



# **EUDET**

## **Summary and Outlook**

**Joachim Mnich**

**Annual Meeting 2007**

**Palaiseau, October 10th**

### **Outline:**

- **Summary and Outlook EUDET**
- **Introduction to FP7 discussion**

# Scientific Status



- **Many, many good & important results shown at the meeting**  
I refrain from showing a random collection of plots
  
- **General impression:**
  - **EUDET is in rather good shape**
  - **no desaster in 2007 identified yet**
  - **BUT we still have to achieve many milestones & deliverables**
    - **before the end of 2007**
    - **including their documentation**
  
- **must speed up in many areas in order to produce a respectable Annual Report**
  
- **Reminder:**
  - **start writing your EUDET memo or report now!**  
**deadline December 1<sup>st</sup>**
  - **start discussing with your administration NOW on financial reports and the required audit certificates!**

# Preparation Annual Report 2007



- Time table, approved by Institution Board on Monday
- Will be **STRICTLY** enforced

Responsibles	Action	Deadline
I3 Coordinator	Submission of Annual Report to Brussels	15.02.2008
All	Final feedback to Annual Report	08.02.2008
IB Members	Signed final versions of financial forms at DESY incl. audit certificate	08.02.2008
I3 Coordinator	Final draft of Annual Report distributed	01.02.2008
JRA/NA2 Coordinators & Task Leaders	Final input for scientific part (progress report)	25.01.2008
I3 Coordinator	First draft Annual Report	18.01.2008
IB Members	Draft financial information (Form C & Appendix 1) incl. new implementation plan	18.01.2008
JRA/NA2 Coordinators & Task Leaders	Input for scientific part: progress report & complete lists of talks and papers	21.12.2007
All	EUDET memo/report on Annual Meeting talks	01.12.2007

- We'll prepare a web page with further info, documents, etc.

# Next Steps



- **Annual Report**  
Deadline: February 15th, 2008
  
- **SC meetings**
  - will continue to invite responsables for status reports on milestones
  - fill day video meeting (late) summer to review status
  
- **Mid-term review**
  - either meeting with all coordinators & task leaders at Brussels
  - or in conjunction with Annual Meeting
  
- **Annual Meeting 2008**
  - place: NIKHEF (Amsterdam)
  - 2.5 days duration
  - October 2008, exact date to be determined
    - several boundary conditions  
LOI deadline (01.10.08), LCWS, LHC inauguration

# FP7 Proposal



- **Details of FP7 programme: see Gerburg Larsen's talk on Tuesday**
  
  - **Discussion on possible EUDET FP7 continuation in FP7**
    - **I3 → IA**
    - **Deadline for proposal: 15.02.2008**
    - **looks like as if ILC (EUDET) community is interested...**
  
  - **Two „options“:**
    - A) EUDET-2:**
      - follow-up of EUDET with essentially the same community and new targets, adjusted to detector roadmap**
    - B) Incorporate other European detector R&D projects**
      - e.g. sLHC, neutrino, super-B into a large IA**
      - avoids competition**
      - incorporates all European detector efforts**
      - prioritization done by HEP community**
      - ...**
- Note: there will be pressure to go for option B**

# FP7 Proposal



- **Results of the discussion**
  
- **Independent of A/B**
  - start preparation of FP7 proposal
  - adequate participation of (small) university groups  
try to continue EUDET community building
  - set up task force: coordinators + other experts
  
- **In case of a large proposal**
  - ILC must be a visible entity with adequate participation in funds
  
- **Most pressing issue:**
  - collect key elements of a new proposal
  - and formulate them
    - scientific goals
    - budget
    - participants



## "Networking (NA)" ideas for FP7

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More global ideas for EUDET2:

„Towards particle flow“ (hardware-wise; software-wise) [Pohl]

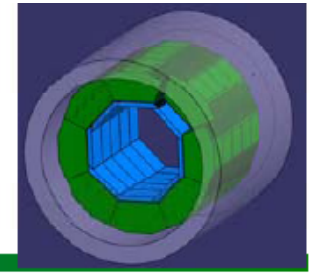
„Infrastructure for vertical detector integration“ [T.Haas]

Generic NA items - have to put them under a common convincing umbrella:

- Common DAQ (hard- and software)
- Analysis Framework (ctd.); prototype for general HEP det. sim.+rec frame
- Common event display
- Managed ILC event repository
- Electronics support: from design support to production support?
- ...



