

Scope of the Meeting

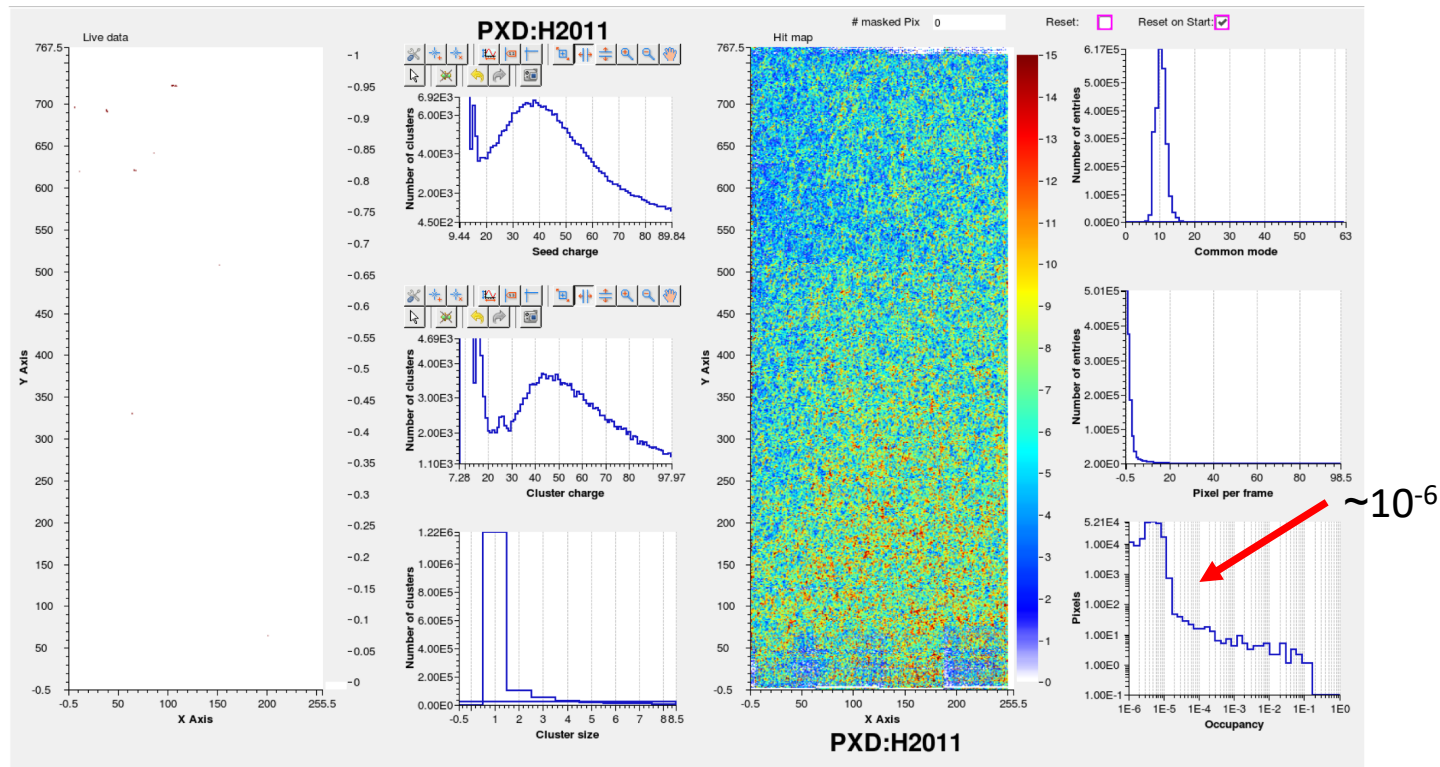
Meeting Agenda

Monday, 9 April 2018		Tuesday, 10 April 2018		Wednesday, 11 April 2018	
09:00	Scope of the Meeting - Carsten Niebuhr (DESY)	09:00	Belle 2 PXD: DHH System - Igor Konorov (Technical University Munich) (until 09:45)	09:00	Non-Belle DEPFET: Athena and GREST (until 10:30)
09:15	Belle 2 PXD: Phase 2 status and plans - Carlos Marinas (University of Bonn) (until 10:30)	09:45	Belle 2 PXD Backend Readout: ONSEN and DATCON - Jens Sören Lange (University Giessen) (until 10:30)	09:00	Spectroscopic DEPFETs at high frame rates - Johannes Mueller Seidlitz
09:15	Status of SuperKEKB. First injections. - Carlos Marinas	09:45	ONSEN phase 2 status and phase 3 preparations - Simon Reiter (Univ. Giessen)	09:30	Technology variants and noise performance of WFI prototype DEPFETs - Wolfgang Treberspurg
09:30	Status phase 2 PXD Modules - Botho Paschen	10:05	DATCON - Christian Wessel (Univ. Bonn)	10:00	DEPFETs for the GREST project - Alexander Bähr
09:45	Phase 2 module optimization - Philipp Wieduwilt	10:25	Discussion	10:30	--- Break ---
10:00	Phase 2 PXD. DAQ integration, ROI and GCR. - Björn Spruck	10:30	--- Break ---	11:00	Non-Belle DEPFET: ILC and DANAE - Laci Andricek (MPG Halbleiterlabor) (until 12:30)
10:30	--- Break ---	11:00	Belle 2 PXD: ASICs - Hans Krüger (University of Bonn) Ivan Peric (KIT) (until 11:45)	11:00	ILC - DEPFETs perspectives summary - Marcel Vos (IFIC Valencia)
11:00	Belle 2 PXD: Slow Control - Michael Ritzert (Heidelberg University) (until 11:45)	11:45	Belle 2 PXD: Towards Phase 3 - Installation Plans - Carsten Niebuhr (DESY) (until 12:30)	11:30	Thermo-mechanical aspects of an all-silicon DEPFET vertex detector for the ILC - Miguel Angel Villarejo (IFIC Valencia)
11:45	Belle 2 PXD: Modules and Ladders - Laci Andricek (MPG Halbleiterlabor) (until 12:30)	11:45	Status update of phase 3 beam pipe - Shuji Tanaka (KEK)	12:00	DANAE - New direct dark matter search project - Shi Hexi
