

ProtoDUNE-VD PDS installation schedule

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Version 8

News since last meeting l

- Cathode resistive meshes at CERN on January 13th, Friday (Philippe)
 - We have time until that date for installation in cathode. Could probably request few more days the week after
- Frame: preliminary schedule (Vishnu) for 100x200 and 150x150 filters
- Electronics: preliminary schedule (Ryan & Sabrina's talks)
- Fibers: revised routing and schedule (talks by Zelimir/Clara & Ryan)
- Flange: new design by Man Hong (Ryan's talk)
- Dichroics: converged on sizes and production (Carla's talk)
- Flange population: BDE (Bottom Drift Electronics) will only populate the penetration in January (Ryan's talk)





News since last meeting II

- SiPMs: We will have sufficient SiPMs for 16 modules
 - 500 HPK SiPMs (MiB) ordered by Francesco
 - 700 HPK SiPMs (Fermilab via CERN) order by Ryan is being processed
- Still on critical path:
 - Few items identified (Ryan's talk)



Cathode availability for PDS

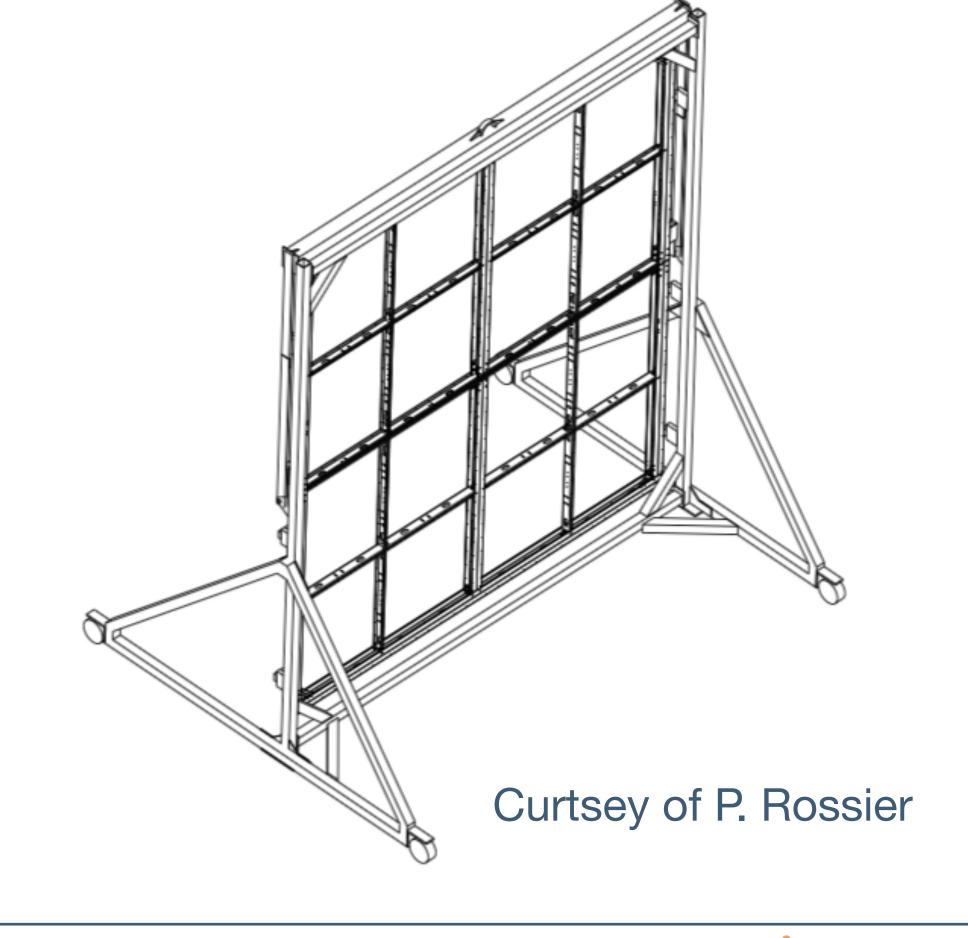
HV prefers cathode assembly in cartwall

• If accepted, cathode available on cartwall for PDS installation from Dec 14th

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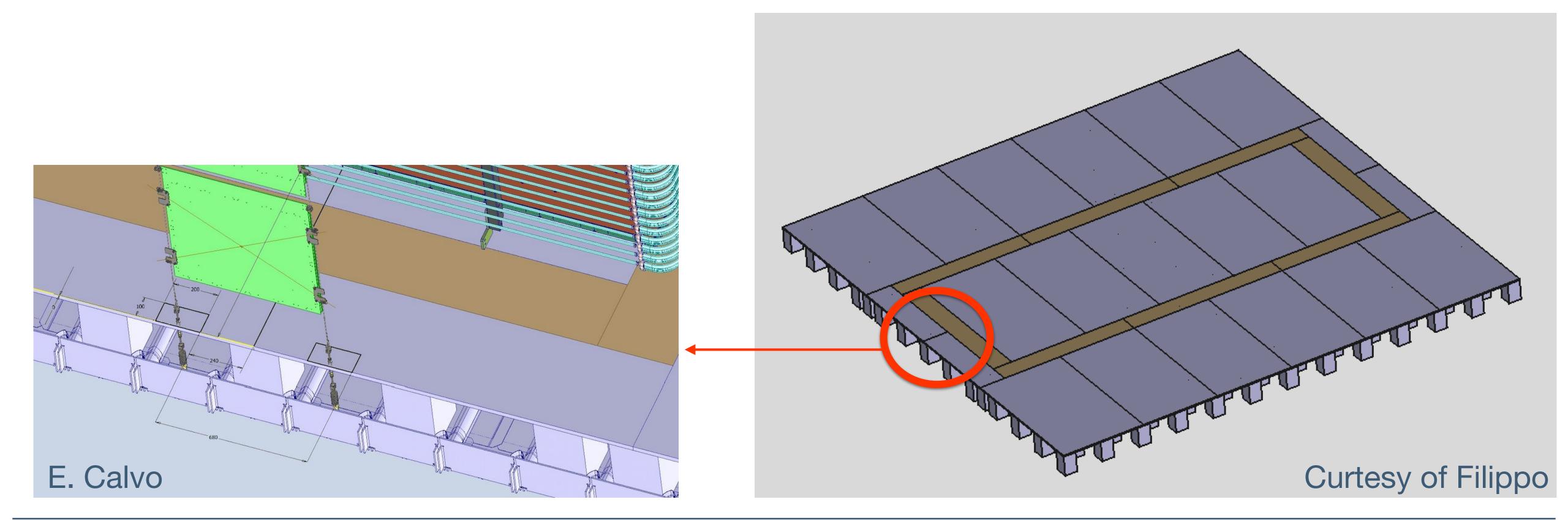
to January 16th

• If not, cathode would be resting on false floor inside the cryostat until mesh installed on January 16th



