

- ▶ Motivation and challenges
- ▶ Non-invasive approach
- ▶ The LHConCRAY project
- ▶ System architecture and integration
- ▶ First preliminary performance data
- ▶ Summary and Outlook



ATLAS AND LHC COMPUTING ON CRAY

SWISS EXPERIENCE

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Addressing the challenges facing the LHC computing for the next decade

- ▶ Consolidating WLCG computing could bring considerable cost savings
- ▶ High-end HPC systems like the Cray at CSCS (8th ranking in the top500) are possible candidates
- ▶ Integration of such HPC systems in the experiment frameworks is problematic due to general access restrictions
- ▶ The ARC-CE has allowed us to integrate a Cray at CSCS into the ATLAS computing non-intrusively
 - ▶ In production for months for ATLAS detector simulation, delivery similar to a Tier-2 site
- ▶ After endorsement by CSCS, we have setup the LHConCRAY project
 - ▶ Integrating more tightly into the centre (ATLAS, CMS and LHCb)
 - ▶ Targeting the flagship Cray XC40 (Piz Daint/Piz Dora)
 - ▶ Feasibility established: all main challenges addressed
 - ▶ Now in the integration phase
 - ▶ Tests at scale will follow
 - ▶ Preliminary tests (no system optimisations yet) show a performance up to 25% better than the dedicated Tier-2 system at CSCS for the ATLAS simulation