

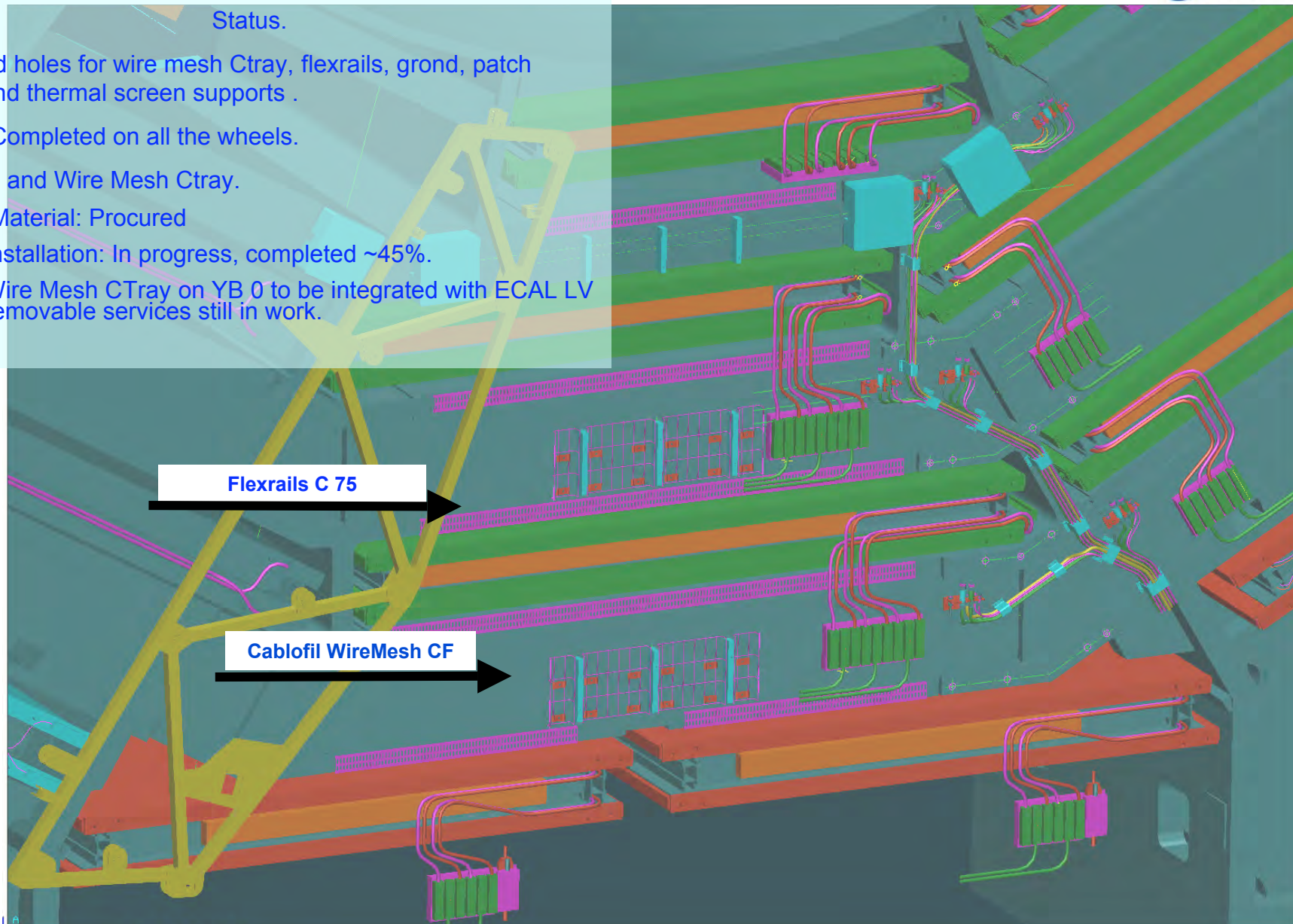


Status Radial Services and cable tray. 1) Holes, Flexrails, WireMesh Ctray.



Status.

- Tapered holes for wire mesh Ctray, flexrails, grond, patch panels and thermal screen supports .
 - Completed on all the wheels.
- Flexrails and Wire Mesh Ctray.
 - Material: Procured
 - Installation: In progress, completed ~45%.
 - Wire Mesh CTray on YB 0 to be integrated with ECAL LV Removable services still in work.





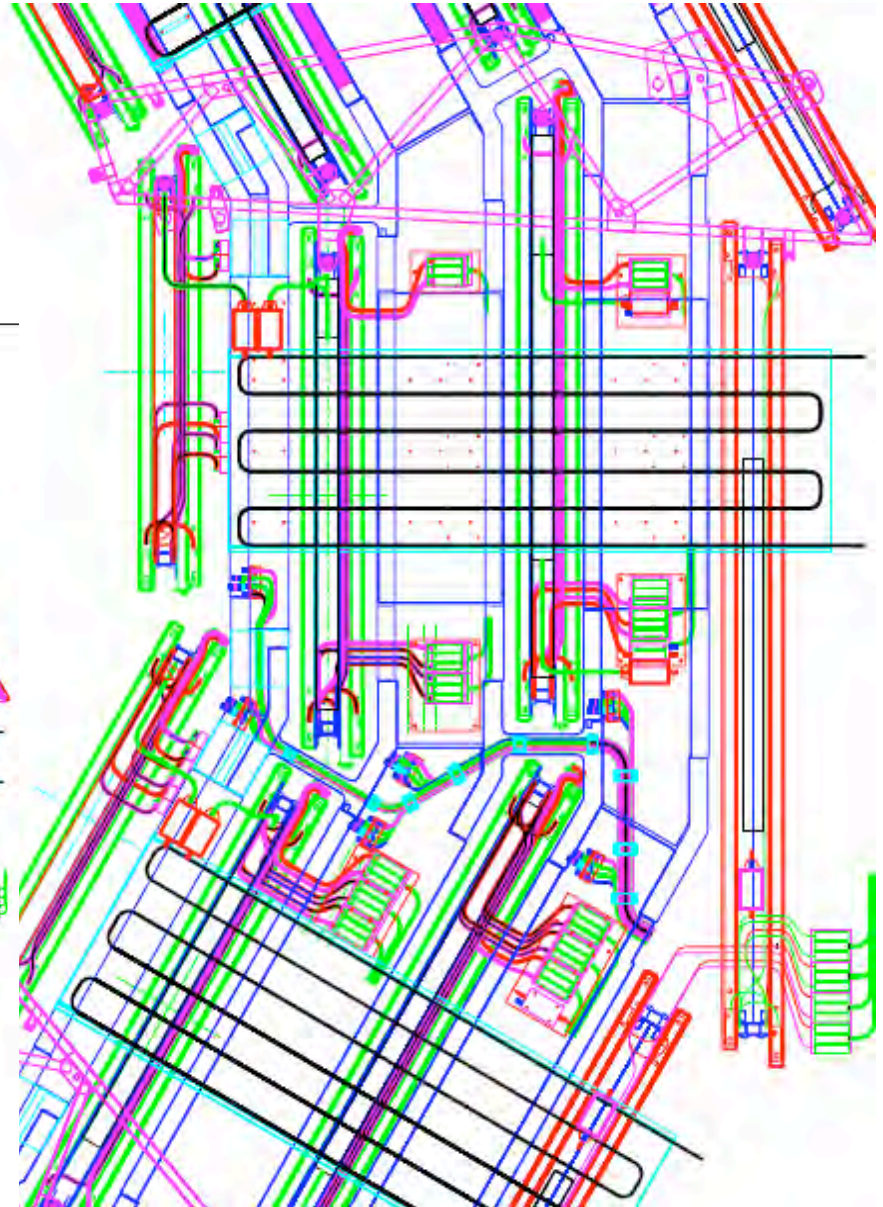
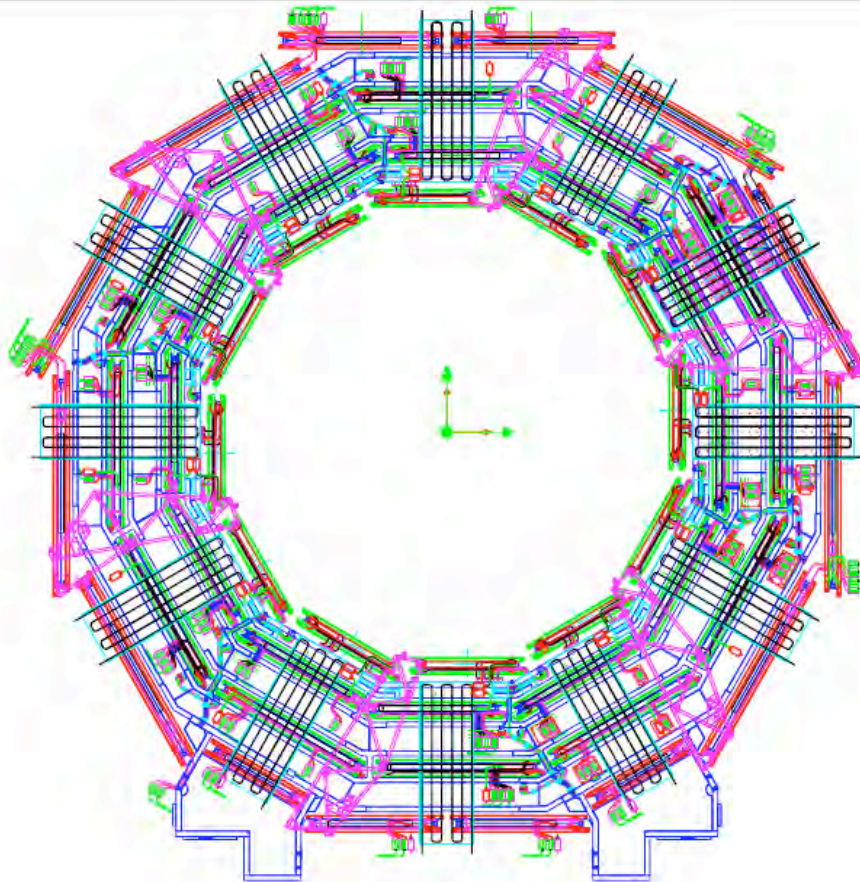
Radial Services and cable tray. 2) HV LV Interface panels and ancillaries.