11:45	Overview - Laci Andricek (MPG Halbleiterlabor)	12:00	Installations in clean room - Kittinger David (MPP)	12:30	--- Lunch ---
11:55	Module Repair: Summary - Martin Hensel (HLL)	12:15	Discussion on installation scenarios - Carsten Niebuhr (DESY)		
12:10	Ladder Assembly - Hans-Günther Moser (Max Planck for Physics)	12:30	--- Lunch ---		
12:30	--- Lunch ---	14:00	Belle 2 PXD: Discussion and Contingency (until 15:30)		
		15:30	--- Break ---		
14:00	Belle2 PXD: Module characterization and ladder testing - Felix Mueller (Max Planck Institute for Physics) (until 15:30)	16:00	Non-Belle DEPFET: EDET - Jelena Ninkovic (MPG Halbleiterlabor) (until 18:15)		
14:00	Status Update at Goettingen - Module tests - Philipp Wieduwilt (Universität Göttingen) Harrison Schreck (University of Göttingen)	16:00	Imaging capabilities of the Edet80k detector.		
14:25	Status Update at Bonn - Module tests - Botho Paschen (University of Bonn)	16:30	Overview and Status of Edet80k camera system - Johannes Treis (MPG Semiconductor Laboratory)		
14:45	Status Update at MPP - Module and ladder tests - Philipp Leiti (Max Planck for Physics)	17:00	Edet80k DAQ system - Mikhail Poloviykh		
15:05	Improved ladder mounting procedure - Felix Mueller (Max Planck Institute for Physics) Hans-Günther Moser (Max Planck for Physics)	17:30	Low noise measurements - Mitja Predikaka		
15:30	--- Break ---	17:50	Hybrid measurement results - Eduard Prinker (Max-Planck-Institute)		
16:00	Belle 2 PXD: Services - PS, PPs, dockbox PCBs - Stefan Rummel (LMU) (until 16:45)	18:30	--- Dinner ---		
16:45	Belle 2 PXD: SCBs and half-shell assembly - Christian Kiesling (Max-Planck-Institute for Physics) (until 17:30)	20:00	Discussion: DEPFET and ILC (until 21:30)		
17:30	Commissioning at DESY - Hua Ye (DESY) (until 18:15)				
18:30	--- Dinner ---				
20:00	Belle 2 PXD: IB (until 21:30)				

