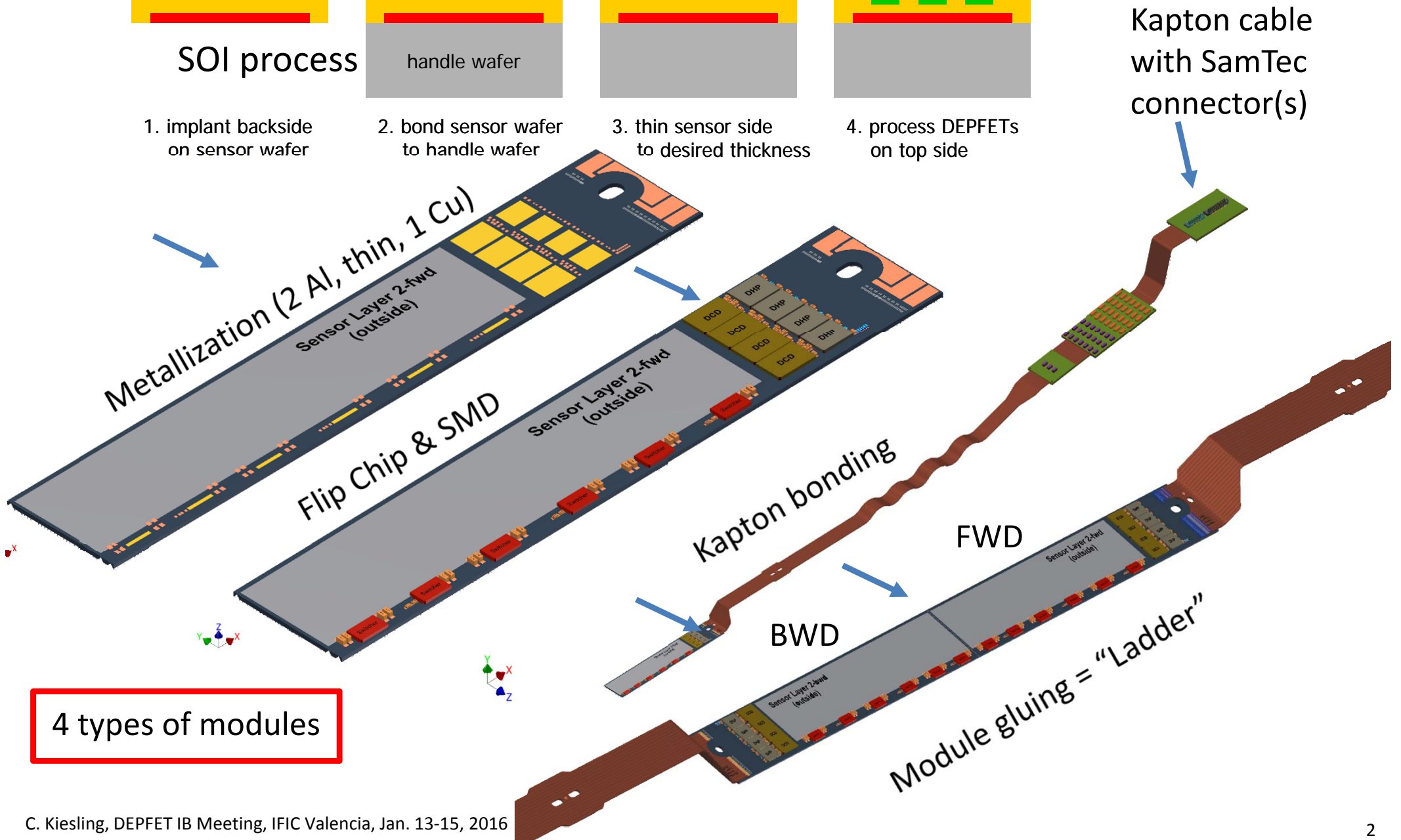
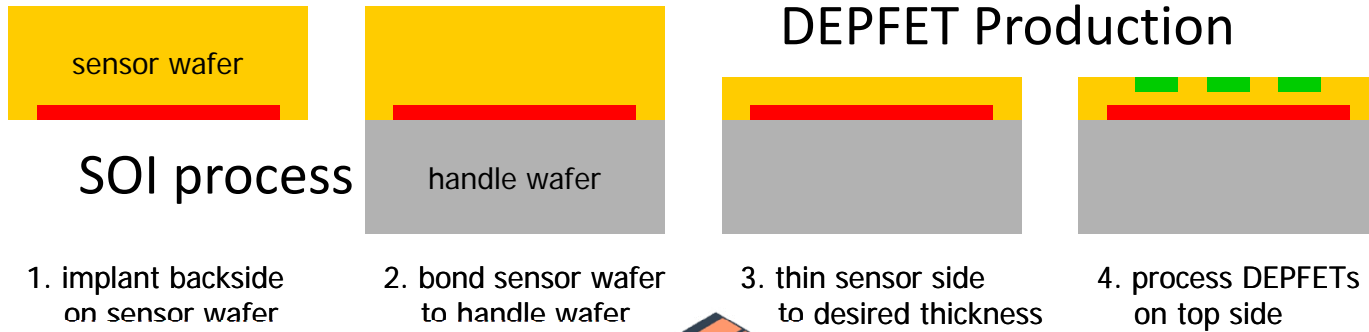




