



News on PXD Mechanics

- Final Design FWD Support and Cooling Block
- Progress on the Grounding Concept
- Platform for IBBelle CO2 Plant + CO2 Routing
- Preparation for the Thermal Mockup at DESY
- [other work, such as EMCM jigs etc. shown in Felix' talk]

(all the work done by Tscharlie Ackermann)



Final Design of Cooling Blocks (I)



Only BWD SCB produced so far (in Germany and Spain)

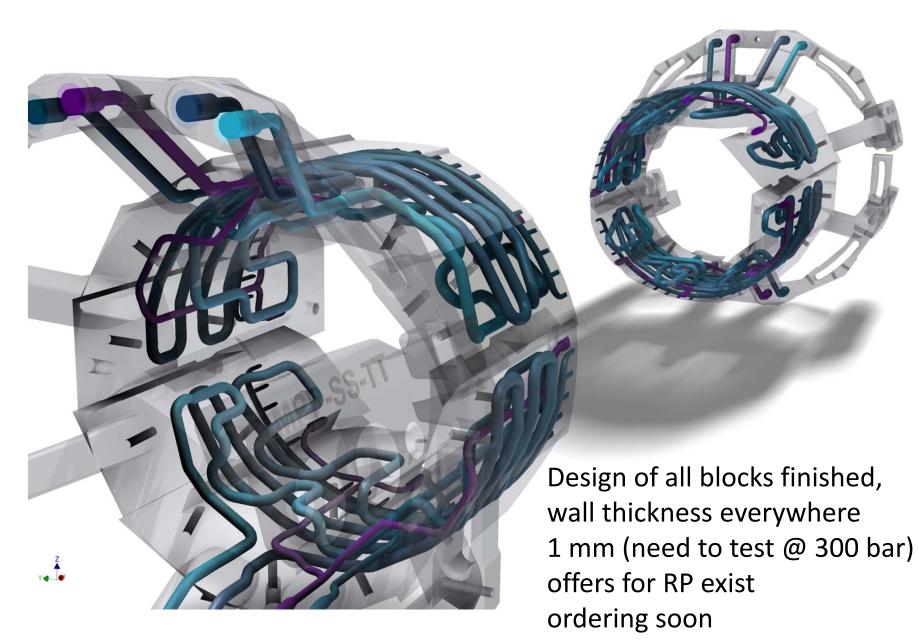
Changes were necessary due fixation screws and the additional ground bus

Layout of CO2 and air lines more difficult in the FWD SCB



Final Design of Cooling Blocks (II)







PXD Grounding Concept

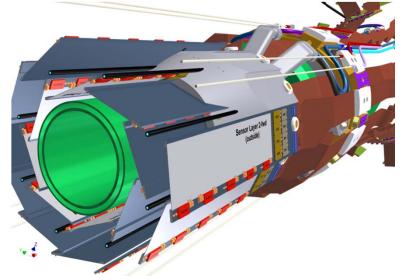


- Cooling blocks (both sides) connected via low impedance
- Cooling pipes grounded

Analog and digital ground connected at the Kapton level

Single point ground for each side connected to respective SCB

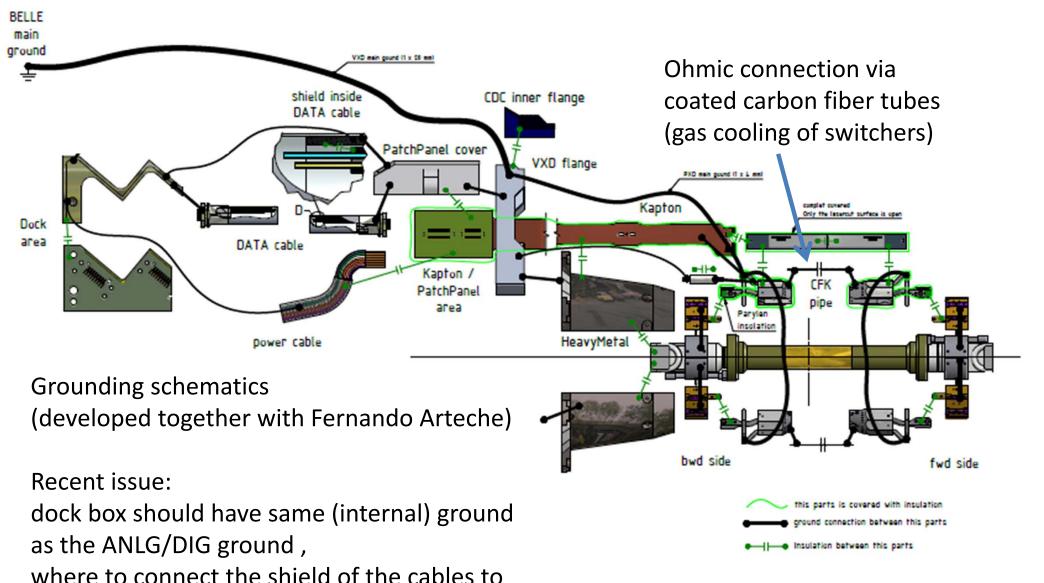
Ohmic connection of SCBs (FWD-BWD) needed





