WP12: Software for Future Detectors

Frank Gaede (DESY) and Graeme Stewart (CERN)

WP12 General Meeting, 2024-07-03

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101004761.

Project Review P2

- EU Project Review report was written in April
  - Many thanks to the task leaders, in particular, for their inputs
- We had the second AIDAinnova project review in June
  - https://indico.cern.ch/event/1409160/
  - Frank presented for the software workpackage
    - Much material taken from the annual meeting
  - Seemed to be well received by the reviewers who asked a few informational questions
- Some discussion on a no cost project prolongation of ~6 months
  - Would benefit WP3, 4, 5
  - WP12 probably not affected
- So far no formal feedback

Project Deliverables

- Our deliverables are coming up, so please be aware of this in your tasks and focus work on completing
  - Due date for reports to be submitted is the end of the given month, so must be 2 weeks in advance of that for internal WP review

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)

AIDA Accreditation

- One weakness that came to light was inconsistency in AIDAinnova accreditation in talks and papers
- It is vital that talks and papers that have been helped by the AIDAinnova project contain the acknowledgement statement:

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- We created this small folder of project resources to help you with that (finding text, logos, templates, etc.)
- Scientific outputs are a key project metric, so **please don't forget!**

AOB

- The next WP12 general meeting we propose would be for September
  - 4th, 11th, 18th all look possible - any immediate preference?