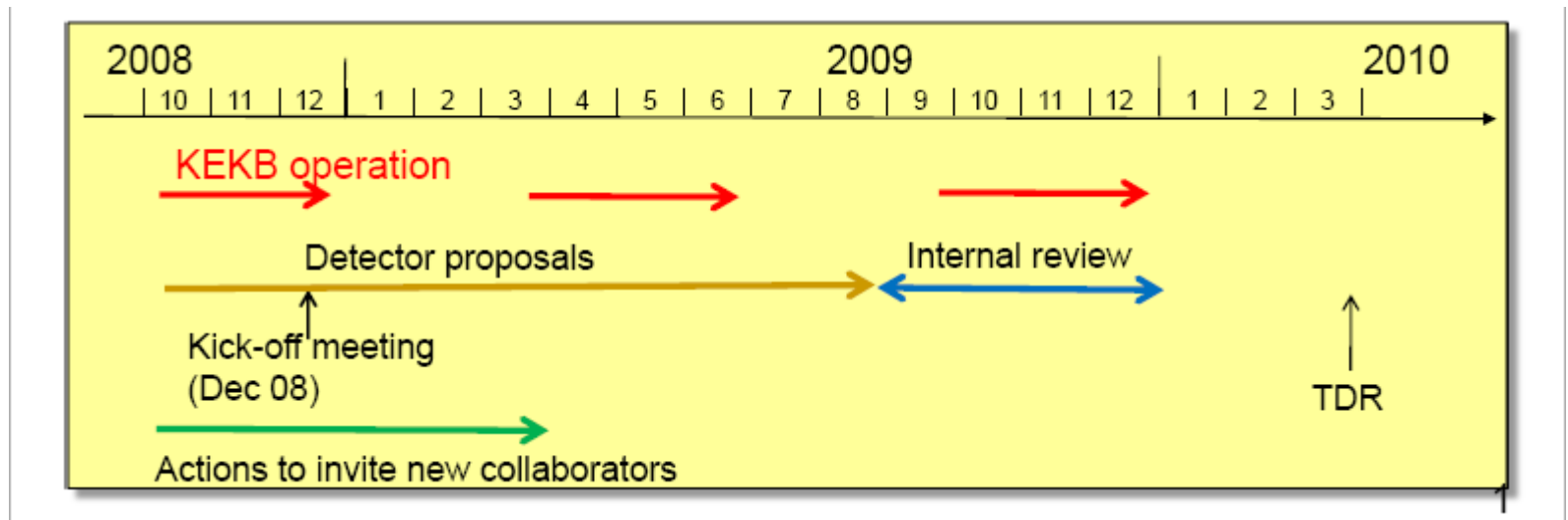


Report from TC

Yutaka Ushiroda

SCHEDULE TOWARD TECHNOLOGY CHOICE



- Decision of major technology options must be made by Dec.25, 2009
- required from mass production schedule for CDC, PID, ECL, ...
- If you cannot decide by yourself, somebody (internal review committee) must decide for you.
- The best experts are the group members. Reviewers will be (capable) non-experts.
- Review cannot be done in one month. Takes at least 2 – 3 months
- Unnecessary delay is not welcome (so please decide by yourself whenever possible)

PXD

- No apparent problem in the baseline option = DEPFET. No more major technology choice for DAY1
- Major technology choice again for PXD2.0
 - For the case DEPFET dies after a few years of operation
- Frame readout time ($20\mu\text{s}$ vs. $10\mu\text{s}$) will be determined after close discussion with TRG/DAQ/IR groups within a few months.

SVD

- Good news: **HAMAMATSU** (Japan) will restart the production of 6" DSSDs.
- But the first testable devices will be available in one year minimum. So they are not eligible for the production of a test batch.
- However, they could be back in the game for the final production.

- Three DSSD vendors to be assessed
 - Hamamatsu / SINTEF/ MICRON
- First sample of Hamamatsu will come in 1.5 years (after Dec. 2009)
 - Still acceptable for their mass production schedule.
 - No conflict with other sub-detector's schedule
- No other major issues in the choice of readout electronics, mechanical designs ...
 - Innermost layer $r = 3.8\text{cm}$, outermost layer $r = 14\text{cm}$

CDC

- Outer radius is not decided
 - determined by B-PID (by Dec.)
- Readout electronics
 - KEK ESG's option is the baseline

B-PID



Schedule toward technology choice

- By the end of August
 - Make list of possible options
 - In our case, MCP-PMT choice is important.
 - Make performance catalogue for
 - MCP-PMTs
 - QE, CE, TTS, Gain, Lifetime,
 - Detector configuration
 - Separation power (eff./fake)
 - Robustness (beam BG, T0, tracking, photon loss)
 - By the end of December
 - Decide detector configuration and technology
 - Show test results
 - MCP-PMT lifetime, Simulation study, electronics test
- } To be Checked by internal review committee?

