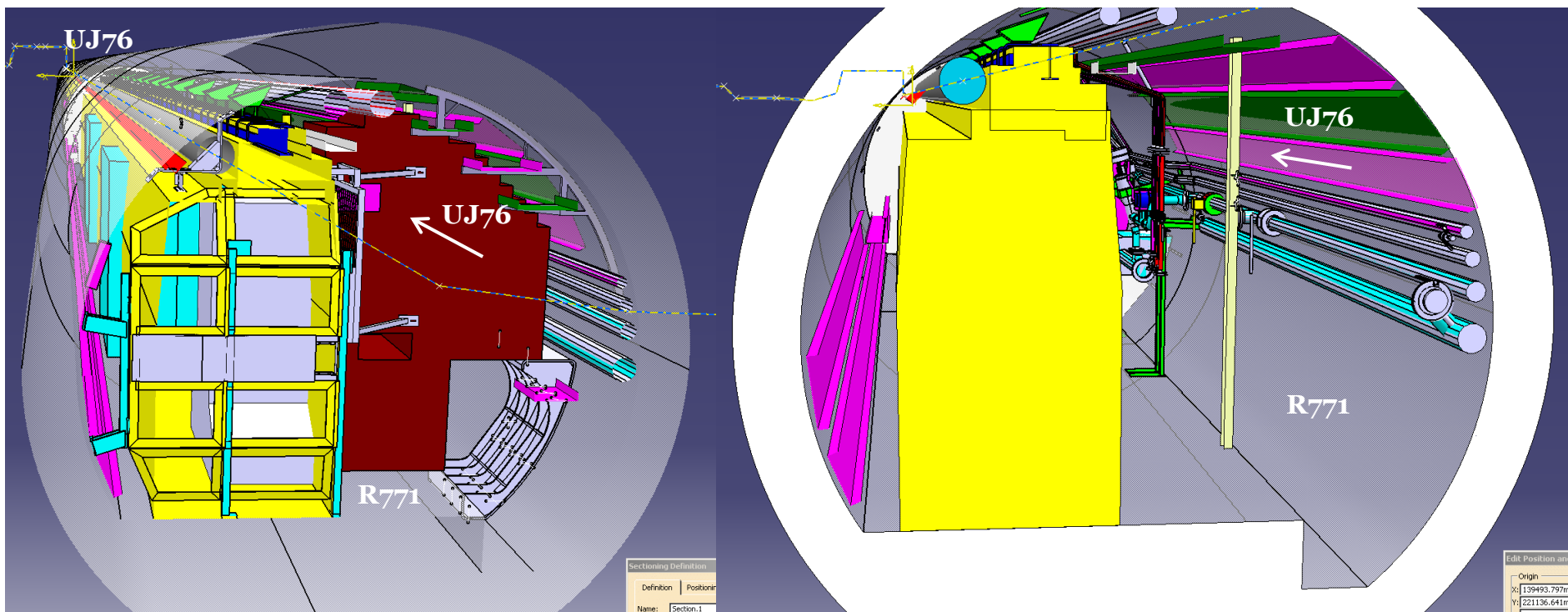


RR77

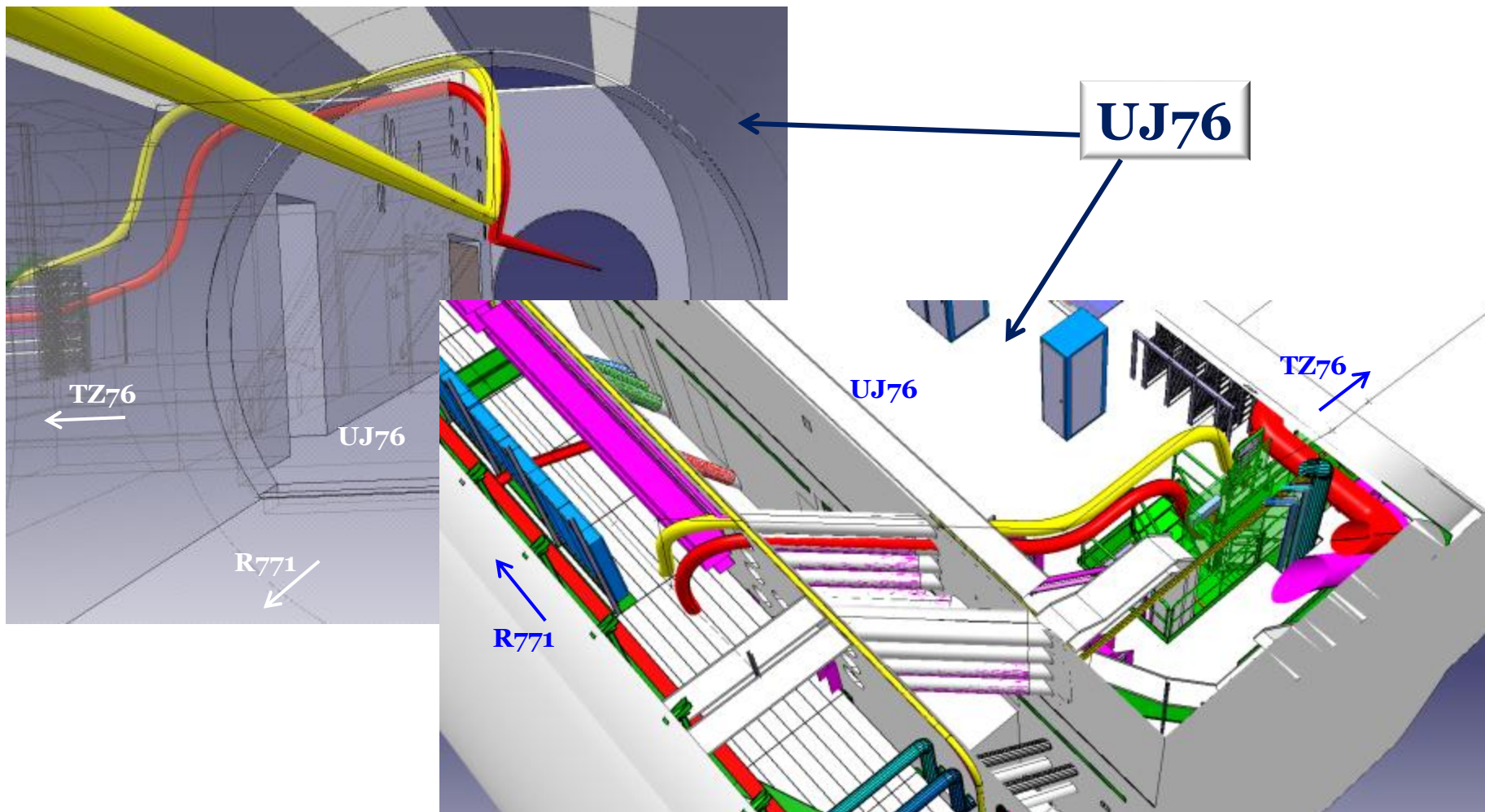


Links HiLumi Integration

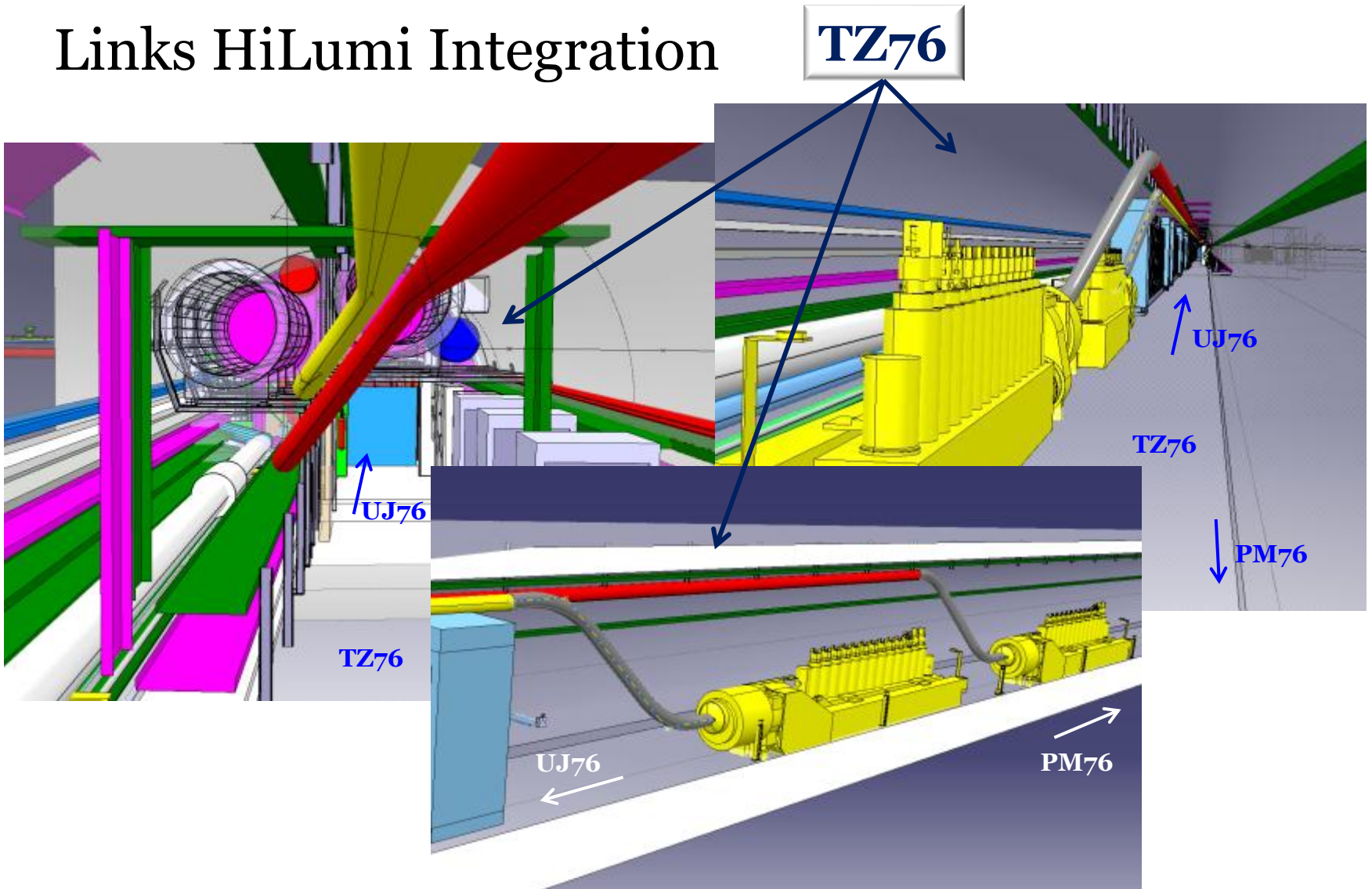
R771



Links HiLumi Integration

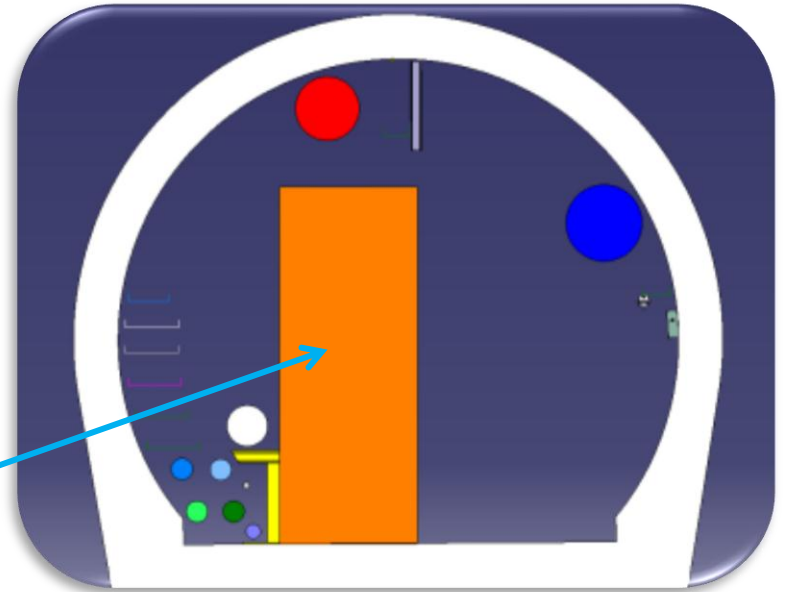


Links HiLumi Integration

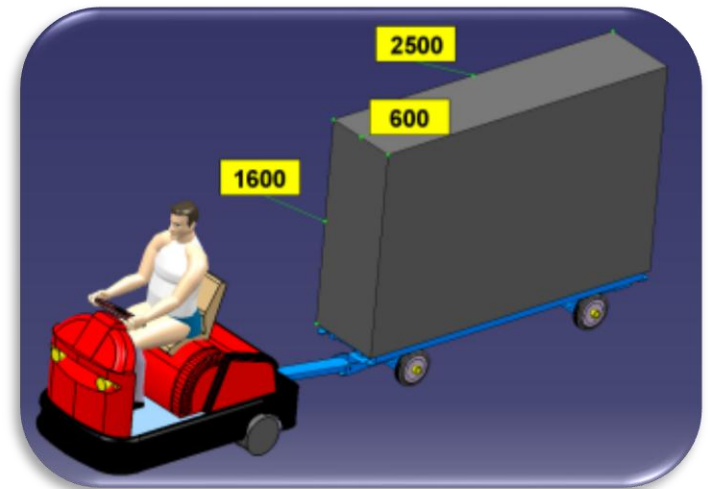