Progress in the Grouding Concept (I)





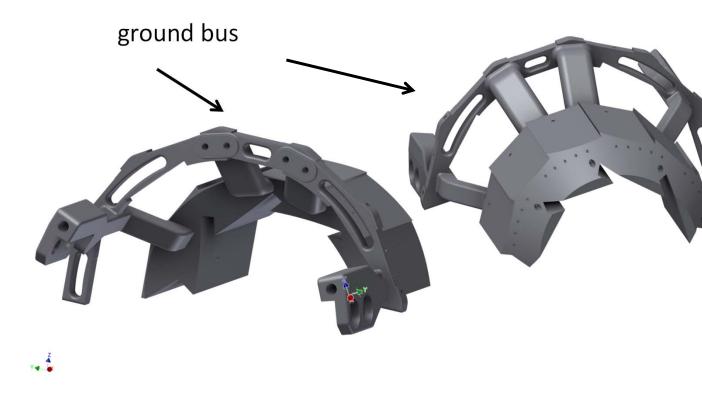
C. Kiesling, 16th International Workshop on DEPFET Detectors and Applications, Kloster Seeon, May 26-28, 2014

the P/S and the RO electronics?



PXD Grounding Concept (II)





SCBs kept at same potential via Connection through carbon fiber tubes (grounding via beam pipe not allowed)

Analog and digital ground pad on each Kapton cable connected (pressed) to the ground bus

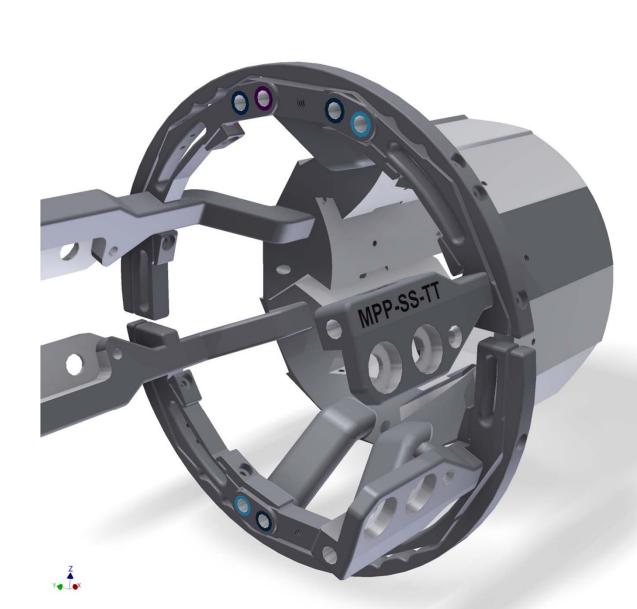
Ground bus automatically connected to the SCB

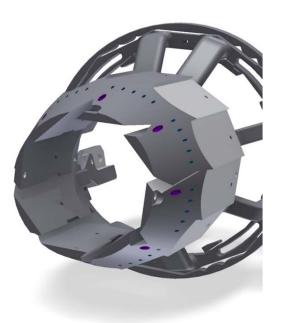
CO2 pipes isolated towards the outside via ceramic joint