E-PID

SUMMARY

- MCP-PMT lifetime test started and 1st result will come soon
- New ASIC for HAPD readout works OK
- More results from HAD neutron irradiation tests
- Further discussion at Nagoya
 - Overall schedule
 - Photon detector
 - Simulation
 -etc

--> November meeting

ECL

Considered options

	PureCsl+PP	PureCsl+APD	BSO	PWO(-II)
Pro	$\lambda=330\text{nm}$, $\rho=4.8\text{g/cm}^3$ $X_0=1.85\text{cm}$, $R_M=3.5\text{cm}$ <ul style="list-style-type: none"> •Low noise(0.2MeV) •Well tested. 	← ← <ul style="list-style-type: none"> •Mag. field free. •Redundancy(2pcs) •No need to modify container. 	$\lambda=480\text{nm}$, $\rho=6.8\text{g/cm}^3$ $X_0=1.15\text{cm}$, $R_M=2.4\text{cm}$ <ul style="list-style-type: none"> •Better 2 shower separation •Match all photo-sensors •Same scintillation as PureCsl Mass production technology established.	$\lambda=420\text{nm}$, $\rho=8.3\text{g/cm}^3$ $X_0=0.9\text{cm}$, $R_M=2.0\text{cm}$ ←
Worry or con	<ul style="list-style-type: none"> •PP long-term stability 	<ul style="list-style-type: none"> •Noise by larger device capacitance. •Q.E. down to ~40%. 	<ul style="list-style-type: none"> •Check mechanical strength of container. •How to assemble as a counter 	← ← <ul style="list-style-type: none"> •Small L.O. •-25deg.C cooling •Discon. of prod.? •Huge # of elec. ch.

Cost estimation comes later

5

Barrel elec. 2.4

11.7

11.7?

14.2

N.A.

ECL

Toward final technology choice

- Guiding principle;
 - Avoid unnecessary delay of baseline option.
 - Decision to be made slightly before next Belle-II meeting.
 - Set up of PureCsl mass production takes ~half year at Kharkiv.
- Criteria and timeline;
 - Other options have to answer for homework by that time.
 - Otherwise stick to baseline option, PureCsl+PP.

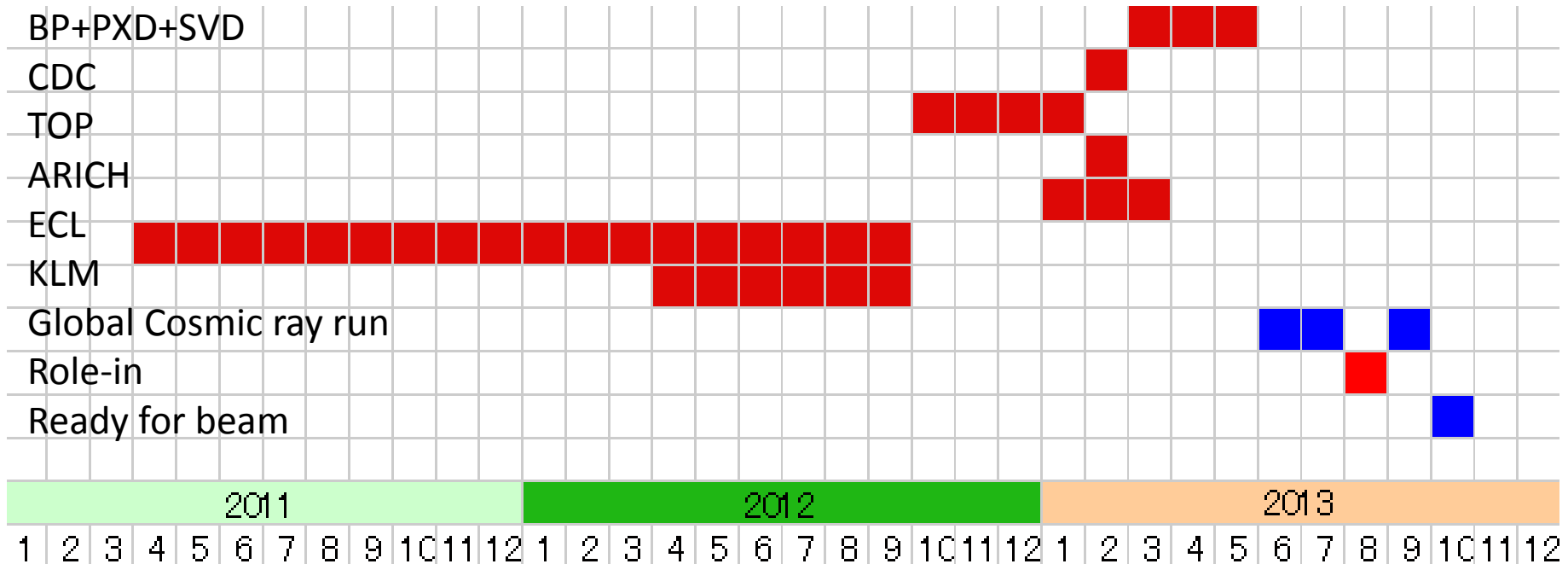
 Call an IRC in Sept. (budget size so large!)

KLM

- No competing options

DETECTOR INSTALLATION SCHEDULE

Installation Schedule



<http://spreadsheets.google.com/pub?key=p5334NYguGq-p04ille-WaQ&output=html>

KLM installation completed by Sept 2012

TOP installation completed by Jan 2013

CDC installation completed in Feb 2013

BP+PXD+SVD inserted in March to May 2013

Endcap should be ready to be inserted by April 2013

- Start of experiment may be delayed by request from machine people
 - No official request yet
 - Several months to a half year
 - We must start within FY2013 in any case
- Before role-in, we would have a commissioning detector (Beast-II?)
 - Contribution from each sub-detector needed