To Summarize Point 7...

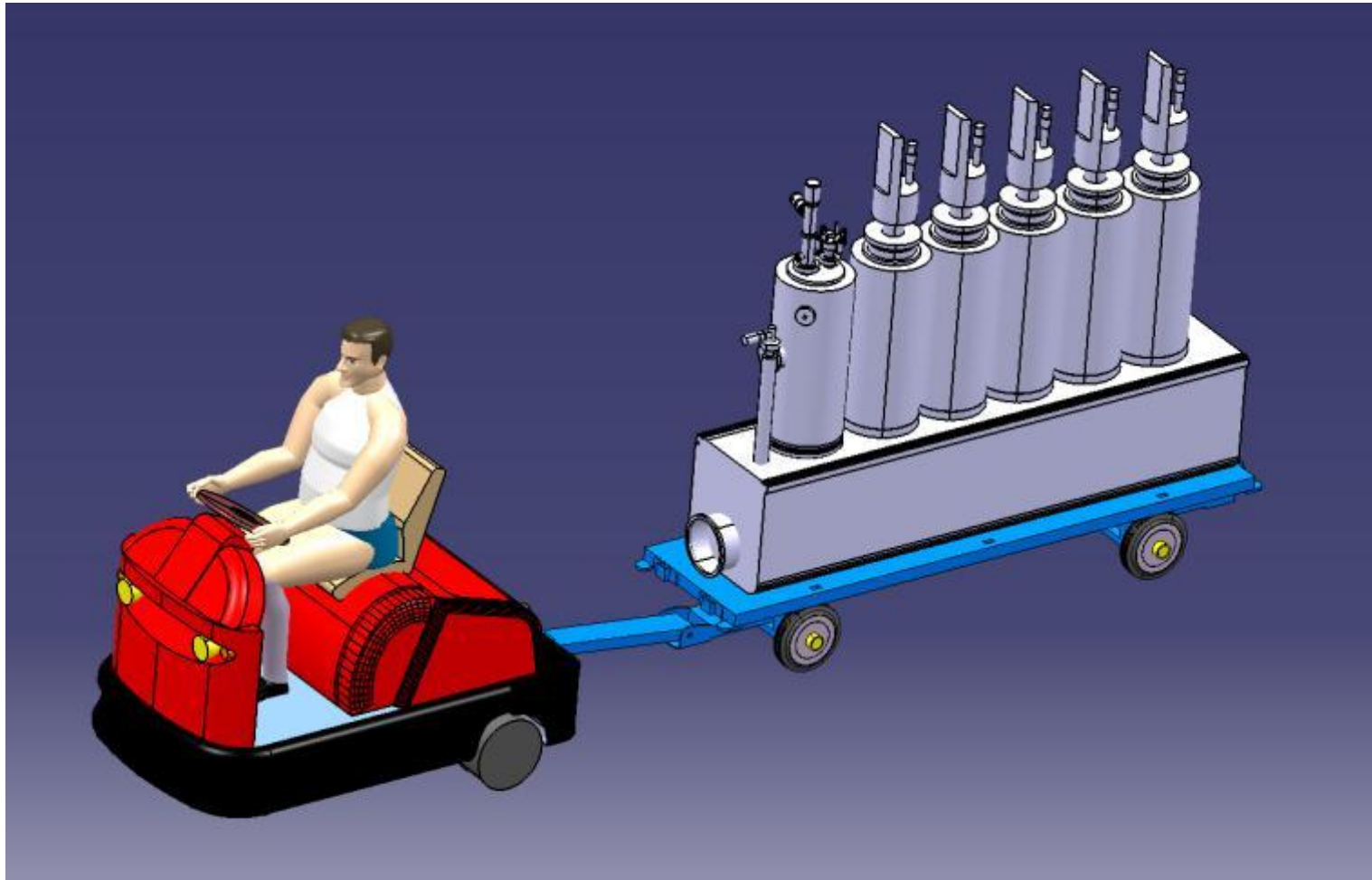
- Positive
 - 180 m available in the TZ76
 - 1080x2800 section along those 180m
- Challenging
 - Equipments must come from the tunnel
 - Then, towards UJ76 and existing TZ76



 **No More than 600x1600x2500 !**



Something like that...





