Elements of CALICE/WP14 SiW Ecal readout and rough plans for the future

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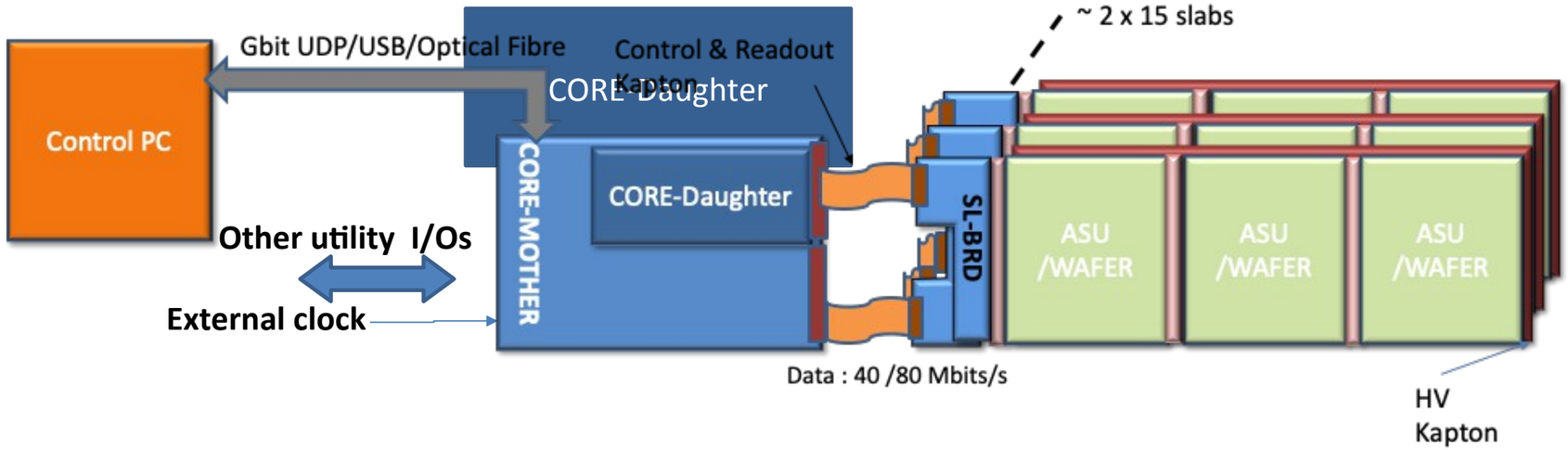
This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 654168.

Elements of ECAL DAQ (WP14)

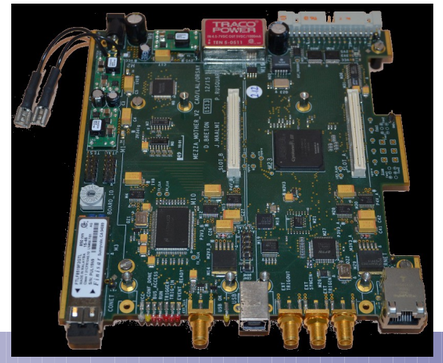


CORE *Module/Mother/Daughter* : Control and Readout
SL-BRD : Interface board to Slab

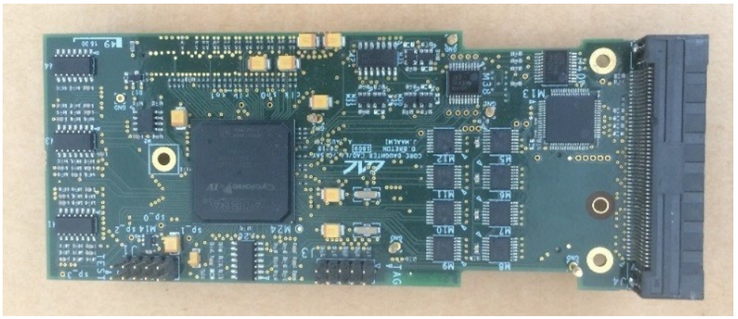
External clock and Utility I/Os : possibility to be synchronised with other systems!
i.e. TLU