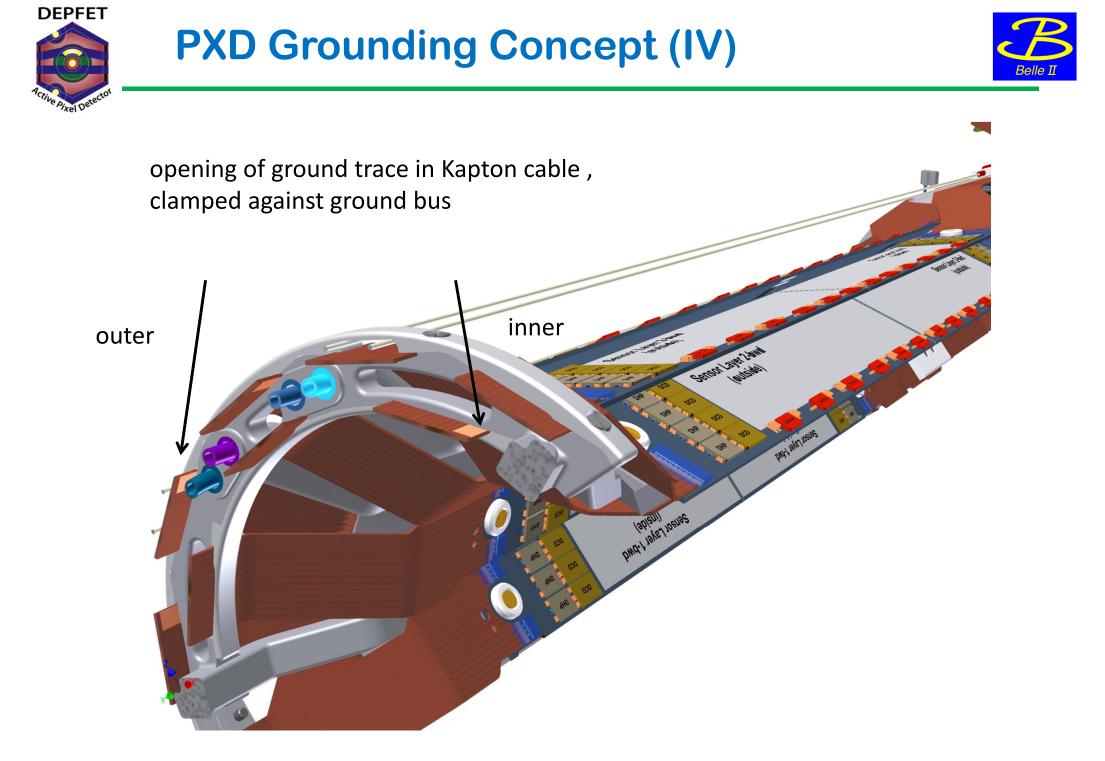
PXD Grounding Concept (III)







Ground bus with fixing structures for the ANLG/DIG ground on the Kapton cable







Coating of carbon fiber tubes (3.5 µm Al) under investigation at MPI

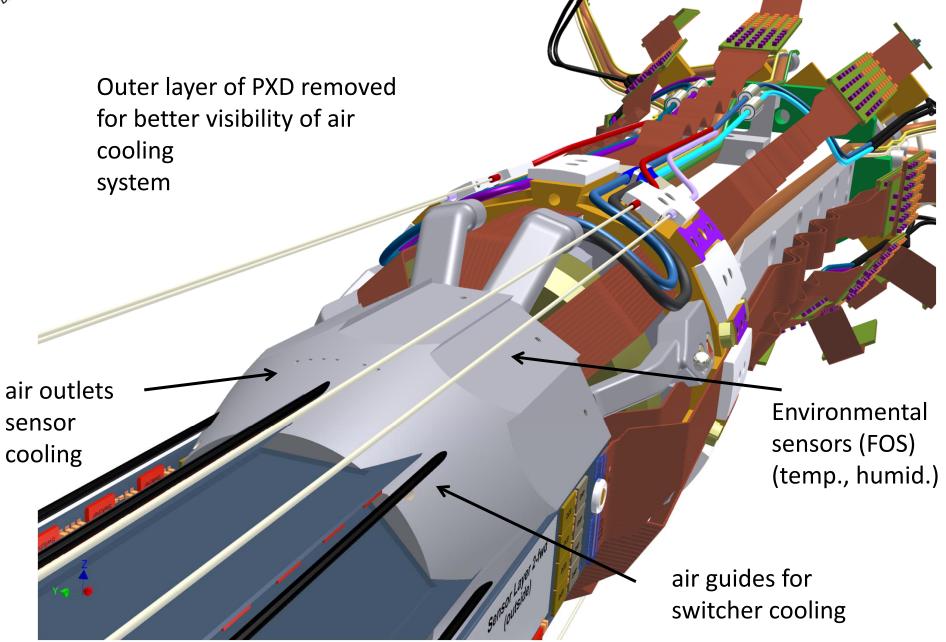
Common Ground cable connection SCB's

BWD: connect this cable to "experiment ground" (to be defined)