Links at Point 1

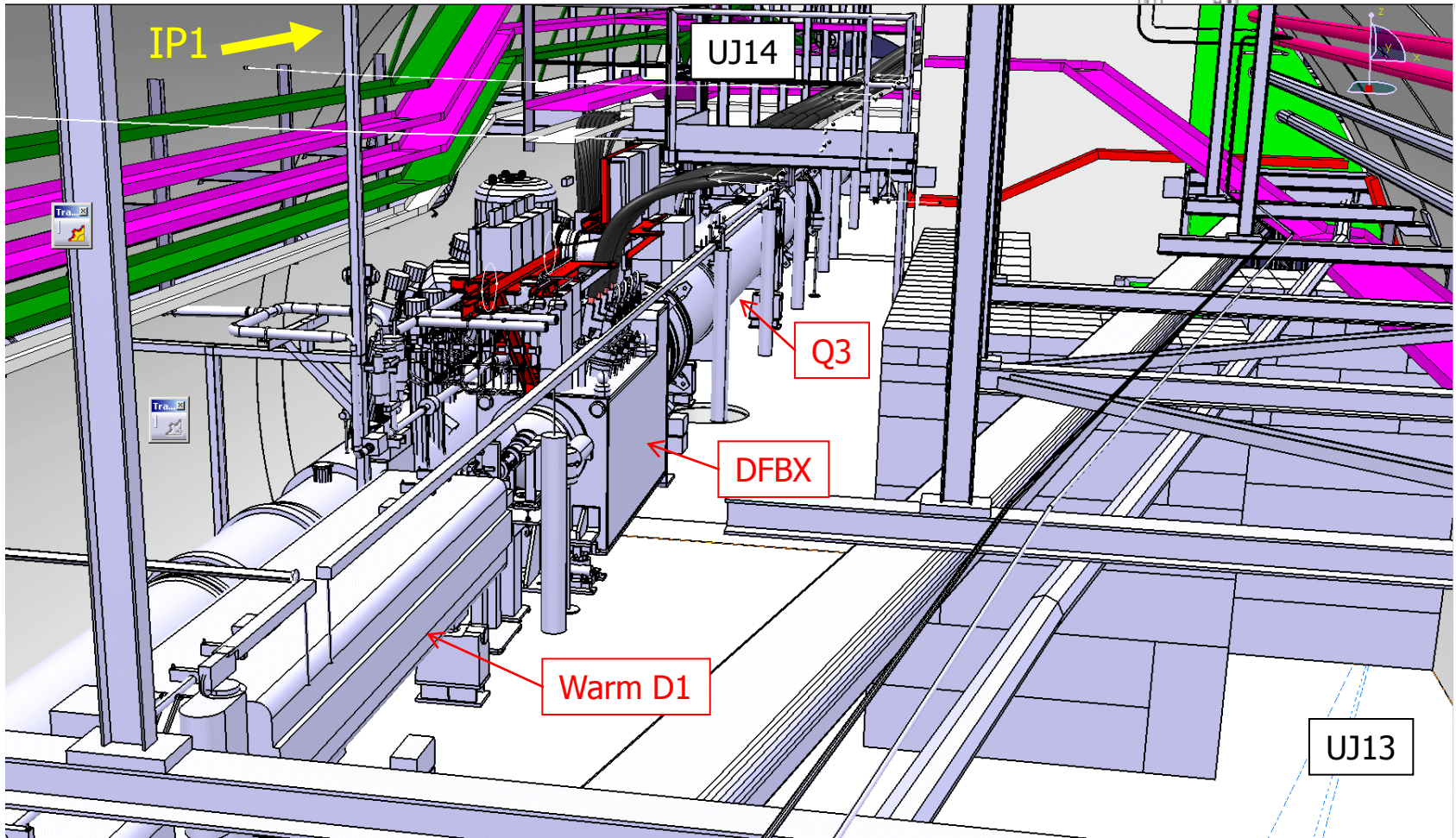
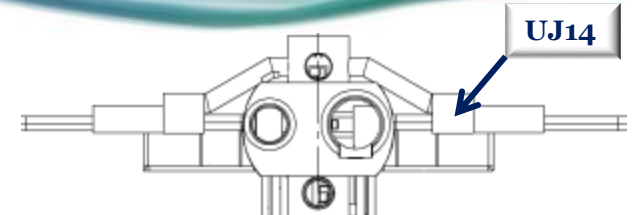
- Overview of the area
- HiLumi Link routing

Point 1 Surface

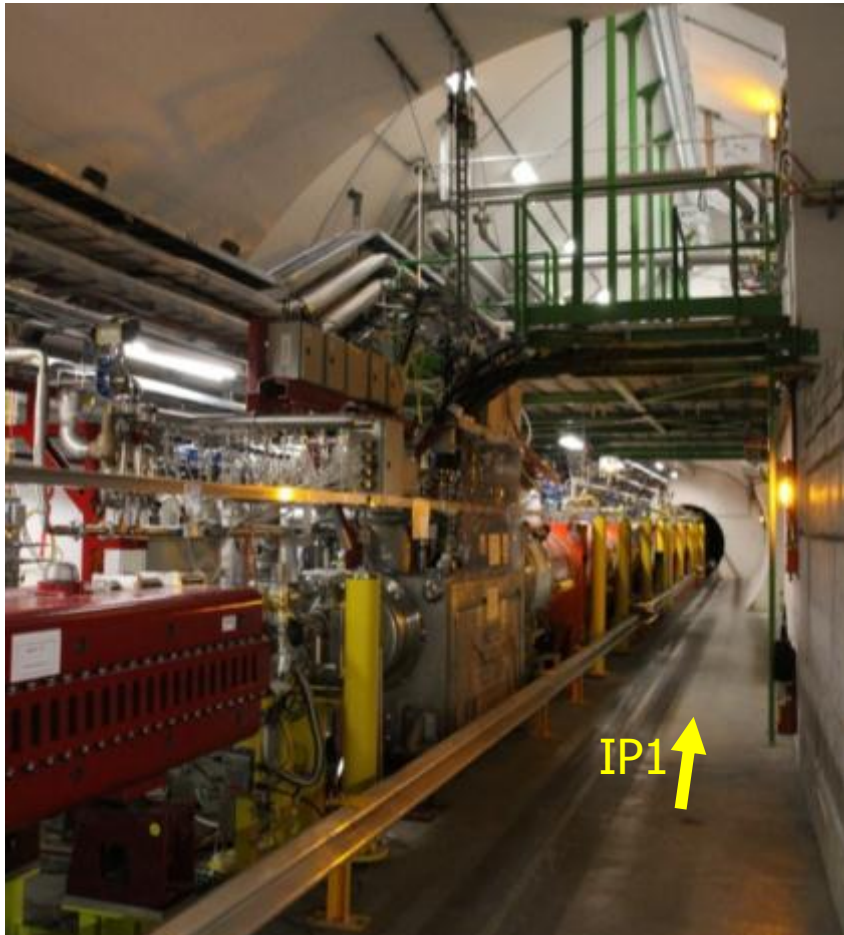
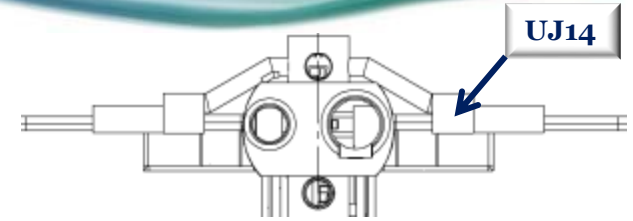
Shaft PM15



