

# What has happened end of 2007 for ILC and the consequences?

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F. Richard LAL/Orsay

*First ILD workshop*

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# Introduction

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- Since LCWS07 where the detector roadmap has started there has been a rapid evolution of the ILC landscape, not always positive
- At the invitation of Ties, I will try to give a some infos and a personal appreciation of the situation
- The purpose is to get some feedback from the community in view of the next steps, in particular the ILCSC meeting planned on Feb 11 at DESY

## What happened at FNAL

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- ❑ At ALCPG, DOE (R. Orbach) has announced that ILC had not passed any 'critical decision' and that CD0 could not happen before LHC results
- ❑ RO also commented that the US partners were to commit resources at comparable level
- ❑ FALC seems the right body to collect this information but we heard that bi-lateral agreements are considered more appropriate on the US side





# PED: Project Engineering Design

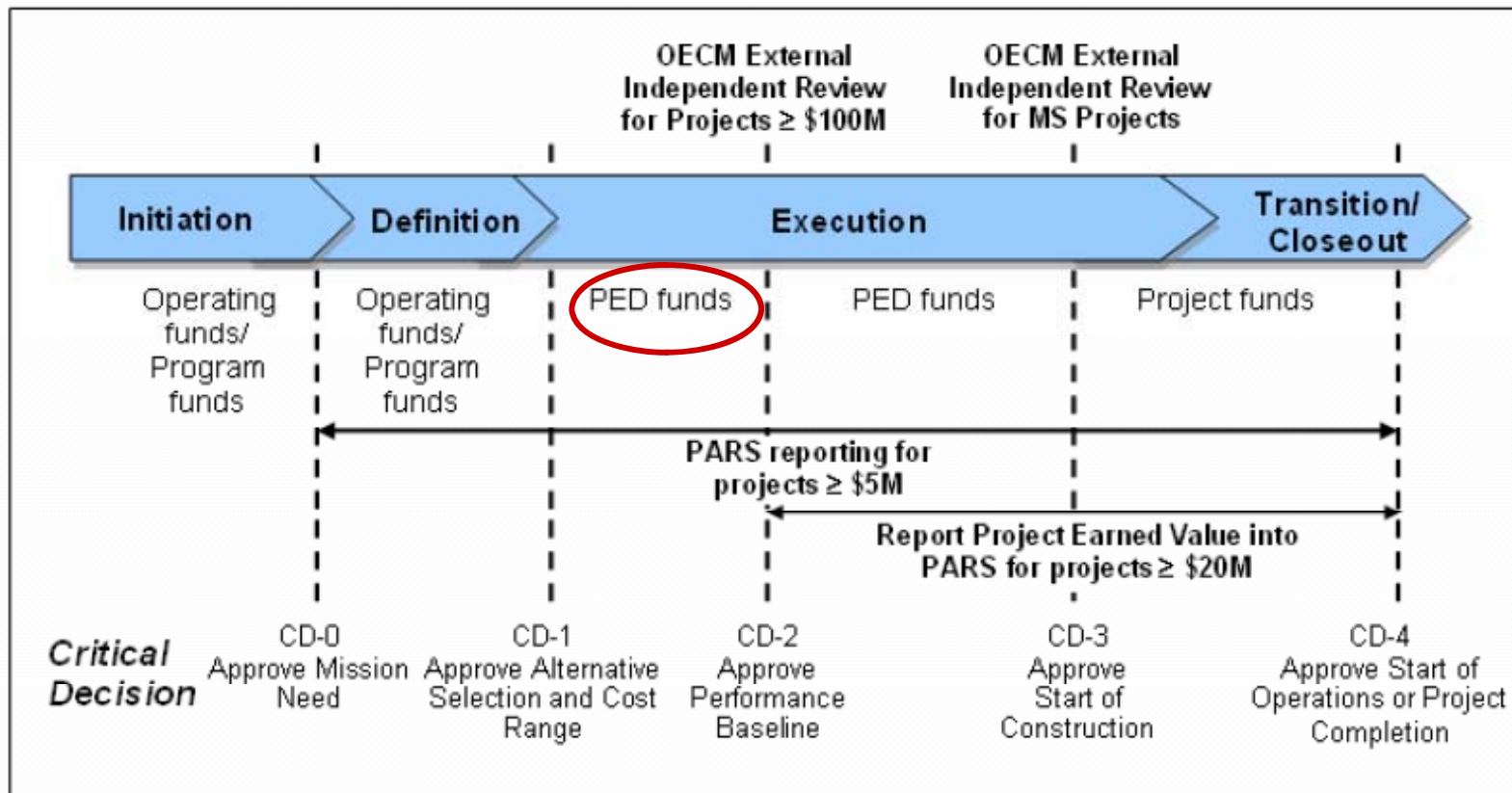


Figure 1. Typical DOE Acquisition Management System for Line Item Projects.

# Consequences

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- The present phase, purely R&D, could however continue but no support on engineering can be claimed in the US
- GDE could still maintain the Roadmap but with a risky situation without a recognized project
- Recall EPP2010 recommendations (April 2006)

# Recall EPP2010 statements

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- U.S. expenditures on R&D for the ILC should be greatly increased
- For the accelerator, this commitment should be as high as \$100 million in the peak year, with a cumulative investment of \$300 million to \$500 million over the next 5 years
- For the detectors, the appropriate level of resources for R&D would be perhaps \$80 million over this period

**Harold T. Shapiro, Chair Committee on  
Elementary Particle Physics in the 21st  
Century**

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# The impact

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- The goal set by EPP2010 was going to be reached for FY08 with 60+20 M\$ requested
- However these new messages from DOE seem to question EPP2010 and could have serious negative impacts in the world
- They had, very soon, with the SFTC decision:  
"We will cease investment in the International Linear Collider. We do not see a practicable path towards the realisation of this facility as currently conceived on a reasonable timescale."

