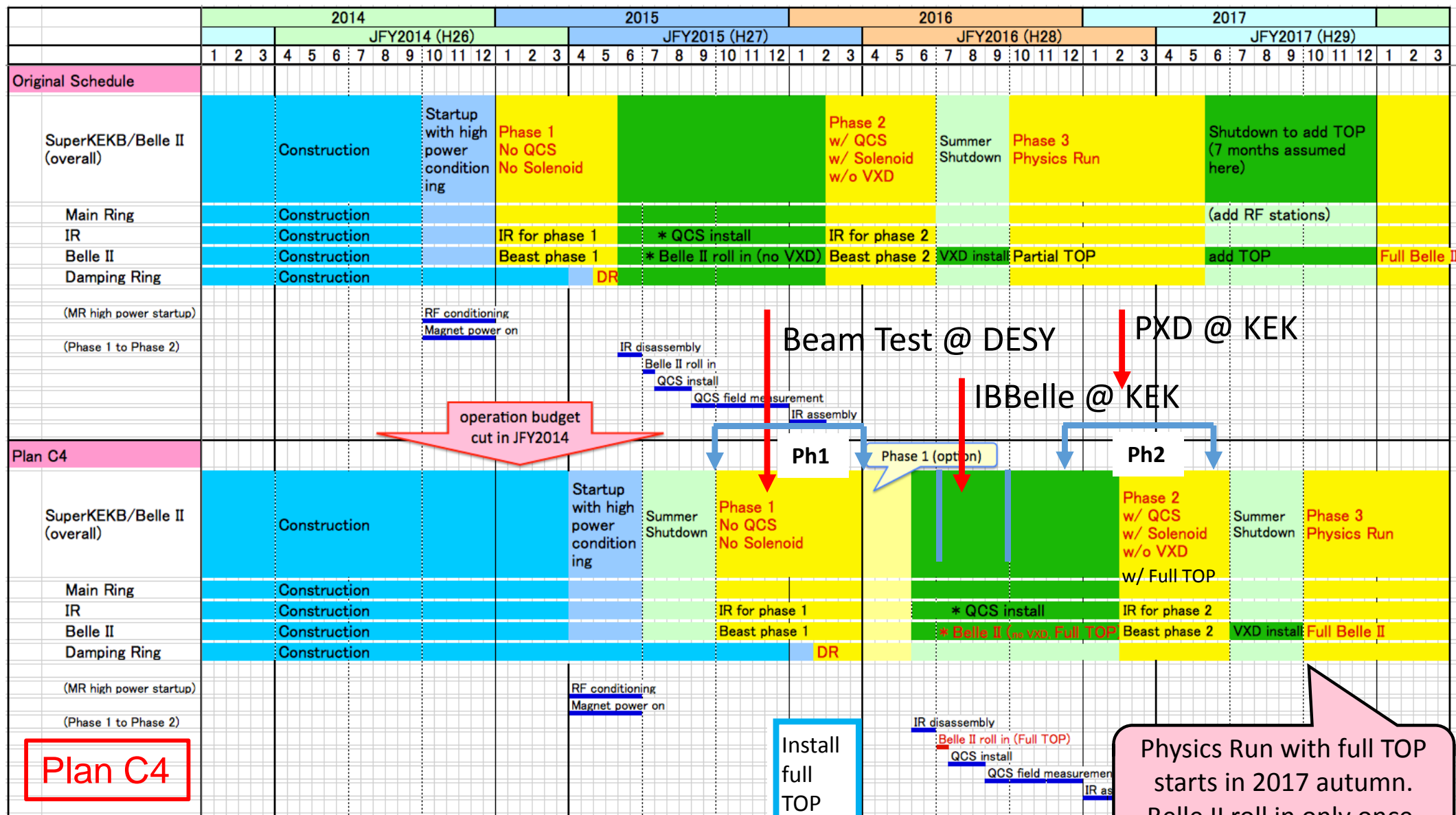


Towards VXD Commissioning

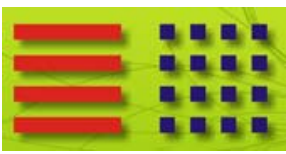
- Tentative Schedule
- Work before Commissioning
- Commissioning Steps
- Skeleton Schedule and Manpower requirement
- Conclusions and Outlook