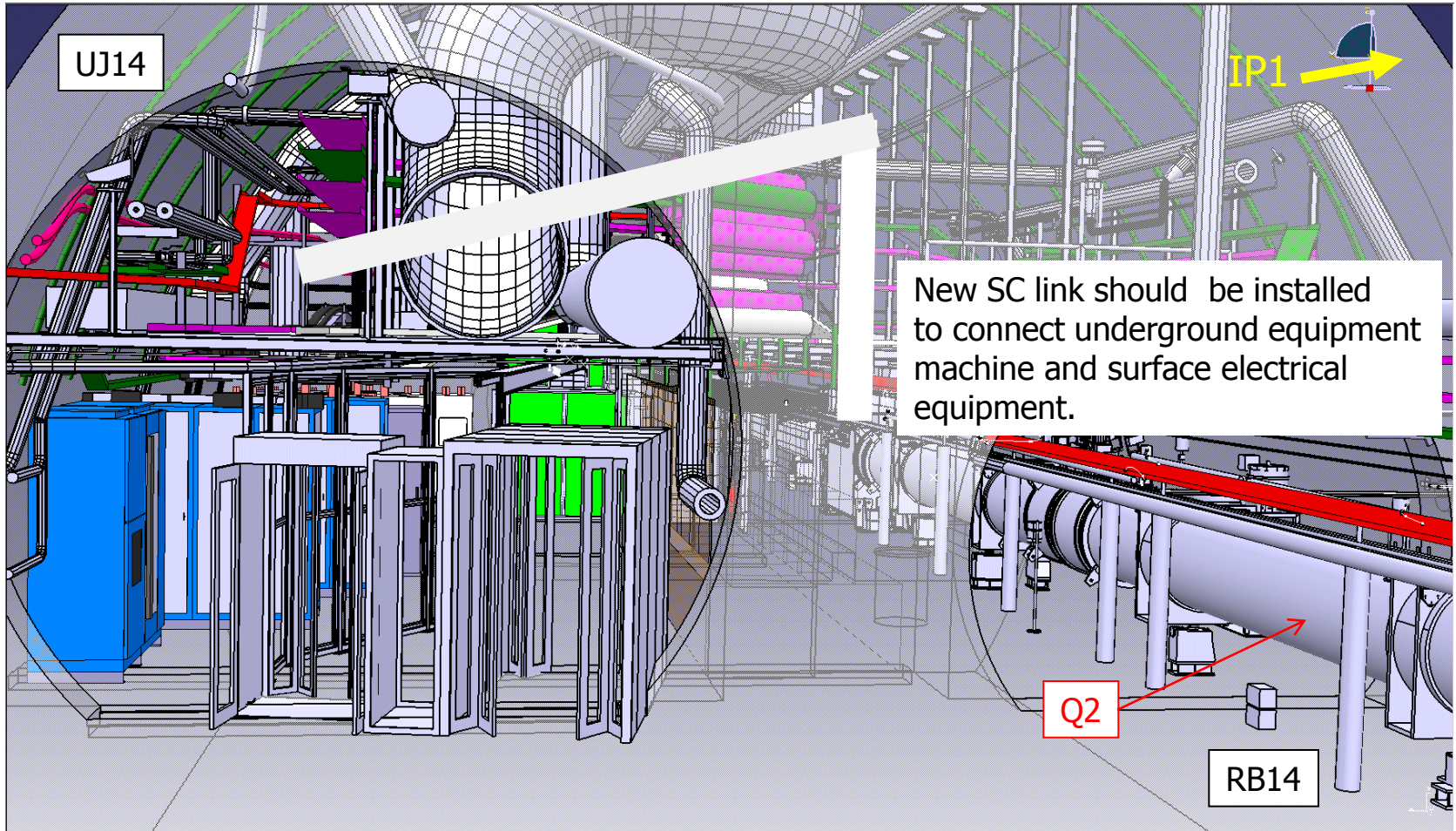
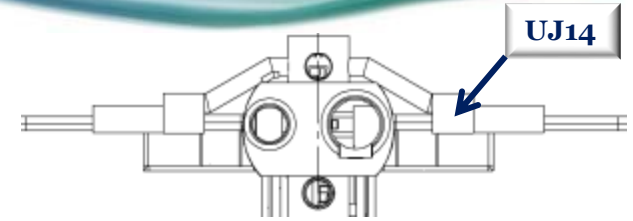
Equipments in place



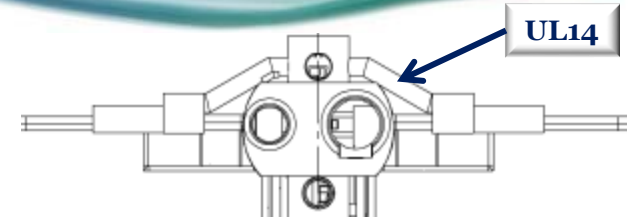
Equipments in place



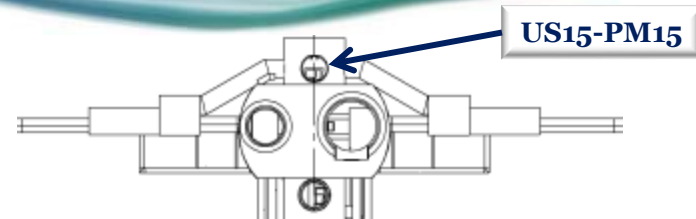
Routing link into UJ14



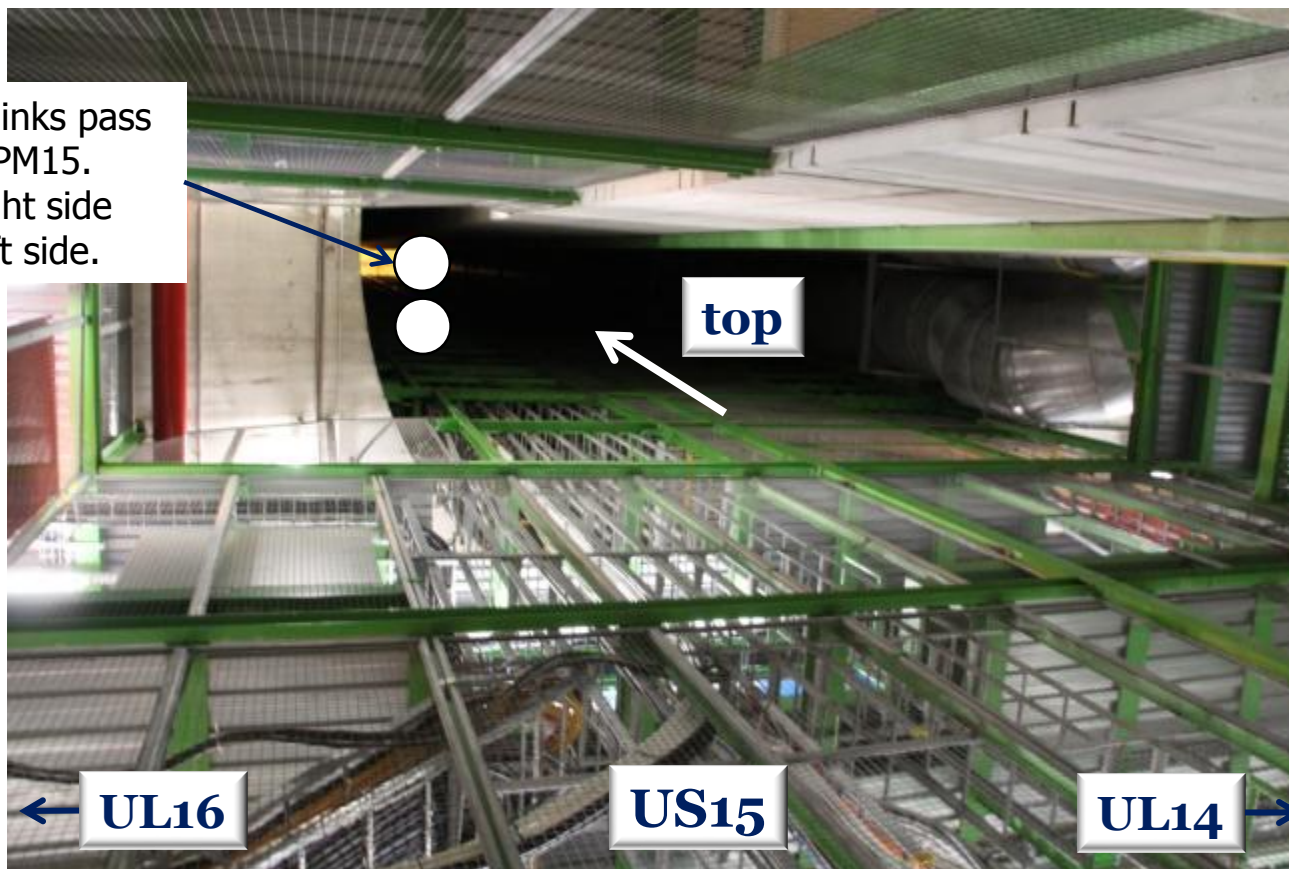
Equipments in place



Routing link into US15/PM15



The two SC links pass in the shaft PM15.
One from right side
One from left side.