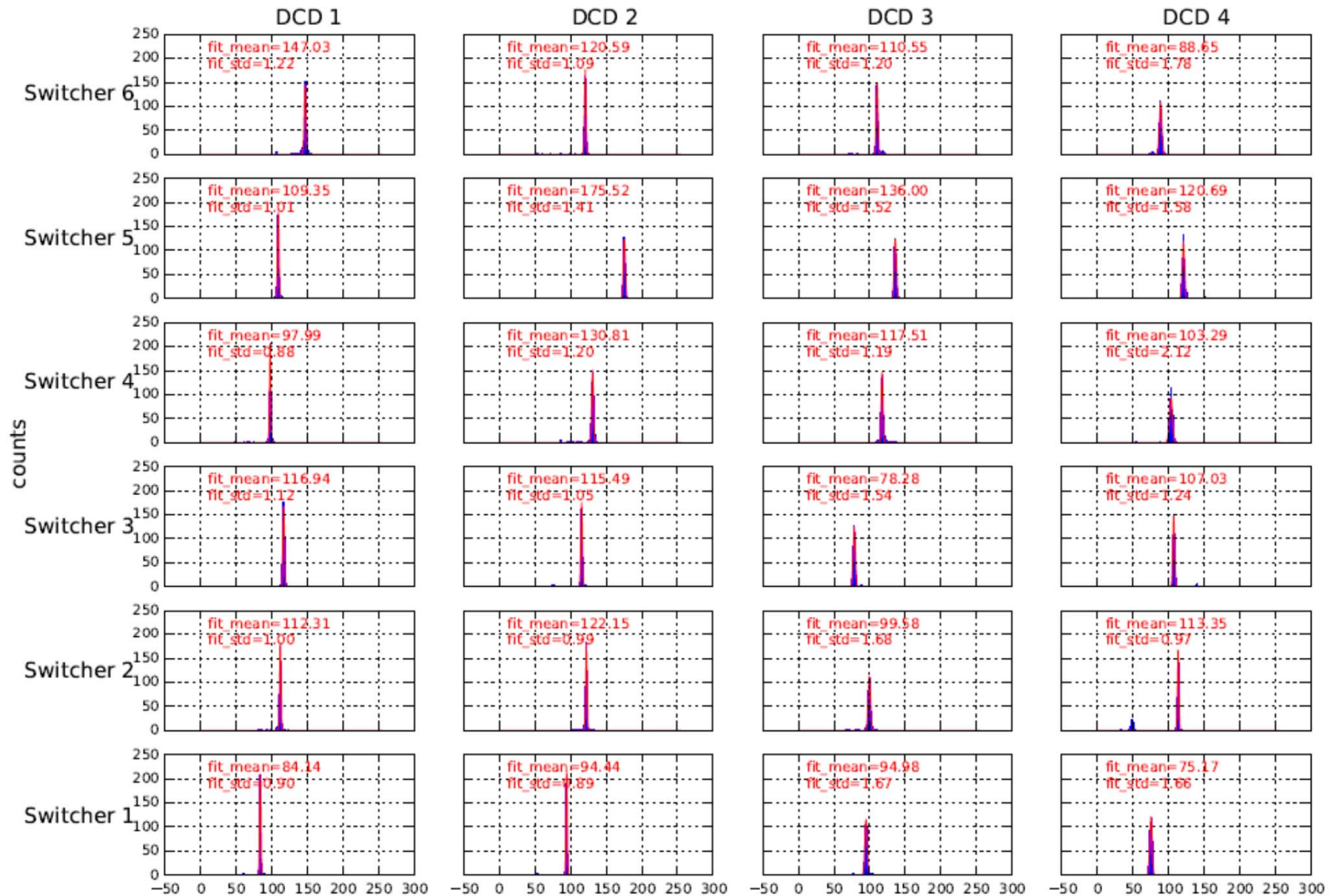
# DEPFET IB Meeting - Report of PL -



- Urgent matters to be discussed/decided during this workshop.
- Discussion on update for the production schedule of the PXD
- Planning of presentations at B2GM / BPAC
- Common Fund status and requests



4 types of modules



OB with Kapton

ADU

Laser on single pixel, full speed,  
CLEAR OK

OB with Kapton is working at full speed and complete CLEAR

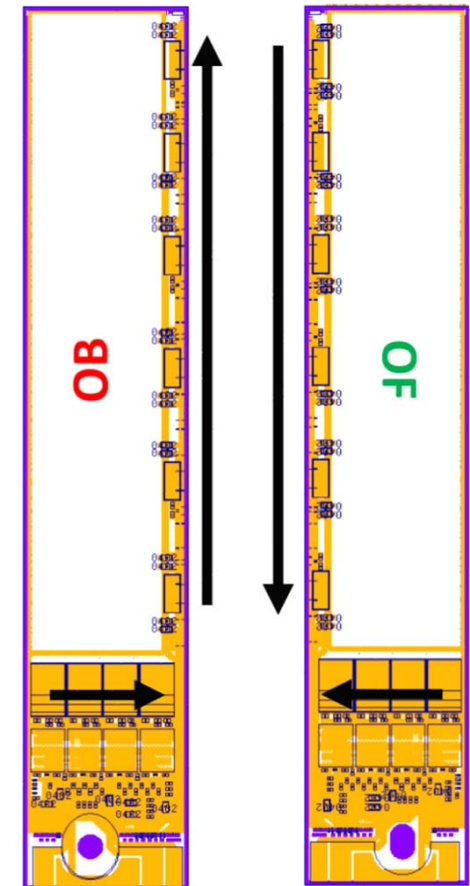
Should we insist on OF measurements (mounted on hybrid)?

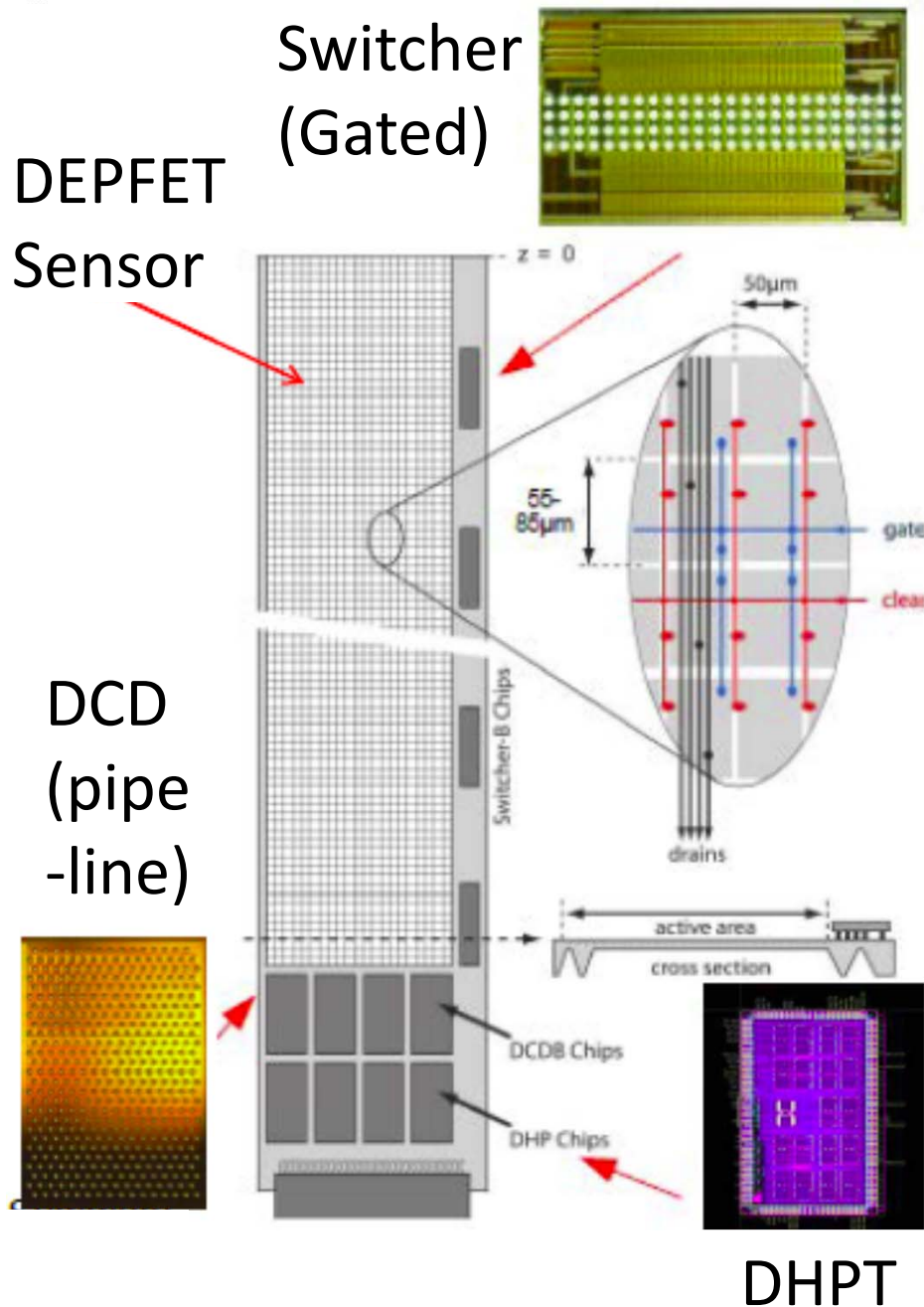
-> There ARE some differences in the metal1 layout.