Phase 2 Operation: First Beam Particles seen in PXD

Switching on Belle II

- PXD, SVD, ECL and KLM switched on during HER beam storage
- Low occupancy and stable conditions observed
- LV on in TOP and ARICH
- CDC completely off



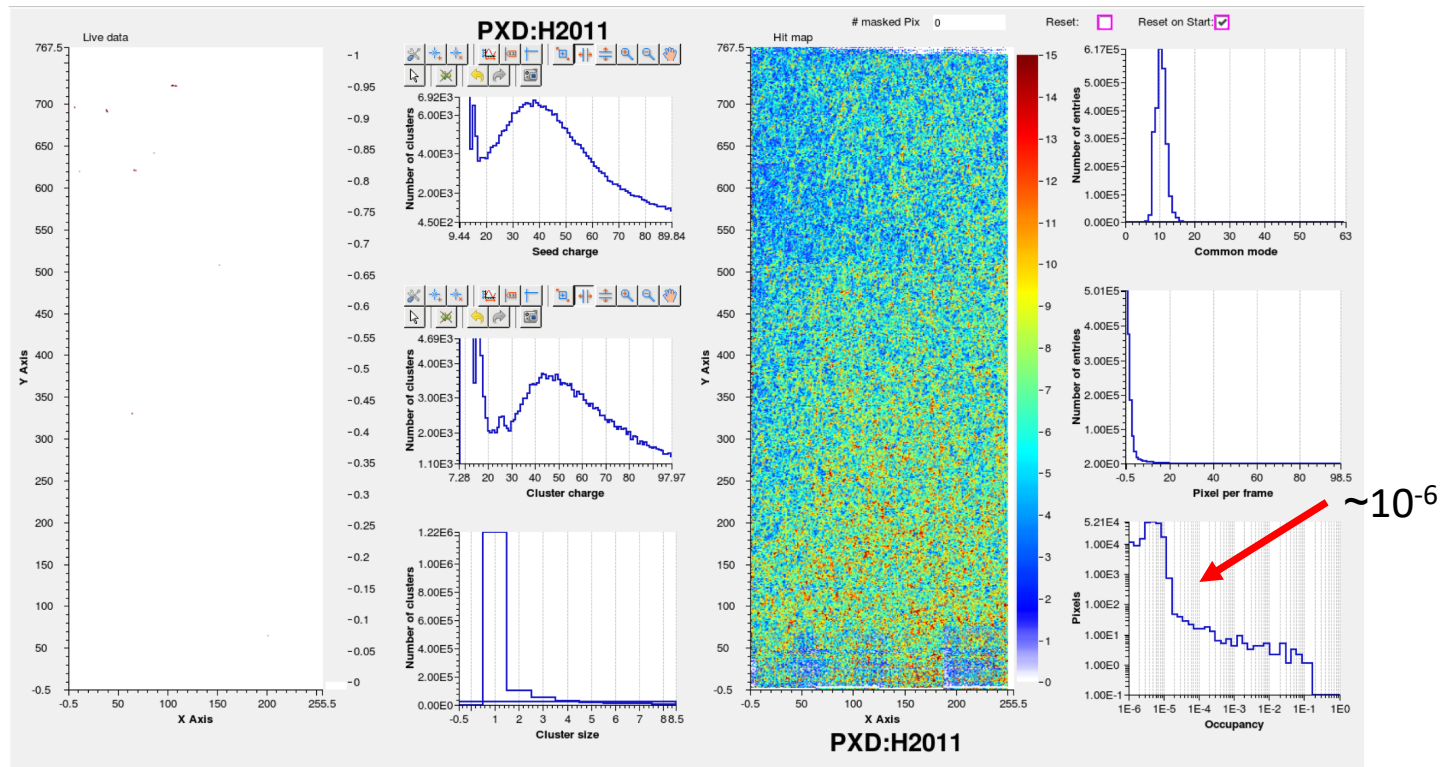
PXD occupancy with 30 mA HER₂₉

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Belle II management expects from VXD/BEAST II a list of requirements to be fulfilled for