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Large Hadron Collider sets world energy record

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The Large Hadron Collider (LHC) experiment on the French-Swiss border has set a new world record for energy.



The LHC is built inside a 27km-long circular tunnel

The LHC pushed the energy of its particle beams beyond one trillion electron volts, making it the world's highest energy particle accelerator.

The previous record was held by the Tevatron particle accelerator in Chicago.

Officials say it is another milestone in the LHC's drive towards its main scientific tests set for 2010.

The LHC is designed to smash together beams of sub-atomic particles to just under the speed of light. Researchers hope to see signs of new physics in the aftermath of the collisions, helping them unlock the secrets of the Universe.

Operated by the European Organisation for Nuclear Research (better known by its French acronym Cern), the LHC is built inside a 27km-long circular tunnel.

'Pilot beam'

"We are still coming to terms with just how smoothly the LHC commissioning is going," said Cern's director general Rolf Heuer.

"It is fantastic. However, we are continuing to take it step-by-step, and there is still a lot to do before we start physics in 2010. I'm keeping my champagne on ice until then."

Until now the LHC had been operating at a relatively low energy of 450 billion electron volts. On Sunday, engineers increased the energy of this "pilot beam", reaching 1.18 trillion electron volts at 2344 GMT.

The previous record of 0.98 trillion electron volts has been held by the Tevatron accelerator since 2001.

The LHC is eventually expected to operate at some seven trillion electron volts.

Last week, the machine circulated two beams of protons for the first time and carried out its first low-energy beam collisions.

Researchers working on the collider have said they are delighted with the quick progress made since the machine restarted on 21 November.

The LHC had to be shut down for repairs shortly after its inauguration in September 2008 when an electrical fault cause one tonne of liquid helium to leak into the collider's tunnel.