To be sure, we should continue producing the same plots with (hybrid) OF as for (Kapton) OB [remark: Kapton cable does not introduce any strange effects, seems to work as specified]

With some risk, we could decide to go ahead without full analysis of OF

Crucial: Time involved to get software / tuning fully working to repeat OB test





DHPT 1.1 delivered, under test

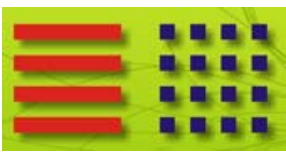
Switcher delivered, back from bumping end of January

DCDBs (5 versions) submitted, expected back early February

Test preparation at KIT:

- Probe cards for new SWB and DCD under development
- Qualify present DCDs (for DESY test)

Realistic schedule needed !

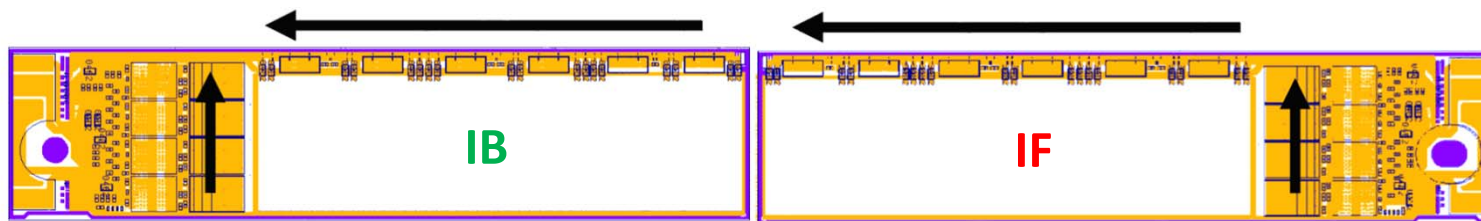
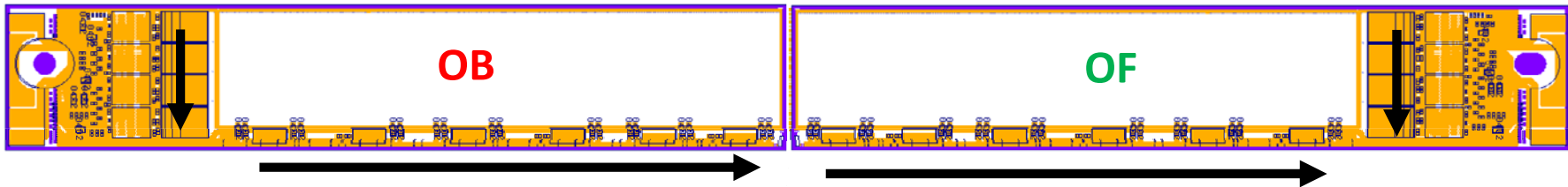


# Subjects to Address



- ❖ Next step (after Green Light for Production):  
equip one / two modules (OF) with new DHPT + old SWB / DCD
- ❖ Preparation of DESY Test: old DCD, old Switcher, new DHPT for one / half ladder  
other ladder: new SWB, old DCD  
Gluing technology needs attention
- ❖ Have more groups involved in testing (-> training sessions at HLL)  
MPI, Bonn, ?? Can provide 3 OF modules (with Kapton)
- ❖ After DESY Test: need to prepare for BEAST 2 -> schedule, manpower
- ❖ Certification of IBelle and MARCO (designed for 110 Bar maximum pressure, KEK can certify only up to 80 Bar)
- ❖ German TÜV may (again) be a solution

View from "outside"



View from "inside"

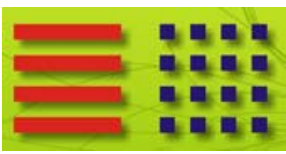
Pilot run yield: 14 of 18

2 IF	(2)	2 IB	(2)
6 OF	(5)	4 OB	(1)

2 OB with Kapton, 1 broken  
1 OF as Hybrid

Some (3) OF modules could be prepared with new DHPT for parallel testing in different groups

(?): no ASICs / SMD yet



Near-term project (after start of metal1 structuring):

- Equip (1-2) sensors from pilot production with new DHPT, but “old” DCD and Switcher
- Continue testing entire matrix (all DHPT/DCD pairs working)
- Modules can be used for DESY test (gain time in ladder preparation for the DESY test, no performance loss due to fixed communication)

ASIC arrangement for the other DESY modules:

- new DHPT 1.1
- if new DCD not ready, take present DCD (works adequately)
- New Switcher needed, test setup being developed at KIT (this is critical, since too few “old” Switchers available)

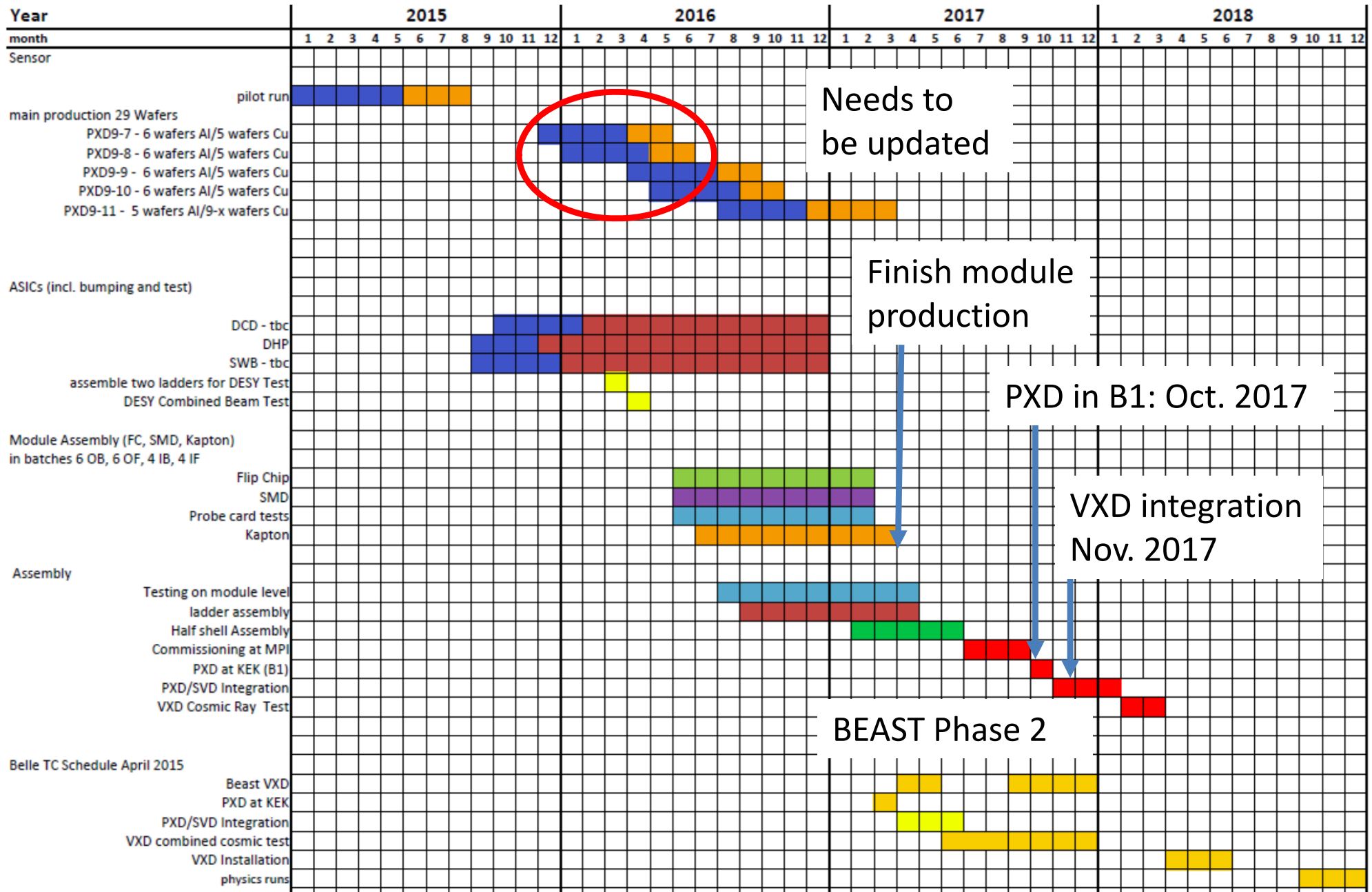
Mechanical support / cooling being designed:

- SCBs mounted on metal ground plate
- Plate also holds the SVD cartridge





# PXD Production Schedule: Needs Update



Start of structuring the first metal layer delayed by about 4-6 weeks

Recovery of lost time possible by accelerating module assembly:

- send larger batches of sensors for ASIC flip-chipping
- 5 consecutive batches planned,
- could be reduced to 4 or even 3

Reason for present conservative planning:

- check (small) batches after return from FC to spot errors
- get some contingency in case of delays

Fewer batches (with larger number of sensors):

- no clearly visible disadvantages,
- IZM so far demonstrated excellent control of FC process



# B2GM / BPAC Meetings @ KEK

---



Jan. 30:	VXD Mechanics Meeting
Jan. 31:	BEAST Meeting
Feb. 1.-5.:	B2GM
Feb. 7.-9.:	BPAC