successful completion of phase 2. Have to decide end of phase 2 by end of June.



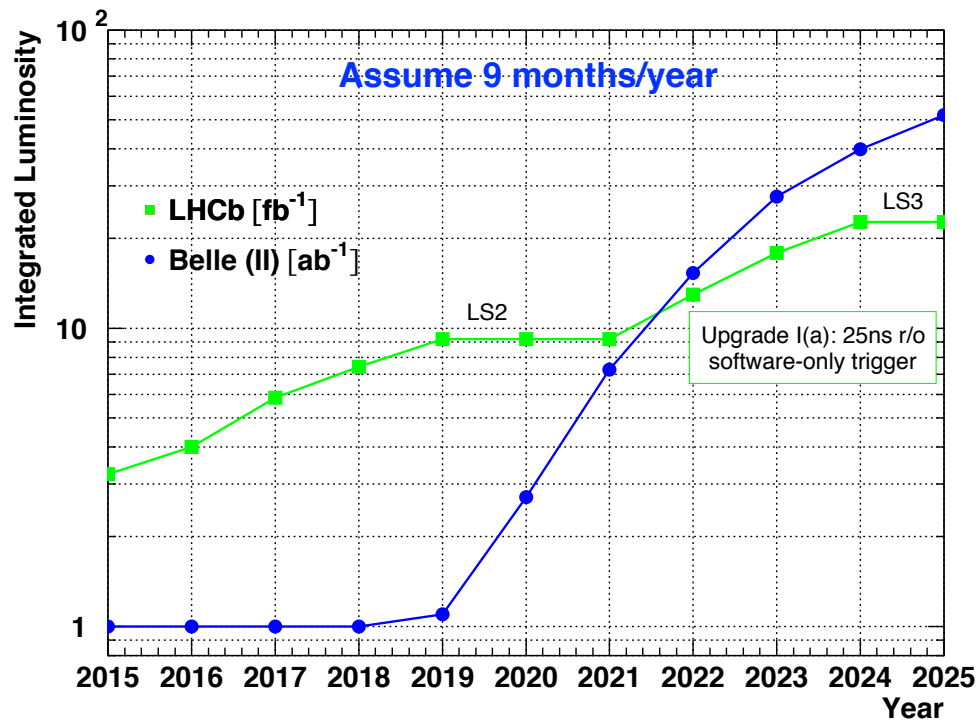
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General Context for Belle II

- Recent flavor anomalies receive more and more attention
 - significance so far at the 2.5 to 4 sigma level
 - LHCb will update their results with Run 2 statistics (x 3-4) soon
 - cross-check of their results with Belle II data extremely important