Environmental Sensors

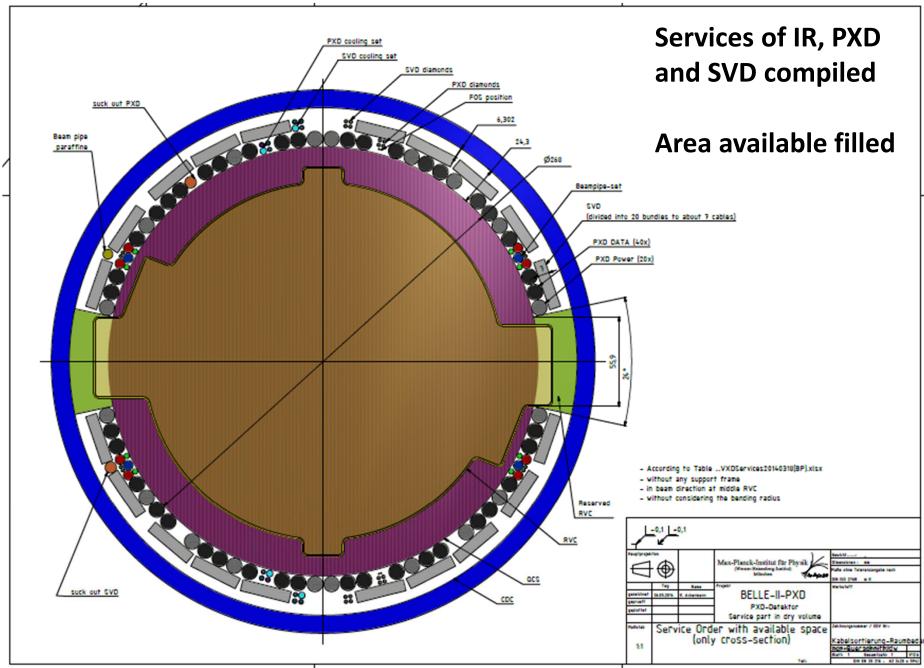






PXD Services

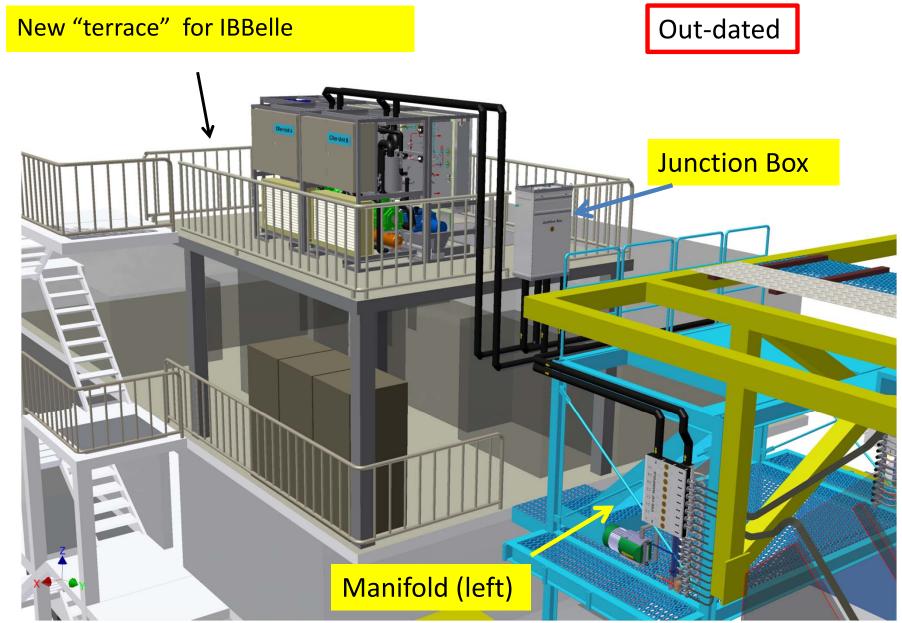






Installation of IBBelle



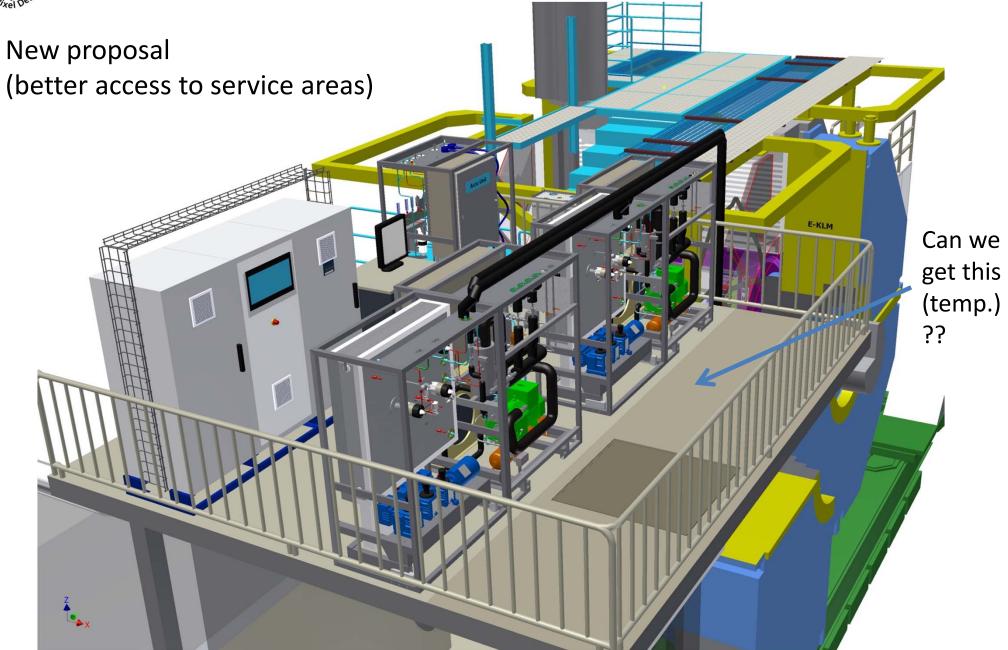