Plan "C4" (top: present baseline)



VXD and Plan C4



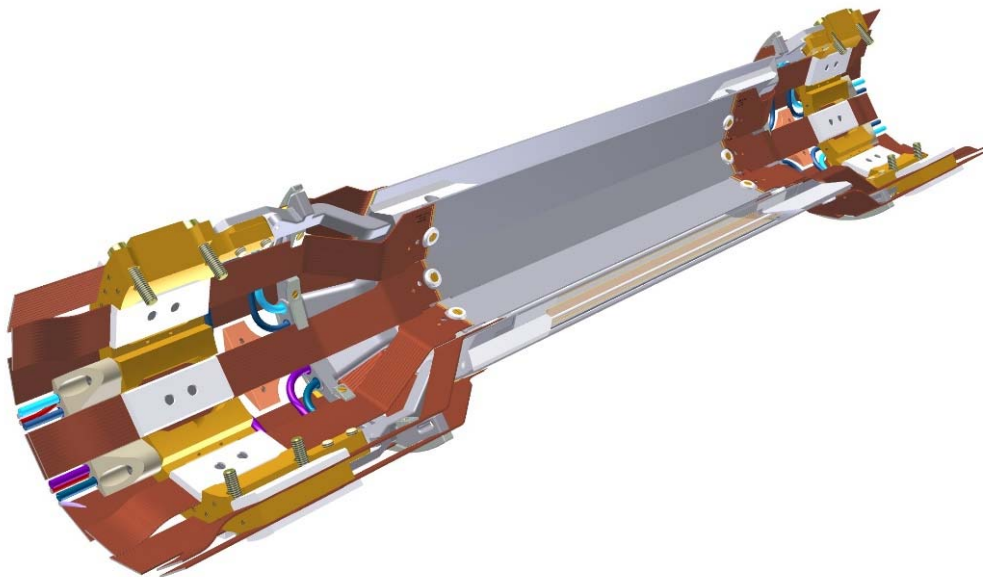
Assembly Work for VXD (I)



Steps before VXD commissioning

PXD: bring 2 complete and tested (“partly commissioned”) half shells to KEK (B1), require a “clean room area 2” in B1

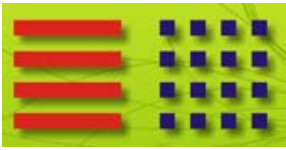
SVD: assemble SVD half shells in “clean room area 1” of B1