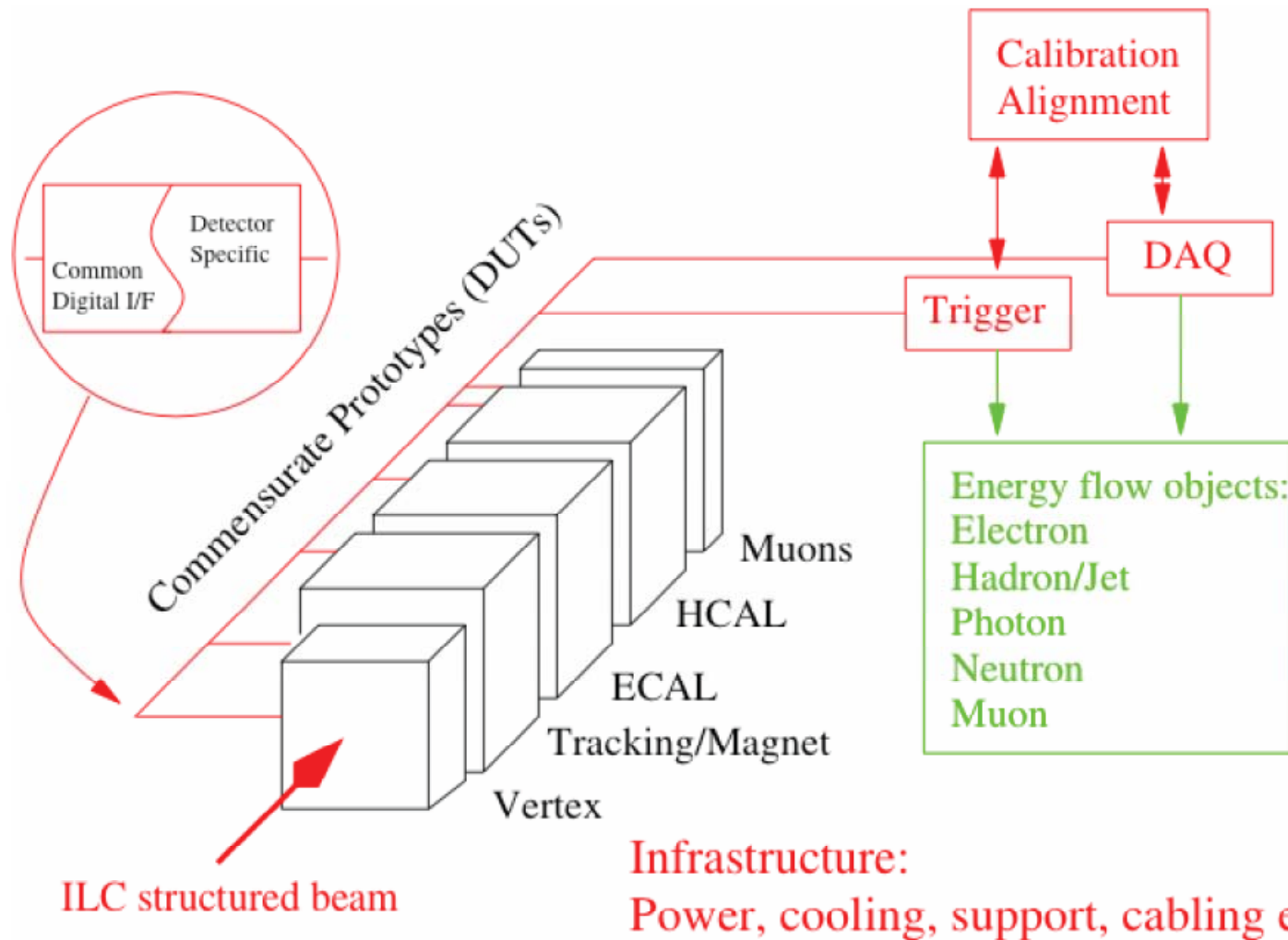
# Some ideas around HCAL



- What kind of infrastructure do we need to be in place by 2013, and which needs development and not just investment?
- Automated test stand for photo-sensor QC and characterization
  - At the million devices scale
  - Controlled light source, multi-channel r/o, data base, sorting
- Calorimeter integration and test facility
  - Grey rooms, engineering for tooling, test beam stacks and stages for series tests
- Photo-sensor industrialization
  - Cooperation with industrial partners for mass production
- Maintain strong role of associates



