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Computing at the LHC and its transformation towards the HL-LHC

Wednesday 2 April 2025 12:00 (30 minutes)

Together with the data taken at the LHC and the increasing number of physics analyses performed on this data, the capacity of the WLCG has grown continuously in the past. We look back on a time when the market offered data storage and computing power at a lower price year after year and thus the growing demand for resources could be covered even with a flat budget. This trend has weakened or at least requires more technological adjustments on the user side. At the same time, we are facing major challenges with regard to the large resource requirements of the HL-LHC and the necessity to provide these resources in a sustainable and environmentally friendly way. In many places, developments are being driven forward in terms of resource provision and utilisation to meet these challenges.

This presentation will provide a broad overview, with a particular focus on developments and related projects in Germany, and show a selection of highlights on the way to the future LHC Computing.

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Session Classification: Invited Overview Talks / Hauptvorträge