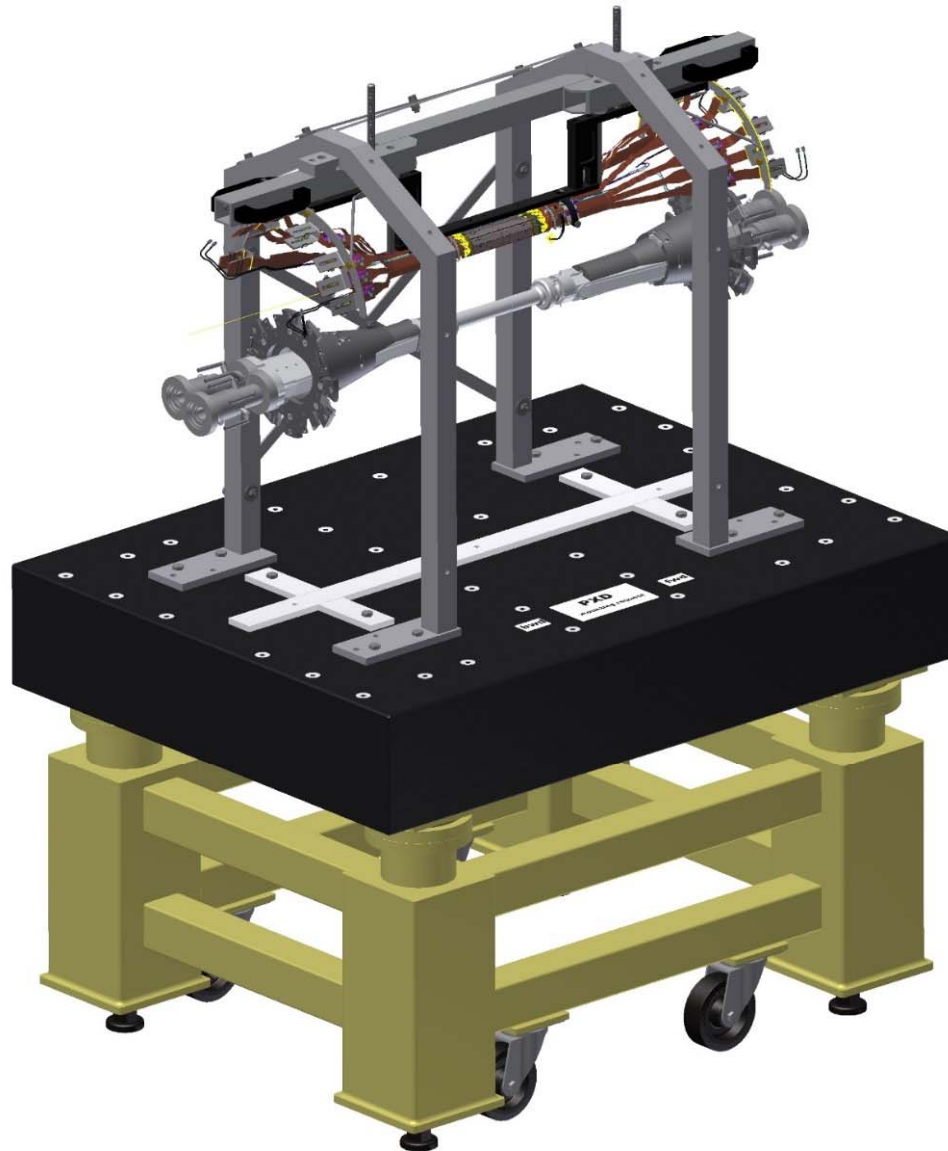
PXD needs to be married with the beam pipe
top - bottom

SVD half shells wait to be married to PXD/BP
right-left





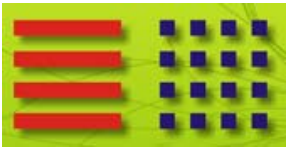
Assembly Work for VXD (II)



