AIDAinnova - WP 12 Software for Future Detectors

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Milestones ✅ and Deliverables 🗓️

All achieved and reported in time

Milestone	Title	Due Date
MS48	LC reconstruction prototype in Key4hep	M21
MS49	Prototype of ML based shower simulation	M22
MS50	ACTS tracking algorithm prototypes	M23
MS51	New PFA prototypes	M23

All milestones were achieved on time

✅

All deliverables were achieved on time

✅

Deliverable	Title		Due Date
D12.1	Turnkey Software Stack (Key4hep)	**Fully functional turnkey software stack** (Key4hep) with **simulation**, **track reconstruction** and **particle flow** algorithms running for the **linear colliders and the FCC**, using the common event data model (EDM4hep), with **documentation and examples**	M46 (Jan 25)
D12.2	Fast shower simulation in Geant4	**Fast shower simulation** based on **parameterisations** and based on **machine learning** techniques fully integrated in Geant4, released with **documentation and examples**	M45 (Dec 24)
D12.3	ACTS tracking algorithms	**Track reconstruction algorithms** incorporated into ACTS, and **fully documented**, that manage the full tracking chain **on CPU and non-CPU devices**, with optional machine learning based algorithms available, also supporting MPGD detectors	M43 (Oct 24)
D12.4	PFA reconstruction	**Improved and documented particle flow algorithms**, including **machine learning based algorithms**, available in the **PandoraPFA toolkit**, suitable for detectors using new readout technology	M45 (Dec 24)

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Well Done !

Continuation of AIDA and next steps

- AIDAinnova extended by 6 months

  - no extra funding

  - could continue monthly meetings for WP12 !?

- AIDAinnova Final Annual meeting:

  - Prague 5-8 May

  - Please attend the meeting

  - GS and FG only attending partly or not at all

- proposal: have a hackathon at CERN rather than on Prague !

- expect call for potential follow-up to AIDAinnova

  - very soon

- expect deadline for handing in: late summer/fall 2025

- will have a Software WP

  - coordination of proposal writing

    - Anna Zaborowska, Frank Gaede

- WPs should be reduced (to half) wrt AIDAinnnova

  - current thinking: continue turnkey and AI/ML

  - let us know if you have great ideas

Reminder: we still need relevant publications

- one metric for success of AIDAinnova will be the number of publications

- please make also in reminder of project sure that you:

  - report all relevant publications for WP12

  - **NB:** prerequisite is that your publications contain the acknowledgement: