EUDET Prototype – The next months

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LAL Orsay

EUDET Mechanics Meeting
28/8/08

- Timelines

- ECAL Design Note

- Next major meetings – Manchester/Amsterdam

Time Lines

Demonstrator

- Allows for studying important steps and items of Module production now

- Essential Pieces ready
  - Structures and H boards
  - FEV6 – PCB for temperature studies
  - Prediction from simulation do exist
  - Gluing feasible
  - Glass Plates will mimic Si Wafers

- Mimicking of DIF?

- What else?

Assembly can start now
Tests until end of 2008

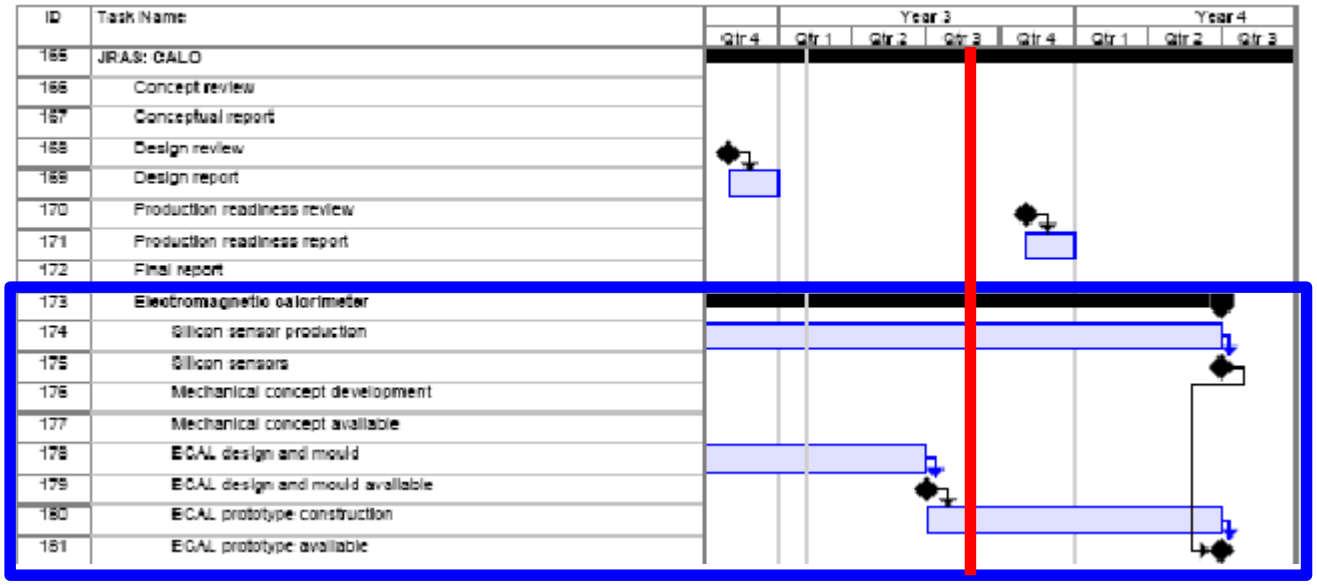
EUDET Protoype

- Design need to be fixed now!!! What can we build with the knowledge of today?

- Note on Ecal Design until Amsterdam

- Ordering of pieces for moulds by end of the fiscal year 08 (30th November)

2008 2009



ID	Task Name
165	JRA3: CALO
166	Concept review
167	Conceptual report
168	Design review
169	Design report
170	Production readiness review
171	Production readiness report
172	Final report
173	Electromagnetic calorimeter
174	Silicon sensor production
175	Silicon sensors
176	Mechanical concept development
177	Mechanical concept available
178	ECAL design and mould
179	ECAL design and mould available
180	ECAL prototype construction
181	ECAL prototype available

We are here

At least ~3 Months of delay

Ecal Design Note

Editorial Work: R.P.

