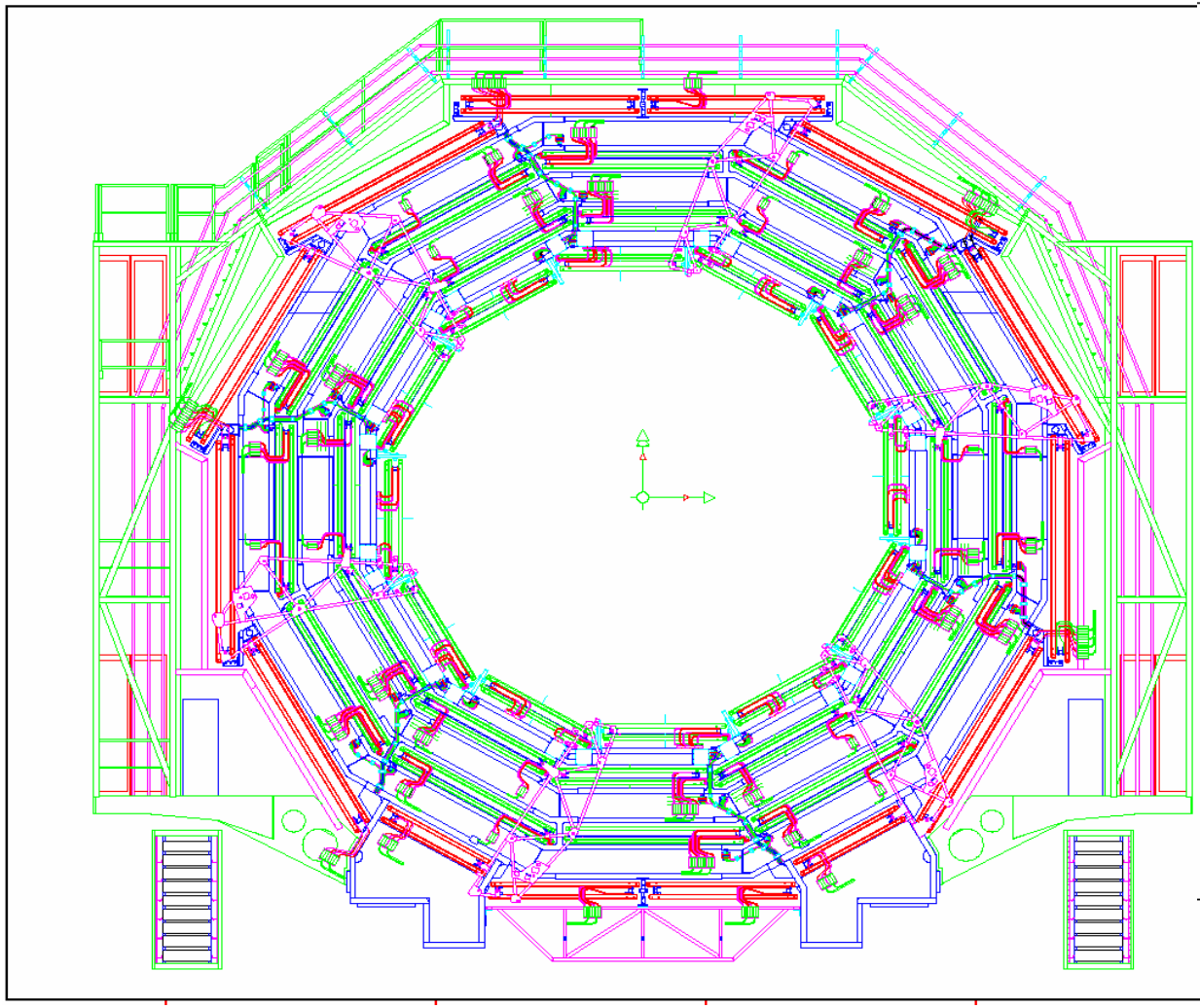
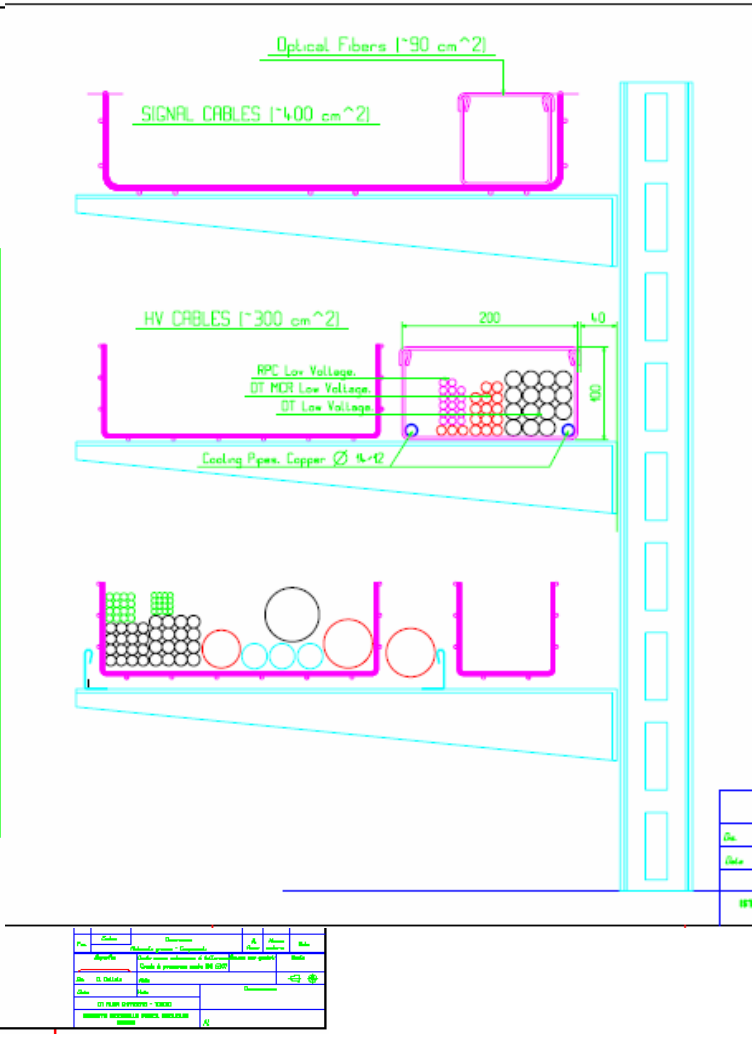
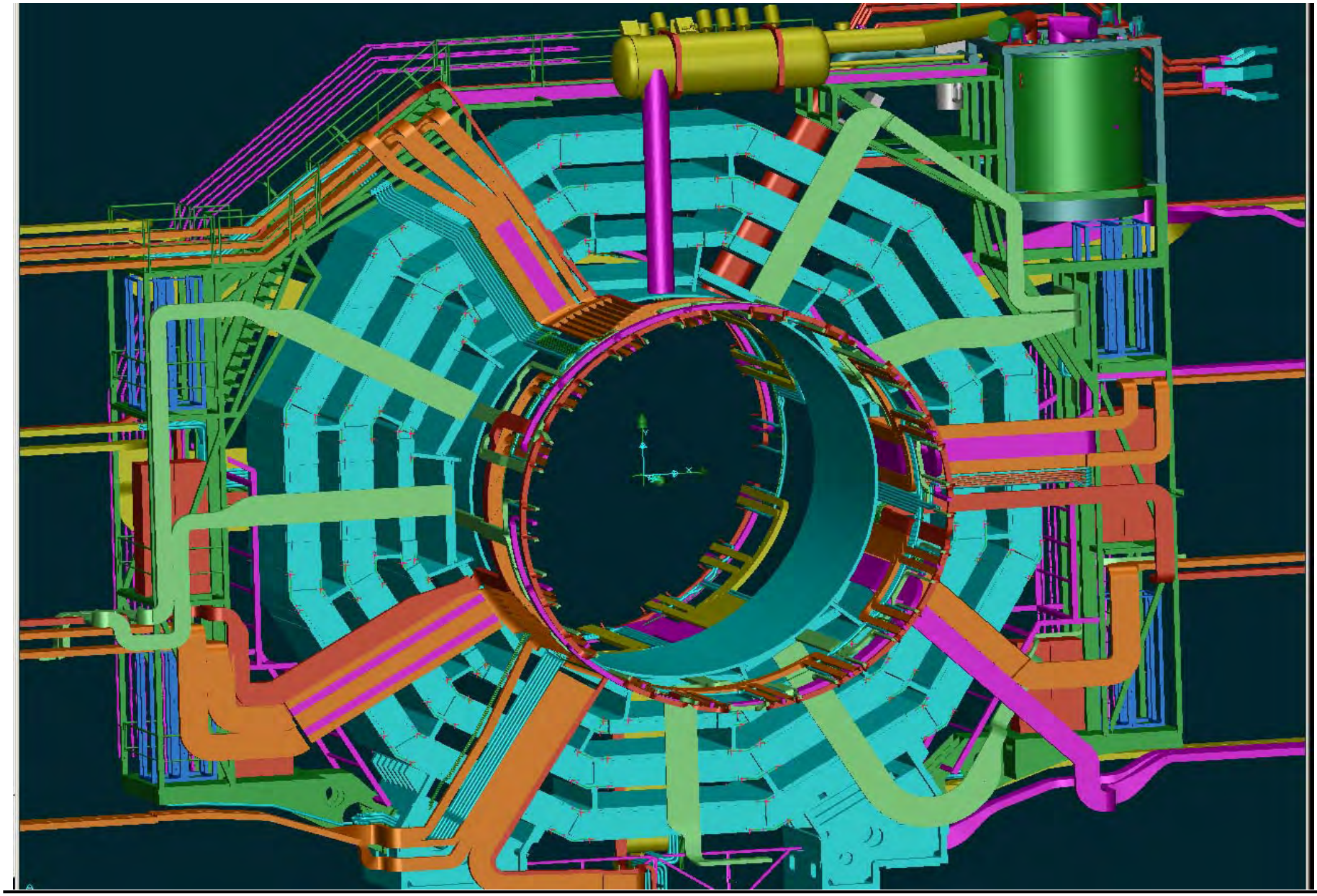
Periphery Services. Cable tray on mobile wheels





