ILC-HiGrade
2nd Scientific and Annual Meeting

E.Elsen

ILC-HiGrade – Reminder

- ILC-HiGrade is the Preparatory Phase project of the European Commission to work towards the realization of the **International Linear Collider**.

- The project is one of 30+ projects on the ESFRI list (via C.E.R.N. Council strategy) technically mature to be constructed.

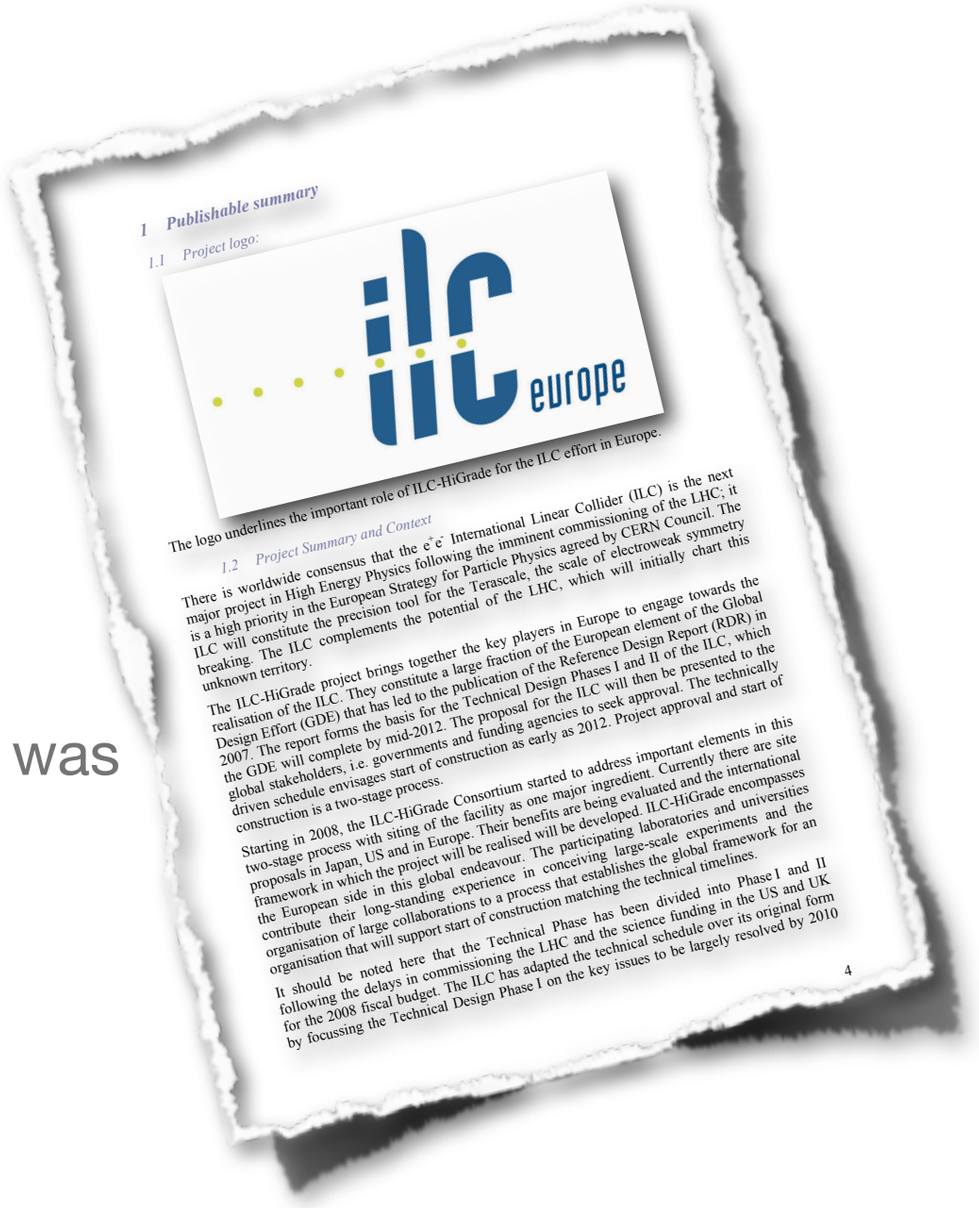
- It addresses

  - a key technical component that affects the cost, i.e.
    SRF gradient with a goal of running the ILC at 31.5 MV/m

  - the formation of governance and financial structures in Europe that enable the realization of the project. The European Commission recognizes that this is a process with global implications

ILC-HiGrade – Brief Account of Activities

- Start of project Feb 1, 2008
- Kick-off meeting, Aug 29, 2008
- End of First Reporting Period: Jan 31, 2009
  - Report was submitted … and accepted
  - Financial statement still pending
    - rejected because methodology of accounting was not accepted for one partner
- End of Second Reporting Period: Jan 31, 2010
  - Annual reports are due within 60 days
    March 31st, 2010
  - Proceeding according to established procedure (see later)


1 Publishable summary

1.1 Project logo:

The logo underlines the important role of ILC-HiGrade for the ILC effort in Europe.

