

# Future Plan in Japan (tentative)

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in Japan

# Objectives

- We may have to fix the final realistic/defendable detector design within next < 5 years.
- and to be ready to start construction from two years later.
- We should attract new groups to join our project.

# What we plan to do

- Si sensor R&D and fix its design.
  - Including radiation test.
- Establish the Si sensor mass measurement system.
- Construct ECAL cell in Japan.
  - Find Japanese PCB manufacturers.
- Test beam with the Si technological prototype.
- Study of hybrid ECAL.
  - Simulation and DAQ

\*We will request a budget (~4M€ : hardware, travel and manpower) to KEK with this plan for next five years.

# Five Year Plan

	2013	2014	2015	2016	2017
<b>Si sensor R&amp;D and fix the design</b>					
<b>Mass measurement</b>	optimize measurement procedure • automated measurement system (option1)		mass measurement system prototype (option1) mass measurement test (option2)		
<b>construct ECAL cell in Japan</b>	find PCB supplier in Japan	Si pad bonding, make ECAL cell prototype, TB in Japan	make multi layer ECAL cell and TB in Japan		
<b>SiWECAL TB</b>	long slab TB of technological prototype		full size slab TB		
<b>hybrid ECAL</b>	optimization of Si / hybrid ECAL with simulation Si/Sc ECAL common daq	Hybrid ECAL prototype TB			

# Future new groups in Japan

- We do not have enough man power,
- we are starting to visit other universities in Japan and Asia to publicize ILC/ILD.
- We will ask them to contribute to this five year plan.

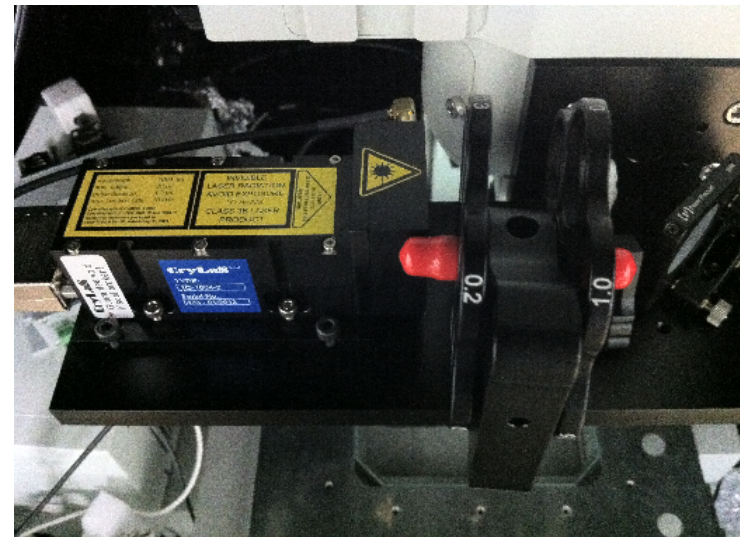
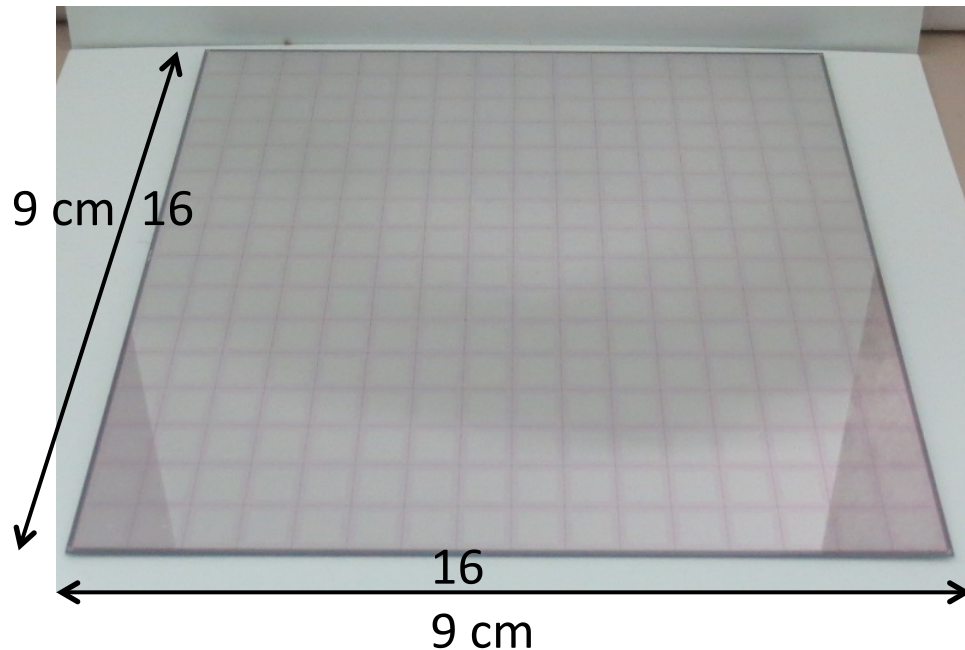
# Request to France group

