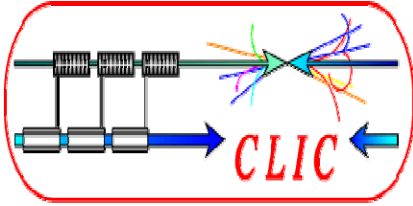


## *CLIC-ILC Collaboration - #2*

### *Cost and Schedule working group*

John Carwardine, Katy Foraz, Peter  
Garbincius, Tetsuo Shidara, Sylvain Weisz



## *Members and Objective*



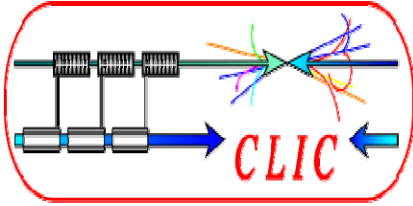
- **Members:**

- John Carwardine, Katy Foraz, Peter Garbincius, Tetsuo Shidara, Sylvain Weisz

- **Objective:**

The general objective of the CLIC- ILC Cost and Schedule working group is to:

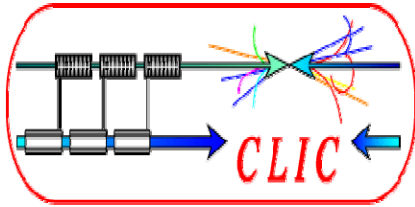
- Join resources in matter of cost and schedule, in order to optimize resources and avoid unnecessary duplication of effort.
- Make Cost and Schedule analyses of both projects comparable



## *Draft mandate*



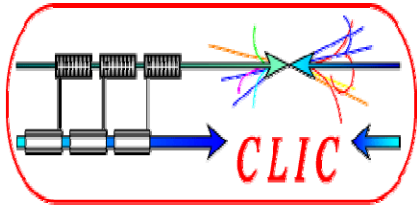
- Compare the **assumptions and methodology** adopted by both projects in matter of cost.
- Establish **functionalities for cost data analysis**:
  - Parametric cost models to define variation of costs as a function of the main parameters
  - Risk/uncertainty assessment.
- **Compare costs for certain items** (to be defined with the agreement of management) to better understand the difference subsystem by subsystem between the two technologies
- Approaches to **traceability**: requirements; cost estimates; and the bases of estimates.
- Compare the basic **assumptions and baseline units for schedule**.



## *Workplan - Some ideas (1/3)*



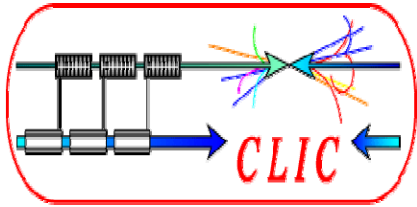
- **Compare the assumptions and methodology in matter of cost.**
  - Compare PBS and WBS of both studies for easy cost comparison in the future
  - Define a (as common as possible) composition of the project phases covered by the cost (R&D, technical design, industrialization studies, fabrication, installation, HW & Soft tests, commissioning, Operation?)
  - Agree on a (as common as possible) method to establish cost and what it should include (material, labor, laboratory man-power, etc...)
- **Establish functionalities for cost data analysis**
  - Define elements for parameterization (beam energy, power cost, etc...)
  - Define common strategy for risk assessment : from individual risk to global risk



## *Workplan - Some ideas (2/3)*



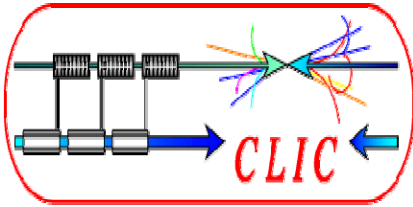
- **Compare costs for certain items**
  - Define a (as common as possible) basic scenario for future cost comparison (beam energy, additional components for upgrade scenario in BDS, in tunnel, etc...)
  - Agree on (as common as possible) cost evaluation of basic components (raw material, civil engineering/meter of tunnel, labor, KWh, Water, safety, etc...)
  - Compare the major cost drivers
- **Approaches to traceability: requirements; cost estimates; and the bases of estimates.**
  - Tools used: from excel to a « Professional » tool



## *Workplan - Some ideas (3/3)*



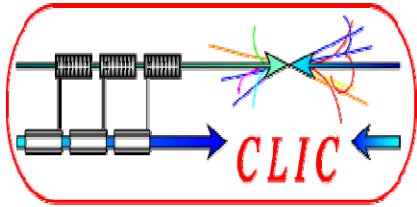
- **Compare the basic assumptions and baseline units for schedule.**
  - Define common strategy for scheduling study
  - Define common strategy for risk assessment
  - Agree on an overall procedure & schedule including intermediate milestones aiming at a comparison by end 2009 (?) before public presentation in 2010.



## *So far...Tools*



- **Both groups have so far used Excel as primary costing tool.**
- **Both groups are looking for tools for integrating cost estimate data and to do parametric analyses, eg**
  - **Raw material costs, inflation rates, effort costs, etc**
  - **Changes in scope or requirements.**
  - **Consensus that Project Management cost/scheduling tools are not inherently the right tools for managing and analyzing the cost estimates.**
- **ILC is planning to migrate to enterprise project management tools during ED phase (Primavera)**



## *Next steps...from Feb. 2008* ···



- **Establish a certain functionality for cost data analysis, eg parametric studies, risk assessment**
  - Aim to develop and share tools together
  - Start small, migrate towards enterprise tools.
- **See benefit in comparing costs for certain items, eg**
  - Modulator costs.
  - (confidentiality means we will need management approval)
- **Compare high level methodologies & assumptions**
  - Understand each others' methodology.
  - Understand how to compare cost estimates in a straight forward way.