- HV PP and LV PC Box Interface
 - Procured for all the wheels
 - Installation in progress, INFN people completed ~ 70 %

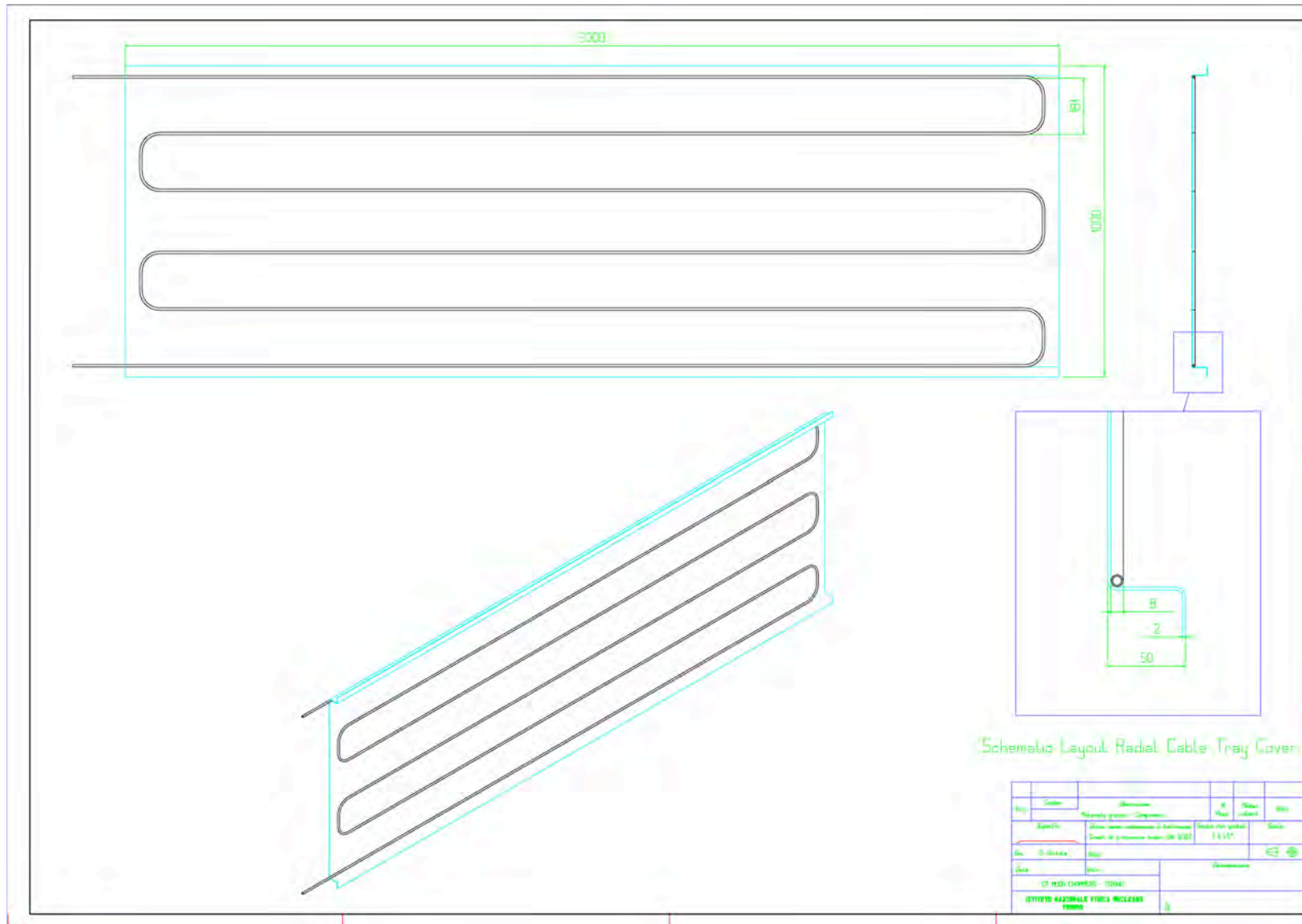


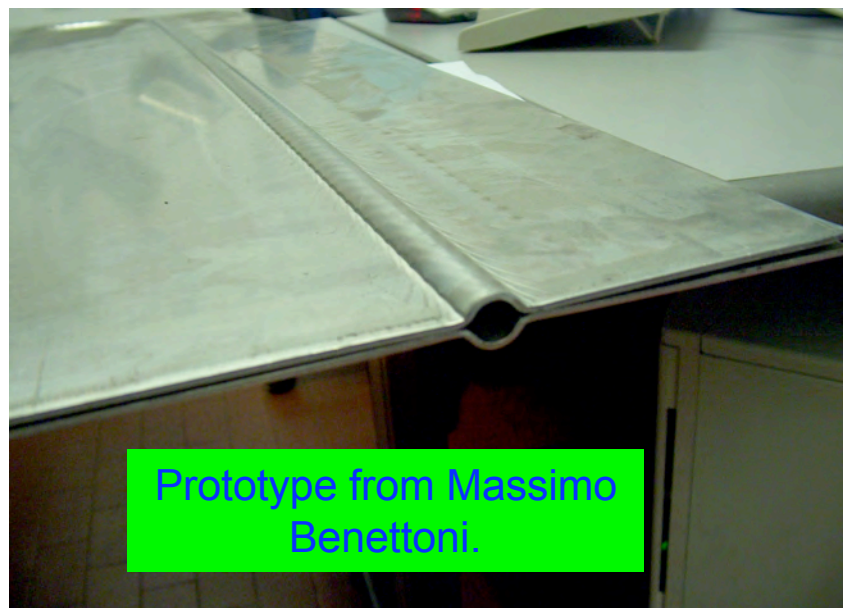
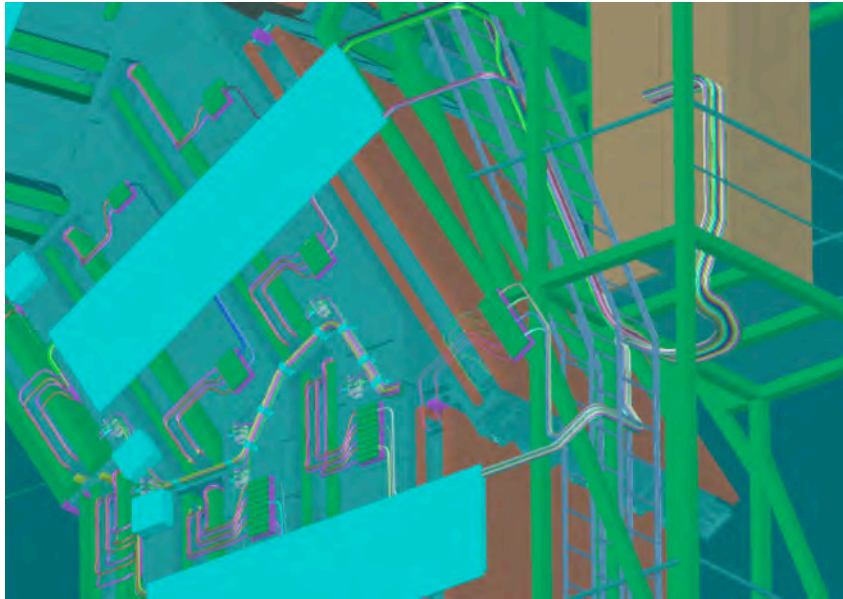
- Prototype design and manufacturing studies in work for all the mobile wheels.
- Integration with ECAL LV Removable service on YB 0 still pending.



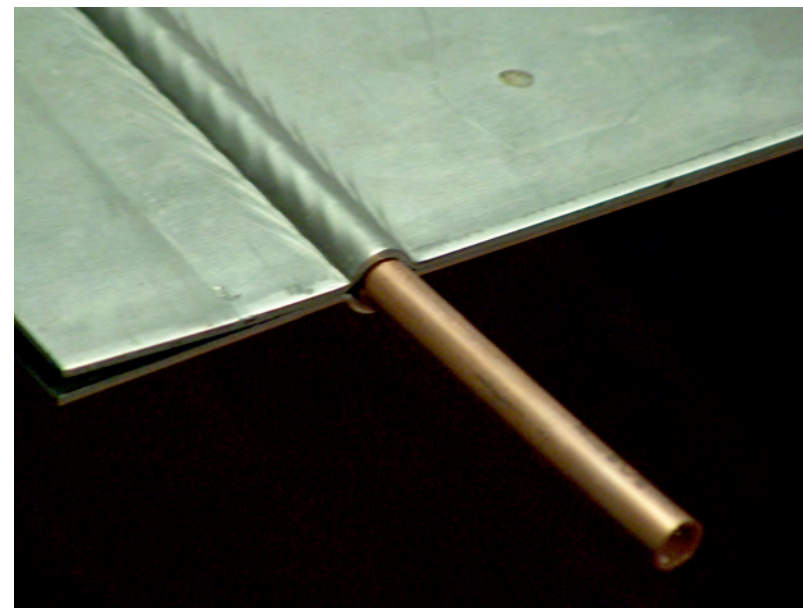


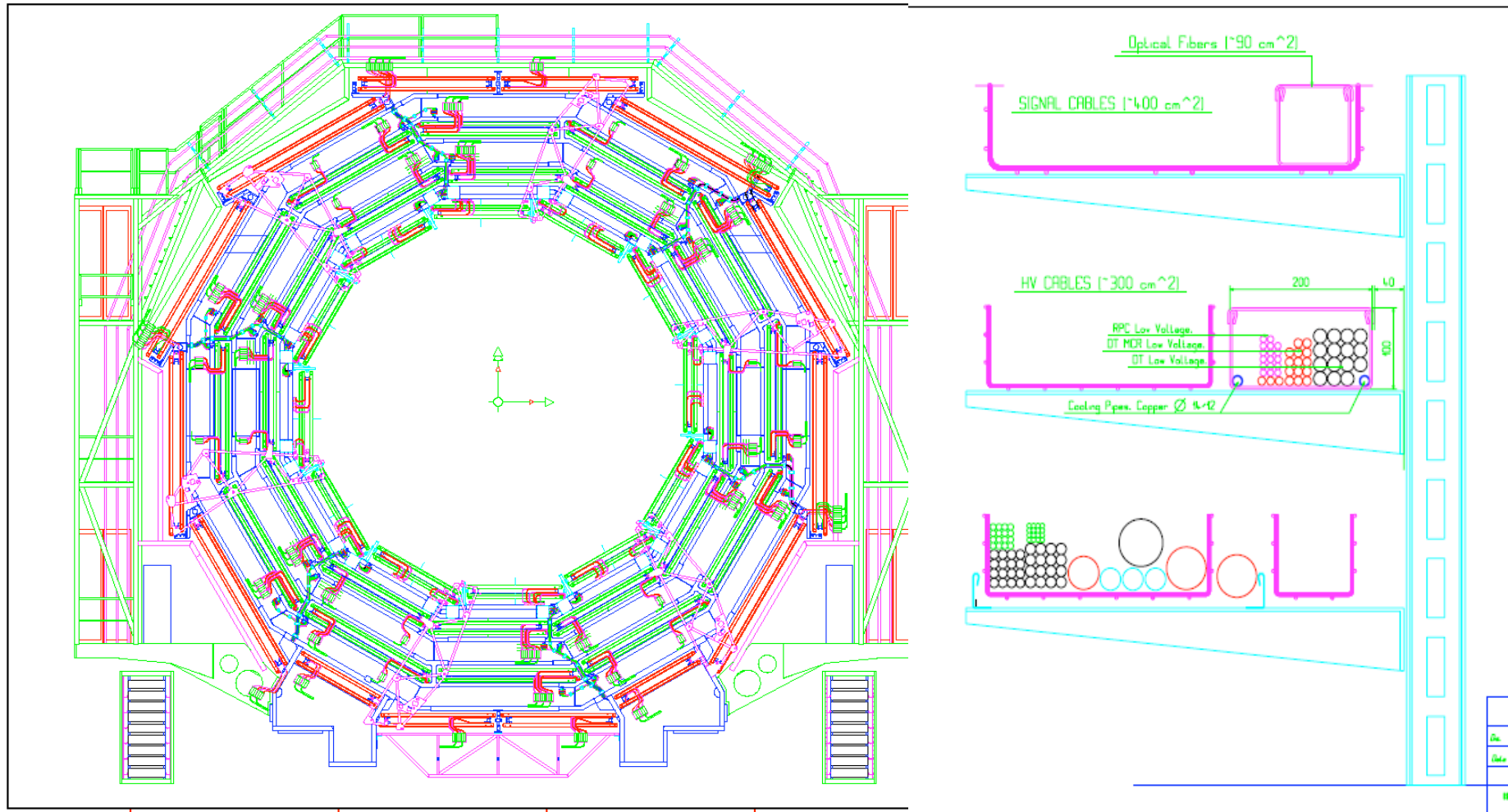
Radial Services and cable tray. 3) Thermal screen II



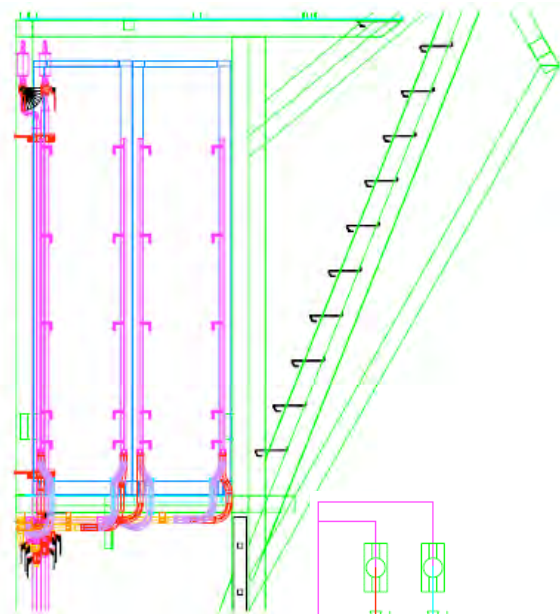


Prototype from Massimo Benettoni.



