

To extend its discovery potential, the LHC will need a major upgrade around 2020 to increase its luminosity (rate of collisions) by a factor of 10 beyond the original design value (from 300 to 3000 fb⁻¹).

The full exploitation of the LHC is the highest priority in the European Strategy for Particle Physics, adopted by the CERN Council and integrated into the ESFRI Roadmap.

In this presentation we start with a short reminder of the computing models the Experiments have been using during Run 1, then we analyse the new conditions the Experiments are going to face at HL-LHC, together with an estimate of the needed computing resources and possible solutions to overcome scaling problems.