# B2GM Time Table

date	chair	start	talk	discussion	title	speaker	Kenkyu-honkan Kobayashi Hall	3-gō-kan Seminar Hall	3-gō-kan Meeting Room	2-gō-kan Meeting Room (L)	2-gō-kan Meeting Room (M)	Kenkyu-honkan Meeting Room 2	Kenkyu-honkan Meeting Room 1	3-305	3-425	Tsukuba B4 etc	
Feb. 1	Iba	8:30:00		0:30:00	registration (K)												
		9:00:00		0:25:00	0:10:00	Opening Remarks	T. Browder										
		9:35:00		0:10:00	0:10:00	Report from KEK management	K. Tokushuku Ibc										
		9:55:00		0:25:00	0:10:00	SuperKEKB status, schedule and plans	Y. Funakoshi Ibc										
		10:30:00				break											
		11:00:00			1:30:00												
		12:30:00															
		12:30:00			1:00:00	Lunch				not available							
		13:30:00															
		13:30:00			2:00:00												
		15:30:00															
		15:30:00			0:20:00	break											
		15:50:00															
		15:50:00			2:00:00												
17:50:00			0:20:00	break													
18:10:00																	
18:10:00			2:00:00														
20:10:00																	
							IB 10:00-20:00										
Feb. 2		9:00:00		1:30:00													
		10:30:00				break											
		10:30:00			0:20:00												
		10:50:00			2:00:00												
		12:50:00															
		12:50:00			1:10:00	Lunch	PureCel TF meeting over lunch										
		14:00:00			2:00:00												
		16:00:00															
		16:00:00			0:20:00	break											
		16:20:00															
		16:20:00			1:30:00		almost plenary session in parallel to physics, computing										
		17:50:00			0:10:00												
		18:00:00			2:00:00	Party											
		20:00:00															
20:00:00																	
20:00:00																	
Feb. 3 integration day (gamba uchirewise)		9:00:00		1:30:00													
		10:30:00															
		10:30:00			0:20:00	break											
		10:50:00															
		10:50:00			2:00:00												
		12:50:00															
		12:50:00			1:10:00	Lunch											
		14:00:00			2:00:00												
		16:00:00															
		16:00:00			0:20:00	break											
16:20:00																	
16:20:00			2:00:00														
18:20:00			0:20:00	break													
18:20:00																	
18:20:00			0:20:00	break													
18:40:00																	
18:40:00			2:00:00														
20:40:00																	
20:40:00																	
Feb. 4	Iba	9:00:00	0:12:00	0:03:00	Beam Pipe	S. Tanaka											
		9:15:00	0:12:00	0:03:00	PXD	C. Kiesling											
		9:30:00	0:12:00	0:03:00	PXD ASIC	Iba											
		9:45:00	0:12:00	0:03:00	SVD	C. Schwanda											
		10:00:00	0:12:00	0:03:00	VXD thermal test	Hue Ye											
		10:15:00															
		10:15:00			0:30:00	break											
		10:15:00															
		10:45:00		0:25:00	0:05:00	Inner detector integration	S. Tanaka										
		10:45:00															

Important interactions with SVD, DAQ, machine



Feb 07					
08:30	01:00	00:00		Executive session (closed)	
09:30				Welcome, Key issues of the review	T. Browder, Y. Sakai, Y. Ushiroda
09:30				KEK project development, implementation, manpower and future	K. Tokushuku
09:30	00:10	00:05	Belle 1	Overview (pub., collab. etc)	L.Piilonen
09:45	00:20	00:10		B(s) decays & CPV	B.Pal
10:15	00:20	00:10		(Semi-)leptonic and EW decays	P.Goldenzweig
10:45	00:20			break	
11:05	00:20	00:10		Charm & hadron physics	Y.Kato
11:35	00:20	00:10		Dark sector, Y(5S/1S/2S)	I.Jaegle
12:05	00:15	00:10		Two-photon & tau physics	H.Nakazawa
12:30	00:10	00:10		Concluding remark (goal and plan for 2016)	K. Miyabayashi
12:50	01:10			Lunch	
14:00					
14:00	00:05	00:15		SuperKEKB/Belle II project global schedule	Y. Ushiroda, K. Akai
14:20	00:20	00:10		SuperKEKB accelerator overview	K. Akai
14:50	00:10	00:10		Beam pipe and shields around IR	S. Tanaka
15:10	00:10	00:10		Beam background	H. Nakayama
15:30	00:20			break	tbc
15:50	00:10	00:10		BEAST phase 1	S. Vahsen
16:10	00:10	00:10		BEAST phase 2	S. Vahsen
16:30					
16:30	00:20	00:15		Physics in phase 2 and 3	P. Urquijo
17:05					
17:05	00:30			Executive session (closed)	
17:35	00:30			summary discussion	
18:05	00:40			move to Okura	
18:45	00:05			contingency	
18:50	02:00			reception	
20:50					