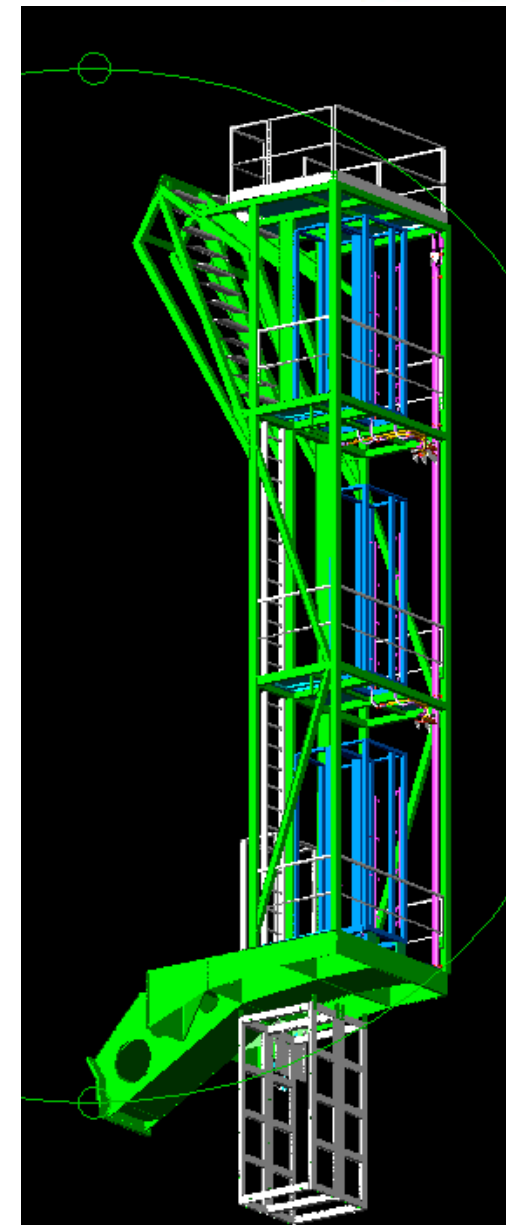
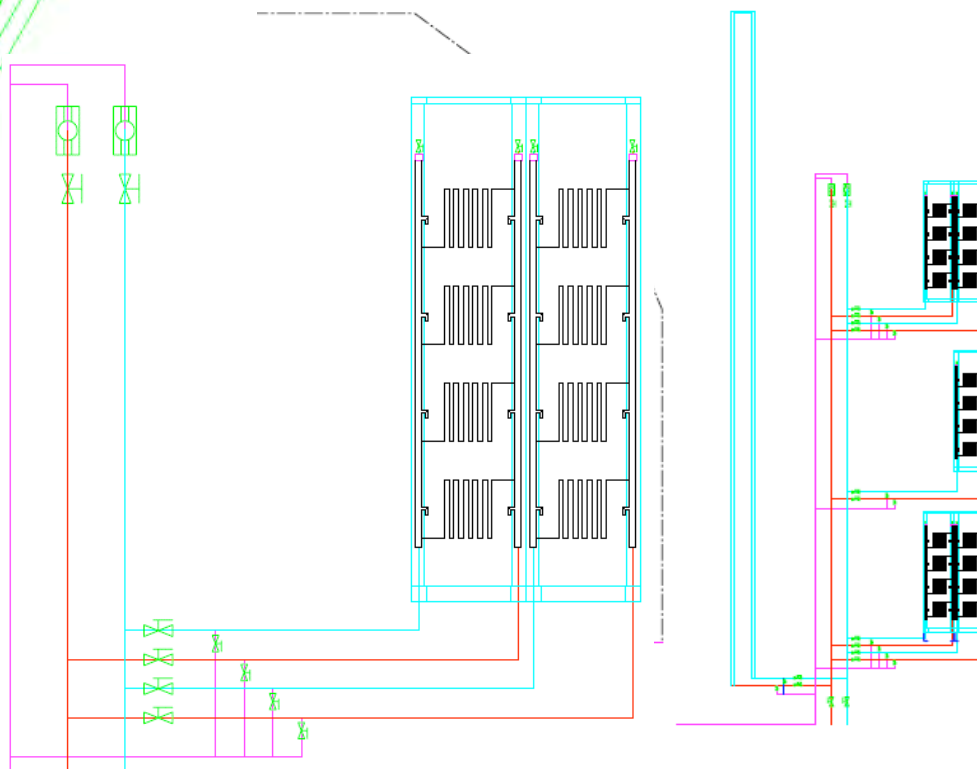


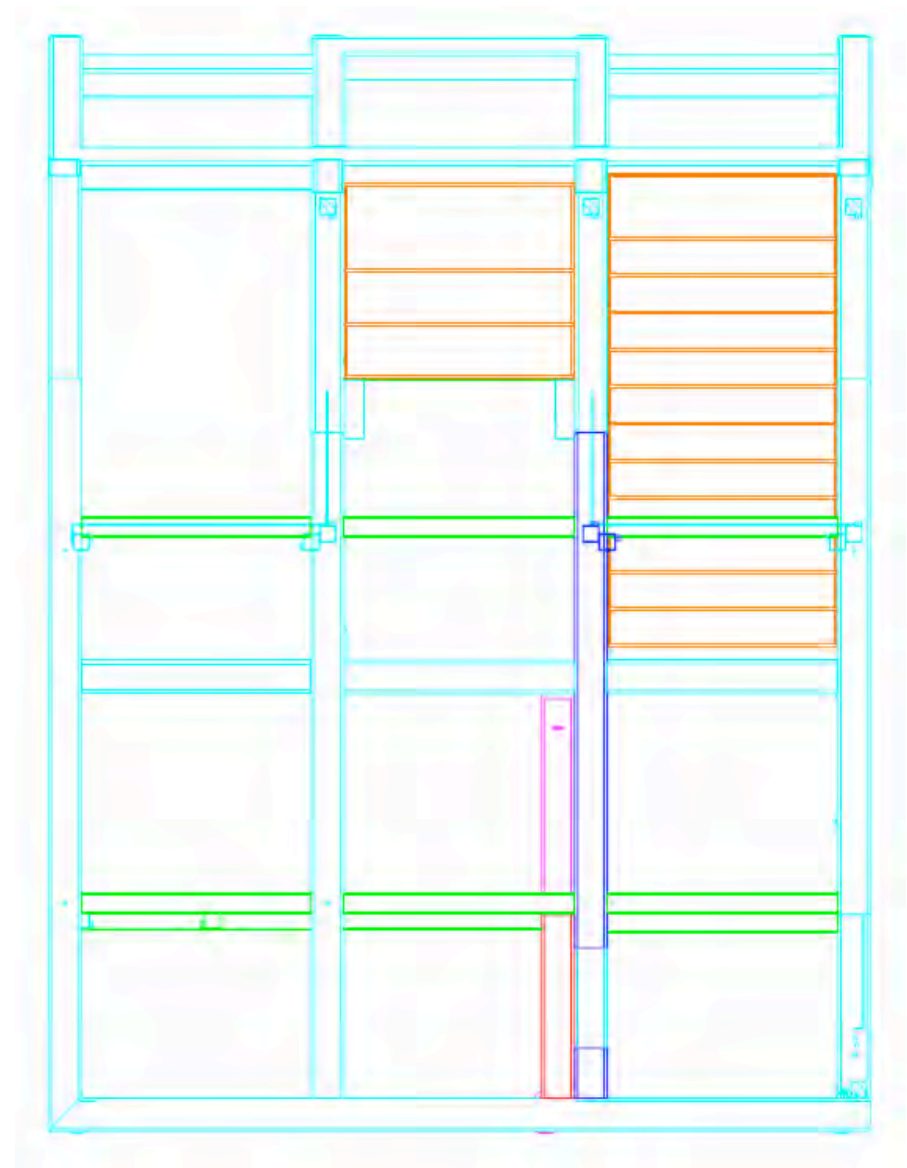
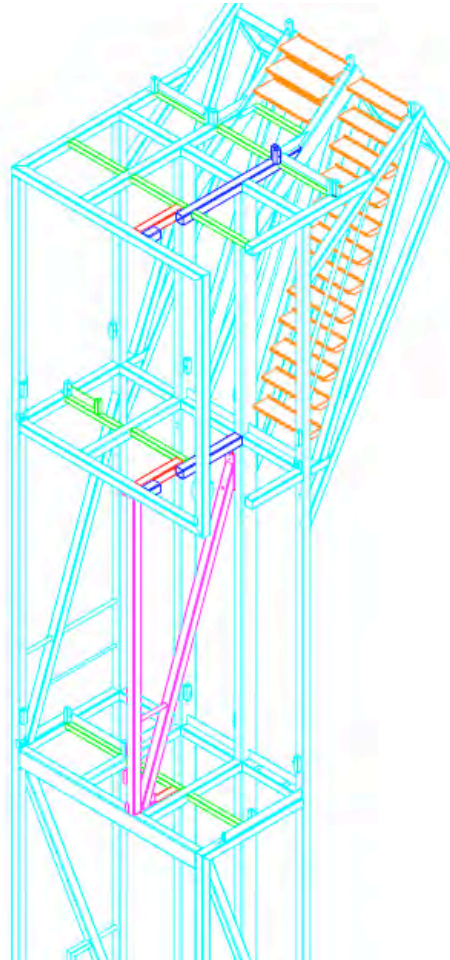
Details on Optical fiber path transition from radial section to periphery-racks; defined.
 Components (boxes, covers, supports inside Ctray,..) in work in INFN PD
 (Periphery cable tray on YB 0 to be integrated with general services routing.)



Towers layout finalized for all mobile wheels.

Racks and cooling circuit already in place.





