# AIDA-2020 for LC experiments

AIDA-2020 is a research initiative funded by the European Union to advance the development of infrastructures for research on detectors for accelerator experiments. It runs from 2015 to 2019 and unites 38 beneficiaries from 19 countries. The total budget amounts to 29 MEUR, including 10 MEUR of direct support from the EU. The program is aligned with the European strategy for particle physics; thus about 50% of the activities are motivated by the needs of LHC detector upgrades, but there is a significant fraction of about 25% targeted at linear collider experiments.

AIDA-2020 follows the successes of the previous initiatives EUDET and AIDA. The infrastructure theme, although interpreted in a wider sense, moves common interests of R&D groups into focus and helps structuring the activities. It builds on the achievements of EUDET and AIDA, e.g. test beam infrastructures like the TPC magnet, the pixel telescopes or software frameworks like DD4HEP, but it goes beyond in many respects. There is a three times larger budget to directly support users of, e.g., test beams, and there are new topics, like novel silicon sensors and micro-channel cooling.

Efforts, with strong representation of LC groups, will enhance infrastructures to advance towards the construction phase of calorimeters and gaseous detectors. This includes test stands for the characterization of silicon sensors or optical read-out units for highly granular calorimeters, as well as installations for the production and characterisation of large area gas detectors, RPCs, GEMs, and micromegas,. Test beam infrastructure is further improved, to keep pace with increased demands of precision detectors, e.g. by adding a silicon strip telescope to the TPC test stand at the DESY.

Development of micro-electronic ASICs directly supports the efforts in vertex detector, tracking and calorimeter R&D. Particular attention, and a special fund, is devoted to the cooperation with industry and the transfer of technologies, e.g. for the production of large areas of silicon devices. Work on advanced software is strongly driven by LC needs and includes work on tracking tools and particle flow algorithms (Pandora). The LC community had assigned high priority, in the proposal preparation phase, to the creation of a common DAQ framework for test beam experiments of several linear collider sub-detector prototypes in a combined set-up, which is now being pursued in a dedicated work package.

While activities remain coordinated in the R&D collaborations, AIDA-2020 represents a unique forum for intensive exchange between LHC and LC communities united in common working groups. This matches well the move of focus towards precision on the LHC side as well as to realistic detector designs in the LC world.