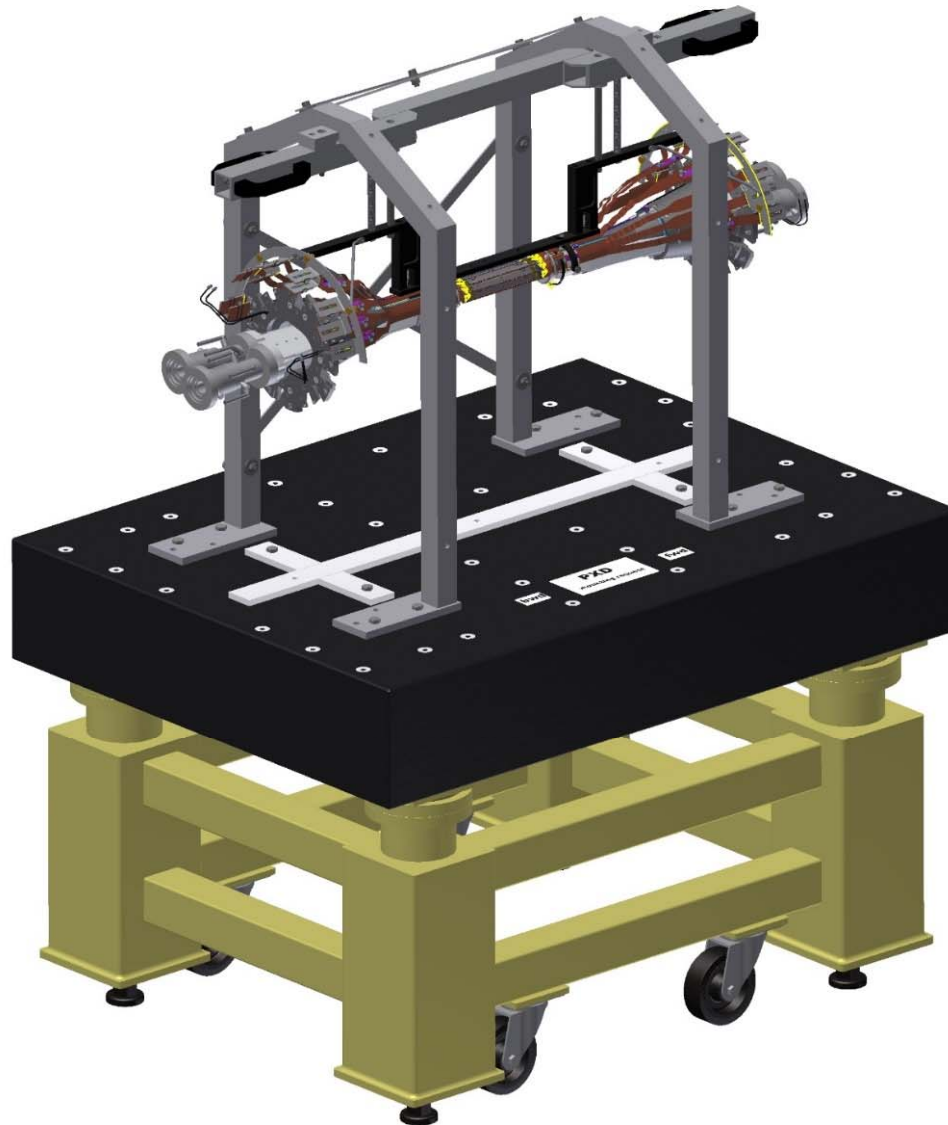
VXD assembly table
in B1

(where is the
assembly table
located?)





Assembly Work for VXD (III)



VXD assembly table
in B1

(where is the
assembly table
located?)