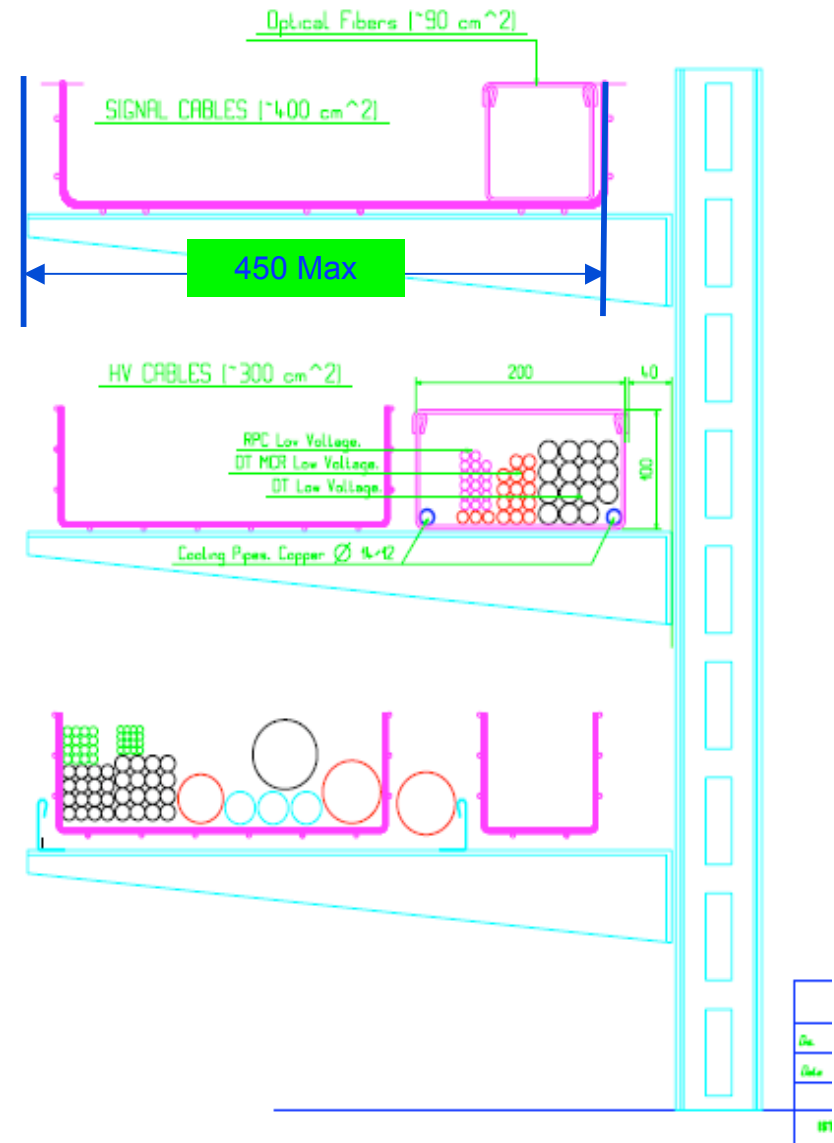
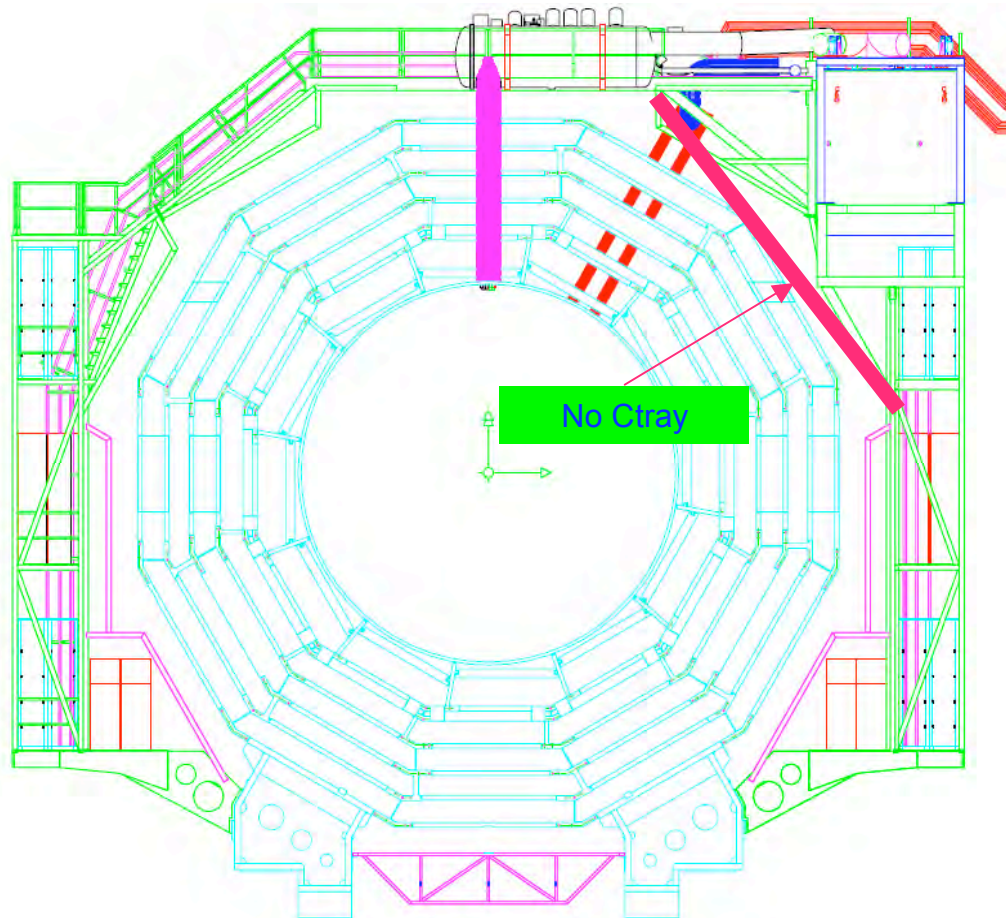
Temporary modification on YB1
Near side due to Cryo passage
for Magnet Test.

Racks to be positioned after MT



- Muon barrel DT/RPC and services integration
 - Design services fixation in the removable sectors
 - Design combined cooling panels for MB and removable services
 - Clear interferences between permanent installed services and the as build DTs
 - Sharing of services cable trays on the periphery of CMS
 - Lv cooled cable tray -
 - Validate rack orientation, rack cabling and crate removal in the towers
 - Cut out on towers for racks service
 - Adapt cable length to include the experience of YB 2 cabling (cable storage)
 - Cabling mechanics and storage at the racks on UX balcony and Patch panel
 - Support structure for cable trays between feet
 - DT and RPC Cables lenght
 - HO services integration with the Muon system
 - Routing of HO services, in particular the optical fibers underneath MAB

DT RPC Services on YB 0 on both side.
 Cable tray only on neg side. Dimension to be reduced, from 500 to 400-450