# BPAC Presentations (II)



Feb 08						
08:30	00:30	00:00	Executive session (closed)			
09:00	00:10	00:10	Belle II detector overview	P. Krizan		
09:20						
09:20	01:20		DAQ (Belle2link, ...)	R. Itoh et al.	tbc	
10:40						
10:40						
10:40	00:20		break			
11:00						
11:00	00:15	00:10	Slow Control	M. Nakao		
11:25	00:15	00:10	Interlock	S. Uehara	tbc	
11:50	00:15	00:10	Level 1 Trigger	Y. Iwasaki	tbc	
12:15	00:10	00:10	GND/EMC	M. Tanaka		
12:35	01:10		Lunch			
13:45	02:20		gemba visit	I. Adachi, S. Tanaka et al.		
16:05	00:20		break			
16:25	00:25	00:10	KLM	D. Liventsev	tbc	
17:00	00:25	00:10	ECL	A. Kuzmin	tbc	
17:35	00:10	00:10	Endcap ECL upgrade	tba		
17:55						
17:55						
17:55						
17:55	00:20		break (+snack)			
18:15			ARICH	S. Korpar, S. Nishida et tbc		
18:15	00:25	00:10	ARICH status			
18:50	00:15	00:10	HAPD tests			
19:15						
19:15	00:30		Executive session (closed)			
19:45	00:30		summary discussion			
20:15						



Feb 09						
08:30	00:30	00:00	Executive session (closed)			
09:00	01:00		TOP	J. Fast et al.	tbc	
10:00	00:10	00:10	Magnetic field	C. Niebuhr	tbc	
10:20	00:25	00:10	CDC	S. Uno	tbc	
10:55	00:20		break			
11:15						
11:15	00:10	00:10	VXD mechanics	S. Tanaka		
11:35	00:15	00:10	VXD thermal management	C. Niebuhr	tbc	
12:00	00:10	00:10	CO2 cooling	C. Kiesling		
12:20	00:05	00:10	VXD integration plan	S. Tanaka		
12:35	01:10		Lunch			
13:45						
13:45	01:40		PXD and PXD DAQ	C. Kiesling et al.	tbc	
15:25						
15:25						
15:25	00:20		break			
15:45						
15:45	00:40	00:40	SVD	C. Schwanda et al.	tbc	
17:05						
17:05						
17:05	00:20		break (+snack)			
17:25	01:30		Software, Computing	T. Kuhr, T. Hara et al.	tbc	
18:55						
18:55	01:00		Executive session (closed)			
19:55	00:30		Close out			
20:25						

13:45				
13:45	01:40	PXD and PXD DAQ	C. Kiesling et al.	tbc
15:25				

What should be presented:

- Overview & Schedule
- Status of Test measurements -> start of metal 1 structuring
- Status of ASICs
- Module + Ladder Assembly / Test
- Thermal Mockup
- CO2 Cooling
- VXD Assembly and Commissioning
- VXD Installation
- Slow control / general reconstruction / monitoring software

8 Talks in 100 min -> 10 min each + 2.5 min discussion

4 (5) Talks -> 20 (15) min each and 5 min discussion



Common Fund founded in 2009

- Reason: Collect funds for cases of unforeseen expenditures
- Contributions done on the basis of DEPFET MoU
- Contributions are voluntary, account localized at MPI
- No yearly budgeting required (secure funds over fiscal year boundaries)
- Expenditures discussed / authorized in DEPFET IB Meeting
- Payment of bills authorized by PL



# DEPFET Common Fund

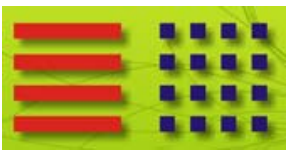


## Overview DEPFET Common Fund

Year	Contribution [k€]	Institute		
2009	22,00	Prague		
2010	80,00	Prague		
	30,00	Prague		
	6,40	Prague		
	25,00	MPI		
2011	32,50	Prague		
2012	2,00	TUM	Conf	
	66,00	Prague		
2013	100,00	MPI		
2014	4,50	German univ	Travel PL	
	20,00	KEK	CO2	
	6,00	Krakow	CO2	
	5,00	Vienna	CO2	
	20,00	INFN	CO2	
	2015	58,21	LMU (Rest of BMBF Money)	CO2
		23,21	Tabuk	CO2
50,00		DESY	CO2	
	20,00	HD Uni	Slow Control	
	570,82			
	Expenses (k€)			
	322,92	PXD only (not KEK-PF)		
Status ("Haben")	247,90			

## DEPFET Common Fund Sub Accounts

		Expend (k€)	
Grounding project ITA	A	52,19	
KEK-PF	B	0,00	(in = out)
IBBelle (CO2)	C	172,67	
Personnel + travel	D	98,06	
Electronics (since 2016)	E		
		322,92	