1.2 Project Summary and Context

There is worldwide consensus that the e^+e^- International Linear Collider (ILC) is the next major project in High Energy Physics following the imminent commissioning of the LHC; it is a high priority in the European Strategy for Particle Physics agreed by CERN Council. The ILC will constitute the precision tool for the Terascale, the scale of electroweak symmetry breaking. The ILC complements the potential of the LHC, which will initially chart this unknown territory.

The ILC-HiGrade project brings together the key players in Europe to engage towards the realisation of the ILC. They constitute a large fraction of the European element of the Global Design Effort (GDE) that has led to the publication of the Reference Design Report (RDR) in 2007. The report forms the basis for the Technical Design Phases I and II of the ILC, which the GDE will complete by mid-2012. The proposal for the ILC will then be presented to the global stakeholders, i.e. governments and funding agencies to seek approval. The technically driven schedule envisages start of construction as early as 2012. Project approval and start of construction is a two-stage process.

Starting in 2008, the ILC-HiGrade Consortium started to address important elements in this two-stage process with siting of the facility as one major ingredient. Currently there are site proposals in Japan, US and in Europe. Their benefits are being evaluated and the international framework in which the project will be realised will be developed. ILC-HiGrade encompasses the European side in this global endeavour. The participating laboratories and universities contribute their long-standing experience in conceiving large-scale experiments and the organisation of large collaborations to a process that establishes the global framework for an organisation that will support start of construction matching the technical timelines.

It should be noted here that the Technical Phase has been divided into Phase I and II following the delays in commissioning the LHC and the science funding in the US and UK for the 2008 fiscal budget. The ILC has adapted the technical schedule over its original form by focussing the Technical Design Phase I on the key issues to be largely resolved by 2010

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ILC-HiGrade: Spending Profile

- Overall budget: 5 M€
  - Flat spending profile
  - Key investments in cavities à la European XFEL
    - purchase only towards the end of the contract
  - Consequently most of the expenditure went into preparation for the cavity purchase and quality control
- Have to make sure that we are ready for the arrival of the cavities and fast processing

Delays have to be foreseen due to involved tendering process

Time aspects

- Preparatory Phase Projects
  - sLHC-PP
    - Consolidation of the LHC and Preparation of the LHC Upgrade
  - ILC-HiGrade
    - ILC readiness
      (also influenced by European XFEL)
- SKA
  - Square Kilometer Array
  - The project can be staged
- …

Delay of LHC leads to extended latency – Projects have to be re-phased

The only other global project on ESFRI list.

ILC-HiGrade Work Packages

- WP1: Management of the Consortium
- WP2: Integration and optimization of the European contribution within the global GDE organization as the ILC project moves through the GDE Engineering Design Phase
- WP3: Ensure that the characteristics and importance of the ILC, and its place within the world of science and research, is widely disseminated to the peoples of the European Union, and their governments
- WP4: Investigate features and develop possible schemes of governance for the ILC, exploiting expertise of CERN (LHC) and DESY (HERA) in international projects
- WP5: Prepare and investigate possible European sites for ILC construction
- WP6: Investigate and monitor the production process that yields high-gradient cavities with high yield. Establish the process in industry
- WP7: Optimization of the coupler conditioning at reduced cost
- WP8: Demonstrate suitability of tuner design in tests. Establish a cost-effective tuner production

Work Packages: Involvement of Institutes

Work Package No	Work package title	Type of activity	Lead beneficiary	Person months	Start month	End month	Coordinator
WP1	Management	MGT	1	48	1	48	DESY
WP2	Coordination of European GDE Activity	COORD	6	74	1	48	Oxford
WP3	Dissemination and Outreach	COORD	6	88	1	48	Oxford
WP4	Governance	SUPP	6	87	1	48	Oxford
WP5	ILC Siting in Europe	SUPP	1	42	1	48	DESY
WP6	Cavities	RTD	1	148	1	48	DESY
WP7	Couplers	RTD	4	54	1	48	LAL
WP8	Tuners	RTD	5	30	1	48	Milan
	Total			571			