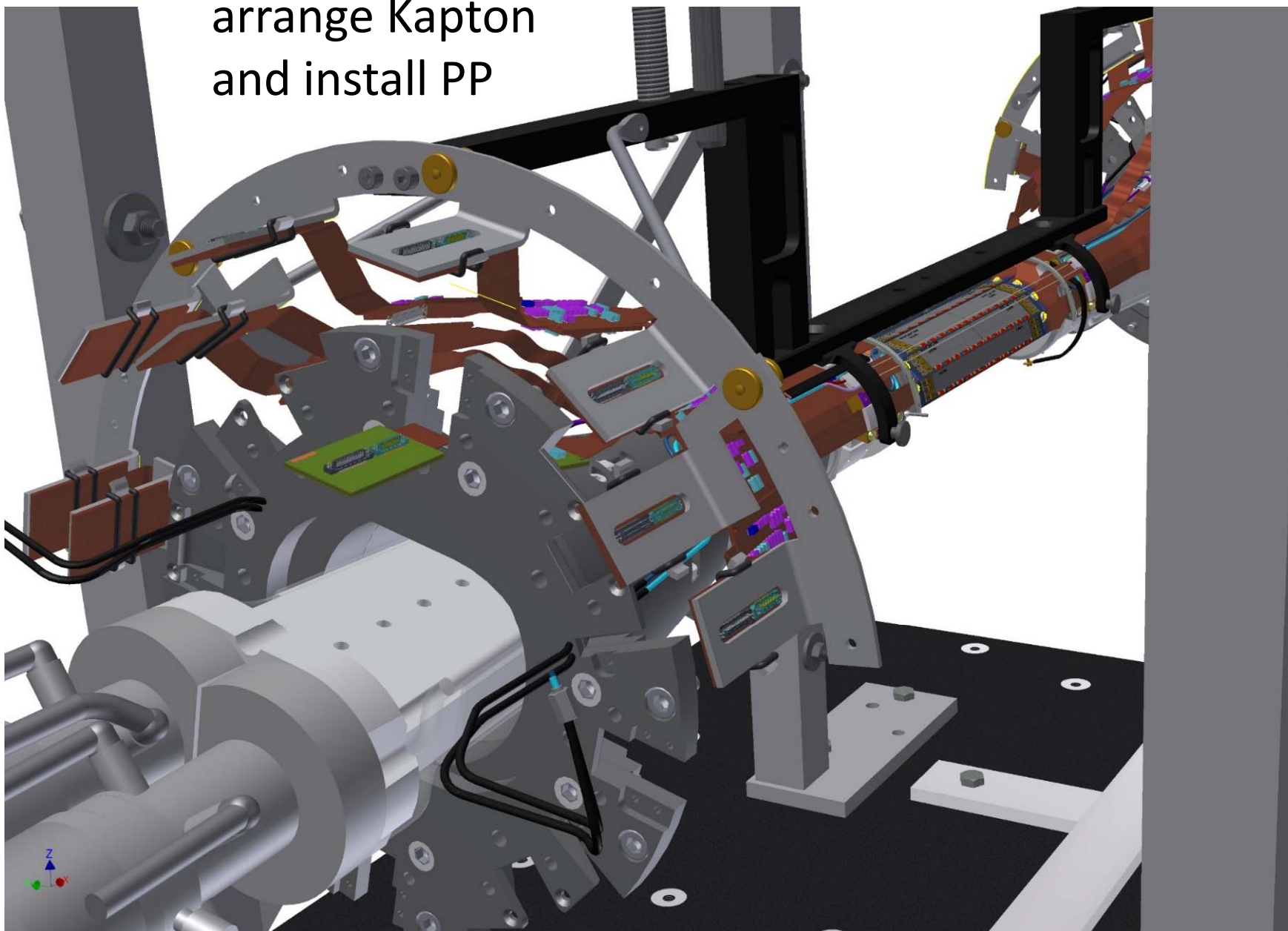




Assembly Work for VXD (IV)



arrange Kapton
and install PP



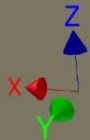
Location of the VXD Assembly Table

PXD clean room

Signal cables

Cooling lines
to junction
box

SVD Clean room









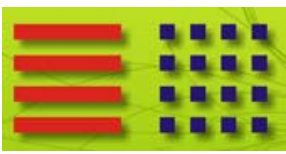
Heat Load for B1: 7 kW PXD, 10 kW SVD = 17 kW





Preparation for Commissioning





Skeleton for VXD Commissioning (I)



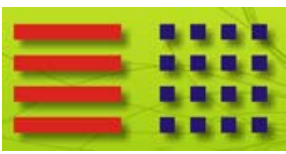
Slides following are subject to discussion

Installation and Commissioning (BEAST + VXD)																											
	2015							2016							2017							2018					
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Belle II on beam line																											
Access to Belle II																											
Data Taking Modes																											
Services																											
CO2 System																											
PXD Installatons																											
SVD Installations																											
Air Cooling (KEK ?)																											
TOP / CDC Installation																											
MP (FTE's PXD) P																											
MP (FTE's PXD) E																											
MP (FTE's PXD) T																											
MP SVD																											
total MP VXD at KEK																											