Deployment of membrane mounting system

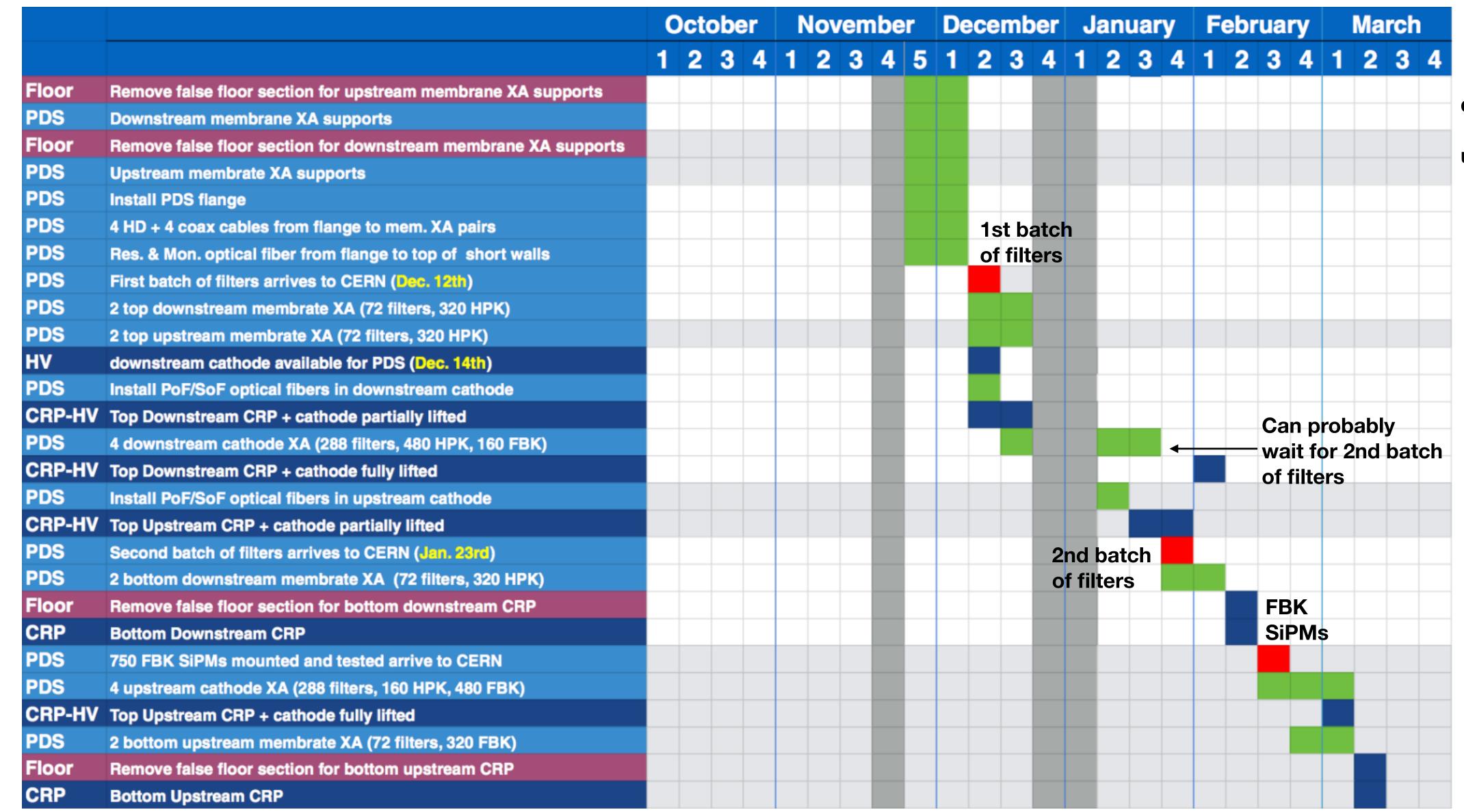
- Preliminary false floor
- Small sections can be cut to allow for installation with them in place
- Enrique finalizing design for 8 modules. Production in November







Previous version of schedule



downstream section upstream section

downstream section

In new version

- 4 cathode-XA assembly moved to Jan. 9th because unavailability of XA components
 - Installation in Cathode by Jan 16th
- Unrealistic second cathode lifting the first week of March
 - Moved to second week of February
 - New baseline is FBK goes to bottom membrane modules
- Aim for state of the art modules (bottom membrane) later in 2023