# UK decision

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- ❑ What does this decision actually mean?
- ❑ Many people were hired on this program in the UK labs: Cockroft (Daresbury), J. Adams
- ❑ European resources massively requested by the UK (~20% of the new contract replacing CARE) mainly on behalf of ILC
- ❑ UK commitments on European contracts (eg EUDET, ILC-Higrade) and on ATF2
- ❑ Recent UK statement @CERN council: we only maintain R&D ?
- ❑ Interpretation: only the 'generic' R&D will be supported, subject to interpretation...
- ❑ Many reactions: E. Iarocci, B. Barish, A. Wagner, ~~WWS+S. Yamada...~~ and of course from UK physicists



# The bomb in US (slide from P. Oddone)

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## The FY2008 budget process

- After several months, Omnibus bill is put together to fit President's envelope:
  - **Required cuts \$22B**
  - **Plus about \$ 8B cut to make room for earmarks**
- **Priorities are not aligned: Congress emphasizes different areas than the President leading to major cuts.**



# US HEP budget

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- ❑ These cuts on science in US FY08 budget end of December impact mainly on new projects (ITER, ILC, Nova...)
- ❑ Affects seriously US HEP labs in particular those working on ILC (e.g. SLAC, FNAL)
- ❑ Political accident? 'Bipartisan enthusiasm for the physical sciences' is still claimed
- ❑ Barry and the GDE are currently (yesterday) examining how to deal with this situation and the consequences on plans for the machine EDR

# Some lessons

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- ❑ Two unrelated events (DOE attitude and US cuts) had major consequences on ILC
- ❑ The ILC project is very vulnerable until no compelling international agreement is signed
- ❑ We only rely on soft consensus like OECD recognition, ICFA support and on the document signed by 2000 physicist
- ❑ There is the FALC MoU but it only covers specific/limited expenses of the GDE (no threat for 2008?)
- ❑ We need to move towards more formal agreements (preferably not bi-lateral)

# Reasons to go on anyhow

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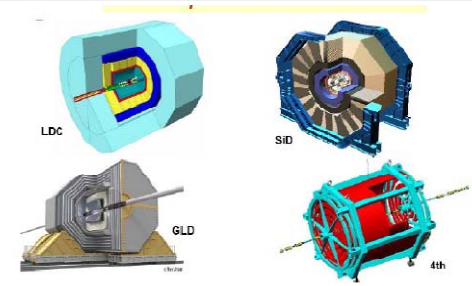
- R&D activities very strong and well connected through worldwide collaborations both for the machine and the detectors
  - Support on detector R&D is strong in Europe (recently in France). New EUDET in preparation
  - Test beam programs very active and worldwide e.g. CALICE should move to Fermilab in 2008
  - Active participation to ATF2
  - R&D on ILC through EuCARD
  - Effort on Technology with construction of the XFEL and High-Grade European contract
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# The KeK roadmap

- This KeK roadmap explicitly includes ILC at horizon 2012
- Recent statement by Suzuki-san the Director :The roadmap planning committee has proposed to start an early upgrade of KEKB to realize a unique research facility that will enable advanced studies on rare B decays, and to conduct a strong R&D program on SC cavities and related topics in order to contribute to the early realization of the ILC. I support the proposal by the committee.
- He also says:
- Recently the UK and US governments made the decisions of large budget cuts to the HEP programs. I would like to express my deep distress about this. As the size of accelerator science projects grows bigger and bigger and the time span of each project becomes longer and longer, it is essential to build up wide-international collaborations and to establish solid ground to support such collaborations in ~~pursuit of the frontier science and accelerator/detector~~ technology.

# What can happen?



- ❑ Major risk is 'domino effect' (countries or individuals)
- ❑ How can we deal with this new situation, what will be the new roadmap?
- ❑ FALC, ILCSC to decide but your input is essential
- ❑ We think that delaying significantly (>1 year) the Detector roadmap could have negative consequences on our community (loss of momentum, financial support, people)
- ❑ Engineering is also needed to drive a realistic R&D: MDI aspects (FALC), supports, cooling, material budget and we have in practice found some limited resources within ILD

# Present status

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- The RD S. Yamada has selected a list of members of IDAG and this list has been agreed by ILCSC
  - > IDAG ready to attend TILC08
- An updated roadmap should be proposed to us by the GDE
- Indications are that we probably will end up with a program having significant milestones in 2010 (e.g. gradient demonstration, e-cloud mitigation results, etc), but complete EDR about 2012
- The RD has elaborated a chart of the new organization for detectors (see next ILC news)





# The management structure (SY)

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- It must have a good **communication** link both to the physicist community of the world and to GDE
- It should also facilitate smooth **collaboration** among LOI groups for detector or software development
- The central part is **Executive Board** consisting of RD and three regional contacts (the co-chairs)
- After identifying LOI groups several **common task** groups will be formed, where all LOI groups will join to work together
- The representatives of LOI groups and the chairs of common tasks will form **Physics and Experiment Board**

# Conclusion

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- At present it is too early to draw any conclusion but we hope to maintain our roadmap
- > **KEEP MORALE UP !**
- Our worldwide community is the driving force of this project and your attitude will influence ILCSC where we represent you

# HEP budget

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## Particle physics cuts

- HEP budget is cut
  - President's Request FY08      \$782M
  - Enacted in FY2007              \$752M
  - Omnibus bill for HEP          \$688M
- About \$90M taken out of the expected program for FY08