Point 1 Surface

Shaft PM15



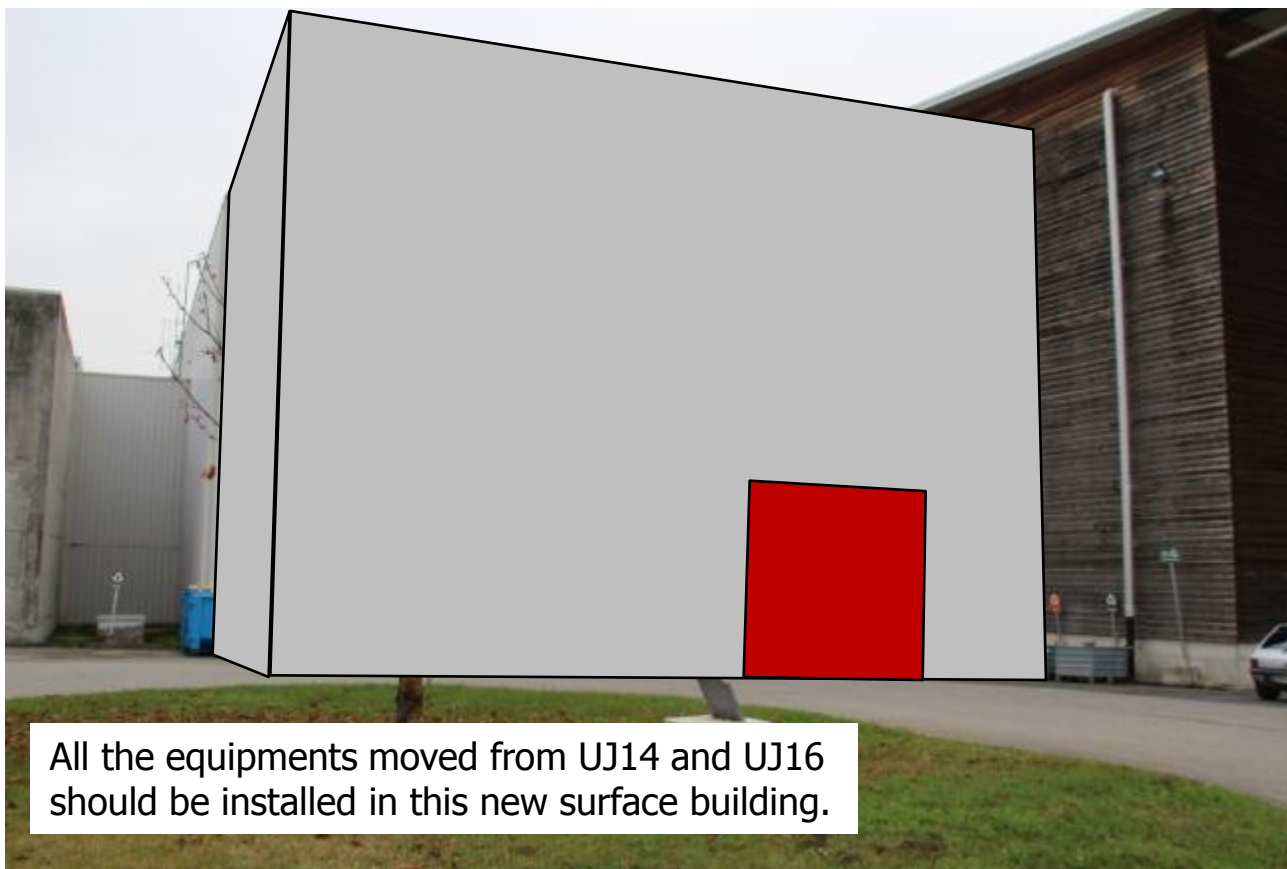
Routing link into SD1



Equipments at Surface



Equipments at Surface





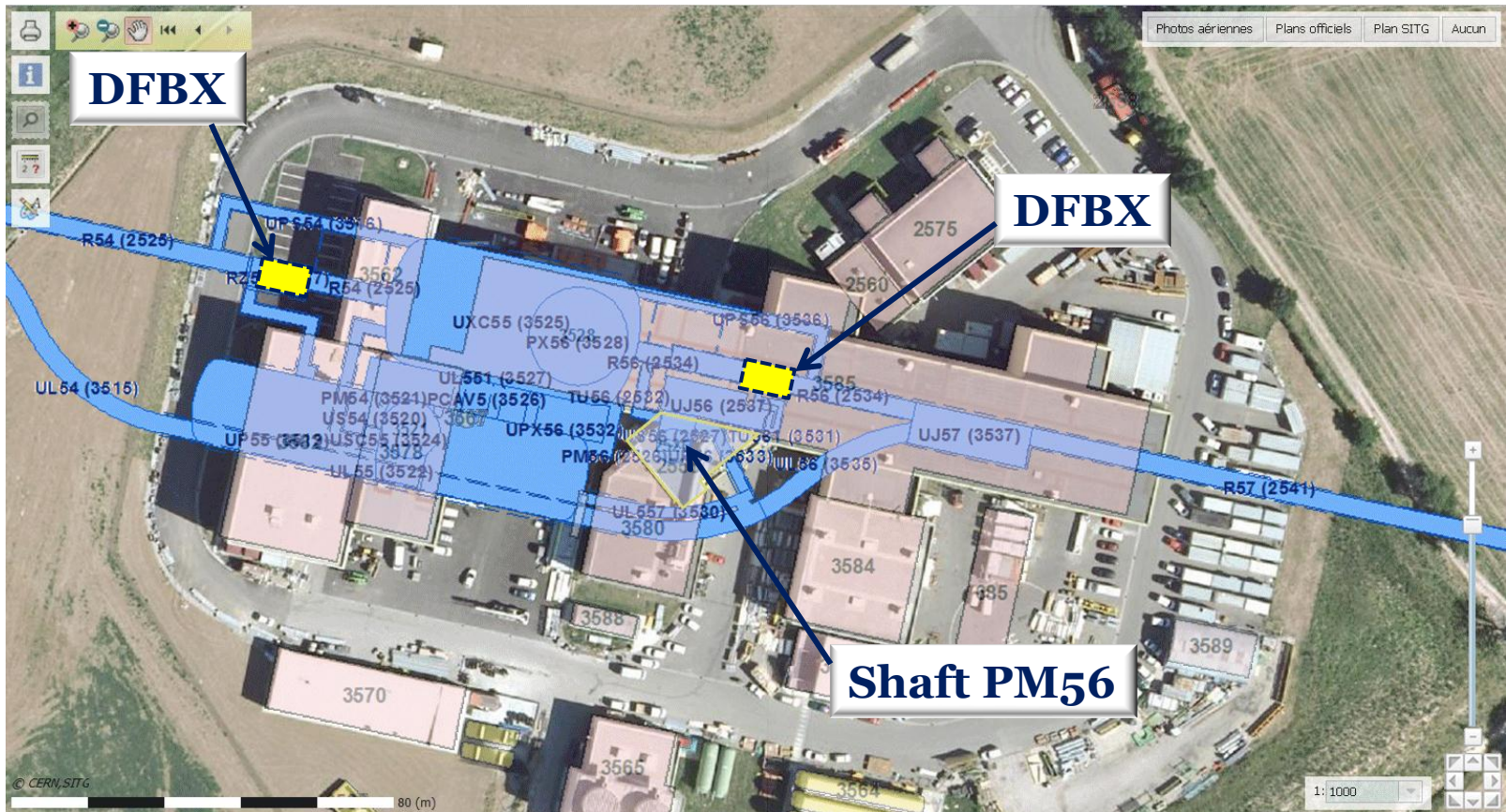
Links at Point 5

- Overview of the area
- HiLumi Link routing

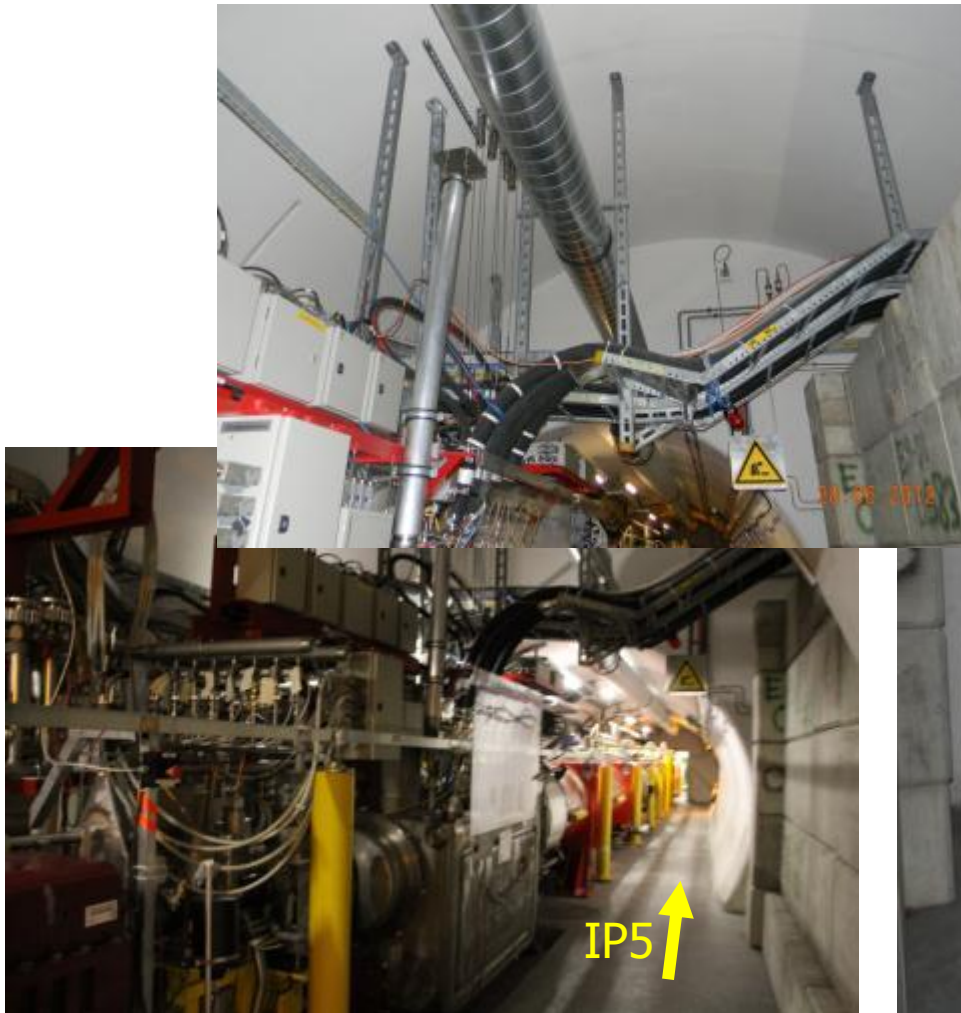
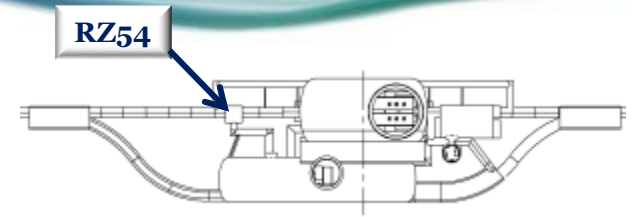
Point 5 Surface