			October			November				December			January			February				March		
	Subsystem		1 2	2 3	4 1	1 :	2 3	4	5	1	2 (3 4	1 :	2 3	4	1	2	3 4	1	2 3	4	
PDS	Frame	2 cathode-XA prototype frames for coldbox at CERN (Nov. 18th)																				
Floor		Remove/cut false floor section for downstream membrane XA supports																				
PDS	Mec	Downstream membrane XA supports																				
Floor		Remove/cut false floor section for upstream membrane XA supports																				
PDS	Mec	Upstream membrate XA supports									mer	mbra	ne									
PDS	Cables	4 HD + 4 coax cables from flange to mem. XA pairs (??)									ı											
PDS	Fibers	Res. & Mon. optical fiber from flange to top of short walls (??)									+											
PDS	Dicrhoic	First batch of filters arrives to CERN: 97.5x202 (Dec. 12th)						1et	bat	ch												
PDS	Frame	4 membrane-XA frames at CERN (for 97.5 X 202 filters) (Dec. 12th)																				
PDS	XA	assembly of 4 membrane XA (97.5 x 202 filters, 640 HPK)						OT T	ilter	S												
PDS	XA	install 2 top downstream membrate XA																				
PDS	XA	install top upstream membrate XA																				
HV		two cathodes arrive to CERN (Dec. 10-12th)																				
HV		downstream cathode available for PDS (Dec. 14th)																				
PDS	Fibers	Install PoF/SoF optical fibers in downstream cathode																				
PDS	Flange	Install PDS flange												1	st							
PDS	Elec	flex to motherboard cables delivered to Fermilab (Jan. 5th)												C	ath	ode						
PDS	Frame	4 cathode-XA frames at CERN (2 for 97.5 X 202, 2 for 150x150) (Jan. 9th)																				
PDS	XA	all components for 4 cathode modules at CERN (Jan. 9th)																				
PDS	XA	assembly of 4 cathode XA (filter size (?), 480 HPK, 160 FBK)												1	7							
PDS-HV		installation of 4 XA in donwstream cathode																				
HV		Cathode mesh at CERN ready for installation (Jan. 16th)																				
CRP-HV		Top Downstream CRP + cathode assembled and lifted																				
PDS	Fibers	Install PoF/SoF optical fibers in upstream cathode																				
PDS	Frame	4 cathode-XA frames at CERN (2 for 97.5 X 202, 2 for 150x150) (Jan. 16th)						-						_			2nd					
PDS	Dicrhoic	Second batch of filters arrives to CERN (Jan. 23rd)										5	nd b	atcł	,		cath	ode				
PDS	XA	all components for 4 cathode module at CERN (Jan. 23rd)											of filte									
PDS	XA	assembly of 4 upstream cathode XA (150x150 filters, 640 HPK)																				
PDS-HV		installation of 4 XA in upstream cathode										-					+					
CRP-HV		Top Upstream CRP + cathode assembled and lifted																				
Floor		Remove false floor section for bottom downstream CRP																F				
CRP		Bottom Downstream CRP																				
Floor		Remove false floor section for bottom upstream CRP																			men	
CRP		Bottom Upstream CRP																1				
HV		Field cage installation																				
PDS	SiPMs	750 FBK SiPMs mounted and tested arrive to CERN (Feb. 15th)														FF	3K				+	
PDS	Dicrhoic	Third batch of filters arrives to CERN (Summer)															PMs		3rd	batc	1	
PDS	XA	assembly of 4 membrane XA (filter size?, 320 HPK, 320 FBK)															1 1412			Iters		
PDS	XA	installation of 2 bottom downstream membrate XA																		11619		
PDS	XA	installation of 2 bottom upstream membrate XA																				

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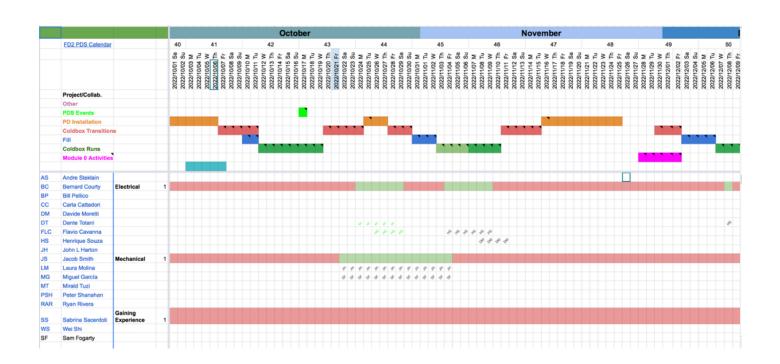
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People at CERN

A single spreadsheet for cold boxes and Module-0

https://docs.google.com/spreadsheets/d/1qT_wY5rvEtjS2t741bd8TGejxSAtKZIWIWu3m8GozzA/edit?usp=sharing

People traveling to CERN and willing to help should fill it



- Cold box assembly next week. Some people (inc. Flavio, Sabrina and Anselmo) at CERN
 - Among others, we will discuss with Filippo about installation schedule and available space for XA assembly