# European Vertical Integration Facility



# FP7 Proposal



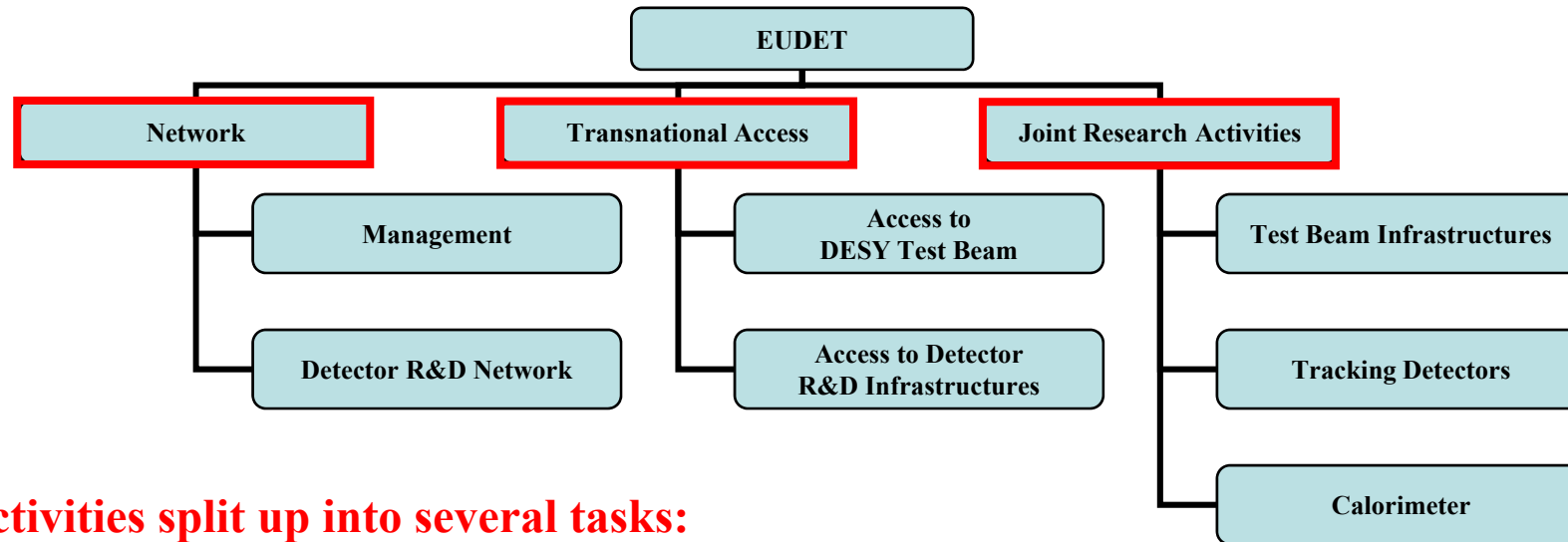
## Other randomly ordered ideas:

- **Networking (ideas stolen from other I3s):**
  - outreach, young researchers, equal opportunity
- **Strengthen Transnational Access**
  - including CERN testbeam, irradiation facilities
  
- **Electronics (ILC specific):**
  - power pulsing, ultra-low power
- **DAQ was a step child in EUDET**
  - in line with vertical integration
- **Integration facilities**
  - ILC specific: calorimeter, TPC
  - European detector integration centre (project office)
- **Industrialisation**
- **Automatic test station (SiPM)**
- **Improvements or new features of European Testbeam facilities**
  - ILC time structure?
  
- **Keep in mind:**
  - what do we really need in 2010 – 2013?
  - and on what do we want to spend “own” money?

# How to structure a FP7 Proposal



## Recall EUDET:



## Activities split up into several tasks:

### Detector R&D Network:

- Information exchange and intensified collaboration
- Common simulation and analysis framework
- Validation of simulation
- Deep submicron radiation-tolerant electronics