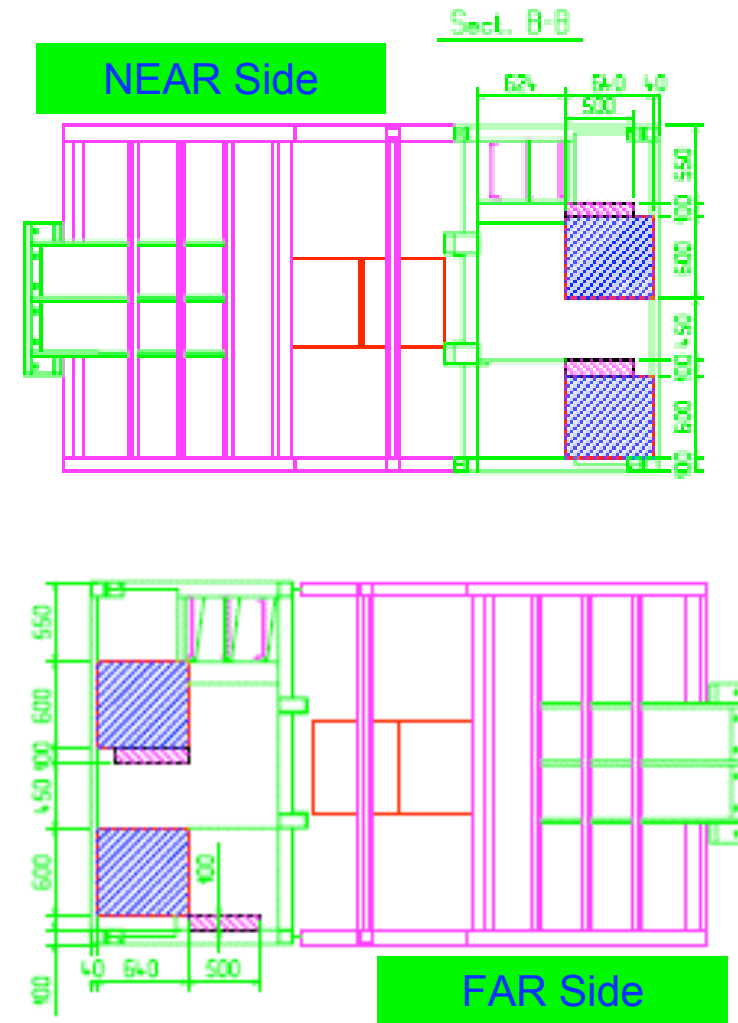




YB 0 periphery cable trays – racks II



ECAL Racks layout on 2nd towers floor





YB 0 periphery cable trays – racks III

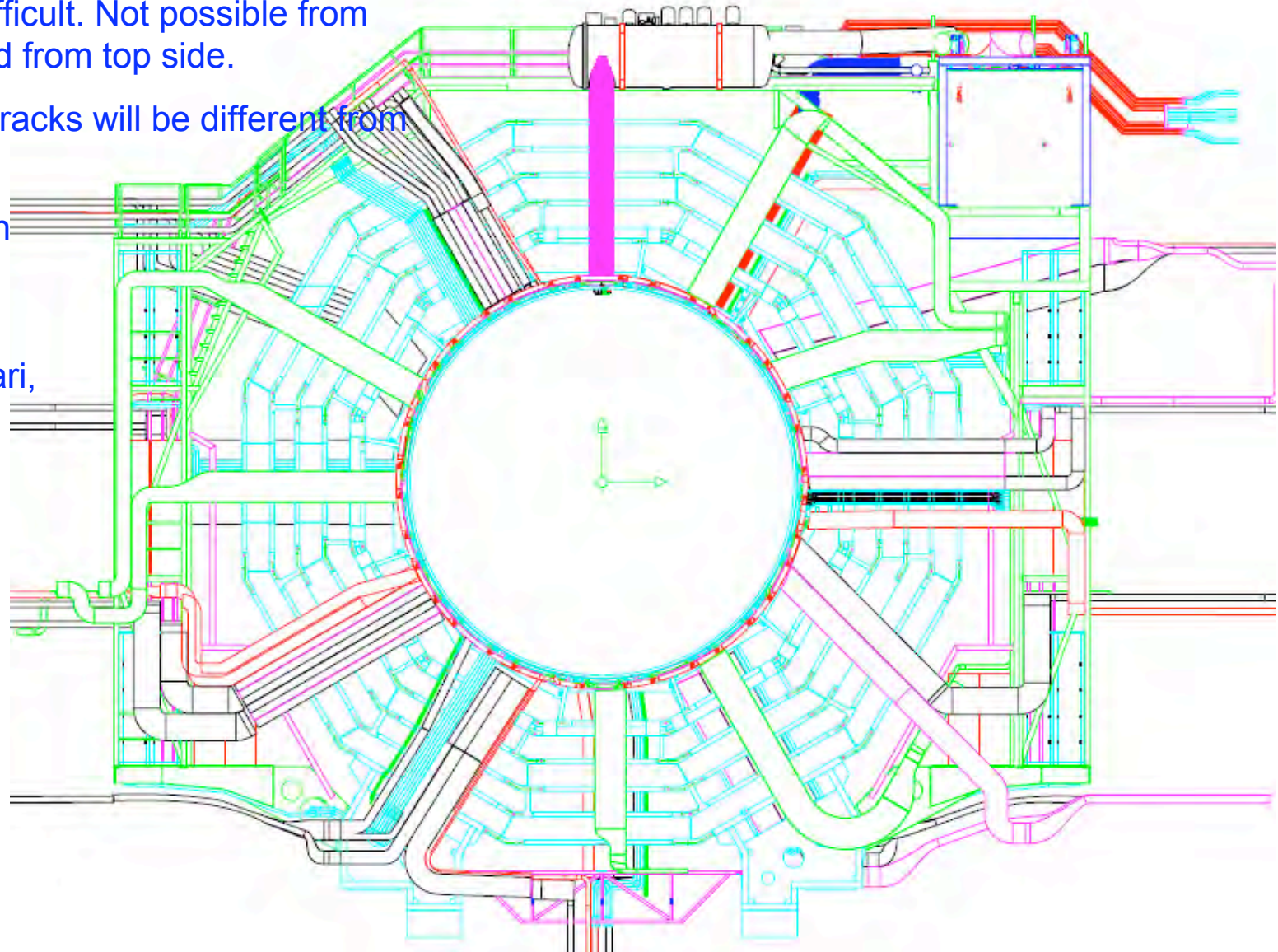


Access to racks difficult. Not possible from bottom side, limited from top side.

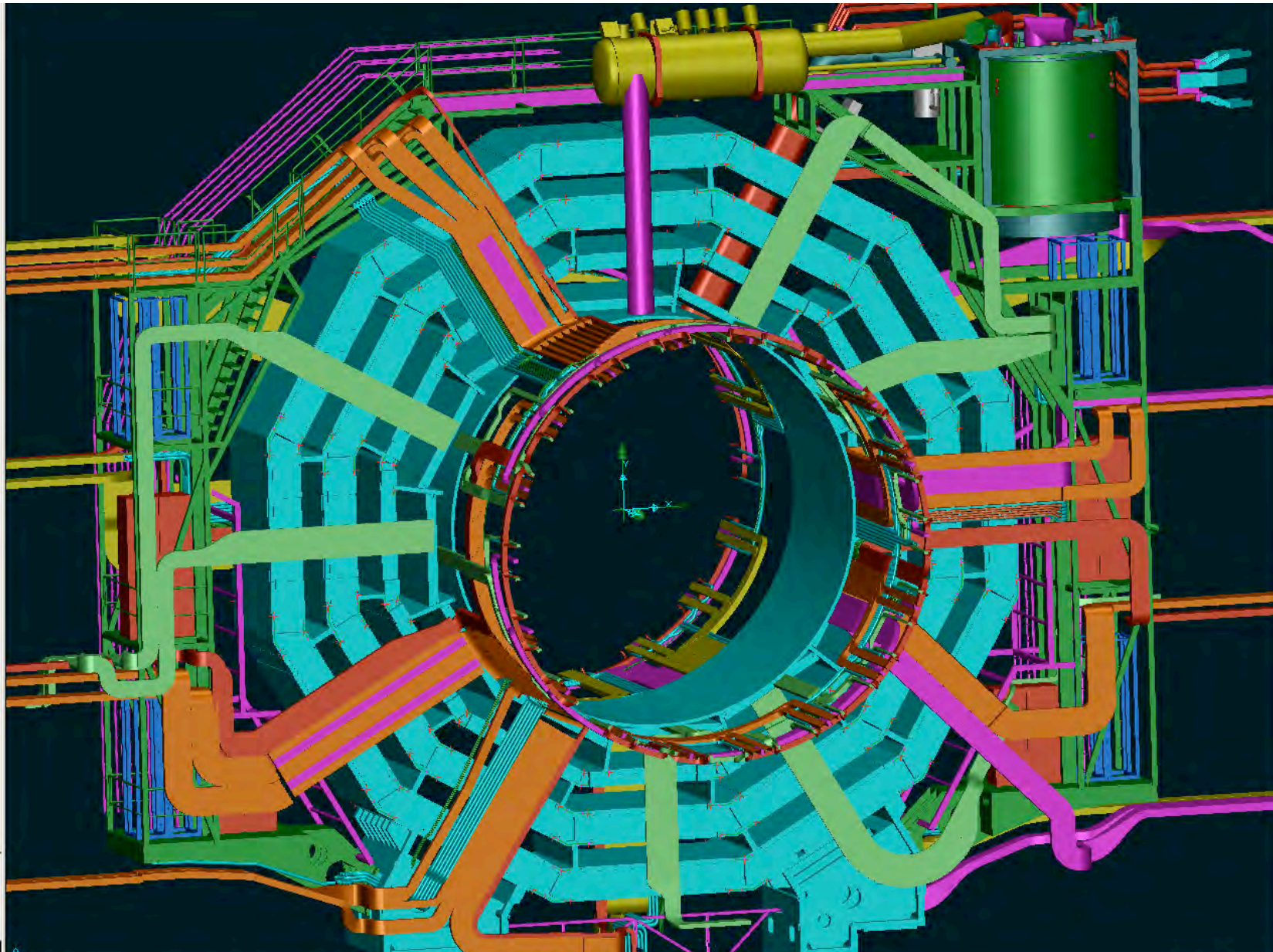
Routing to access racks will be different from moving wheels.

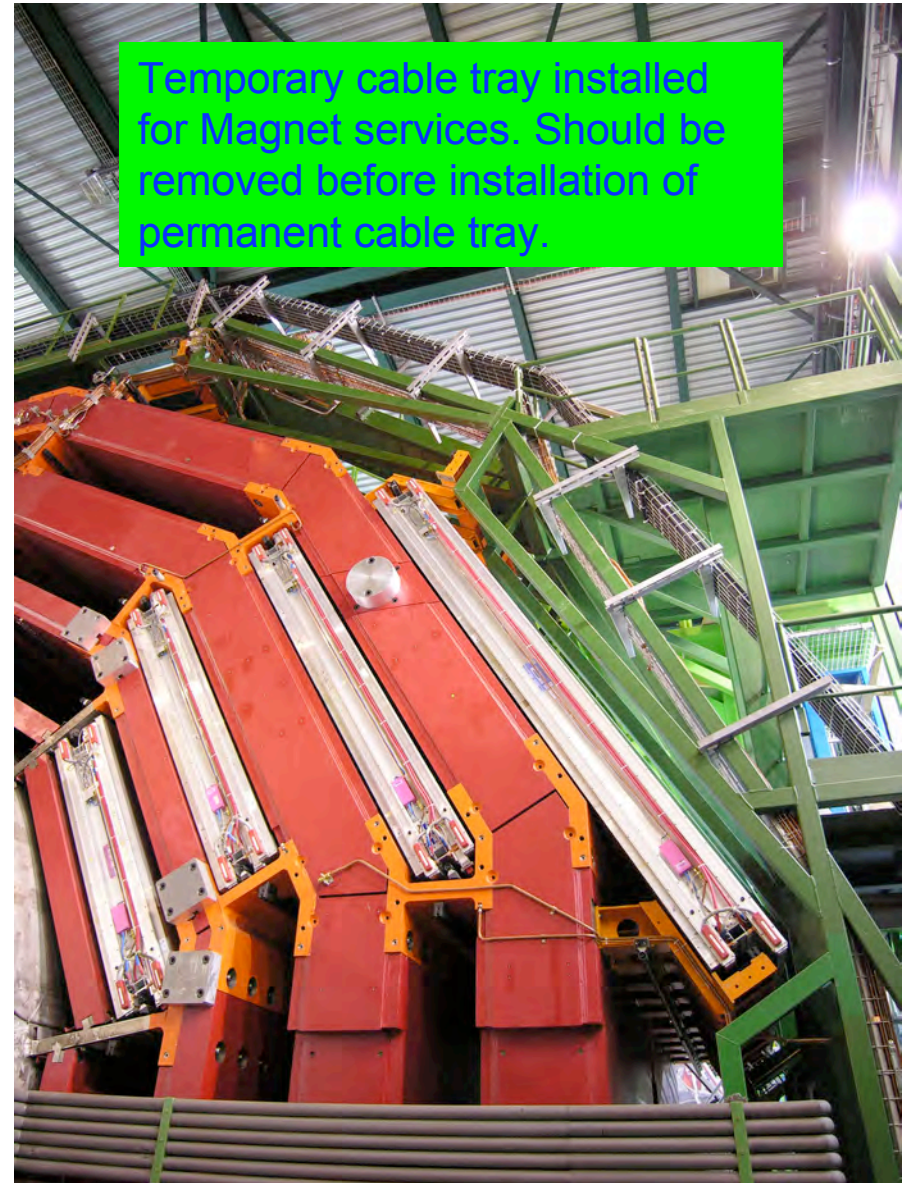
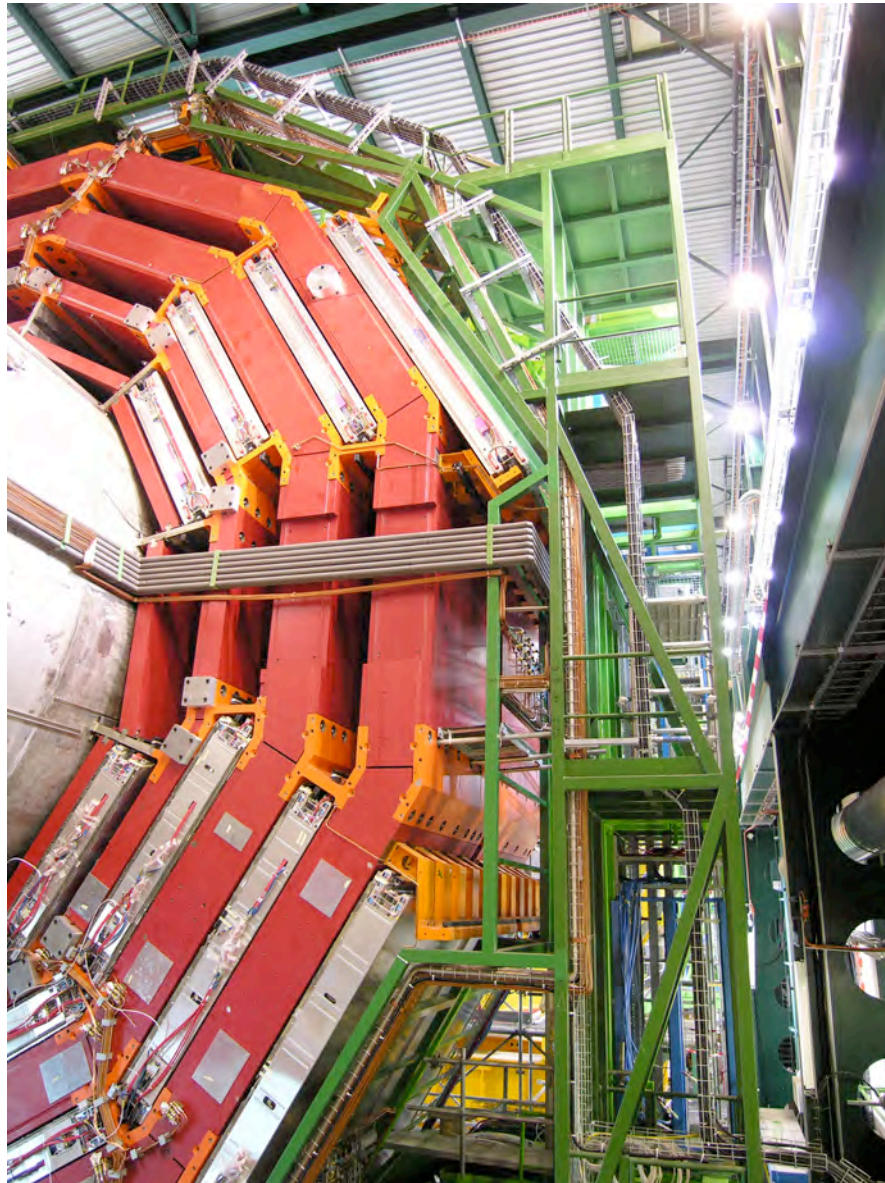
Define cable length still require works and interaction.

