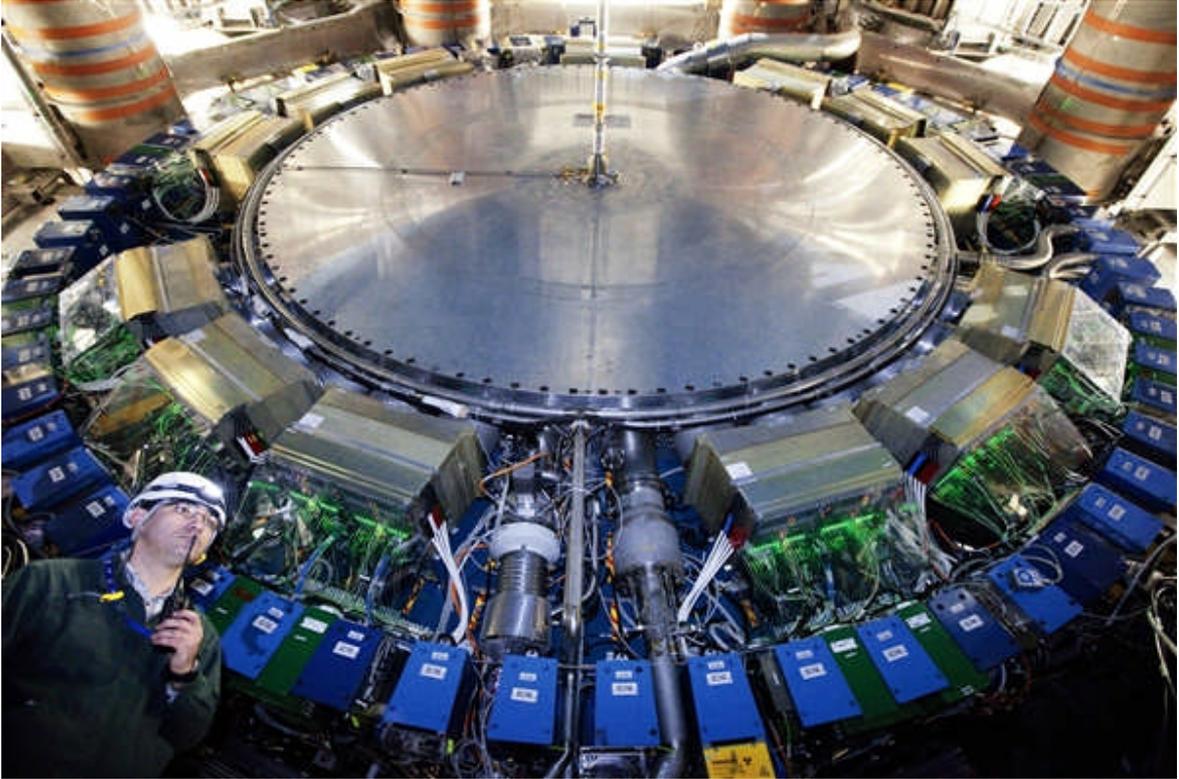


# Big bang machine to run in 2012



Claudia Marcelloni / CERN

A worker stands beneath the ATLAS detector's calorimeter during this month's maintenance break at the Large Hadron Collider.

By Alan Boyle

The world's most powerful particle collider will be kept running through 2012 rather than taking next year off for an overhaul, Europe's CERN particle physics lab announced today. The change in plans means scientists at the Large Hadron Collider will have more time to track down the Higgs boson and other mysteries of the universe before the extended break — and it also means the machine should be shut down just in time for the [Maya apocalypse](#).

Not that there's anything to the doomsday date. There's no reason why the world should end on Dec. 21, 2012, with or without the LHC. Some folks think dramatic, world-shattering changes will occur on that day because it marks the end of the Maya "long-count" calendar, but that myth has no basis in historical or cosmological reality. (And experts say the date [may have been miscalculated](#), anyway.) Some folks also think the LHC could bring on doomsday by creating [catastrophe-causing black holes](#) or [strangelets](#) — but there's no evidence for that, either.

The real significance of the LHC's operation in 2012 is that scientists are so pleased with the way the machine has been running that they want to keep up the scientific momentum.

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"With the LHC running so well in 2010, and further improvements in performance expected, there's a real chance that exciting new physics may be within our sights by the end of the year," Sergio Bertolucci, CERN's research director, said in [today's news release](#). "For example, if nature is kind to us and the lightest supersymmetric particle, or the Higgs boson, is within reach of the LHC's current energy, the data we expect to collect by the end of 2012 will put them within our grasp."

Right now, the LHC is closed for maintenance, but it's due to start up again in February. The new schedule, approved by the CERN's managers over the past few days, calls for operations to resume at the tried-and-true energy of 3.5 trillion electron volts per beam. CERN expects to increase the LHC's data collection rate by at least a factor of three over the next year, potentially allowing scientists to see the first hints of new phenomena by the end of the year. But one year would not provide enough time to "turn those hints into a discovery," CERN said.

So instead of shutting the LHC down for a yearlong series of upgrades, as previously planned, CERN said it would take a "short technical stop" at the end of 2011, then go back into operation for 2012. The big upgrades would be done during 2013, and in 2014 the LHC would be back in business at its full design energy of 7 TeV per beam.