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## Event Driven Readout Detectors at DESY

New challenges for photon detectors at different Light Sources include ultra high time resolution (in the picosecond level) and very large data outputs of what is, in many cases, not useful data. Event-Driven detectors could overcome these two challenges by using a new readout system in which data is sent out only when a photon reach a pixel.

Different groups at DESY including CMI and FLASH already use the Timepix3 to obtain tens of nanosecond time resolution in their experiments (e.g. investigation of fragmentation processes).

A new readout system for the Timepix3 has been completed at DESY and opens up the door for the development of the upcoming Timepix4, a larger chip with enhanced count rate capability and time resolution (up to 200 picosecond).

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