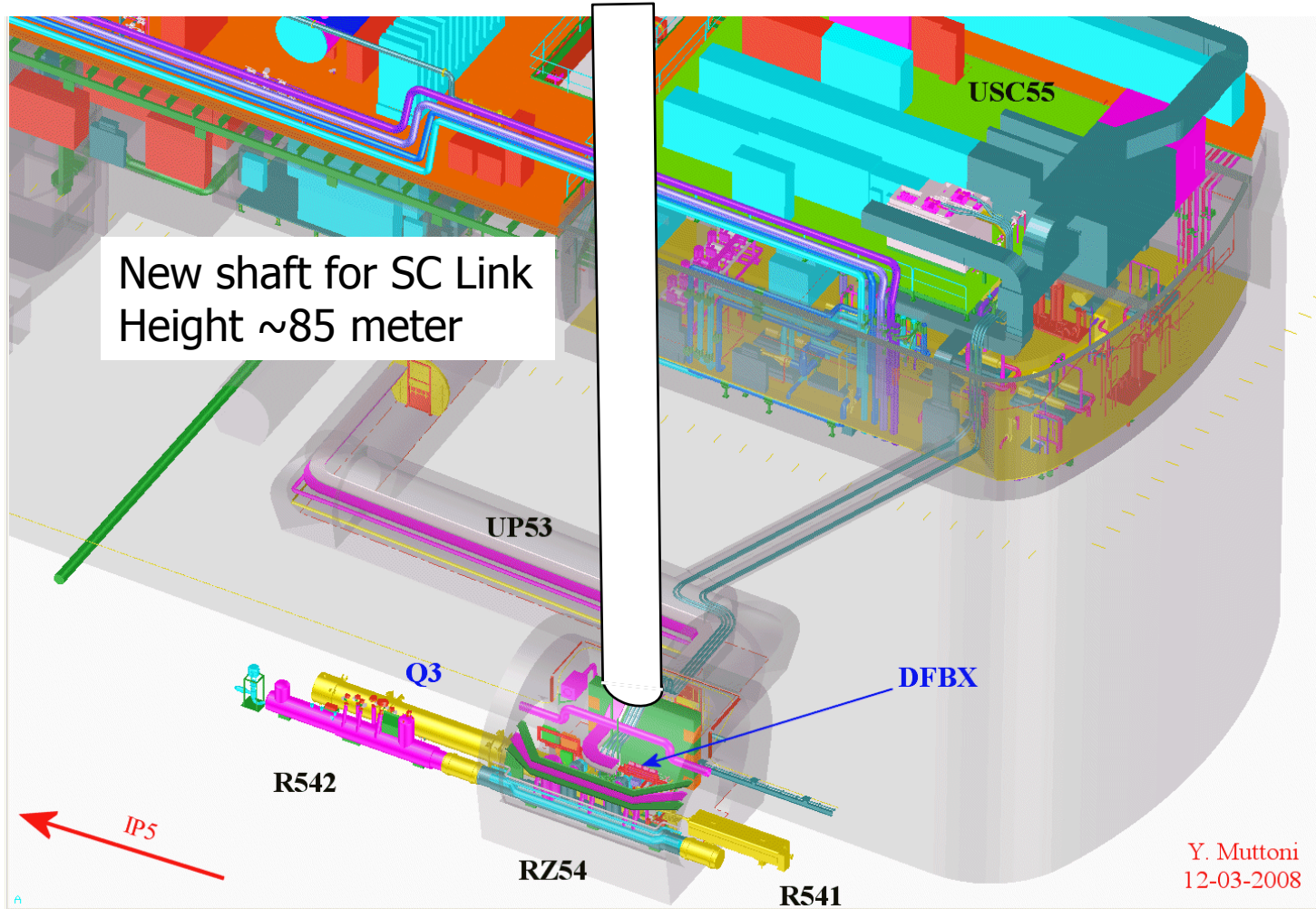
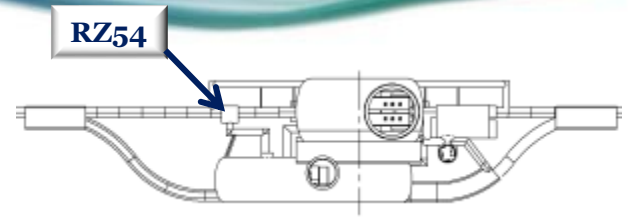
Point 5 Surface & Underground



Equipments in place Left Side

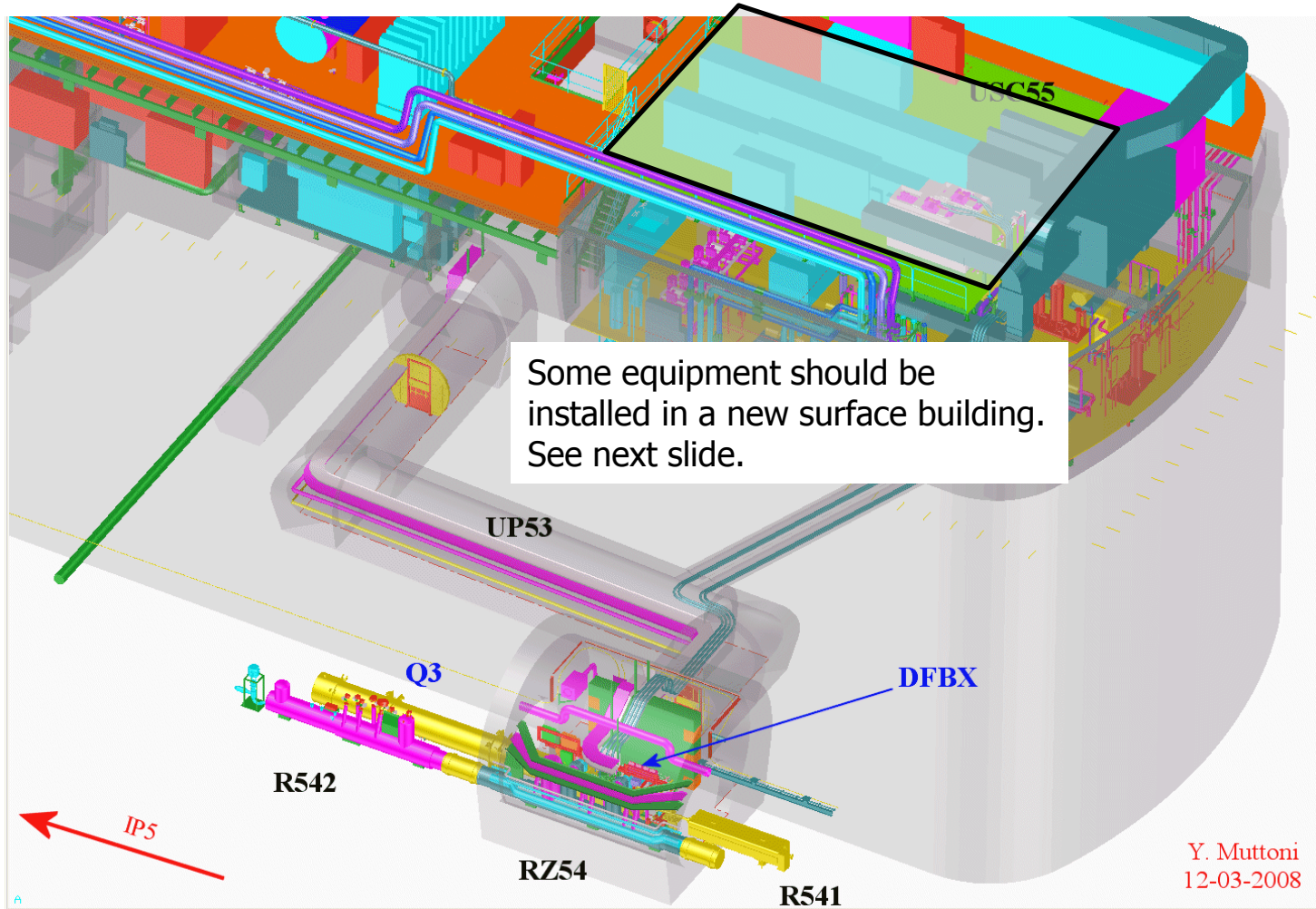
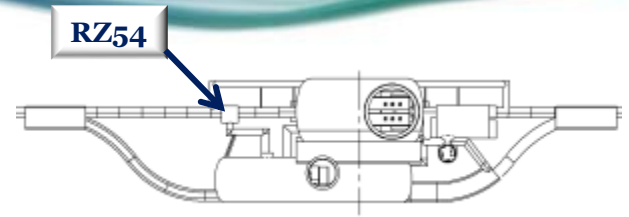