Work Packages – Change of Coordinators

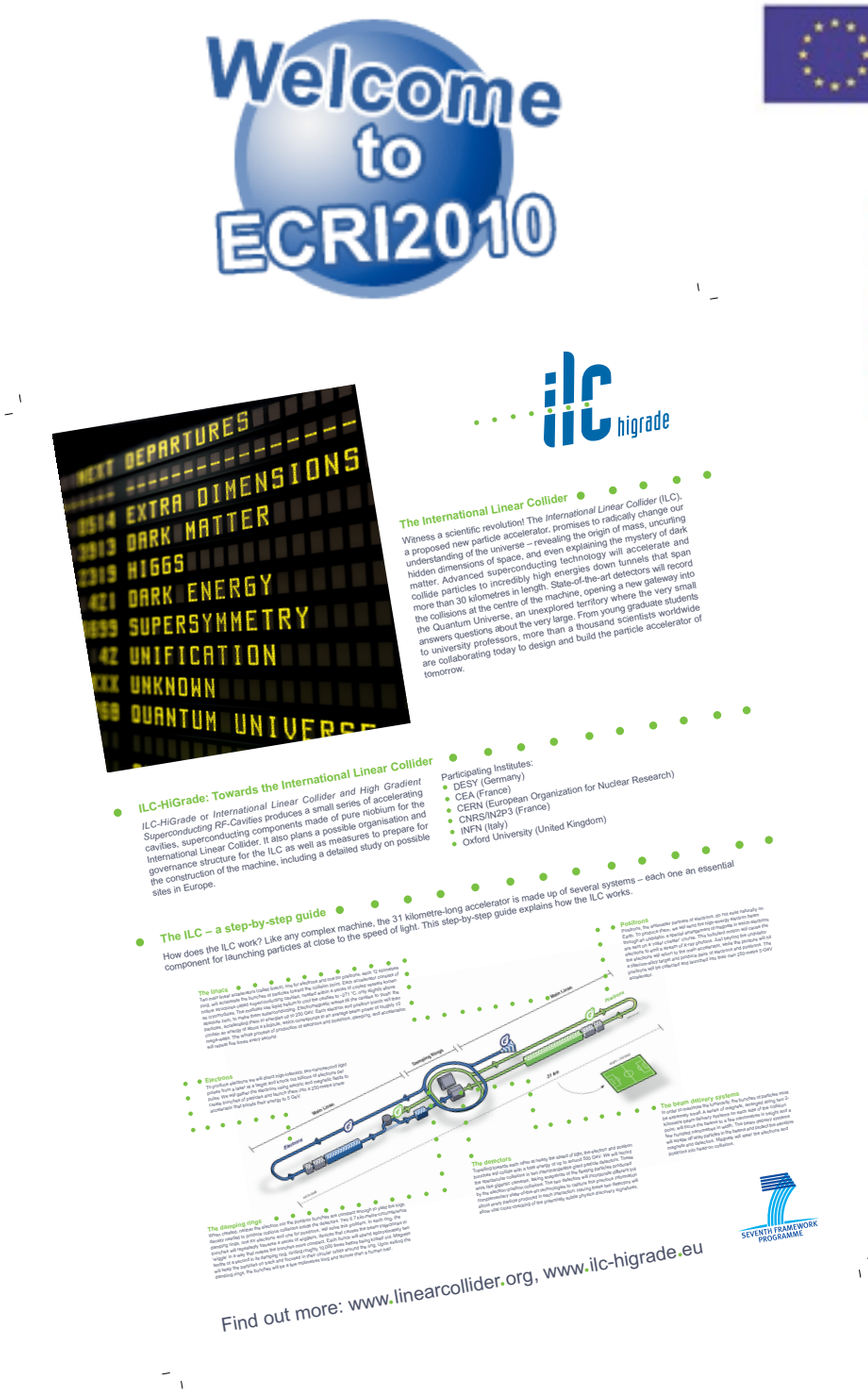
Work Package	Title	Coordinator	Lead Institute
WP1	Management	**Elsen**	DESY
WP2	GDE Coordination	**Foster** N.Walker	UOXF.DL
WP3	Dissemination	**Foster** P.Royole-Degieux. & B.Warmbein	UOXF.DL
WP4	Governance	**Foster**	UOXF.DL
WP5	Siting	**Bialowons** J Osborne	DESY
WP6	Cavities	**Aderhold** L. Lilje	DESY
WP7	Couplers	**Lacroix**	LAL
WP8	Tuners	**Pagani**	INFN

new

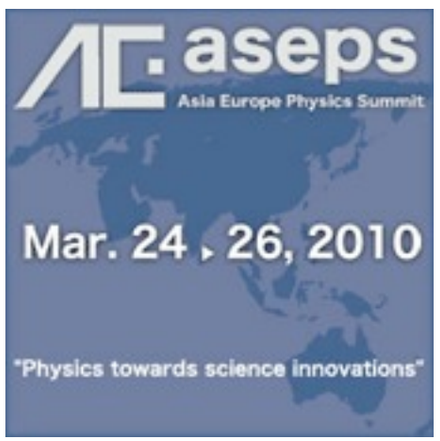
new

ILC-HiGrade and EC interest

- Preparatory Phase of a project refers to "preparing its realization"
  - The EC is encouraging stakeholders to participate and held a series of meetings
    - ECRI2010 Conference on RI in Barcelona
    - ILC-HiGrade represented in poster session
      - HEP prevalent



Poster also sent to ASEPS



Conclusion

- ILC-HiGrade plays a key role in preparing the ILC project in Europe
  - Visibility in European Strategy
  - at the vanguard of technological development for the key technology
- This meeting will expose particularly
  - the progress in governance and outreach and include the aspects of European siting
  - the progress in SRF