- One slab and DAQ system to start to learn system and contribute to this activity.
- PCB design (drawing?).
- Help with gluing machine specification.

backup

# Si ECAL R&D

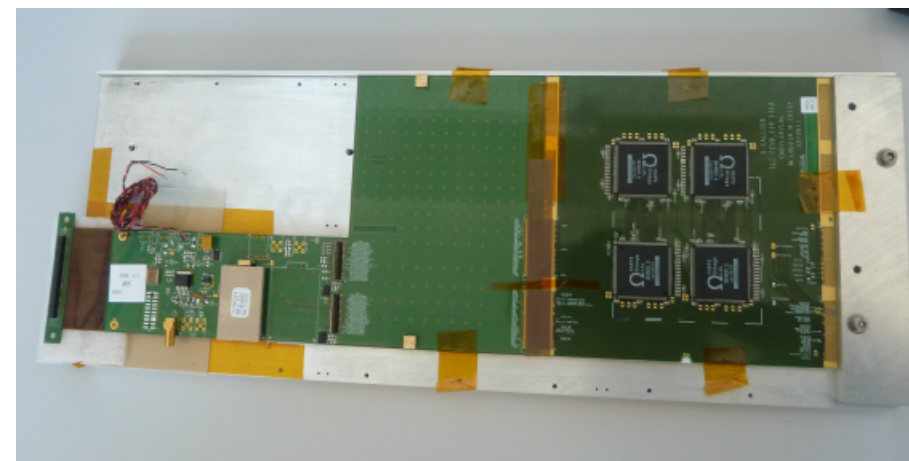
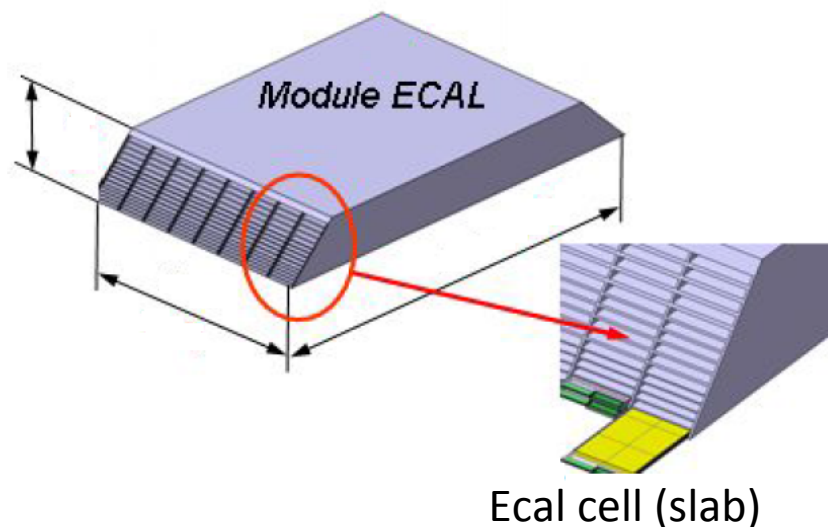
- Infrared laser system
- Study about signal behavior when laser light hits sensor edge, guard ring, sensor gap and pixel gap.
- Measurement of I-V and C-V
- Radiation tolerance test (neutron)
- Optimize Si pad design cooperate with HPK
- All pixel scan with radiation source





# Construction of ECAL cell in Japan

- Choose companies to make signal readout pcb for ECAL cell in Japan
- Glue machine (pcb + Si sensor) (for prototype TB, Glue machine is already developed by France group)
- Make SiWECAL cell in Japan
- test with beam in Japan
- Design and make automatic glue system for calorimeter cell
- Make several calorimeter cell and test with beam in Japan



Short Slab of technological prototype<sup>12</sup>