Installed on all the mobile wheels.

YB 0 periphery cable trays and racks accessibility.

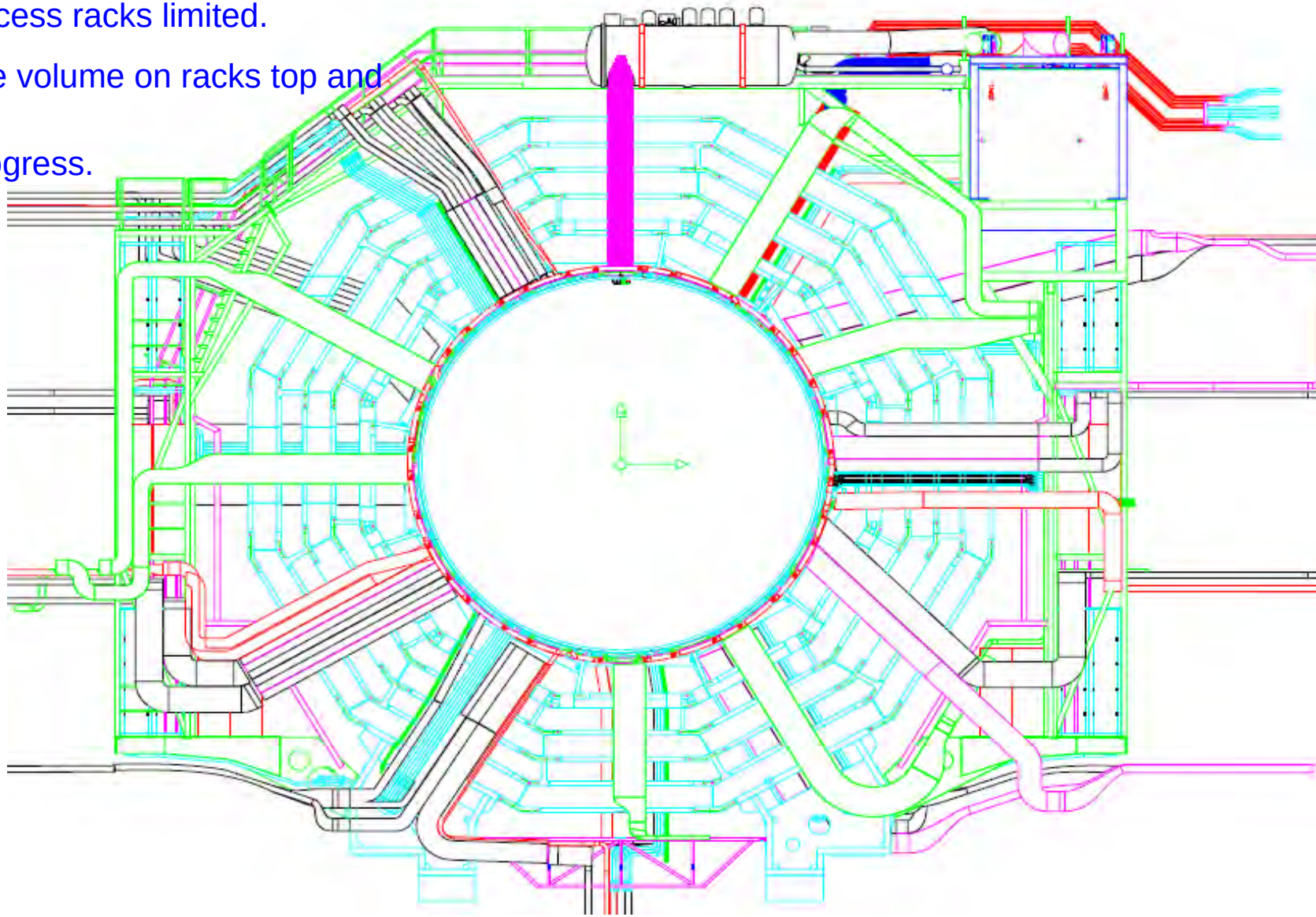


YB 0 periphery cable trays and racks II

Cables routing to access racks limited.

No extralenght store volume on racks top and bottom .

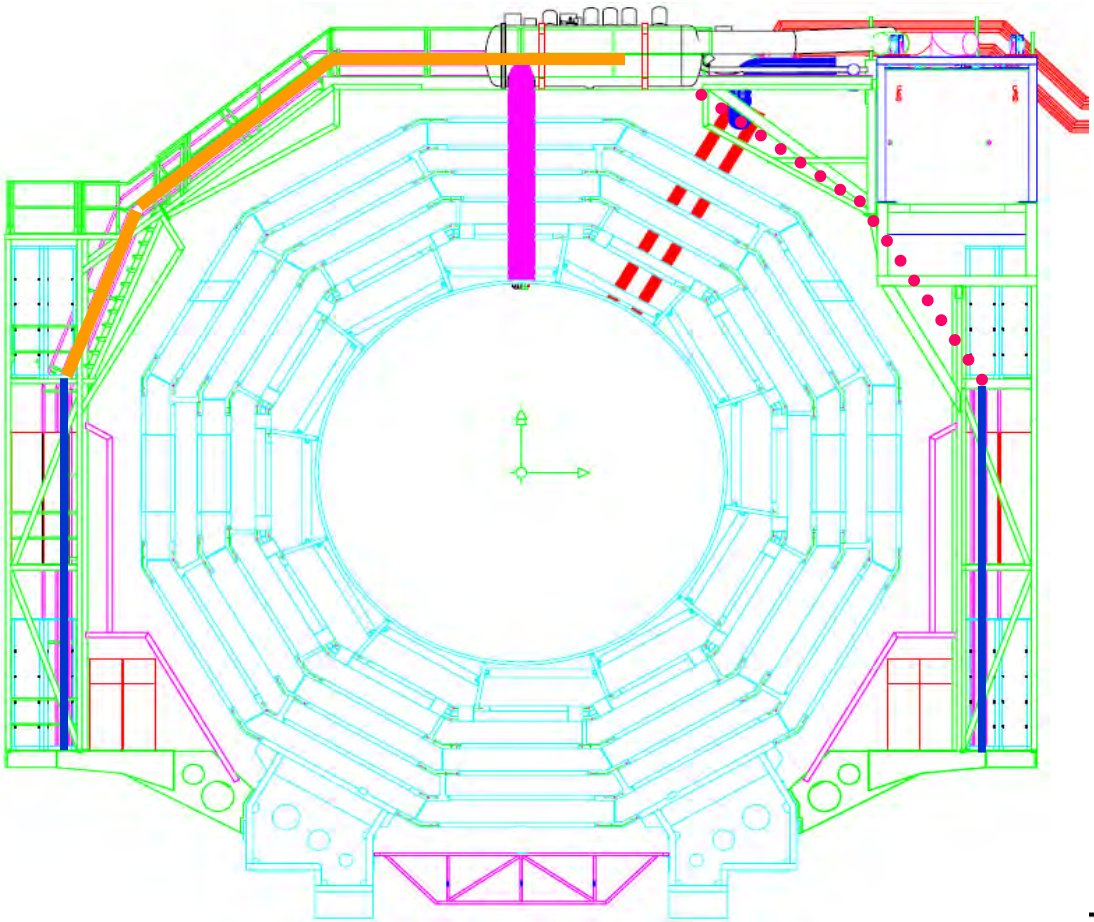
Cable length in progress.