Routing link Left Side



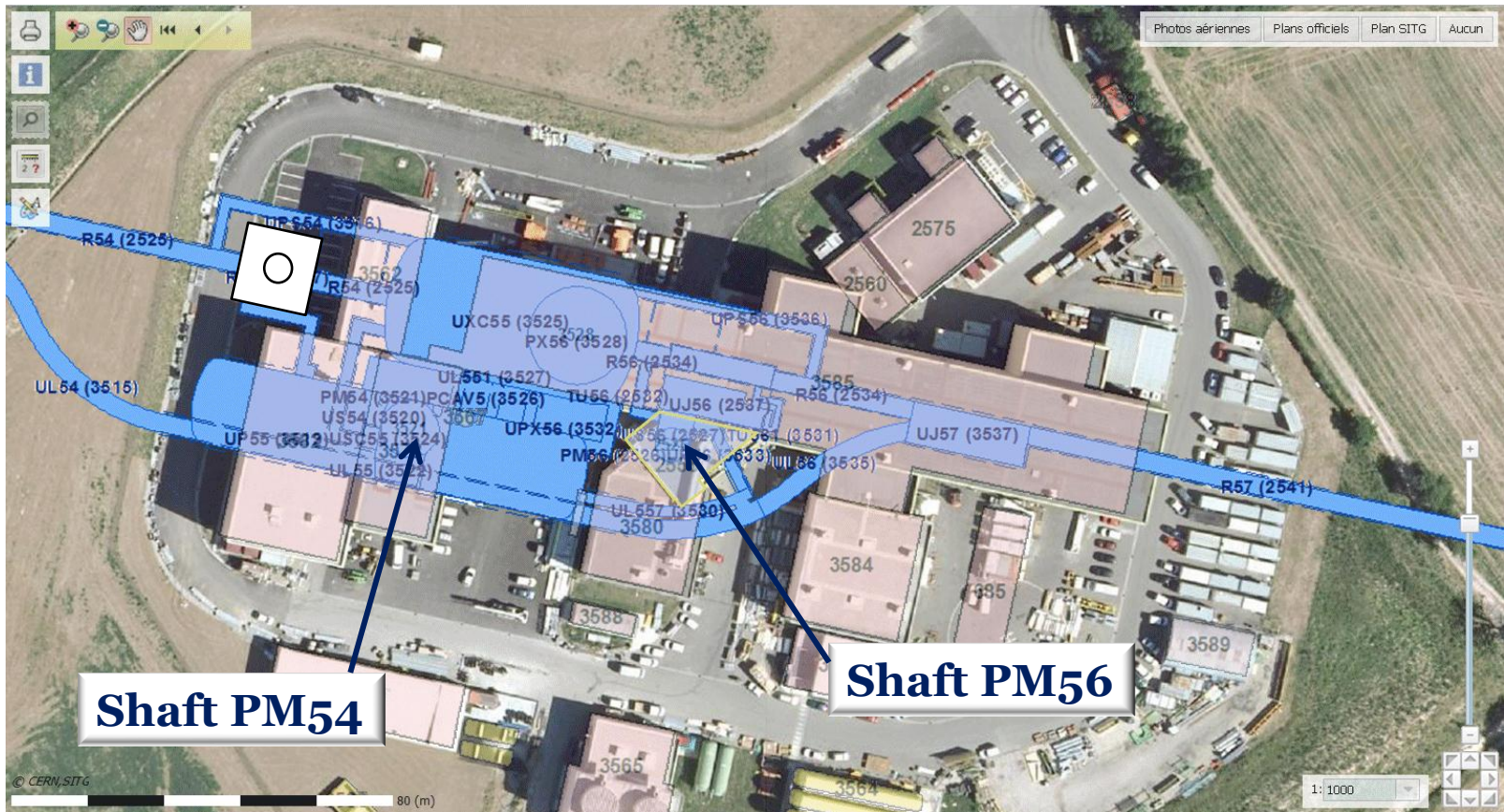
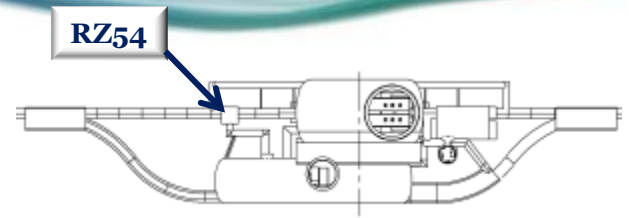
Y. Muttoni
12-03-2008

Routing link Left Side

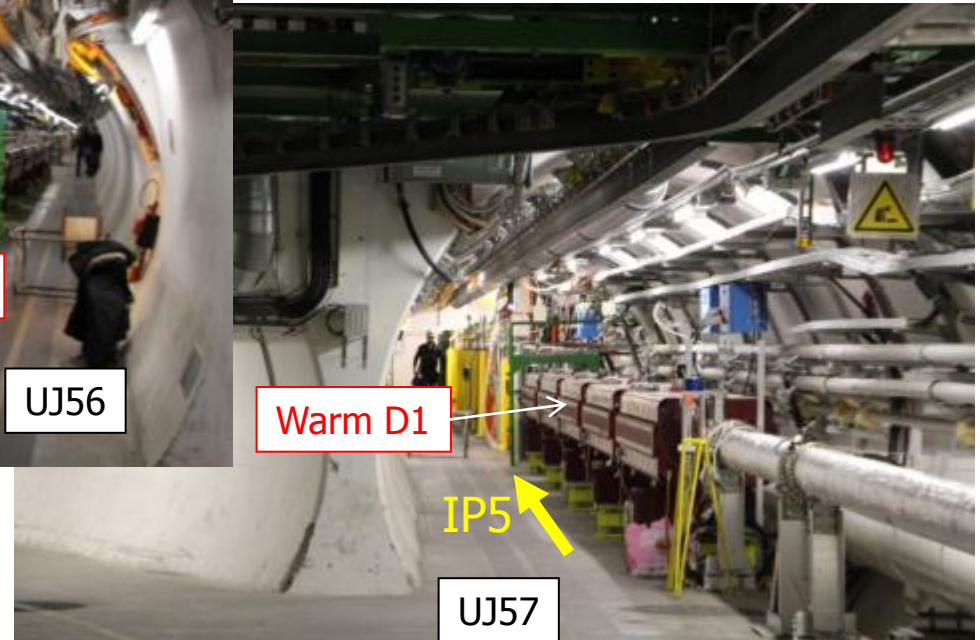
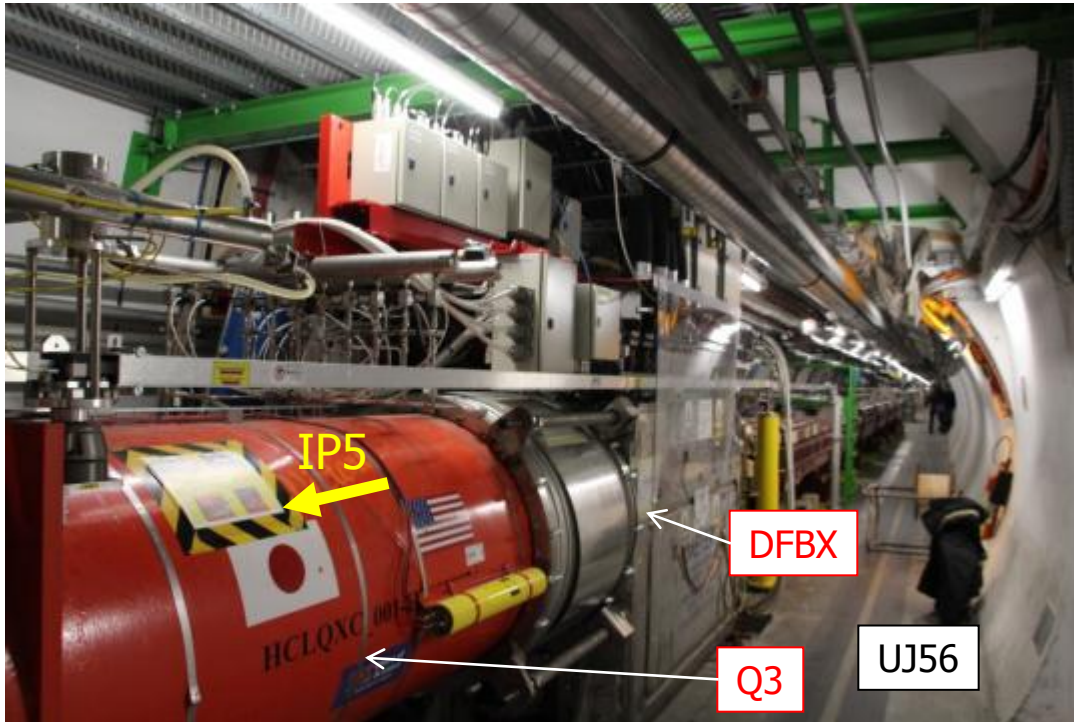
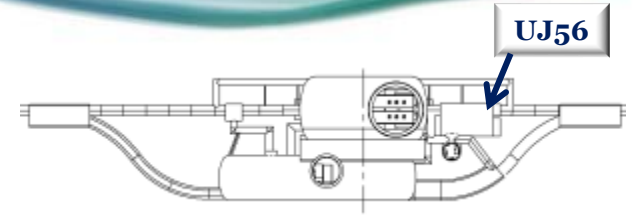