Key Commissioning Phases:

start

Phase I:	Bake-out (+Beast I) (no Belle, no QCS)	Oct. 2015
Phase II:	BG optimization, target lumi = $1 \times 10^{34} \text{ cm}^{-2} \text{ s}^{-1}$ (with Belle and QCS and BEAST 2 detector)	Dec. 2016
Phase III:	„Physics“ (with Belle and QCS and VXD)	Oct. 2017

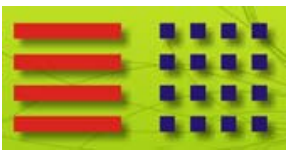


Skeleton for VXD Commissioning (II)



VXD commissioning steps:

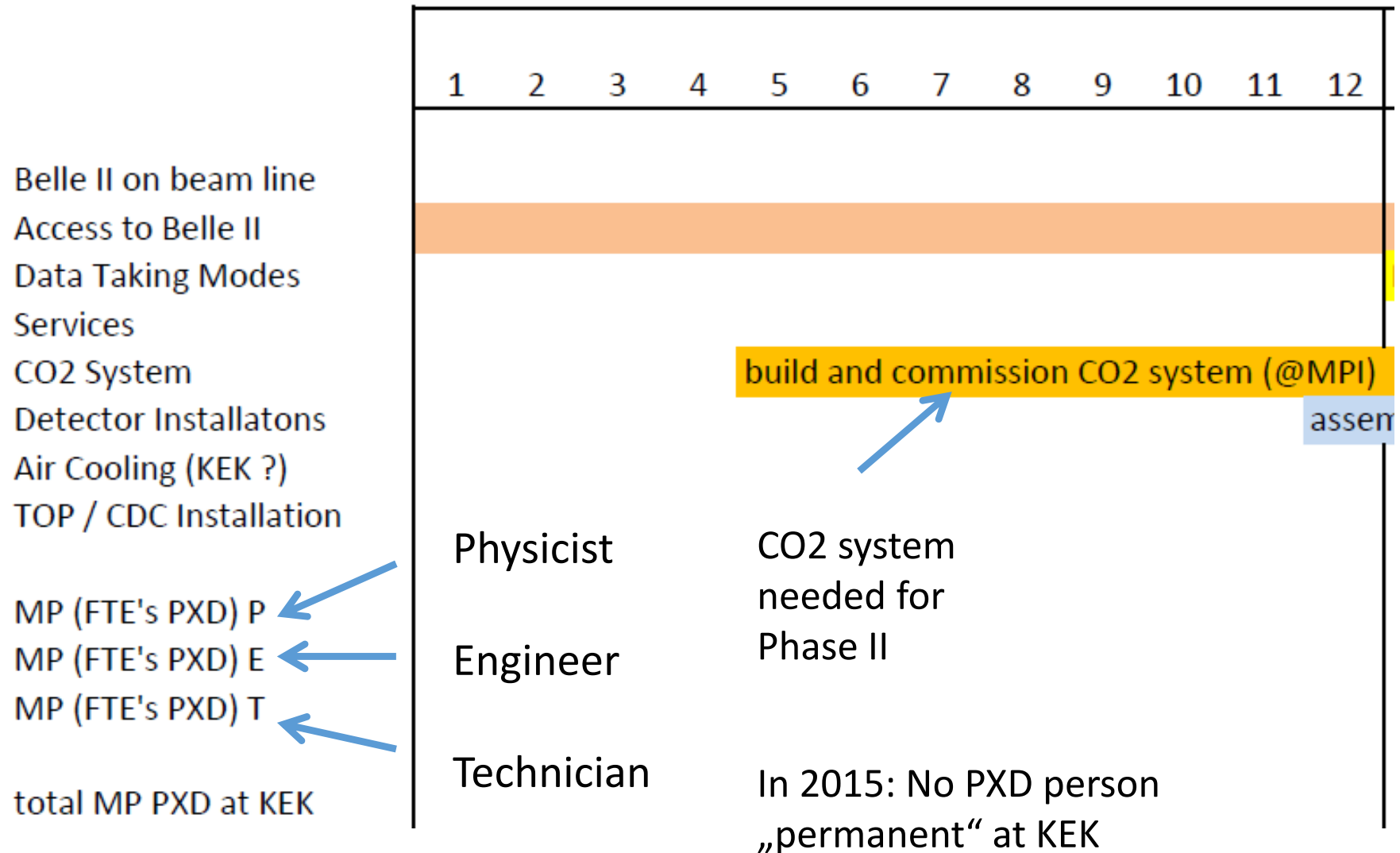
- PXD under cooling and power -> cosmics & DAQ (PXD CLRm)
- mount PXD onto beam pipe -> align & cosmics & DAQ
- SVD under cooling and power -> cosmics?
- bring SVD halves to VXD assembly table, join with PXD, check alignment
- cosmics & DAQ & analysis
- lower VXD onto B4 level and prepare for AIM