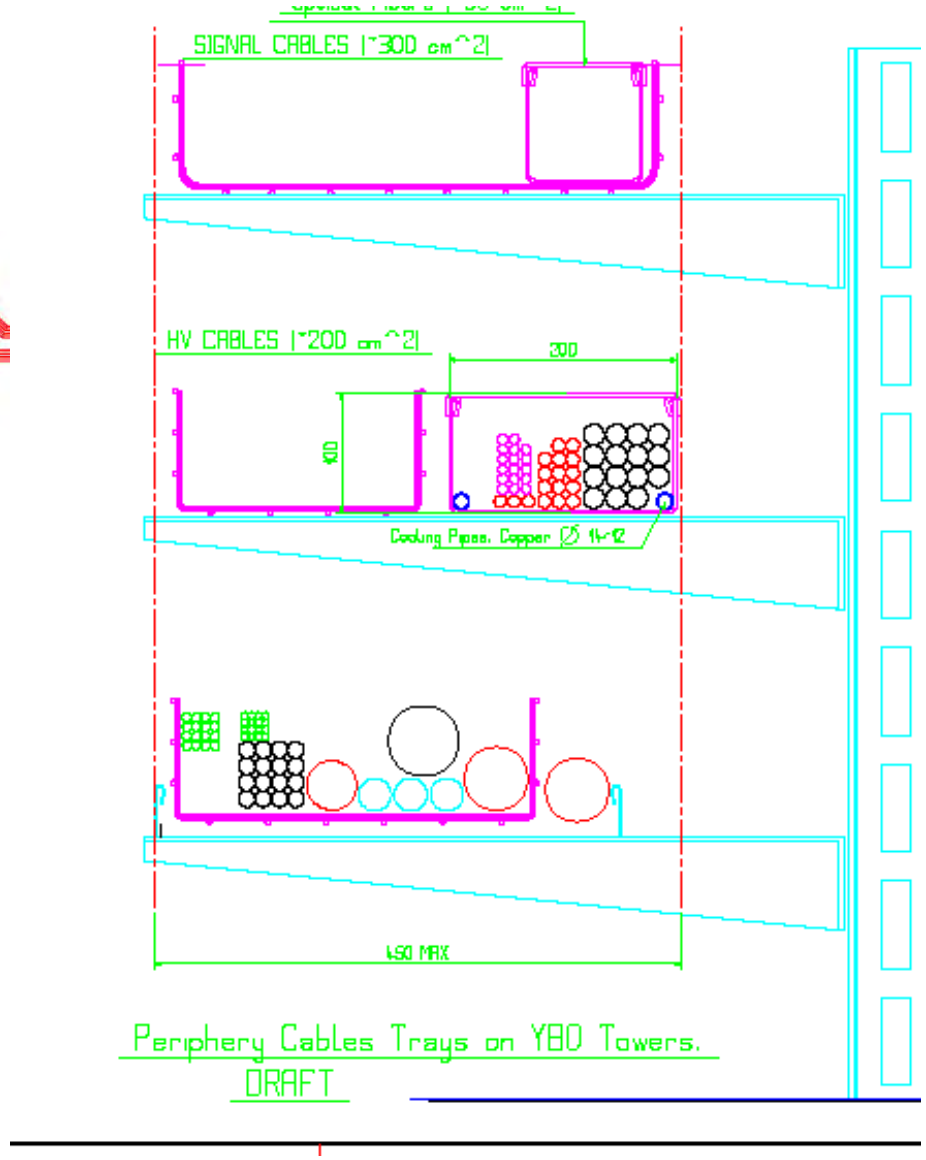


YB 0 periphery cable trays

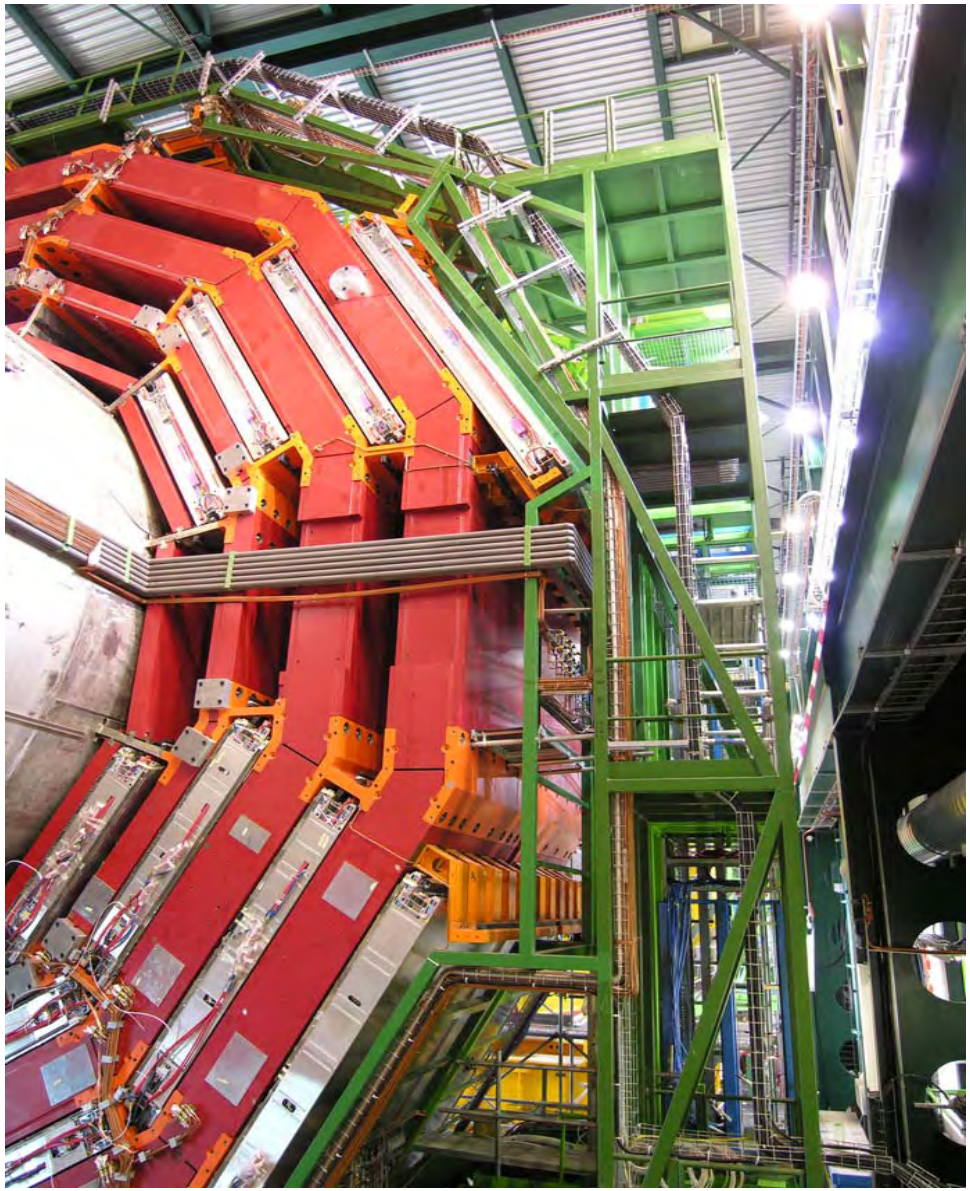
DT RPC Services on YB 0 on both side. Cable tray only on neg side. Dimension on the towers straight section to be reduced, from 520 to 400-420. Region around Cryo need further studies.