Y. Muttoni
12-03-2008

Point 5 Surface New Building

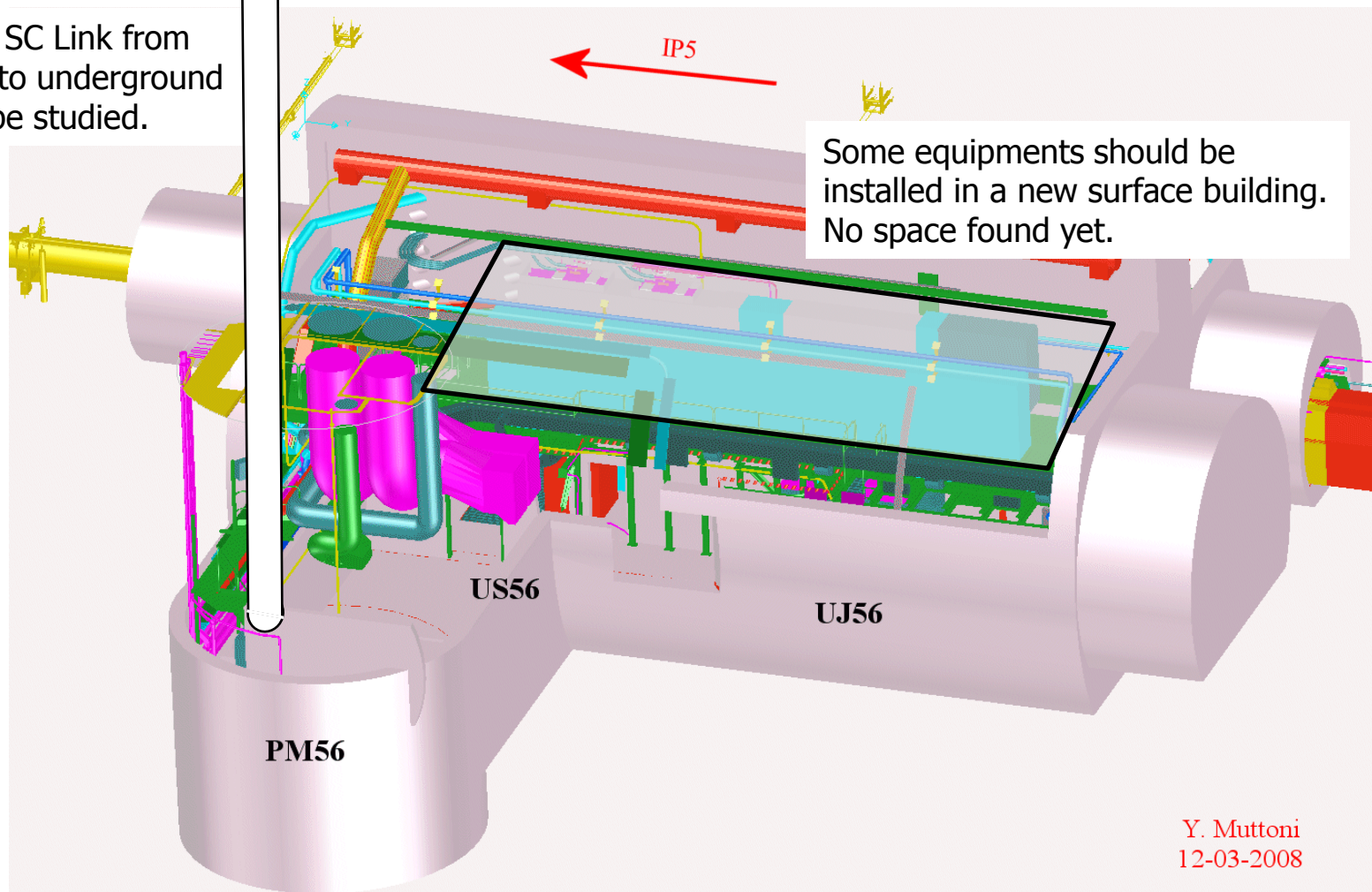
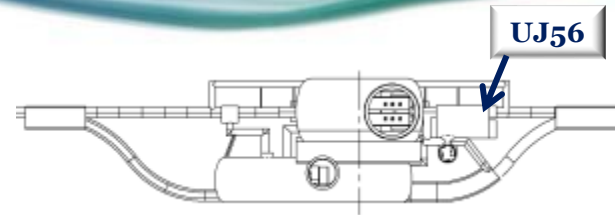


Equipments in place Right Side



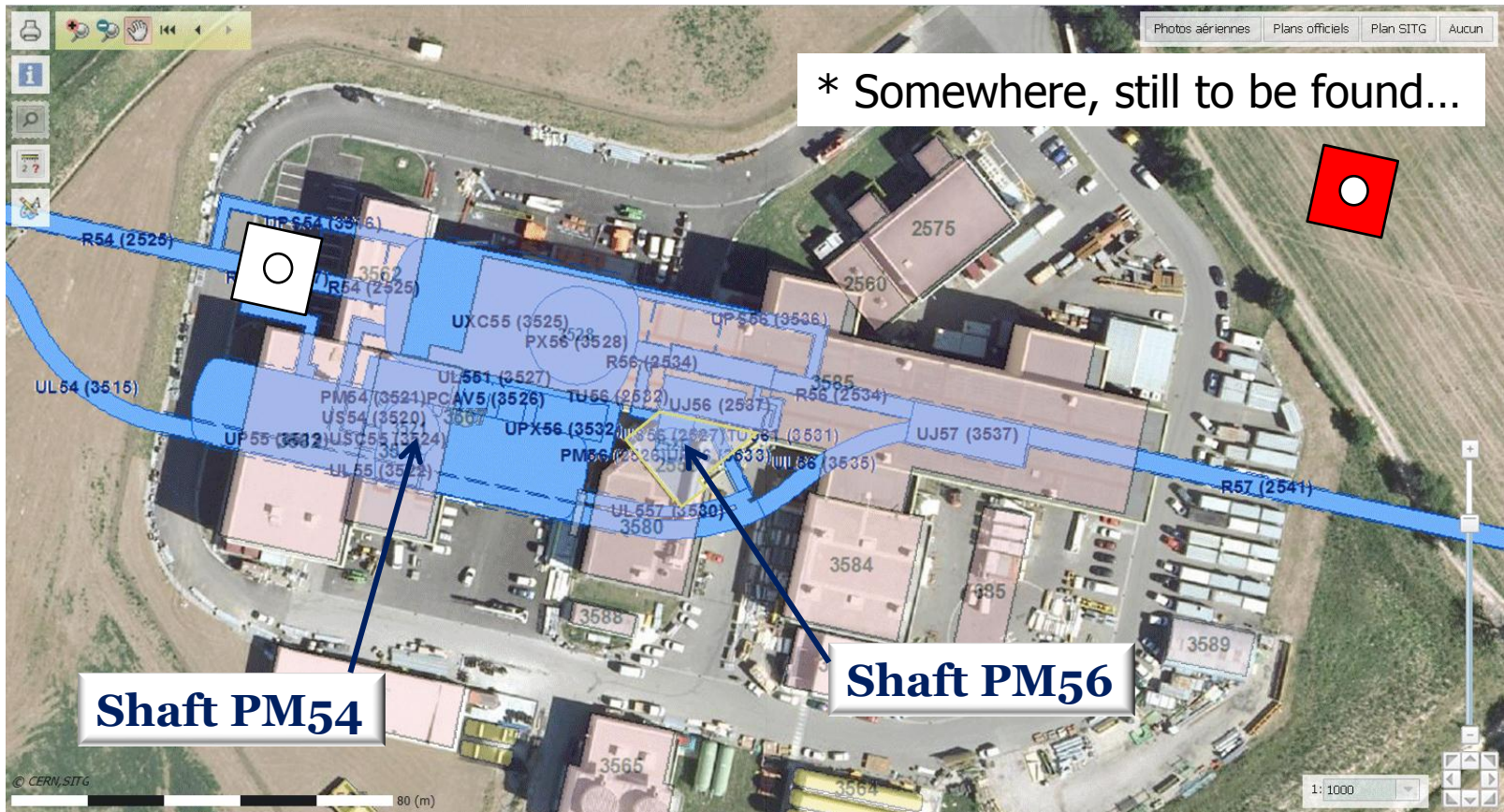
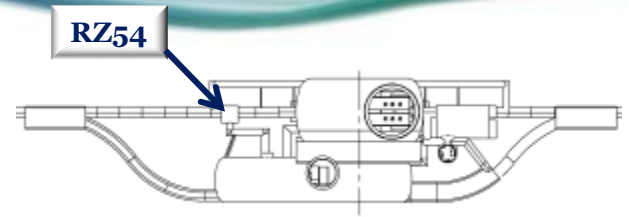
Equipments in place

Way for SC Link from surface to underground should be studied.



Y. Muttoni
12-03-2008

Point 5 Surface New Building



Thanks for your Attention !