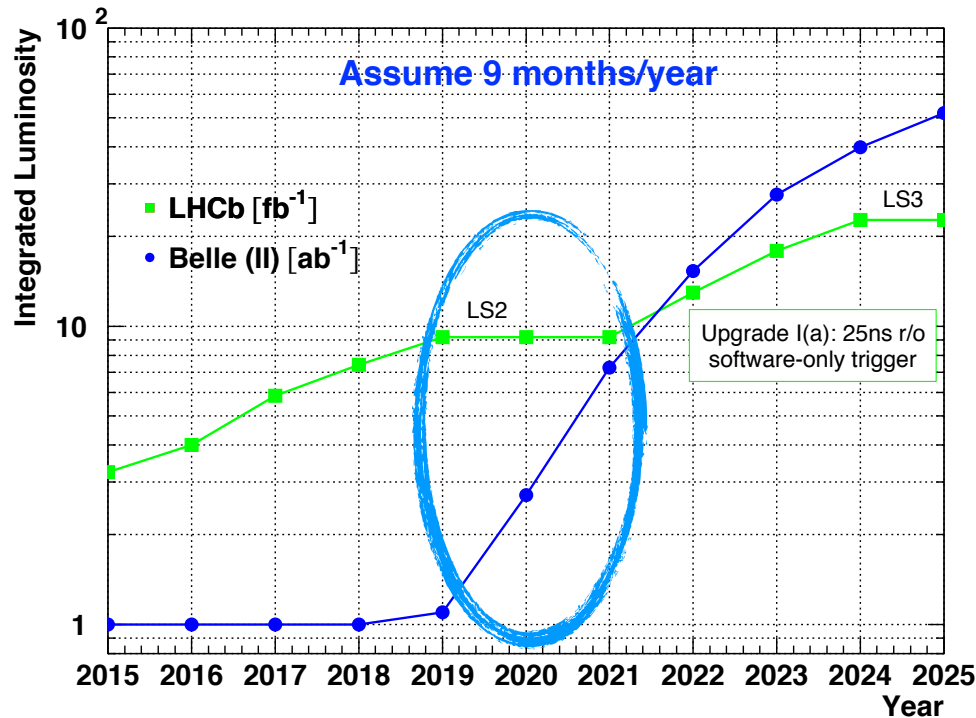
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- LHC LS2 2019/2020: Belle II will be the only running collider experiment
- Window of opportunity to catch up: incentive for early start of phase 3

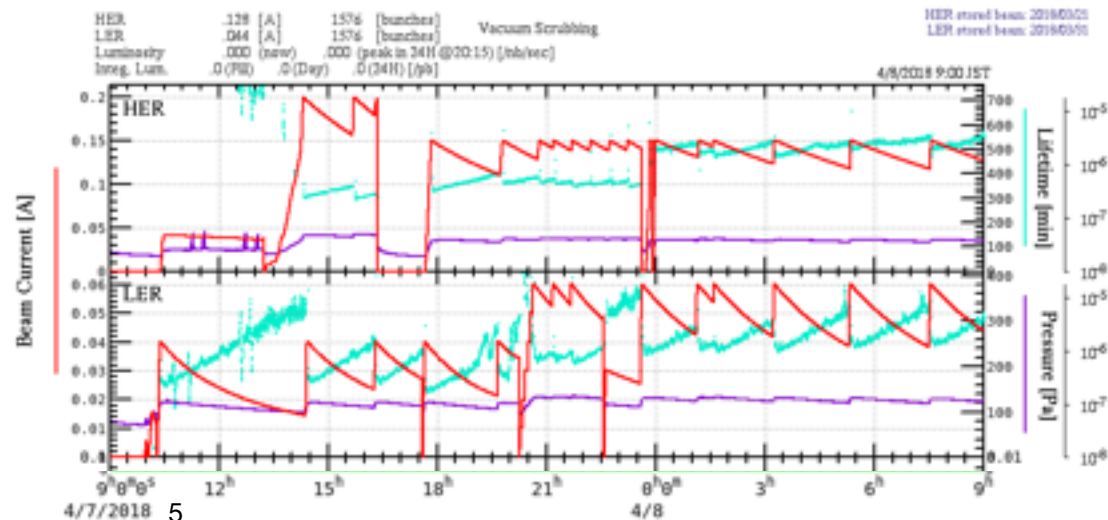


Overall Status

- Very large pressure to start phase 3 in February 2019 as scheduled
 - ~ 2 months operation in FY18 (→ avoid cut in operations budget)
- Summary of February BPAC
 - ... The committee notices that there is now a **real delay** in the Pixel Detector (PXD) ladder construction for the timely installation of the VXD for the Phase 3 Run. The PXD group is advised to perform a thorough analysis of the **benefits of bringing the PXD ladders to KEK** as soon as they are ready for the **assembly and testing at KEK** rather than at DESY, which was the original plan...

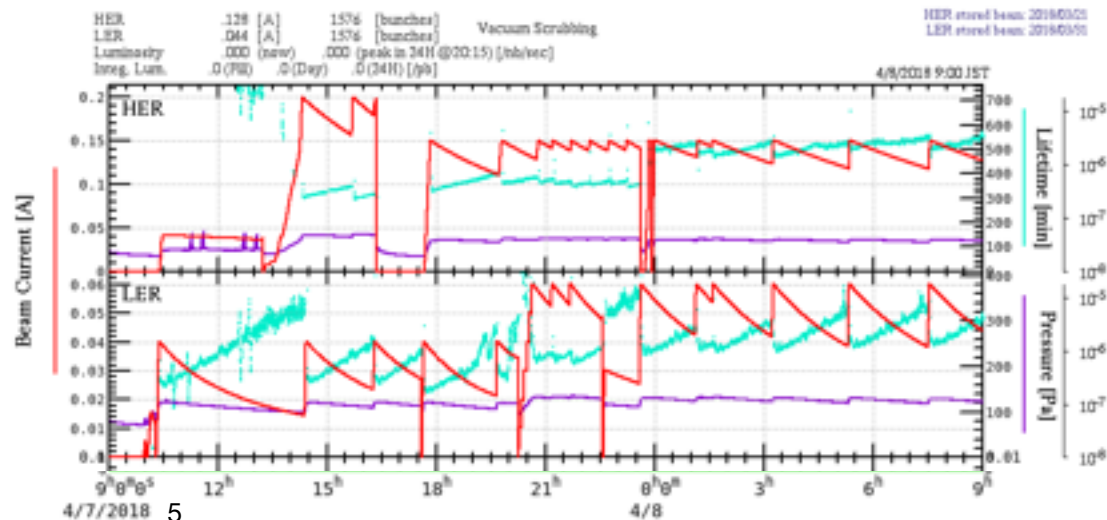
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 - Phase 2 commissioning advancing quite well (→ Carlos' talk)
 - SVD assembly and beam pipe construction on schedule (→ Shuji's talk)