Skeleton for VXD Commissioning (III)



Installation and Commissioning (BEAST + VXD)





Skeleton for VXD Commissioning (IV)



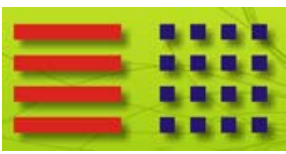
										2016							
	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1
Belle II on beam line											Detector on beam line						
Access to Belle II																	
Data Taking Modes		Phase I (Beast I)														Phase II (B	
Services											Install CO2 pipes						
CO2 System		CO2 system (@MPI)								install IBelle syst. (KEK)				Cm. CO2			
PXD Installatons				assemble and commission PXD (@MPI)										prep. Beast II			
SVD Installations					Ladder mount (B1)						cosm. comm.						
Air Cooling (KEK ?)																	
TOP / CDC Installation					TOP / CDC Installation												
MP (FTE's PXD) P								2	3	3	3	3	3	4	4	4	5
MP (FTE's PXD) E								1	2	2	2	2	2	2	2	2	2
MP (FTE's PXD) T								2	4	4	4	4	4	4	2	2	2
MP SVD					4	4	4	4	4	4	3	3	3	1	5	5	5
total MP VXD at KEK								9	13	13	12	12	12	11	13	13	14



Skeleton for VXD Commissioning (V)



						2017								2018	
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Belle II on beam line															
Access to Belle II															
Data Taking Modes	Belle II (Beast II)									Phase III (Physics)					
Services															
CO2 System															
PXD Installatons	at II	PXD to B1					VXD Inst.(+cables)								
SVD Installations															
Air Cooling (KEK ?)															
TOP / CDC Installation			VXD Integr./comm (B1)												
MP (FTE's PXD) P	5	6	6	6	6	6	6	8	8	8	8	8	6	4	
MP (FTE's PXD) E	2	1	1	1	1	1	2	2	2	1	0	0	0	0	
MP (FTE's PXD) T	2	2	2	2	1	1	3	3	3	1	0	0	0	0	
MP SVD	5	3	5	5	4	4	10	10	10	8	8	8	8	6	
total MP VXD at KEK	14	12	14	14	12	12	21	23	23	18	16	16	14	10	



Conclusions and Outlook



- First very tentative sequence of commissioning steps shown, including man power estimates required at KEK
- Schedule is based on a slightly modified “C4”, shown by the machine group during Nov. 13 B2GM
- Coming discussions among the VXD crews should lead to a more elaborate sequence
- Already now visible: quite a few people will be at KEK from the VXD (partly supported by “JENNIFER”)
- Clearing B1 area, offices at KEK, and housing should be addressed in the near future.