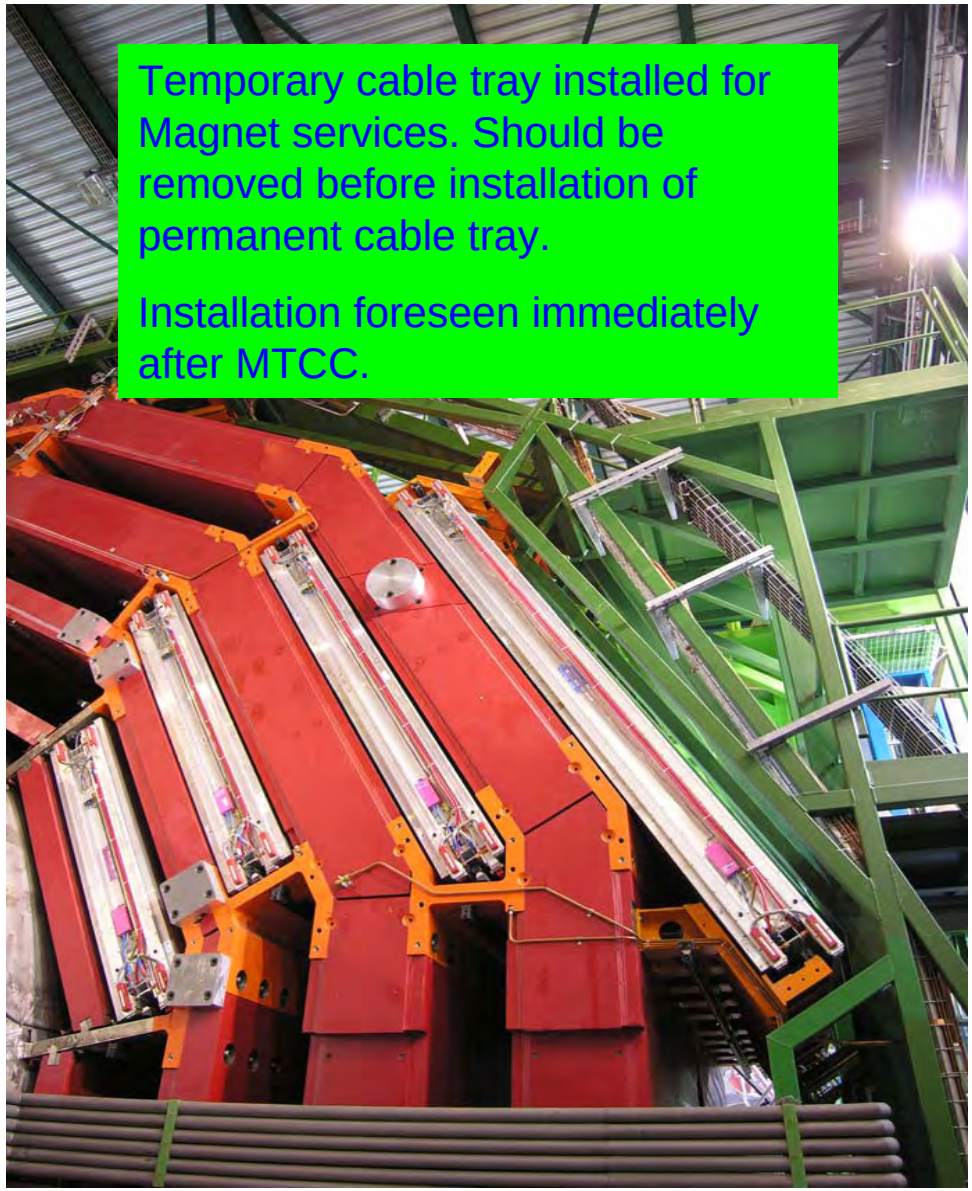
Basic material list must be ready by end June.





YB 0 periphery cable trays -



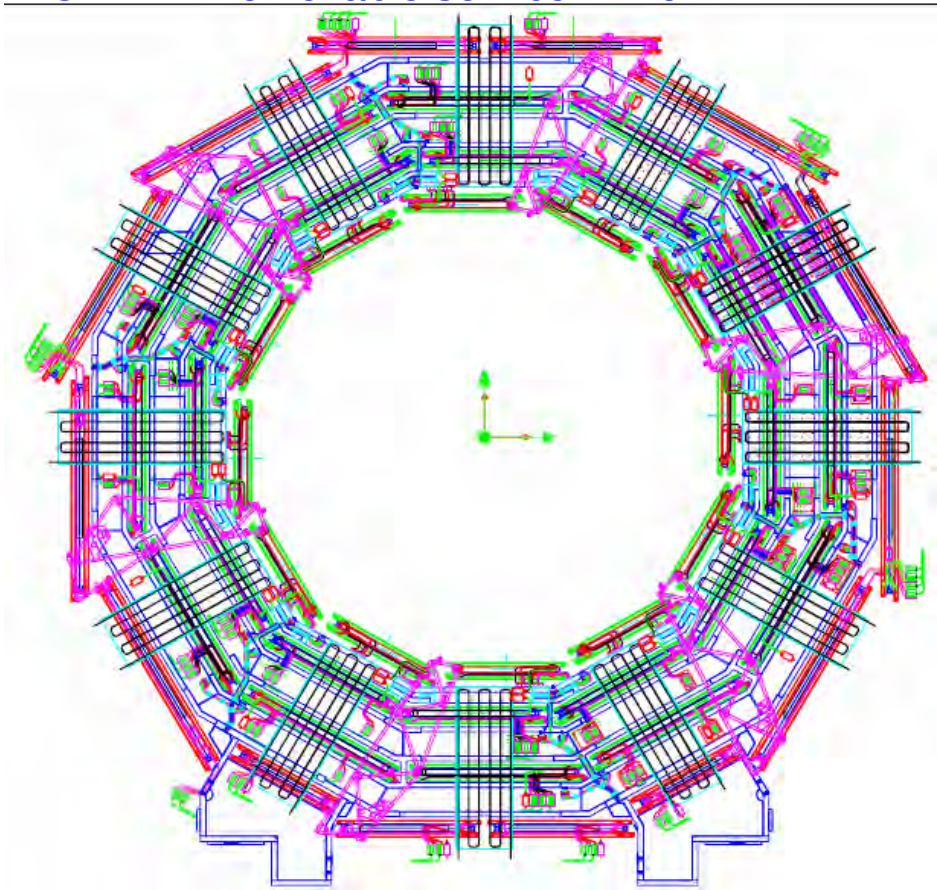


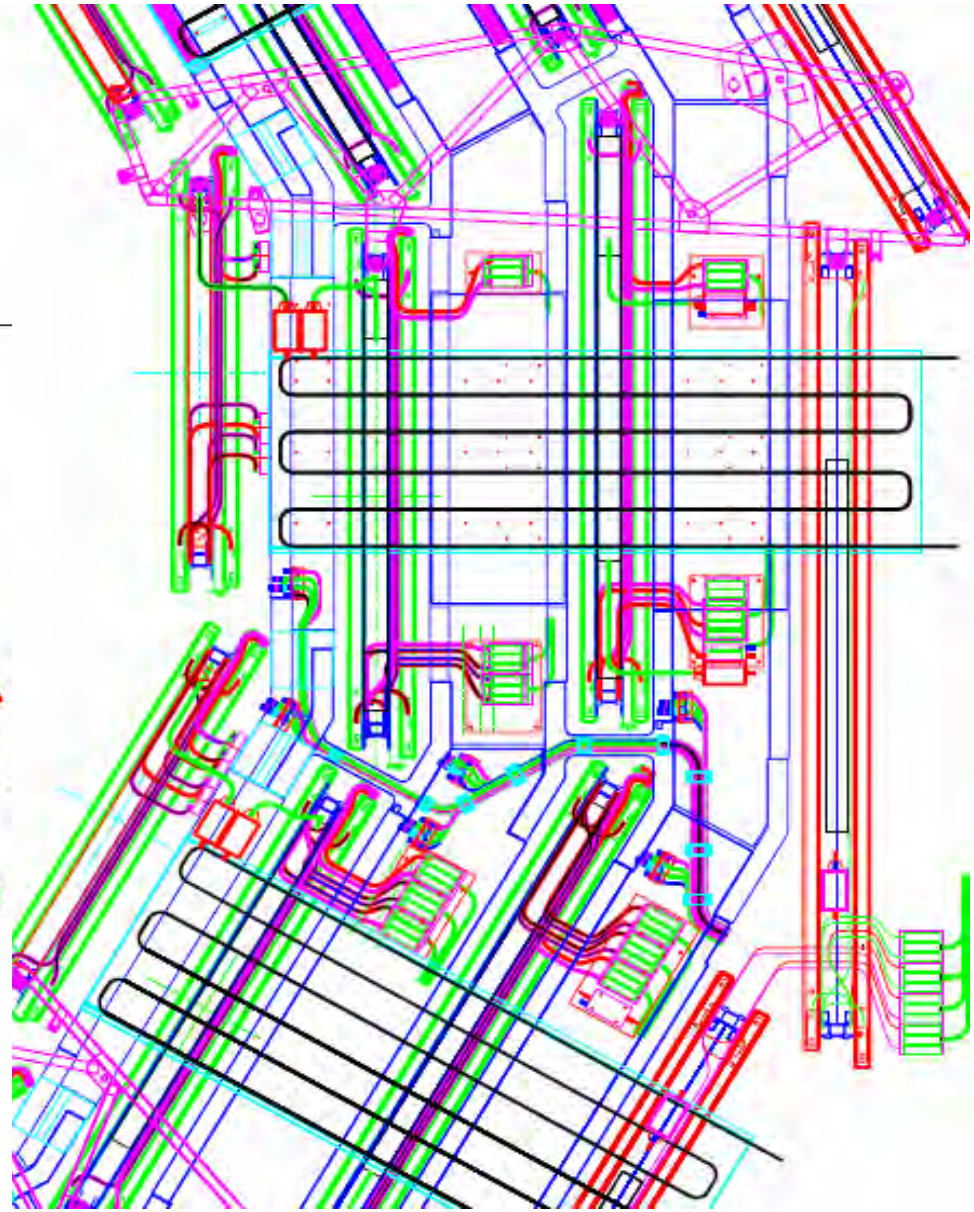
Temporary cable tray installed for Magnet services. Should be removed before installation of permanent cable tray.

