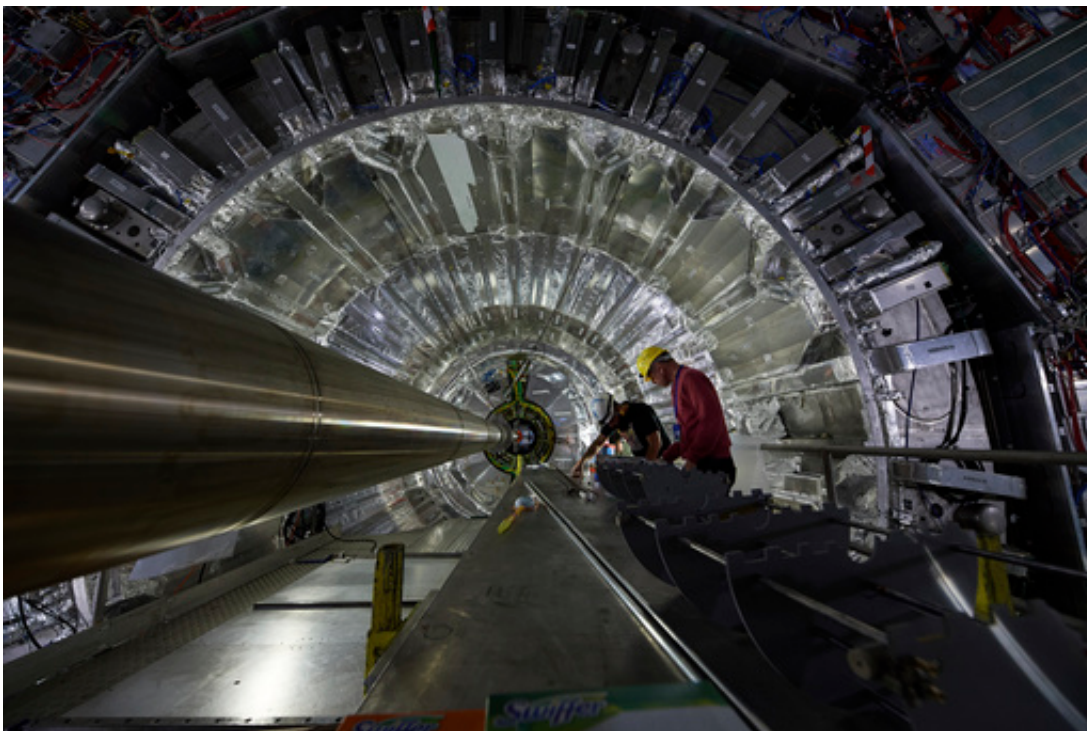


Key experiment at world's biggest atom smasher gets upgrade

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In this undated picture publicly provided by the European Organization for Nuclear Research, CERN, employees and scientists prepare the upgrading of one of the four main experiments on the world's biggest atom smasher in the hope it will help them discover previously unknown particles or physical properties at CERN near Geneva. Officials at CERN, said the operations the equivalent of a "heart transplant" for the CMS experiment. CMS was key to confirming the existence of the Higgs boson particle in 2012. (CERN via AP)

Scientists are upgrading one of the four main experiments on the world's

biggest atom smasher in hopes it will help them discover previously unknown particles or physical properties.

Officials at the European Organization for Nuclear Research, or CERN, say the operation Thursday is the equivalent of a "heart transplant" for the CMS experiment. CMS was key to confirming the existence of the Higgs boson particle in 2012.

The new, U.S.-built pixel detector is used to track particles as they hurtle through the 27-kilometer (17-mile) Large Hadron Collider beneath the Swiss-French border.

CERN spokesman Arnaud Marsollier likened the \$17-million detector to a huge 3D-camera capable of capturing 120 million pixels at 40 million frames a second.

It replaces an older device that recorded about 68 million pixels.

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