

LHCb Upgrade Trigger Diagram

**30 MHz inelastic event rate
(full rate event building)**

Software High Level Trigger

Full event reconstruction, inclusive and exclusive kinematic/geometric selections

Buffer events to disk, perform online detector calibration and alignment

Add offline precision particle identification and track quality information to selections
Output full event information for inclusive triggers, trigger candidates and related primary vertices for exclusive triggers

2-5 GB/s to storage

$$B^0 \rightarrow D^+[K^-\pi^+\pi^+]D^-[K^+\pi^-\pi^-]$$

