

Published on *CERN openlab* (<http://test-static-05.web.cern.ch>)

[Home](#) > High-throughput computing at the LHCb experiment

High-throughput computing at the LHCb experiment ^[1]

Monday, 26 October, 2015

Niko Neufeld is a member of the "online system" team at the [LHCb experiment](#) ^[2]. He recently gave a [talk](#) ^[3] in the [CERN IT Department](#) ^[4] about an exciting project with [CERN openlab partner company Intel](#) ^[5]. [The High Throughput Computing Collaboration \(HTCC\)](#) ^[6] investigates the use of Intel technologies in trigger and data acquisition (TDAQ) systems.

As with [the other experiments](#) ^[7] on the [Large Hadron Collider \(LHC\)](#) ^[8], the collision events registered by the detector produce more data than can reasonably be stored. Thus, in order to select the events that are of most interest to physicists, an electronic "trigger" system is used to filter out all but about 0.1% of the data.

The HTCC is studying the extent to which custom-made real-time triggers can be complemented by off-the-shelf Intel technology. In particular, the use of Intel OmniPath for high-bandwidth data acquisition is being investigated, as is the use of Intel Xeon Phi technology and the Intel Xeon FPGA concept for accelerating complex, CPU-intensive algorithms.

To find out more, you can watch the full video of [Niko](#) ^[9]'s talk [here](#) ^[10].

- [Visit Us](#)
- [RSS Feeds](#)

DISCLAIMER: This Web page contains pointers to material related to the management of CERN openlab in the Information Technology Department at the European Organization for Nuclear Research (CERN). Their use and distribution are regulated by the [CERN copyright notice](#).



Source URL: <http://test-static-05.web.cern.ch/news/high-throughput-computing-lhcb-experiemment>

Links

- [1] <http://test-static-05.web.cern.ch/news/high-throughput-computing-lhcb-experiemment>
- [2] <http://home.cern/about/experiments/lhcb>
- [3] <https://indico.cern.ch/event/442619/other-view?view=standard>
- [4] <http://information-technology.web.cern.ch/>
- [5] http://test-static-05.web.cern.ch/about/industry_members/intel
- [6] <http://test-static-05.web.cern.ch/technical-area/data-acquisition-online>
- [7] <http://home.web.cern.ch/about/experiments>
- [8] <http://home.web.cern.ch/topics/large-hadron-collider>
- [9] <http://test-static-05.web.cern.ch/about/people/niko-neufeld>
- [10] <https://cdsweb.cern.ch/record/2060095>