Help from INFN Bari, Konstatin A..



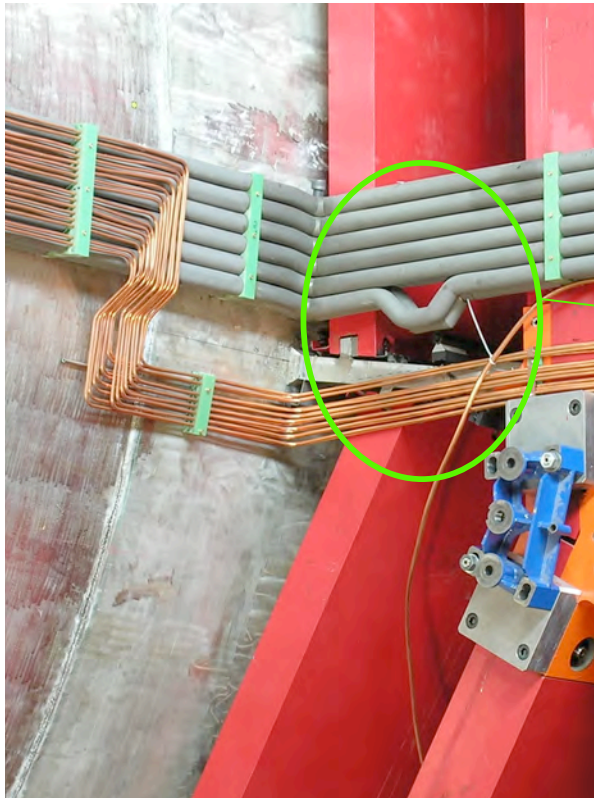
YB 0 periphery cable trays – racks IV





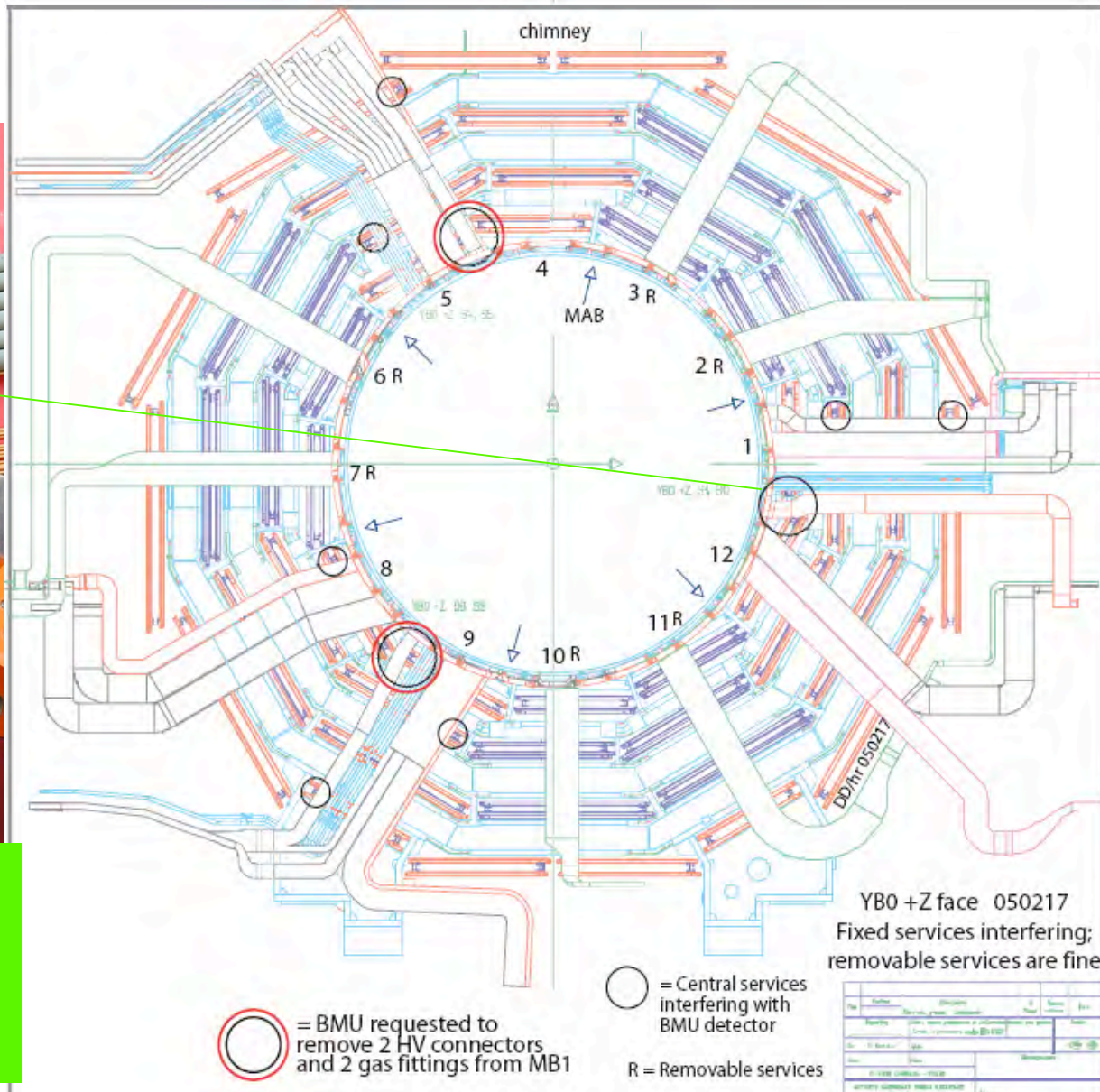


Layout of services in the region between the feet has been changed, ECAL Lv Miniracks moved underground. Cable trays support structure need to be updated, additional structure will be added. Design in work.



Interference DT HV Connectors with piping on Sec. 1.

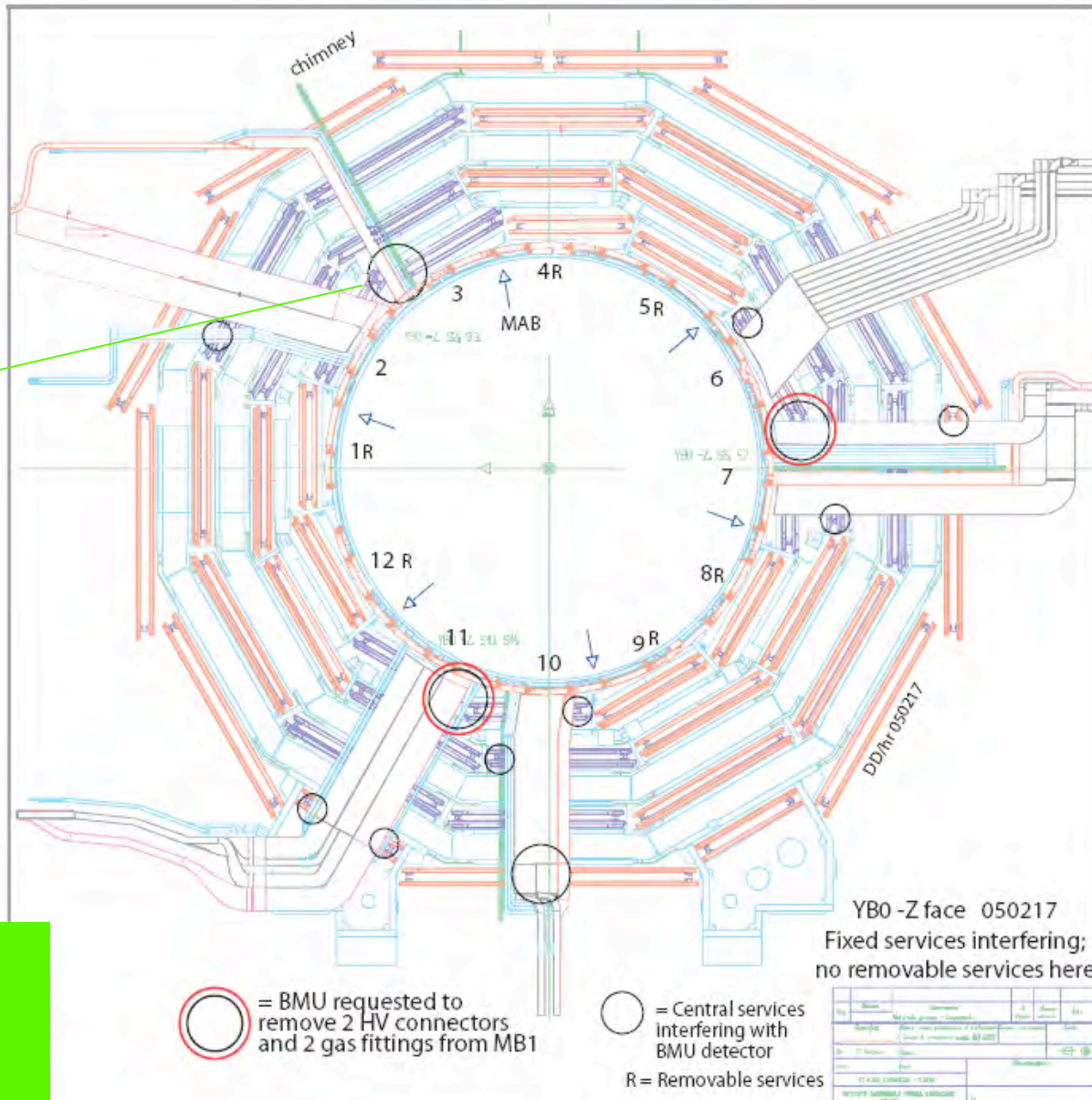
Drawings updated. Piping must be removed due to interference with Lowering Tool.