Installation foreseen immediately after MTCC.

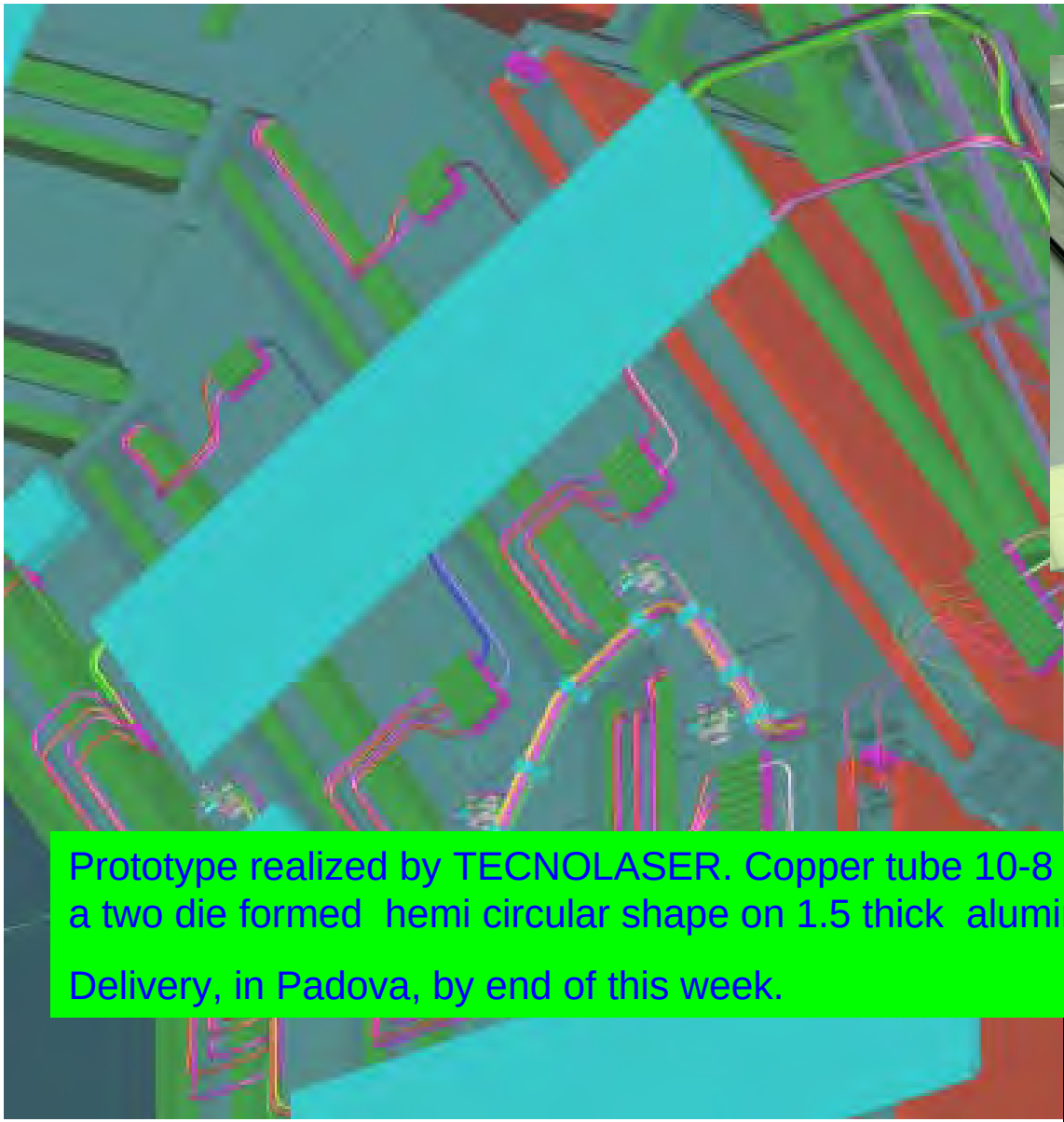
Radial Services and cable tray. 3) Thermal screen I

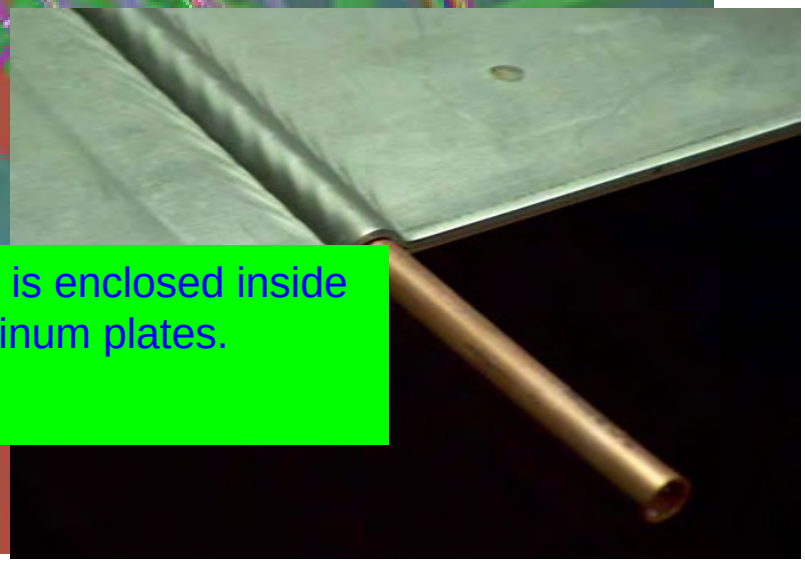
- Interface Panels installed on all the wheels.
- Thermal screen for mobile wheels in production.
- Thermal screen on YB 0 Integration with ECAL LV Removable service in work.





Radial Services and cable tray. 3) Thermal screen III

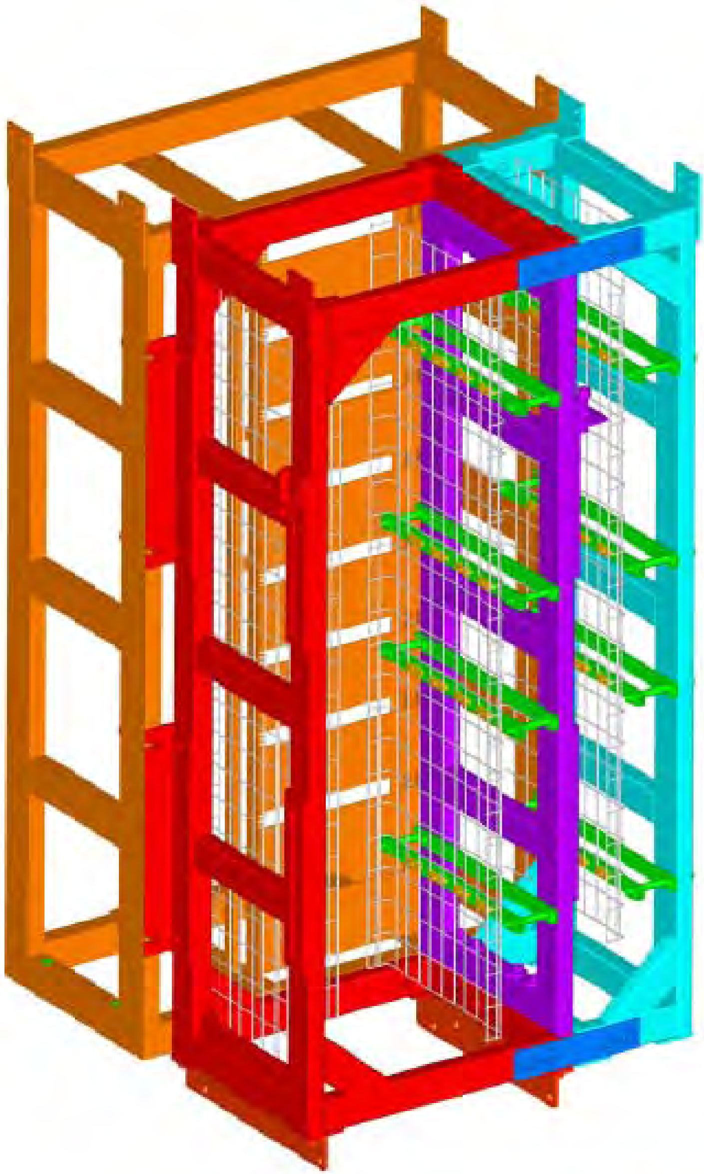




Prototype realized by TECNOLASER. Copper tube 10-8 is enclosed inside a two die formed hemi circular shape on 1.5 thick aluminum plates.

