

The Key4hep software stack: Beyond Future Higgs factories

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The Key4hep project aims to provide a turnkey software solution for the full experiment life-cycle, based on established community tools. Several future collider communities (CEPC, CLIC, EIC, FCC, and ILC) have joined to develop and adapt their workflows to use the common data model EDM4hep and common framework. Besides sharing of existing experiment workflows, one focus of the Key4hep project is the development and integration of new experiment independent software libraries. Ongoing collaborations with projects such as ACTS, CLUE, PandoraPFA and the OpenDataDector show the potential of Key4hep as an experiment-independent testbed and development platform. In this poster, we present the challenges of an experiment-independent framework along with the lessons learned from discussions of interested communities (such as LUXE) and recent adopters of Key4hep in order to discuss how Key4hep could be of interest to the wider HEP community while staying true to its goal of supporting future collider designs studies.

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