T. Ackermann



IBBelle Location in Belle II

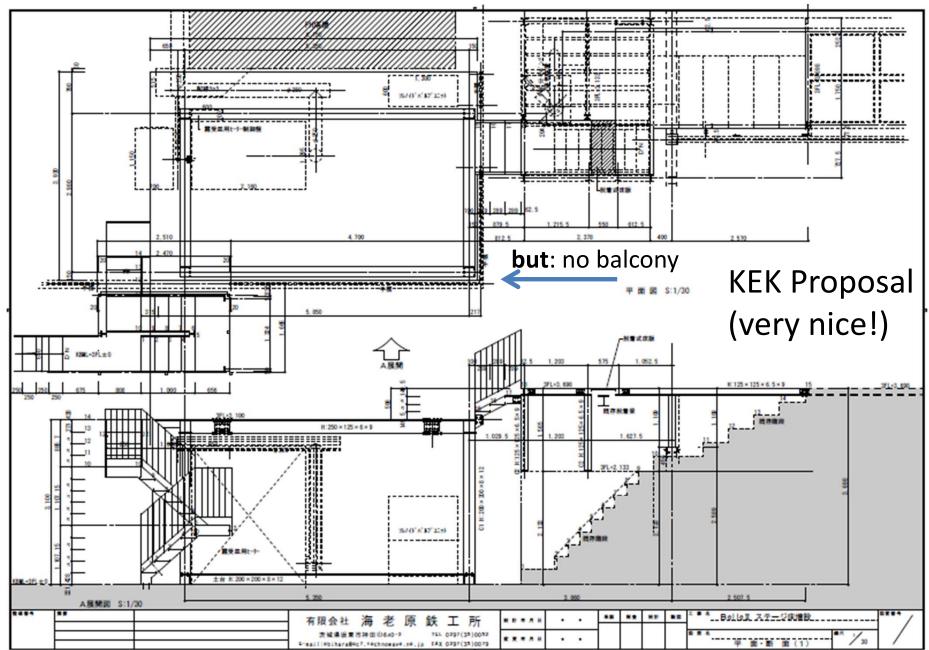






IBBelle Location in Belle II

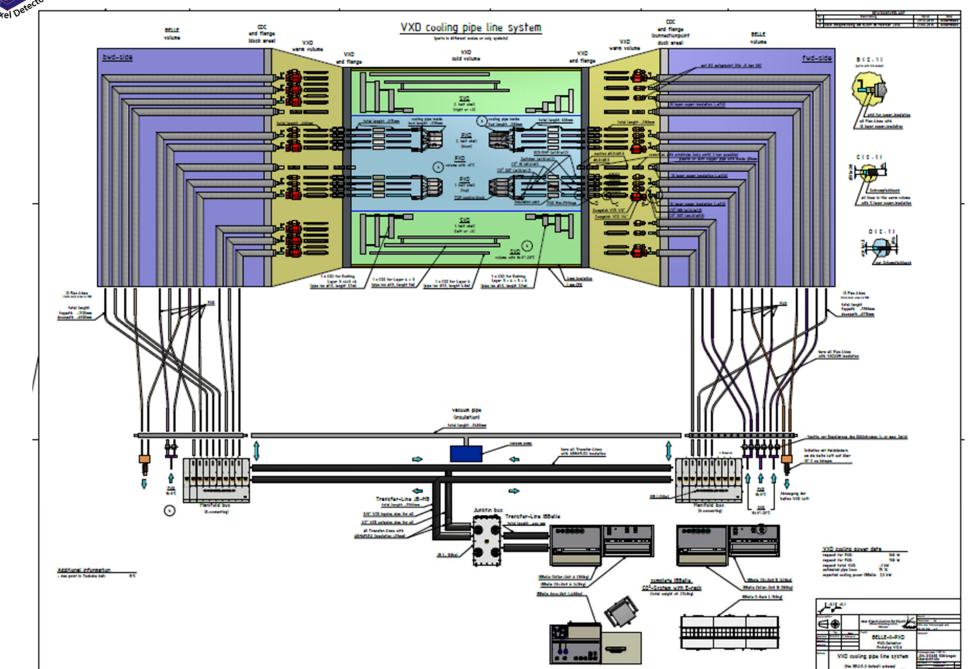