The « magic box » CORE Module

CORE-Mother



CORE-Daughter



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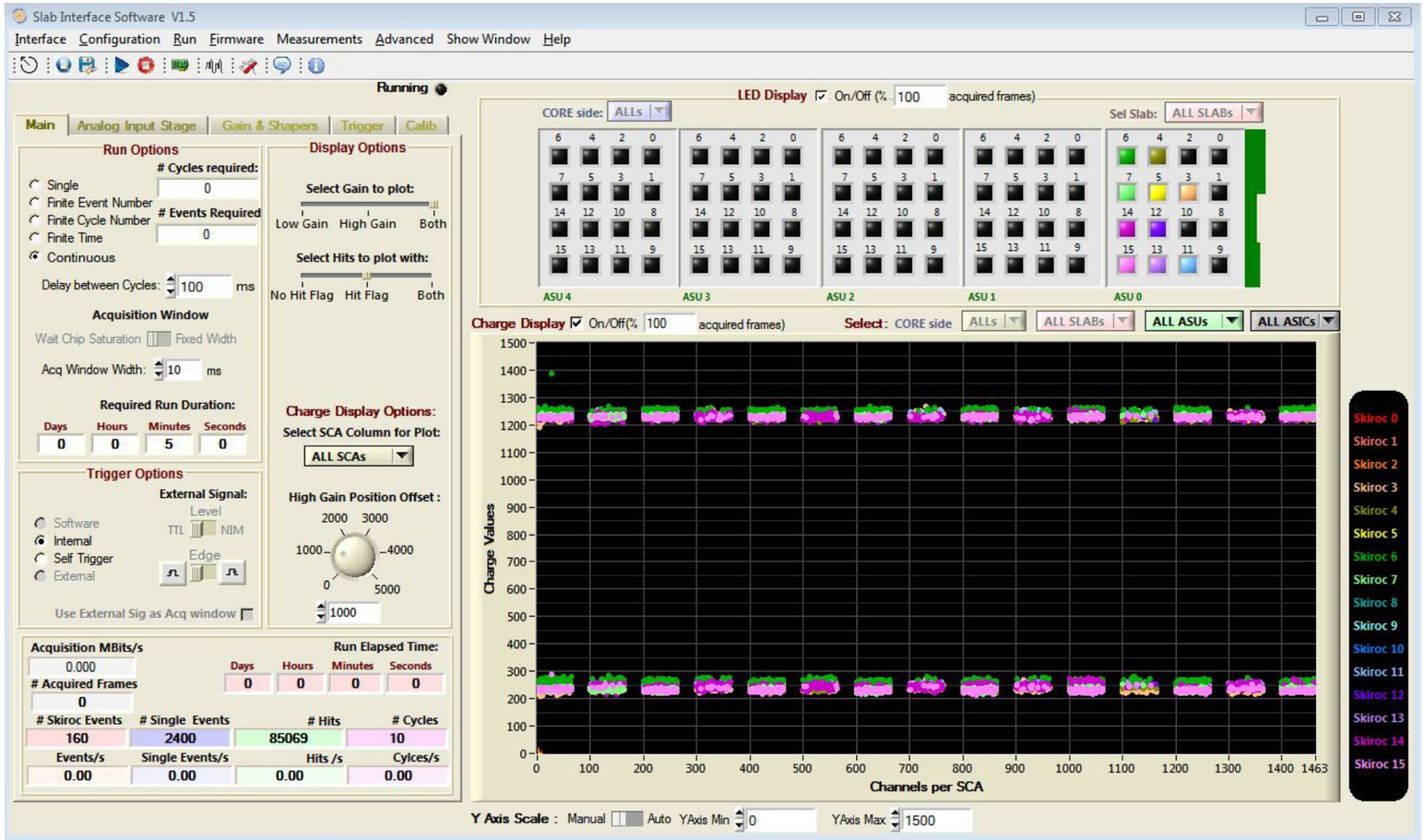

- The Software can handle the communication through FTDI connector **or** through **CORE Module**.
- It handles the **whole detector module**:
  - **Two sides with 15 SLABs each.**
  - **Each slab with up to 5 ASUs.**
- It written in **C** under **Labwindows CVI**
- Advanced measurements can be performed Online such as threshold scans…
- The C-functions that handles the communication (readout and configuration) can be used as a a library with any other program that handles C-langage.

Plans

- ECAL stack will/does comprise around 15-20 layers in 2020

- Need to make standalone tests but at a very early stage also first exercises with e.g. AHCAL to prepare comined testbeams
  - First tests on synchronisation between detectors with seperate data streams (was planned for March 2020)
  - Then « full » combined running using EUDAQ for data acquisition
  - Not difficult says Adrian but needs to be done, did not have priority for March but is in the planning

- At one point we will for sure want to take data with telescopes
  - => usage of TLU, signals can be received via CORE Module
  - Interaction with other systems is inherent to system design !!!!

- Details need to be worked out ny expertes but we clearly envisage to make use of the tools developed in WP5