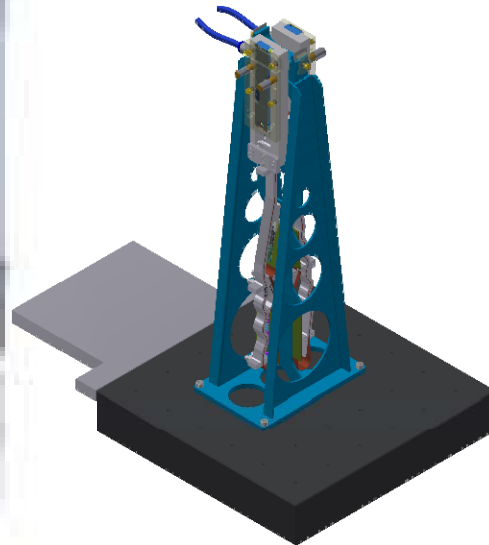
# Backup

Concept for final production step: gluing of modules to sensors

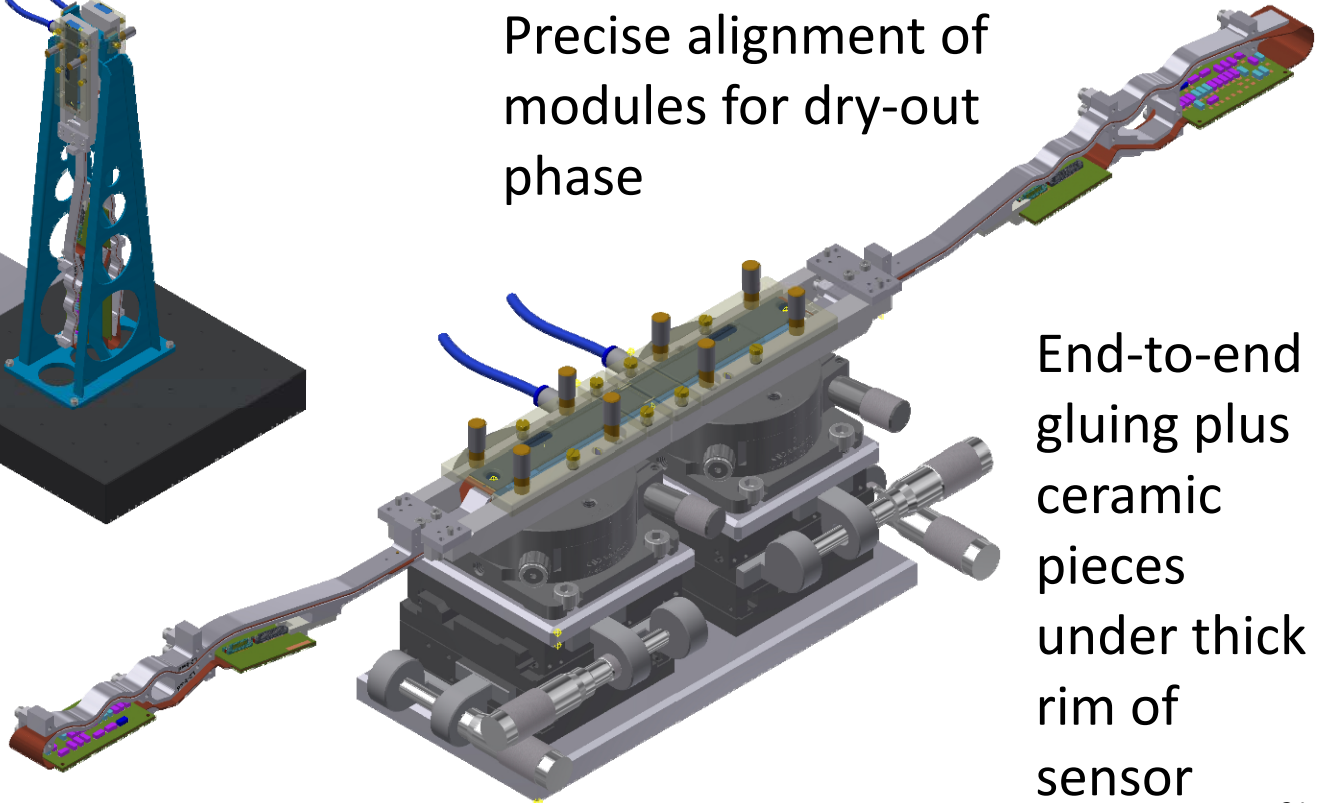


Glue dispenser  
(not to scale)

Tower holding 2  
modules vertically  
under dispenser



Precise alignment of  
modules for dry-out  
phase



End-to-end  
gluing plus  
ceramic  
pieces  
under thick  
rim of  
sensor