Chapter	Author (tbc)
1) Introduction and Purpose	R.P.
2) Overall Design	Marc, Aboud, R.P.
3) Structures and Moulds	Marc
4) Si Wafers	Remi
5) SKIROC Chip How detailed?	Julien F.
6) PCB and ASU + Interconnection How detailed?	Julien F., Maurice, Patrick
7) DIF Card	Maurice, Bart
8) Gluing Wafer <-> PCBs	David, Ray
9) Heat Dissipation of EUDET Module	Denis, Julien G.
10) Assembly of Prototype	Aboud
11) First Validation Steps – The Demonstrator	R.P., Marc
12) Conclusion and Outlook	R.P.

Note should describe the state of the Art of today and what realistically can be built
Not what we may expect in one year, note improvements are always welcome

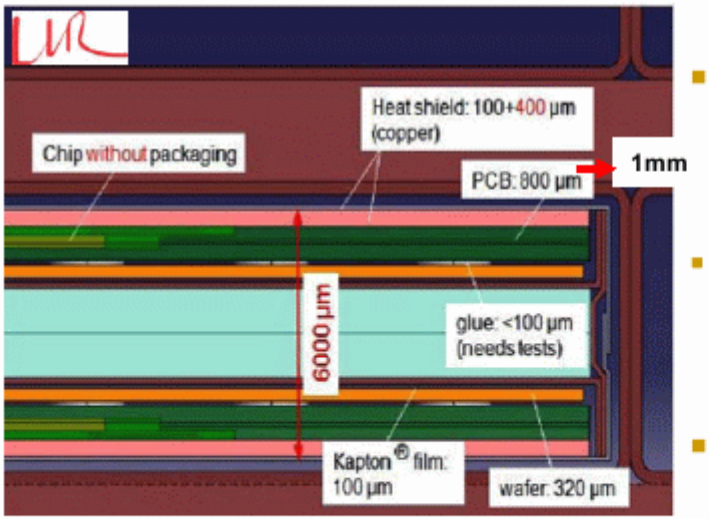
Deadline 30th of September (to be negociated on Mondays exSB Meeting)

Settling down the design ...

The expected heat shield thickness is 500 µm=100+400 µm:

⇨ Brazing of copper foils (T<300°C) to be validated

Heat shield : 100 (housing Al or CuBe?) + 300 or 400 µm Cu = 4 options for copper assembling to test:



- **Options 1**
  - 100µm housing Cu.. + **400 µm** Cu (without brazing – with holes) / **0.4 mm** considered for simulation. Thermal grease only in holes (1.8x1.8 cm^2 chips*__400 µm__ thick).
- **Options 2**
  - 100µm housing Cu.. + **400 µm** Cu + 0.05 (silver brazed) / **0.5 mm** considered for simulation. Thermal grease only in holes (1.8x1.8 cm^2 chips*__400 µm__ thick).
- **Options 3**
  - 100µm housing Cu.. + **300 µm** Cu + 0.05 (silver brazed) / **0.4 mm** considered for simulation. Thermal grease only in holes (1.8x1.8 cm^2 chips*__300 µm__ thick).
- **Options 4**
  - 100µm housing Cu.. + **400 µm** Cu (whithout brazing) / **0.4 mm** considered for simulation. No holes (1.8x1.8 cm^2), chip no overlapping.

- Design close to 'Option 1' but ...

Baseline was: 100µm Al housing and 1.3x1.3cm^2 holes for chips?

Need to consider 1.2mm for PCB!!

From D. Grondin

Next major meetings

Manchester – CALICE Meeting

- Who will go?
- Occasion for face to face meetings and discussions
  Agenda needs still to be settled
- Latest date for settling down the design
- Overview talks in Ecal Session
  By whom? Initial Proposal Marc, Remi and Julien

Amsterdam – EUDET Annual Meeting

- Who will go?
- What to present?
  Two presentations
  Overall status of the Project ~ Summary of the Design Note
  A short dedicated talk on the demonstrator?