

Research Director's Report

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AIDA trumpets

This month's Research Director's Report was written by François Richard, co-chair of the Worldwide Study, regional detector contact for Europe

AIDA is an acronym for the contract recently approved by European Union in favour of detector R&D for particle physics. It means Advanced European Infrastructures for Detectors at Accelerators. I suspect that this acronym, inspired by the famous opera from Verdi, can be viewed as reflecting the large number of participants involved in this ambitious Opera(tion).

In the preamble of this proposal it says:

Europe has and needs to preserve a preeminent position in particle physics. The Large Hadron Collider, which had first collisions in November 2009 at CERN near Geneva, is the world's flagship particle physics project. The European Strategy for Particle Physics, adopted by CERN Council, gives priority to the following future projects: the LHC upgrade (sLHC), Linear Collider (ILC/CLIC), accelerator-driven Neutrino facilities and B-physics facilities (Super-B). These projects aim to answer the most challenging outstanding questions in particle physics.

Forgetting about the unavoidable mention of the European flag, it recalls the vision that EU has from us, encouraging our strategy for the future with many contracts: the approval of AIDA is a new and very important milestone of this success story which we hope will go on.

This contract follows [EUDET](#), signed during the previous EU Framework Plan (FP6), which was pioneered by ILC physicists. This approval of EUDET, perhaps unexpected since it was coming very soon after the two contracts granted to our machine activities ([CARE](#) and [EUROTEV](#)), have attracted a much larger community including LHC, neutrinos and Super-B. The first proposal, Devdet, with all these partners, was unfortunately not successful. The new attempt with AIDA has been a full success with excellent marks from the referees. It has been evaluated with 14.5 out of 15, with the second rank over 47 projects. It will therefore be funded and the project has now entered negotiations with the European Commission.

Admittedly the financial resources from the EU, eight million Euros over four years, constitute a modest contribution for linear collider R&D on detectors since this sum is now shared with our partners. It provides however a very important framework to guarantee human resources from our laboratories (which constitute the balancing counterpart from the laboratories and amount to about 20 million Euros). It also contributes to develop useful synergies with the LHC community preparing for future upgrades of their detectors and developing, for instance, new Si technologies – called Si3D – for their trackers.

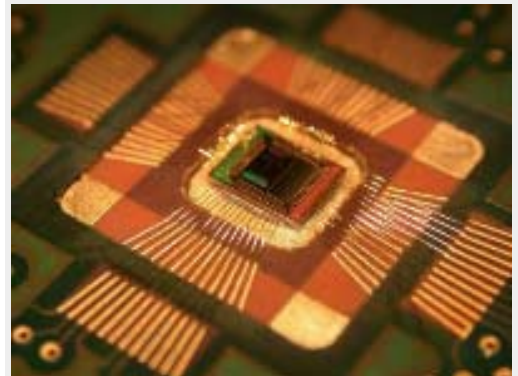
Without going into the details of this contract which were already covered in two recent articles in *ILC NewsLine* ([3 December 2009](#) and [13 May 2010](#)), it is worth noting that there are 20 European countries involved in this project with [9 work packages](#). Noteworthy also are the coordinators names for two work packages, well known within our linear collider activities:

- WP2 Development of Software tools: Frank Gaede (DESY), Pere Mato (CERN)
- WP9 Advanced infrastructures for detector R&D: Henri Videau (LLR), Marcel Vos (IFIC)

Behind the 'infrastructure' terminology of work package 9 (requested by Brussels for this type of contracts) are hidden the following subtopics:

- Gas detector facilities
- Precision pixel facilities
- Silicon tracking
- Granular calorimeter studies infrastructure

which may sound more familiar to our readers. Also very relevant to our R&D is the third work package which deals with microelectronics and interconnection technology. Access to test beams, in particular at CERN and DESY, are insured by work package 5 and 6 called: "Transnational Access to DESY and CERN".



Successful bonding in a test Printed Circuit Board, for an electromagnetic calorimeter developed by the CALICE (Calorimeter for Linear Collider Experiment) collaboration, thanks to the EUDET programme. Image: EUDET.

The referees were very pleased to find under the fourth work package an innovative topic which is of concern for both ILC and the Compact Linear Collider (CLIC) Study concepts: relations with industry. I quote: *A work package is dedicated to relation with industry: this relation at an early stage of research and development is very welcome and it is suggested that ways to enhance it even more be found. This project is an ideal gateway to deepen the level of exchanges with advanced industrial partners and will result in a significant socio-economic impact*. This industrialisation aspect is of course very important in achieving a realistic costing for the ILC detectors ILD and SiD under discussion.

I would like to congratulate here the team led by Laurent Serin (LAL) and his deputies, in particular Ties Behnke (DESY) for linear collider matters, which have set up the organisation of AIDA, facing large paper work and delicate arbitration between proposals. Their success confirms once again that the high-energy physics community of detectors, in spite of its diversity of interests, is able to convince Europe to support our field.

-- François Richard