Delivery, in Padova, by end of this week.

YB Feet Patch Panels. Internal Layout



NB cables aren't updated here

Foot Patch Panel YB+2 - near side (x>0)

max 700 mm

Patch Panel name	Type of cables	Hight [mm]	width for connectors [mm]	From wheels: cables	From wheels: cm² only cables	To cable-chain: cables	To cable-chain: cm² only cables		Resonsible person	Remarks
Free to cross	HV,LV,sgn,fiber	200	max							min high 150
		45	max							
RB fibres	(BOX 25/25cm depth)	55	450	37	10	2	10	Boxes area & Fibres	K. Doroba	Fibres come from vert. c-tray, same length!
		50	max							
HO	sgn, fibres (BOX ? depth)	200	450 to be reduced	36	13	36	13		P. DeBarbaro	CABLES & FIBRES (HV cables only in the FAR PP - x<0) 24x HO.OF# + 6x HO.CA + 6x HO.LA The width over 450mm up to 700mm will be used for bending radius and extra lengths of HO cables and fibres. I NEED DRAWINGS of these boxes!
		50	max							
Align	LV, sgn, fibres	50	450	9	6	9	6		E. C. Alamillo	
		50	max							
RB LV	LV, sgn	100	300	6	30	6	30	LOW Voltages & stiff cables	A. Ranieri D. Piccolo	Assuming 1x 48V service cabl/LV crate, 1x FE LV ctrl cabl + 1x LBC LV ctrl cabl per tower. It's over-dimensionated waiting for the design.
		50	max							
MB LV	LV, sgn	100	300	7	40	7	40		C. Willmott M. Pegoraro	Assuming 1x 48V service cabl/LV crate + 1x LV ctrl cabl per tower. It's over-dimensionated waiting for the design.
		50	max							
MB HV system	LV, sgn	200	450	7 7	22 7	7 7	22 7		E. Borsato L. Modenese	Diameter of connettors about 50mm
AC power in	220AC, sgn ?	100	300	4	21	4	21	High Voltages & stiff big cables	S. Akhtar	There are 10 LV crates per tower, the worst case is 8 AC/DC x 4[KW] converters. Assuming 2x cables 3-phase AC 50Hz per LV rack
		50	max							
Services	220AC, sgn	200	450	20	73	20	73		A. Gaddi / ESS	4 cables/rack x 5 racks/tower 20 cables, TOTAL ~ 75 cm2 REQUESTED: min. is 120*700 ASSIGNED: 200 x 450 (to be agreed)
		50	max							
RB.HV	HV	300	450	50	35	6	55		A. Ranieri D. Piccolo	A slice 300mm high was requested but 200 mm should be sufficient to satisfy the worst case. To be verified and agreed with RPC group.
		50	max							
pipes	-	150	max						D. Daffola	
Tot.		2100	[mm]	183 cable	256 cm2	104 cable	276 cm2			

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

Fabio MONTECASSIANO INFN PD @ PH/CMM 25.04.2005

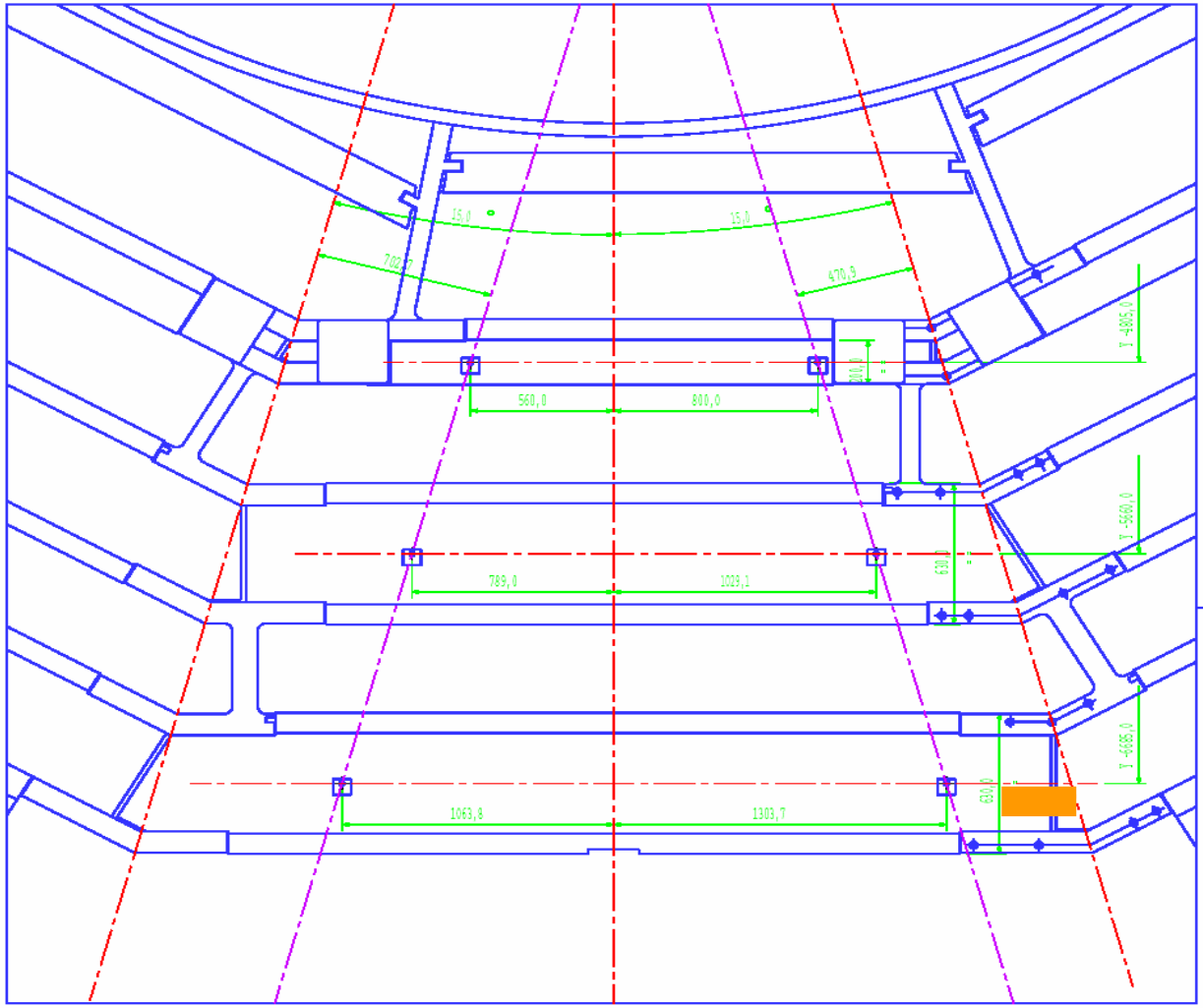
- Muon barrel DT/RPC and services integration
  - Design services fixation in the removable sectors
  - Design combined cooling panels for MB and removable services
  - Clear interferences between permanent installed services and the as build DTs
  - Sharing of services cable trays on the periphery of 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

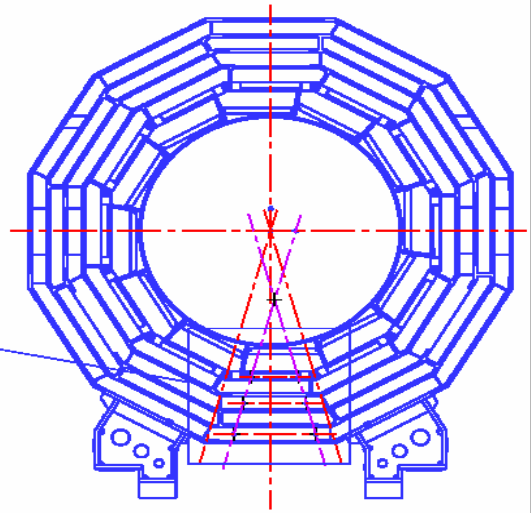
Summary

- Mobile wheels
  - Radial cable trays and ancillaries: defined for all the wheels
  - Thermal screen: Prototype in manufacturing.
  - Periphery cable trays: completed.
  - Cut out on towers: Completed on all the wheels
  - Racks Installation: completed on all the wheels.
  - Feet Patch Panels: Fixed Frames installed on YB +2.
- YB 0
  - Radial cable trays and ancillaries (tapered holes, HV-LV panels, flexrails): Done.
  - Thermal screen: Integration with removable services in work
  - Periphery cable trays: Integration in work
  - Cut out on towers and racks position and cooling: Done. Racks installed.

