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The new LHCb VELO

The VELO (Vertex Locator), the most recent addition to LHCb, was successfully installed a few weeks before the start of Run 3

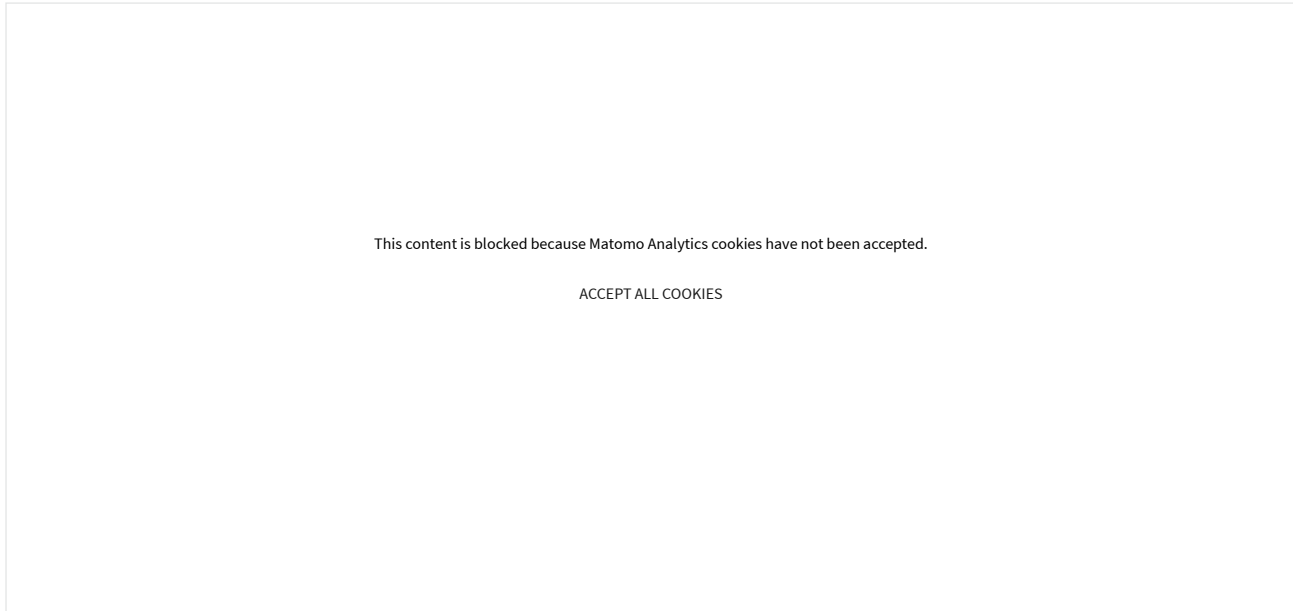
5 JULY, 2022 | By Reema Altamimi (/authors/reema-altamimi)

The VELO was installed at the LHCb experiment in May 2022, just in time for the start of the third LHC run, on 5 July, marking the end of 15 years of development and construction.

The pixel detector (<https://cerncourier.com/a/velos-voyage-into-the-unknown/>), with its millions of microscopic pixels, each measuring 55 x 55 micrometres, can recreate particles' trajectories at an unprecedented speed of 40 million times per second and is located only 3 millimetres from the LHCb collision point. This frenetic rate will make it possible to obtain a complete picture of the collisions in the LHC.

Weighing 800 kilograms, the VELO was installed by the LHCb team with the utmost care to avoid damaging its fragile sensors. It was lowered 100 metres down through the experiment's shaft before being inserted right up close to the collision point.

To find out more about the VELO's installation, watch the interview with LHCb physicist Paula Collins.



(Video: CERN (<https://videos.cern.ch/record/2296176/embed>))

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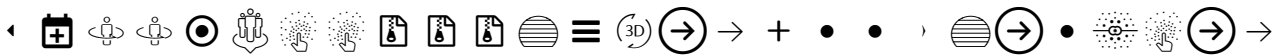
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