### Tracking Detectors:

- Large TPC prototype
- Silicon TPC readout
- Silicon tracking

### Test Beam Infrastructure:

- Large bore magnet
- Pixel beam telescope

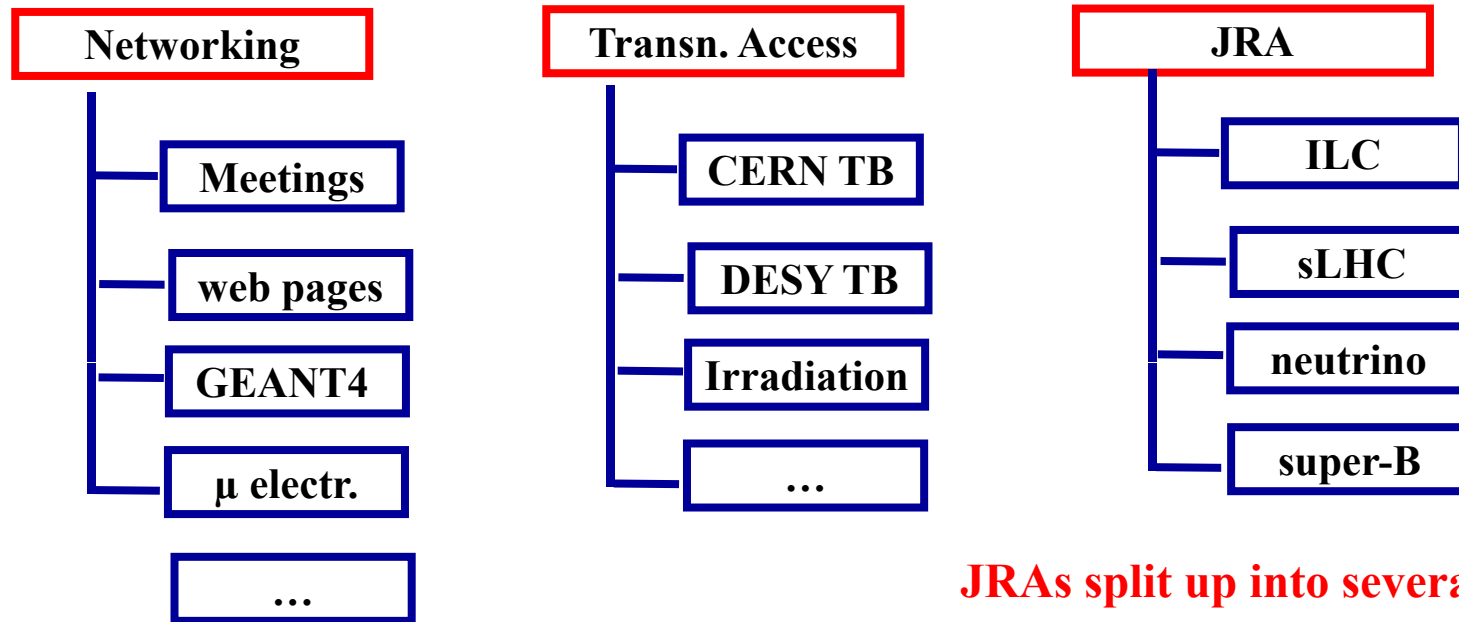
### Calorimeter:

- ECAL
- HCAL
- Very Forward Calorimeter
- FE Electronics and Data Acquisition System

# How to structure a FP7 Proposal



JM's understanding of Martin's radical proposal :



**Network contains real collaboration-wide topics of general interest**

**JRAs split up into several tasks, e.g.:**


- ILC:**
  - Calorimeter integration
  - TPC
  - Vertex
  - DAQ
  - ...

# Steinar Stapness' thoughts presented to RECFA:

**IA (project name)**

Next steps:

- More work is needed to outline the WPs
- Some might not be feasible (or give no extra value)
- Several ideas on how to organise JRAs in particular ...



**Networks**

**Trans-national Access**

**Joint Research Activities**

Management, include Inst.Board as done in EUDET

Electronics, for ILC, SLIC, SuperB (Neutrinos?) DMS access and characterisation

Industrial links and links to other application fields (relevant for all), also outreach

Software For all, Simulation software and tools Simulation of physics processes and radiation Also detector systems (GARFIELD etc). Could also be JRA

Collaborative networks WEB pages, costs books, management tools for example. Could also incl. session where we build collaboration, and look at combined testbeam measurements for example

Testbeam For all: at CERN and DESY (+Frascati) Parameters: Particle types, energy, intensity, timing structures

Irradiation facilities For SLHC and SuperB mostly Compilation in RD50 Beam, reactors or sources (GIF for example)

Cleanroom or other R&D related facilities For experiments being main users Can general access be made

Vertex detector For: ILC, SLHC, SuperB, Neutrinos? Integration and interconnects (incl. materials CMS trigger?). Bump-bonding, MAPS, DEPFET Sol, wafer bonding ..

Micropattern systems For: ILC, SLHC, SuperB

Photoreadout (and crystals?) For ILC, SuperB, Neutrinos SiPM etc ..

Large silicon systems For SLHC and SuperB Integration, cooling, services, readout

Infrastructures (in testbeam) as for example cryogenics, magnets, detector testing --- could be several JRAs



**...famous last words...**

# Acknowledgements



- **Many thanks to all of you for coming to Palaiseau and participating in our 2<sup>nd</sup> Annual Meeting (approximately 120 participants)**
- **Many thanks to our Advisory Board for following the meeting**
- **As well as to Gerburg Larsen (EU) for her visit & presentation**

# Acknowledgements



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