B sensor – Can Nodes

Layout on YB 0 +/-; YB -1 –side; YB-2 –side.





Yoke Barrel #0. Left side view.

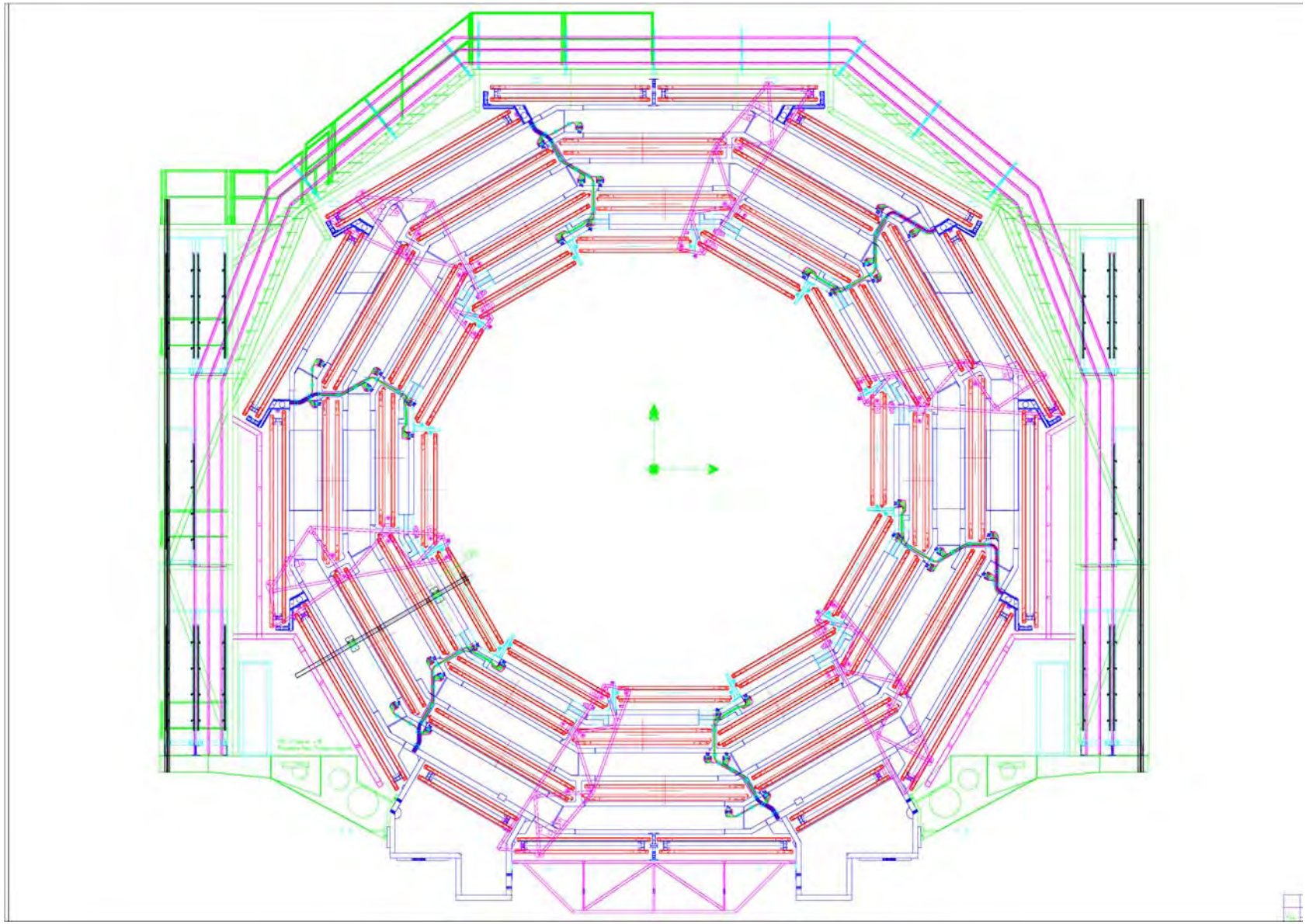
Hall Probes postion on sector # 10.

Vyacheslav KLYUKHIN, Domenico DATTOLA.

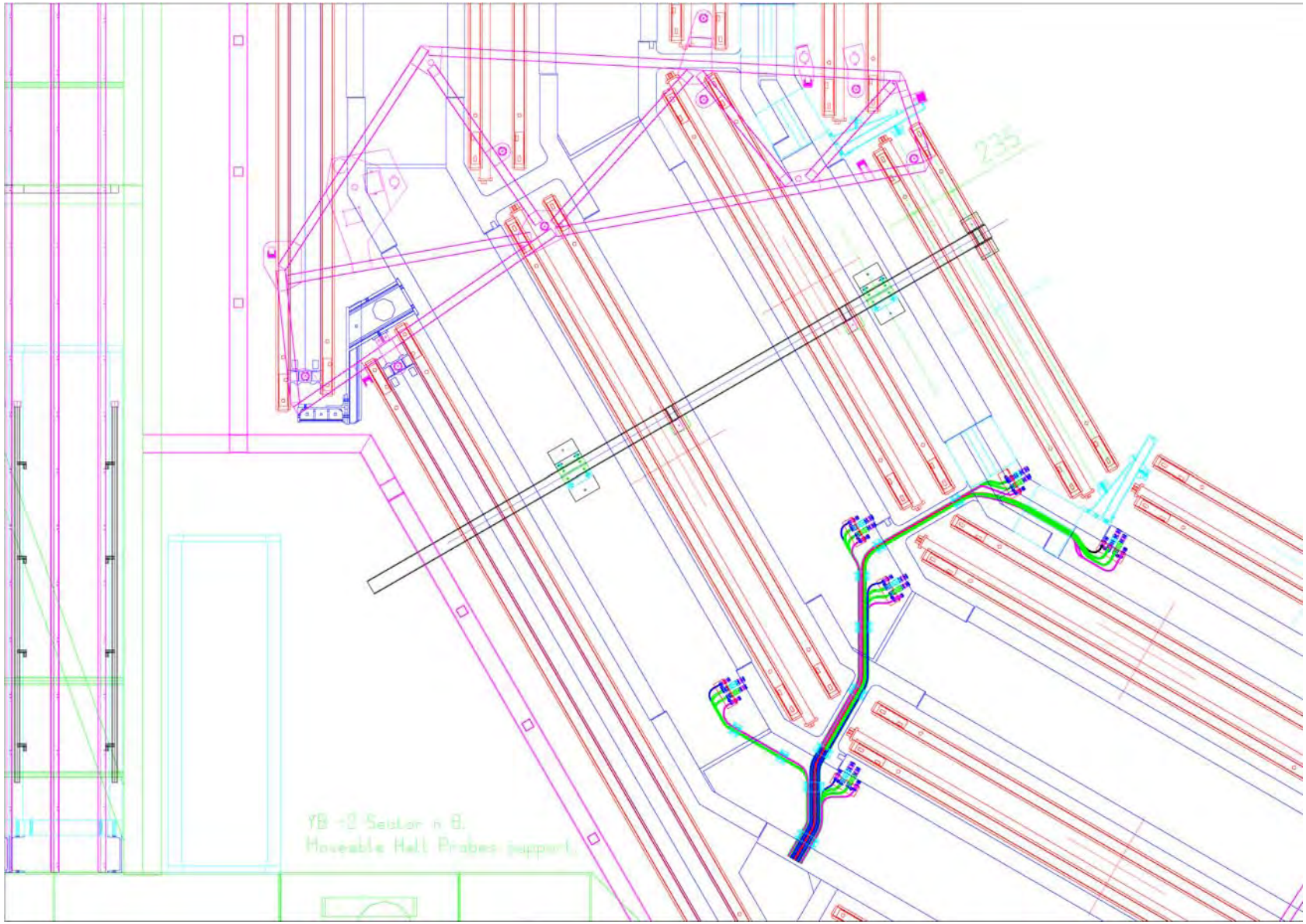
PROPOSAL.