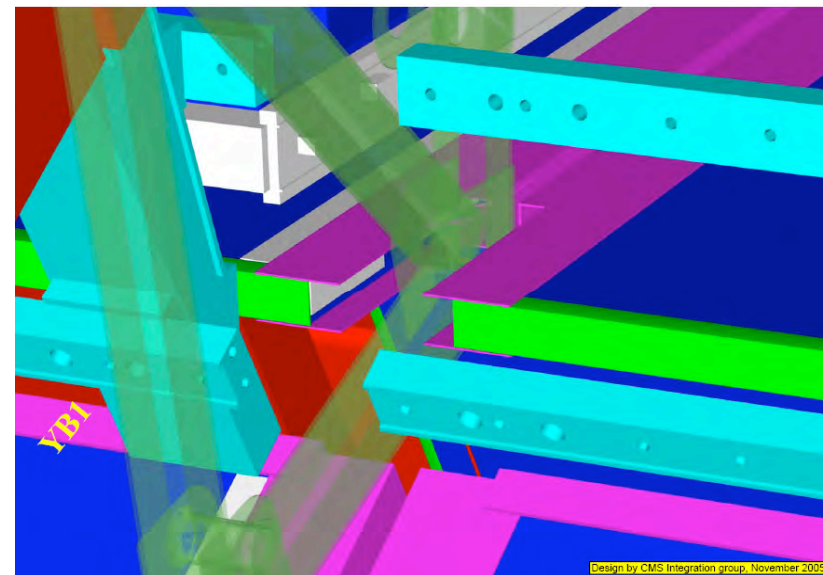
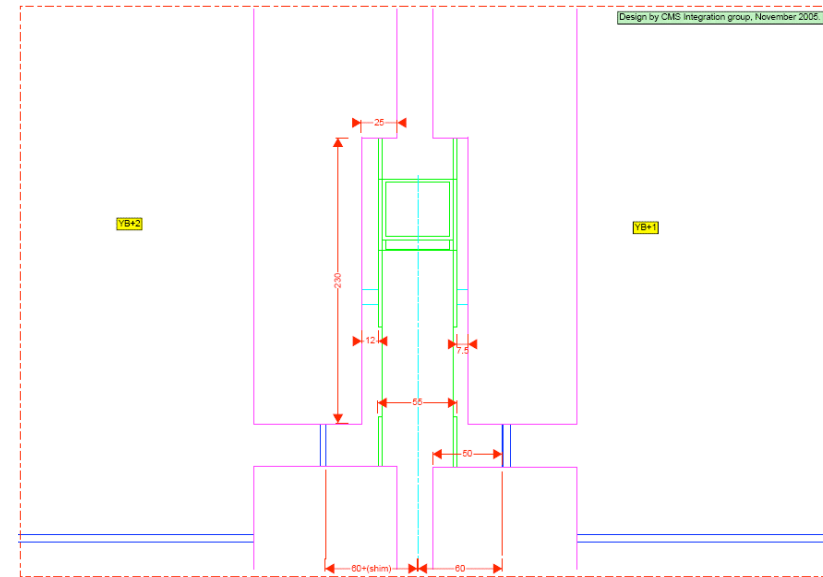
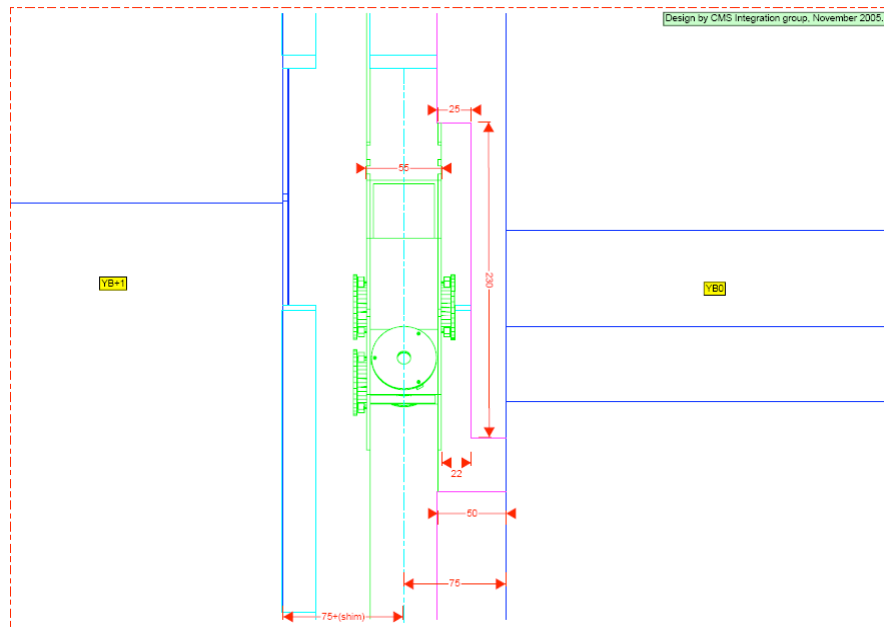


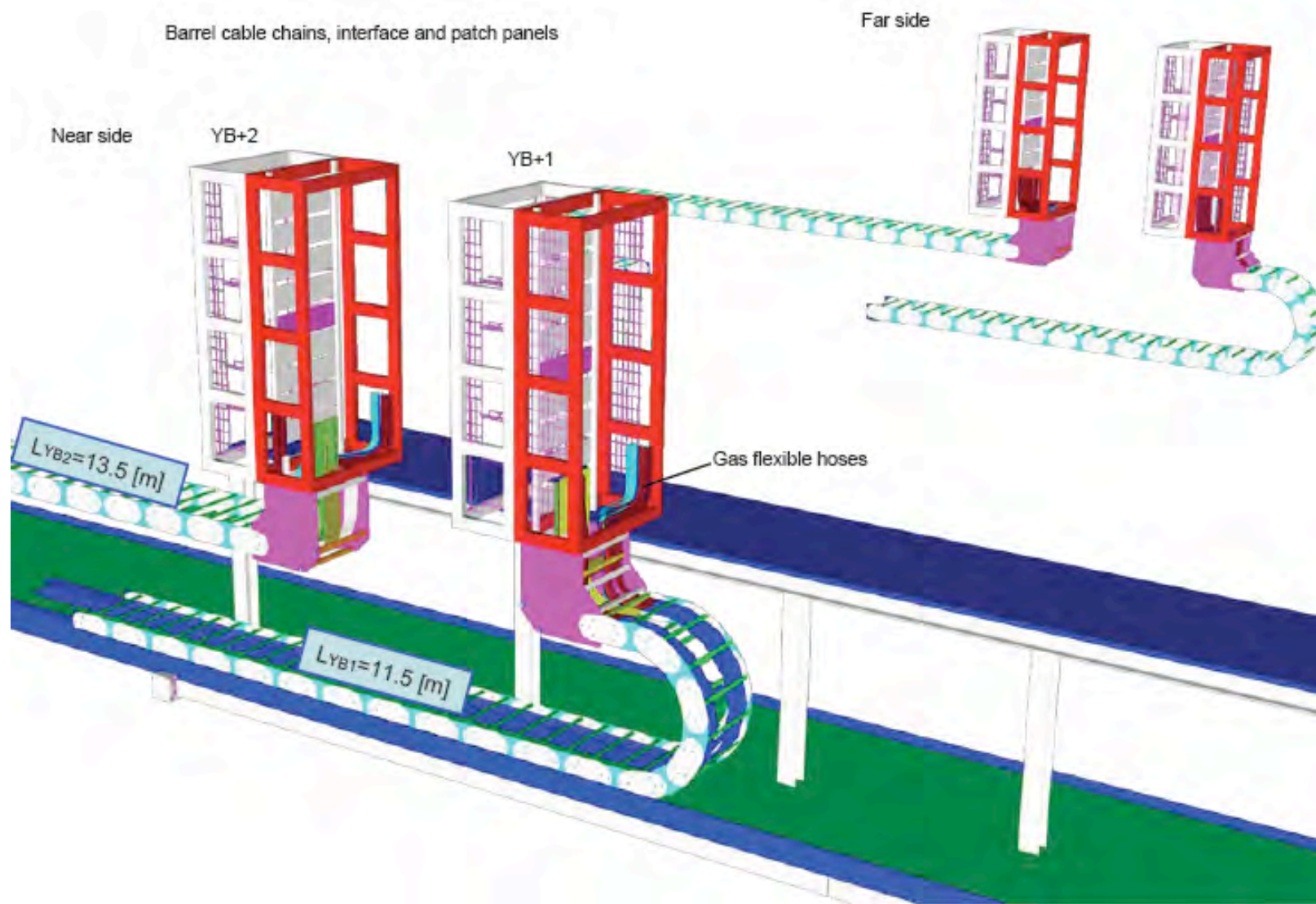
Interference DT HV Connectors with piping on Sec. 3.

Drawings updated. Modification foreseen before Magnet Test.

