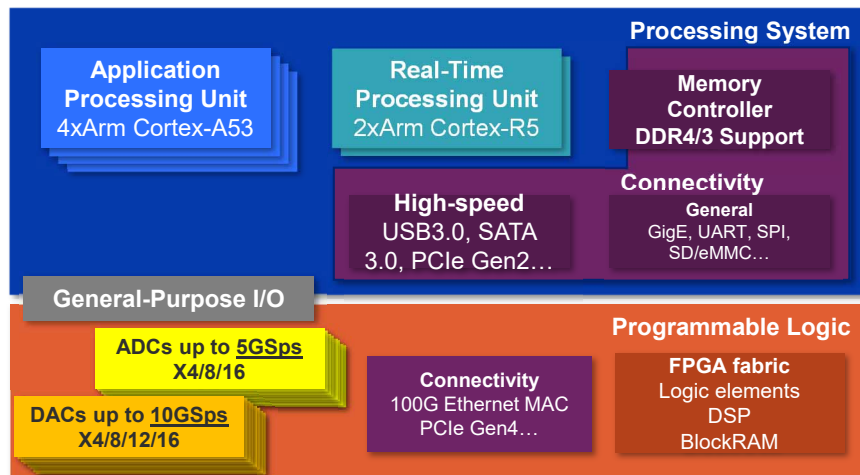# Integration of an MPSoC-based Acquisition System into the CERN Control System

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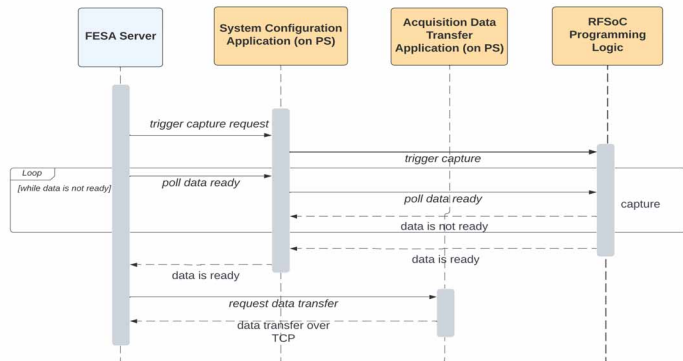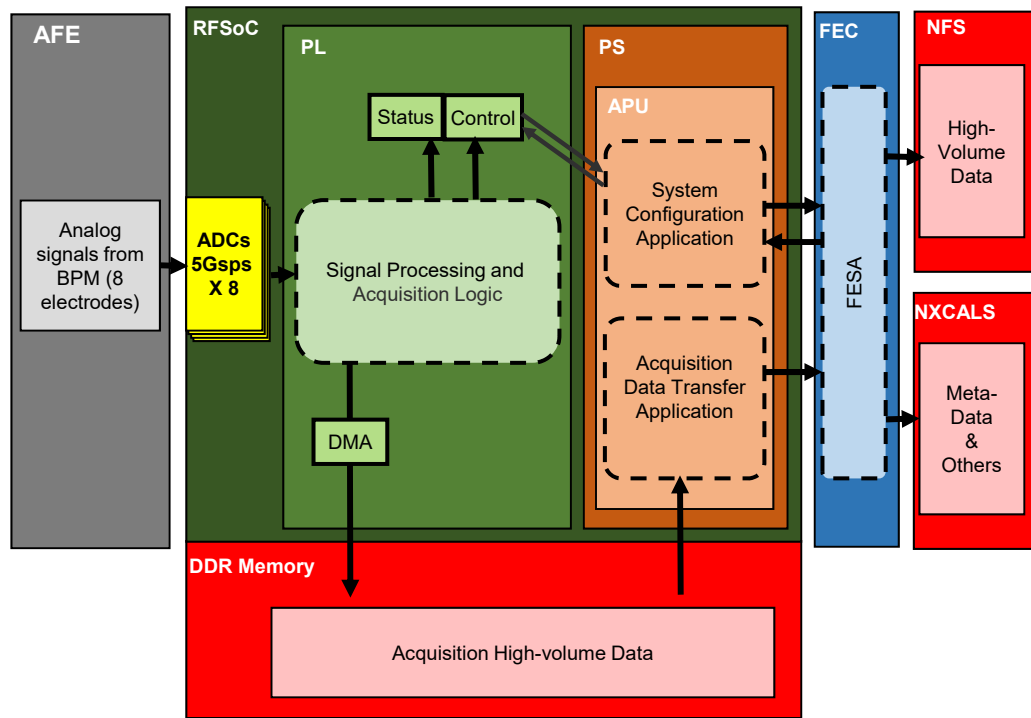
- **Xilinx Ultrascale+ RFSoC ZCU208**

- Integrating a processing system, with programmable logic, ADCs, DACs and more

- A vertical slice for **Hi-Lumi LHC Beam Position Monitors** is implemented.

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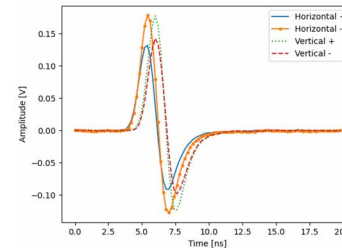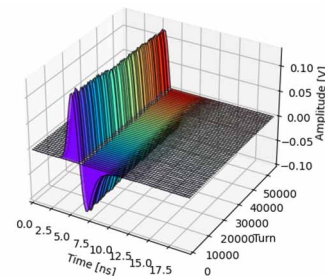
The system consists of:

- PL signal processing and acquisition logic,
- PS system configuration application (IPbus)
- PS data transfer application (TCP),
- Front-End Computer running FESA
- Logging

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- Tested in the SPS due to the unavailability of the LHC BPMs

- Board was installed in a cavern, close to beam tunnel

- A PyQt GUI is developed for easy interaction

- Results match to the expected behavior

- This prototype showcases that SoCs offer a variety of components to leverage from.

- The experience gained provided us with insights into areas that could benefit from standardization.

More details are available on the poster TUMBCMO22

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