04 April 2003.

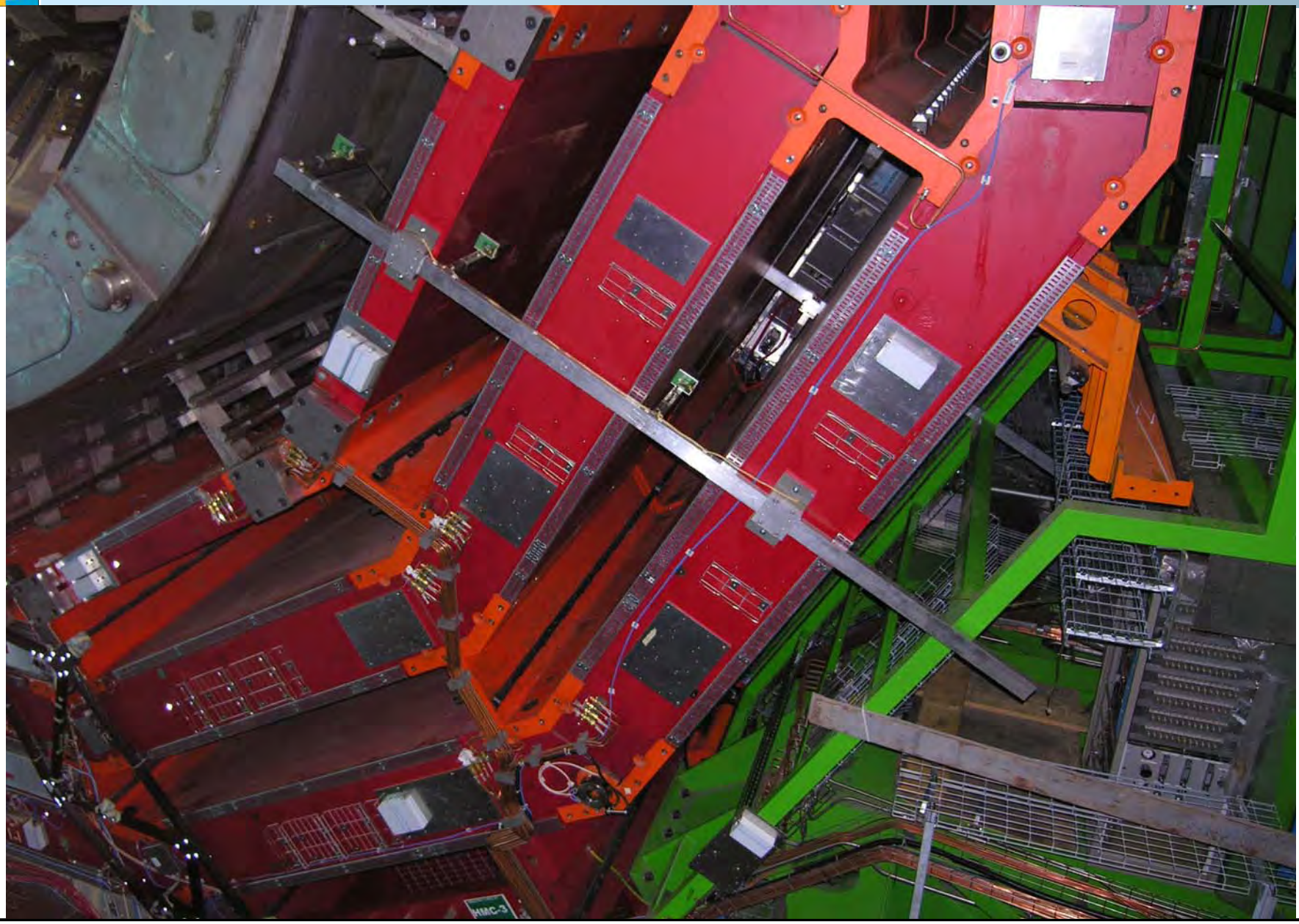
B Field Sensor. Moveable Support on YB -2



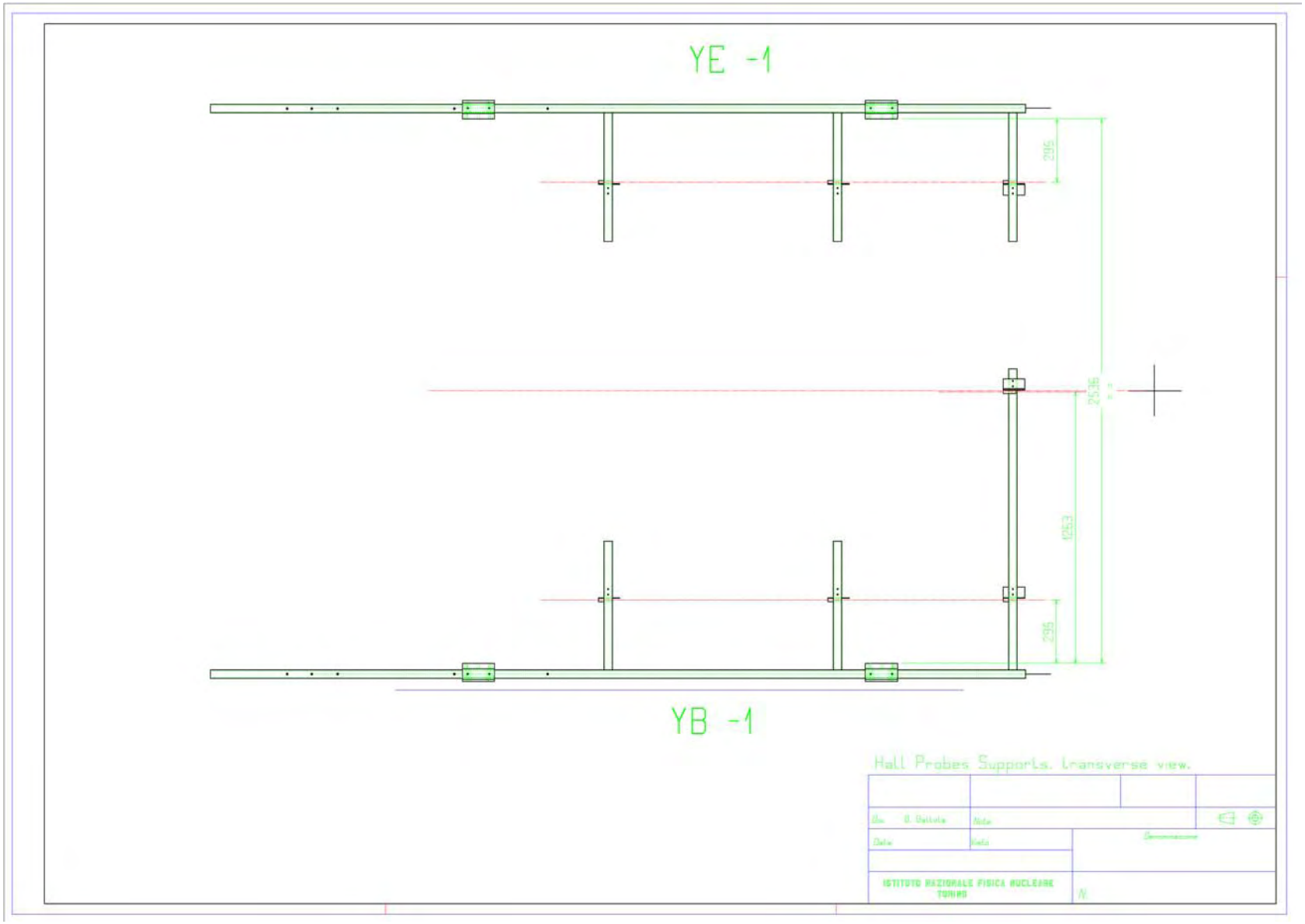
B Field Sensor. Moveable Support on YB -2 (III)



B Field Sensor. Moveable Support on YB -2 (II)



B Field Sensor. Moveable Support on YB -2 (IV)



B Field Sensor on DT pressure transducers –S 10 YB +2 (to be done)