

The SMARTHEP European Training Network for Real-Time Analysis with ML/AI

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On behalf of the SMARTHEP network

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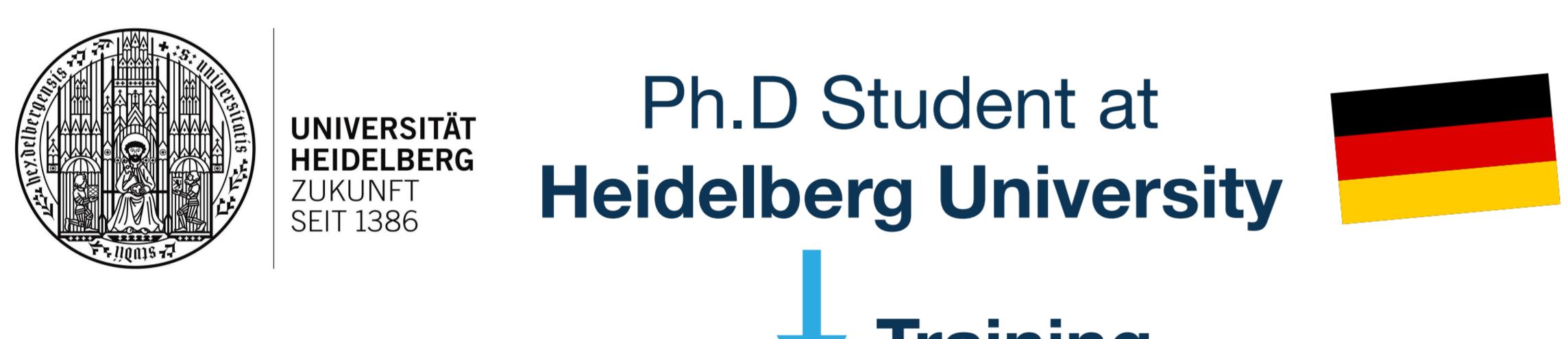
What is SMARTHEP?

Aim: Train a new generation of ESRs to advance real-time decision making, developing state-of-the-art tools in ML/AI and hybrid architectures.

- ▶ Synergies between **M**achine learning, **R**eal-Time analysis and **H**ybrid architectures for efficient **E**vent Processing and decision making (SMARTHEP)
- ▶ Coordinated by the University of Manchester.
- ▶ 12 **Early Stage Researchers** (ESRs) across Europe
- ▶ 18 institutes in **High Energy Physics** (HEP) and **industry**.

Early Stage Researchers

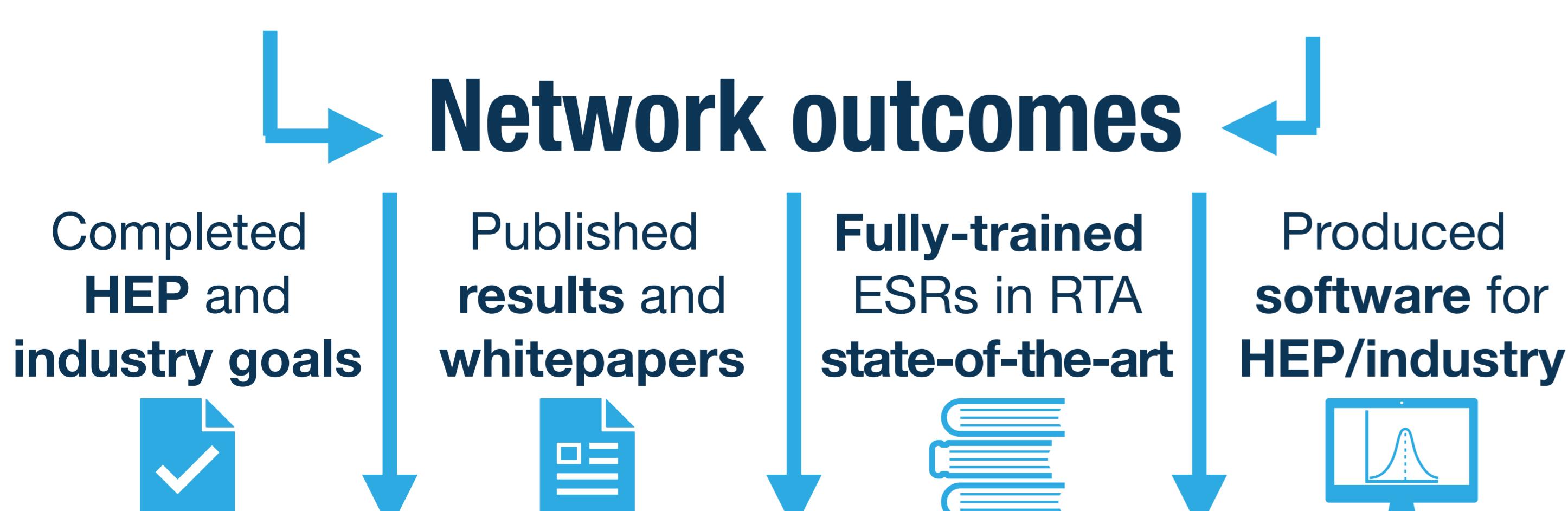
Each ESR enrolled as doctoral student at a partner university, with collaborations in HEP and industry, e.g. **ESR9**:



Local and external schools, within their experimental collaborations and network events, e.g.



Goal
e.g. develop real-time MVA classifier to run in the LHCb trigger for dark photon searches



Real-time analysis with ML/AI

Data challenges in HEP and industry are two sides of the same coin [1].