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CO2 Distribution System (Default)

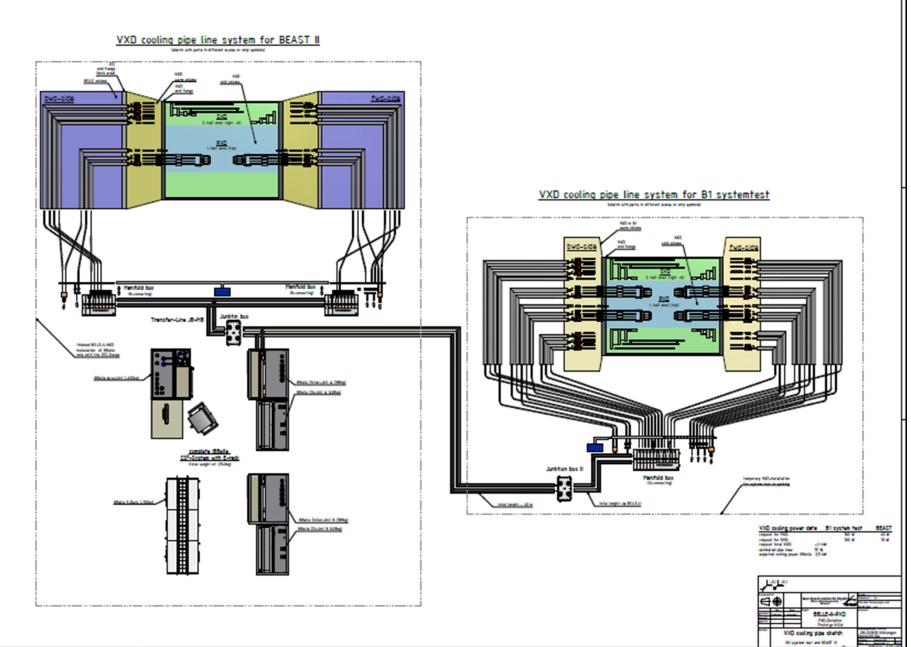






CO2 Distribution System (BEAST II + VXD)