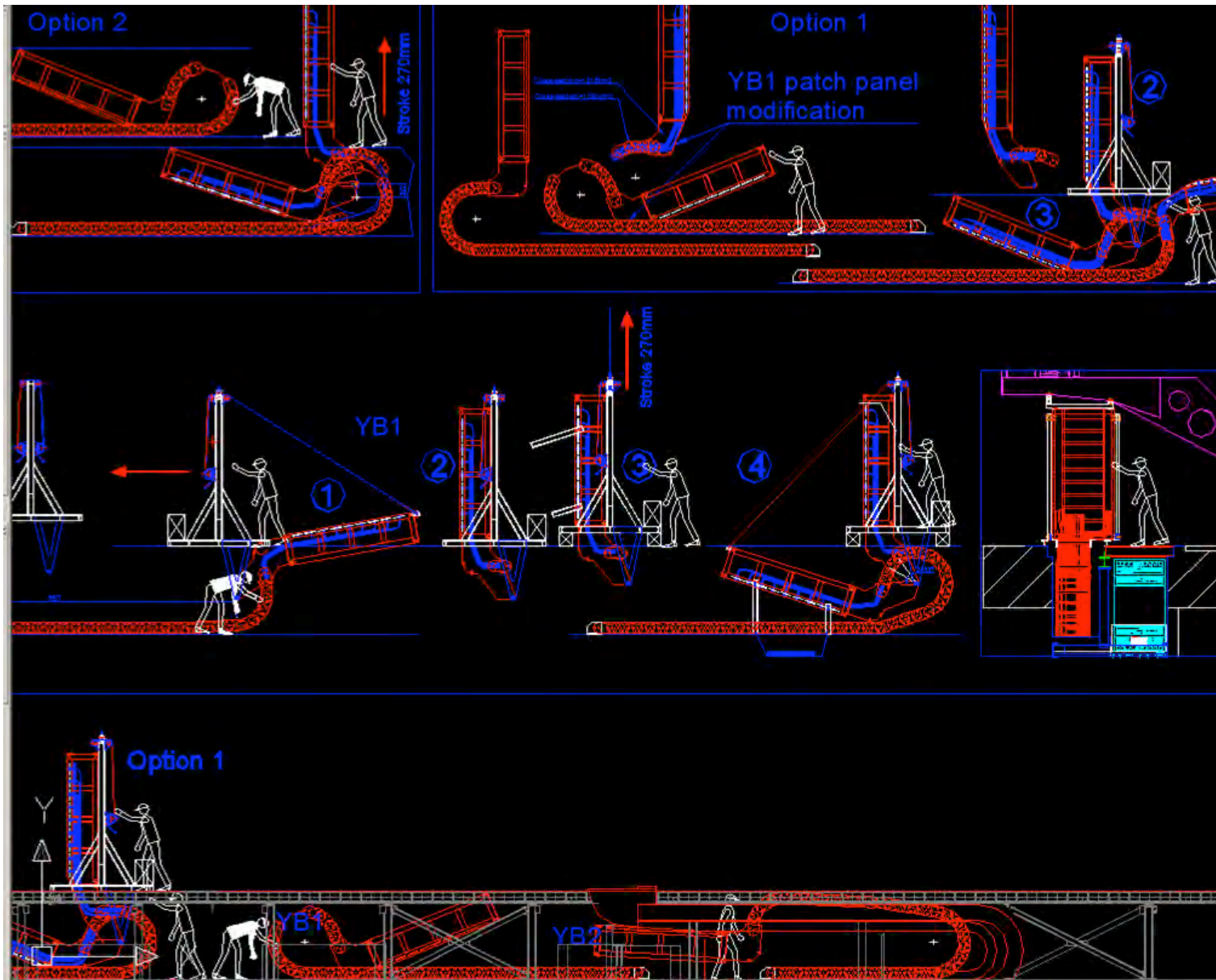


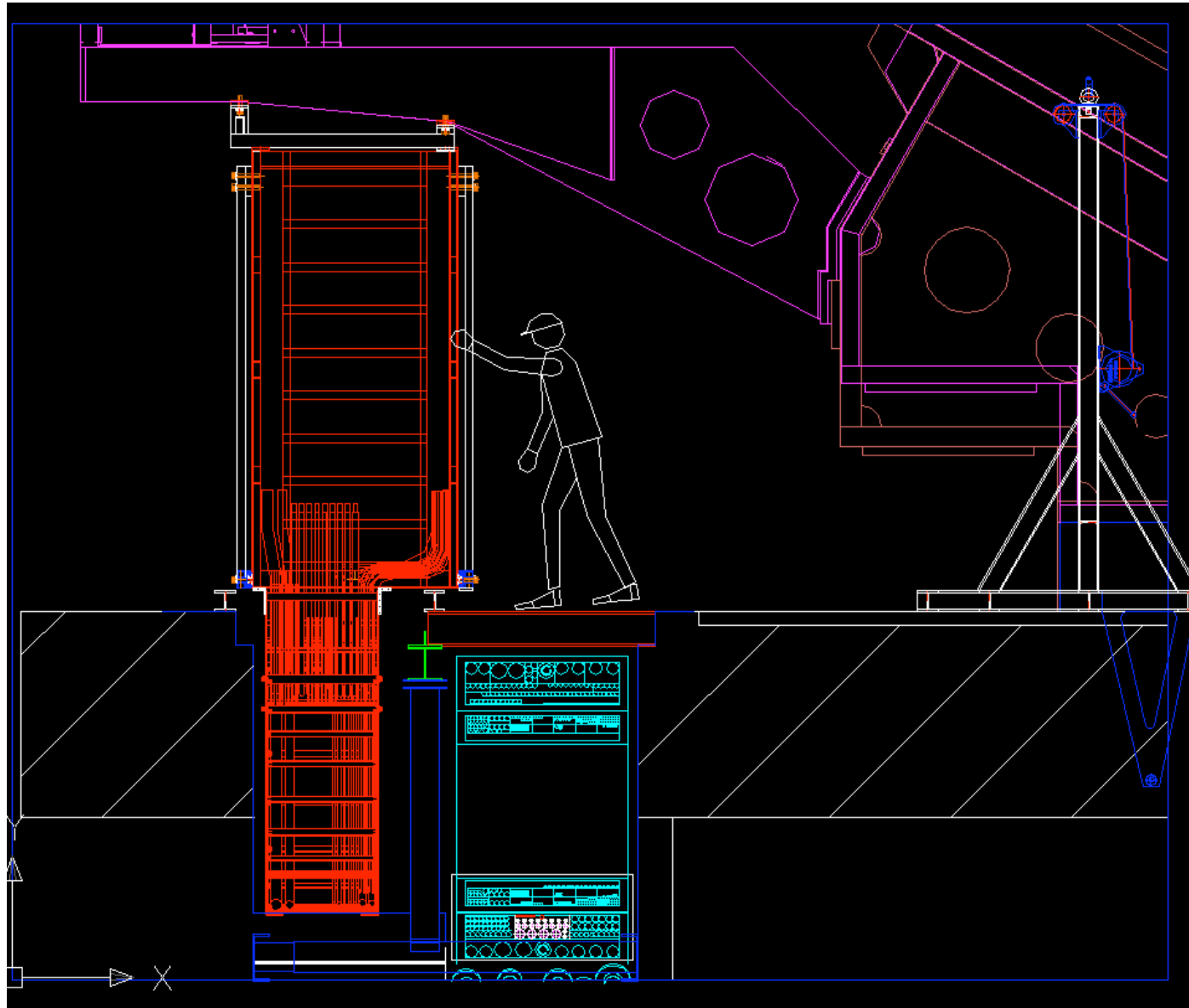
Interferences wrt HO cleared.
 Original MAB layout keep in position.
 HO service channel modified.

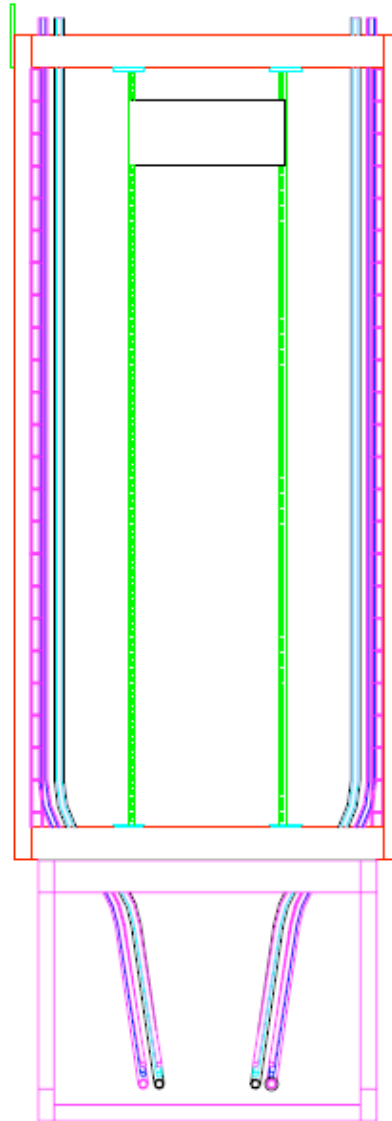
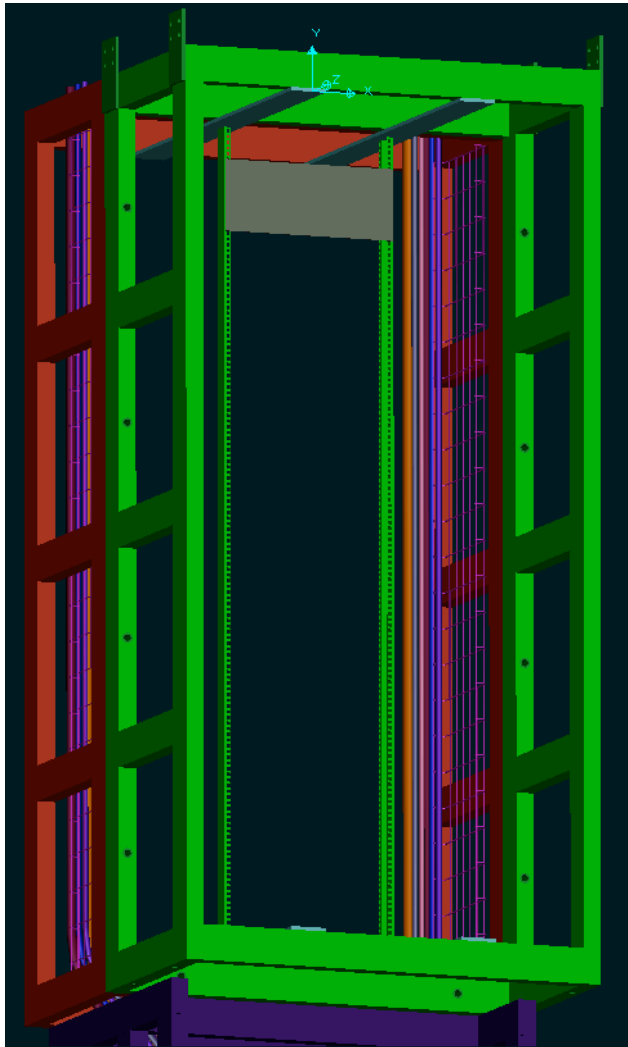




Design by CMS Integration group, August 2006.







NB cables aren't updated here Foot Patch Panel YB+2 - near side (x>0)

Patch Panel name	Type of cables	Height [mm]	width for connectors [mm]	From outside cable in	From outside cable in	To cabinet outside cable	To cabinet outside cable	Responsible person	Remarks	
Free to cross	HV, LV, sign, fiber	200	max							
RB fibres	800x1200mm depth	55	450	37	10	2	10	K. Doroba	Fibres come from next entry, same length	
HO	sign, fibres (BOX 7 depth)	200	450	25	13	36	13	P. DeBarbaro	CABLES & FIBRES: 200 cables into the PP and 24x100 OFB + 6x100 CA + 6x100 LA. The width over cabinet up to 100mm will be used for bending radius and extra length of 100 cables and 100mm MINIMUM OVERHEAD of these boxes!	
Align	LV, sign, fibres	50	450	9	6	9	6	E. C. Aiello		
RB LV	LV, sign	100	300	6	30	6	30	A. Ranieri D. Piccolo	Assuming 1x 40V service cable LV cable, 1x PE LV per side + 1x DC LV per cable per tower. The lower-dimensional wiring for the design.	
MB LV	LV, sign	100	300	2	40	2	40	C. Willmott M. Pegoraro	Assuming 1x 40V service cable LV cable + 1x LV per cable per tower. It's over-dimensional wiring for the design.	
MB HV system	LV, sign	200	450	7	22	7	22	E. Borzato L. Modenesse	Diameter of connectors about 55mm	
AC power in	220VAC, sign ?	100	300	4	21	4	21	S. Altintar	There are 10 LV cables per tower. The worst case is 8 ACDC + 4 HVV converters. Assuming 2 cables 2 poles AC 50Hz per LV rack	
Services	220VAC, sign	200	450	22	73	22	73	A. Gadioli / ESS	4 cables rack x 5 cables tower 20 cables, TOTAL = 75 and REQUIRED: min. is 100/700 ASSIGNED: 200 x 450 to be agreed!	
RB, HV	HV	300	450	80	36	6	66	A. Ranieri D. Piccolo	A slot 300mm high was requested but 200mm should be sufficient to satisfy the worst case. To be verified and agreed with STC group.	
pipes	-	150	max					D. Dattola		
Tot.				2100	[mm]	183	256	104	276	

- NOTE FOR THE USER:
- * RED numbers are very guessed because I'm waiting specification from responsible person
 - * BLUE numbers are still under discussion
 - * It's responsibility of each User to cross-check this proposal.
 - * Compacting the width of your patch panels will permit a better storing of extra lengths of your cables !
 - * The position of the User's Patch Panels inside the structure could change, whether needed or requested!
 - * Some Patch Panels will share the space for extra-lengths storage (see PP grouped by the the bracket { })

NB cables aren't updated here