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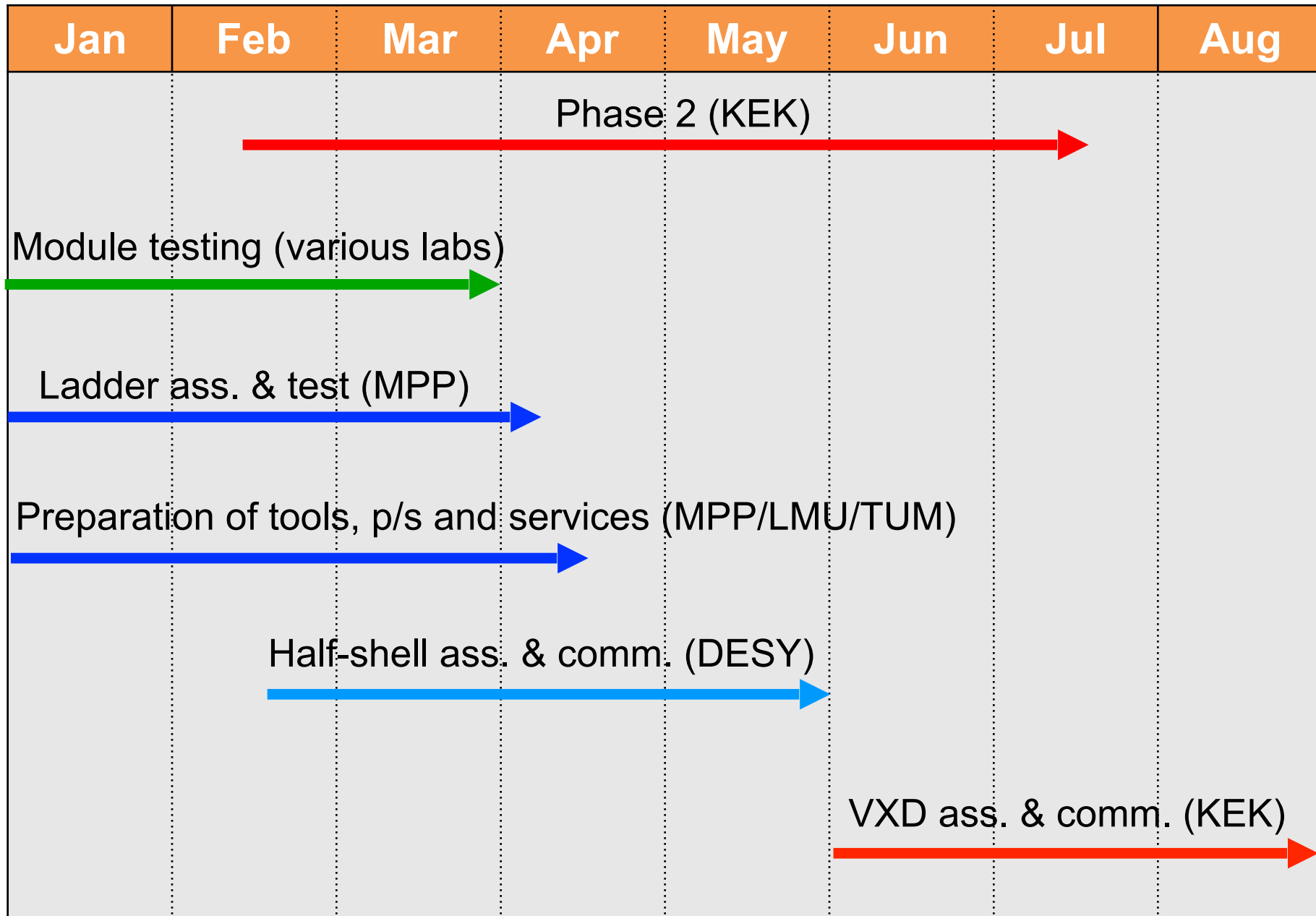
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- PXD now on the **critical path**
 - „negative contingency“