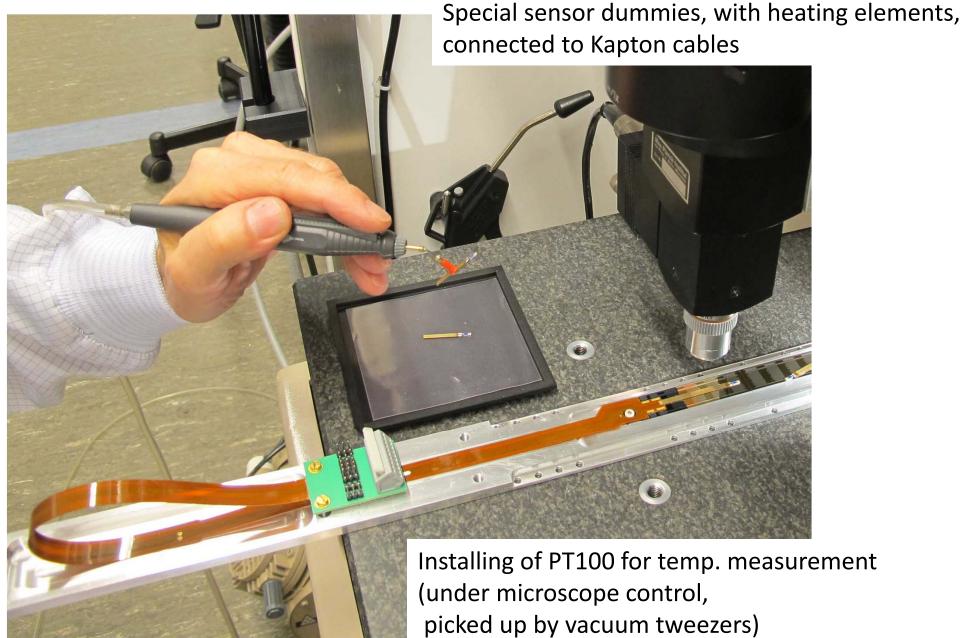






Preparation for Thermal Mockup (I)







Preparation for Thermal Mockup (II)

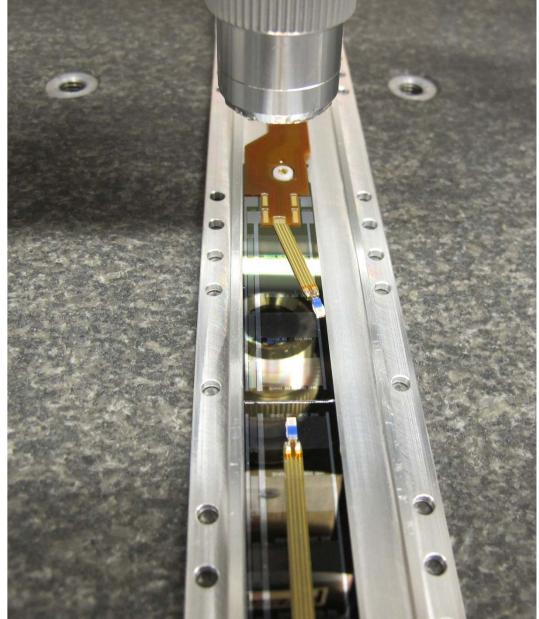






Preparation for Thermal Mockup (III)





Fully equipped "thermal EMCM"

Gluing of modules to ladder done

(in transport cage)

Still to do: Bonding connections for pads to Kapton

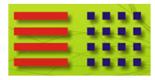




- Mechanics of PXD very advanced
- SCBs finalized, ordering imminent
- Grounding scheme close to final
- Service space around PXD/SVD assigned, no space for additional requests
- Discussions on the place for IBBelle ongoing, good solution at the horizon
- Thermal mockup for PXD well on the way

Next steps:

- Kapton design and routing from PXD to VXD flange
- Dry colume, service space, cable/pipe routing





Backup

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Plan "A2" (top: present baseline)



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Plan "C4" (top: present baseline)



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Belle II		Construction		Beast ph	ase 1	* Belle II	roll in (no	VXD)	Beas	t phase 2	VXD insta	II Partial	TOP			add T(P		F	ull Bel	
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Phase 2 with 12 months delay, but full Belle II start as in baseline