LHC Vacuum Consolidation and Upgrade Plans

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The LHC was constructed using many new technologies and techniques with physics operation starting at the end of 2009. Before that, the magnet splice incident in September 2008 had caused delay to the machine start-up and obliged CERN to re-evaluate the hazards associated with the stored energy in magnets, beams and cryogenics. For these reasons, there is an active programme of consolidation planned for the machine in the coming years in order to ensure reliable operation at nominal conditions.

In addition, work is actively under-way for upgrades, both to the machine and experiments, in order to exploit the full discovery potential and breadth of physics possible with the LHC.

Many of these changes will require either modifications to the vacuum system, or interventions to allow access to other accelerator components.

In this presentation I will summarise the major activities planned for the coming years along with the current schedule. I will highlight the main technical challenges for the group and raise some subjects for discussion.