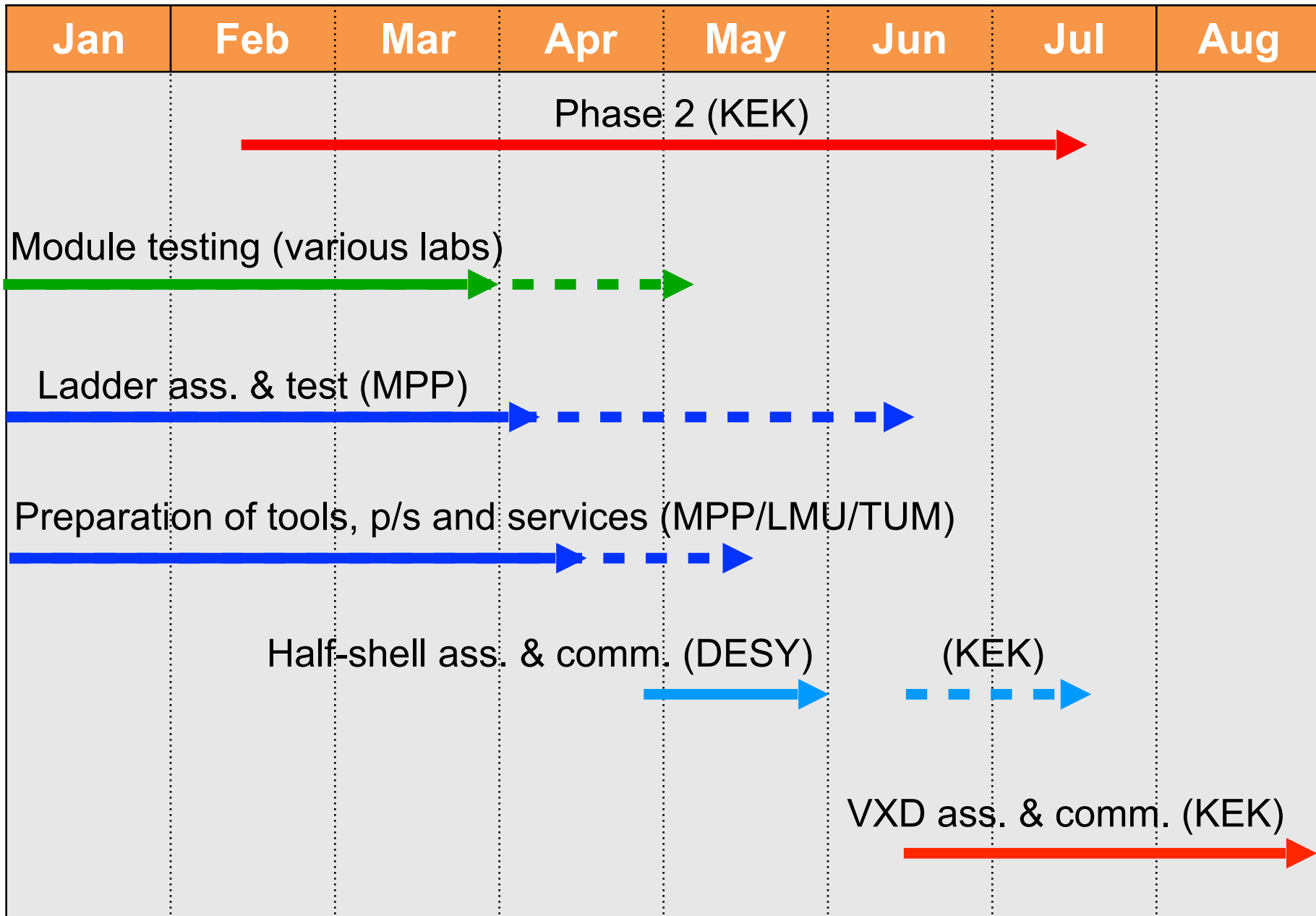
Issues to be resolved before Phase 3 Installation

List continued from PXD meeting in January

- Agree and implement final and safe procedures for module operation
 - Finally enter routine mass testing mode (MPP, GOE, BN, HLL) ✓
- Services (✓)
 - Dockbox PCBs (48 boards produced, tests ongoing)
 - Patch panel cables (entering routine production mode at HighQ and PCS)
 - SCBs (1st pair ready, working on clogged N₂ line for 2nd pair)
 - Power supplies, OVP boards (20 tested ok with new firmware)
 - 2nd set of outer cables (still in production)
- Mechanics (✓)
 - Tools for ladder assembly and half-shell commissioning (qualify tools and procedures with dummies - imminent)
 - Final cable routing in warm dry volume (ok on CAD level)
 - Design of patch panel cable cage (ok on CAD level)
- New issue !
 - L2 ladder glueing (→ procedures revised)
- Progress, but general tendency: almost all steps take longer than anticipated ...



Status January 2018



Status now

Summary

- Recent delays force us to change our integration plans
 - Have to move part of the ladder mounting and commissioning to KEK
- Life is getting much more complicated
 - logistics
 - availability of expert person power
- Most important goal of the meeting
 - discuss and agree on realistic installation scenario
 - set a concrete deadline for transport to KEK
 - make sure that everybody plans her/his activities accordingly