MID status

KoALICE Meeting Jan. 5st 2022

Yongwook Baek

RPC status

- ***New RPCs***
  - 20 RPCs ready to be tested in the Torino Lab
  - RPC test will start in December/January.
  - Install as many RPC as possible before end of LS2, depending on the outcome of RPC test (installation: 2 RPCs/day)
  - If new RPC are not ready, start run3 with RPCs operated during run2 (still operational).

- ***Restarting gas flow in Cavern***
  - June 2021: leak check with Ar
  - July 2021: flushing with standard mixture
  and HV ramped-up

- ***Issues***
  - 2 HV cables to be replaced
  - 1 RPC draws a large amount of dark current (probably faulty HV connector
    - → further investigation ongoing)

MID : FEE & Electronics
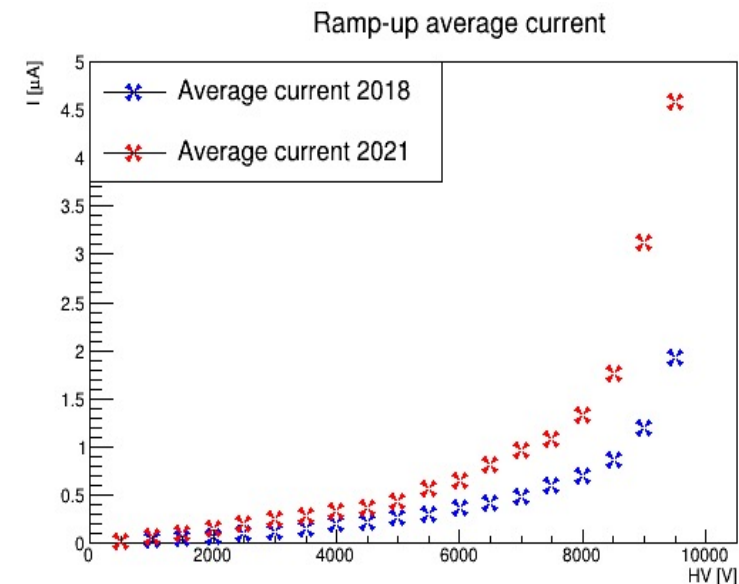
- *Readout electronics*
  - **All installed and commissioned**

- *New Front-end electronics(FEERIC): Installed in 2019*

- *Wireless (Xbee protocole) threshold distribution installed in 2019*
  - → **instable, Xbee will be replaced by WiFi (more powerful in terms of bandwidth)**
  - **Prototype card development: ongoing**

Produced and Installed

In-situ installation

FEERIC card

Xbee card

MID status
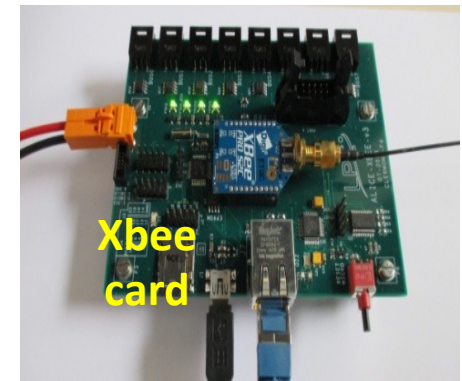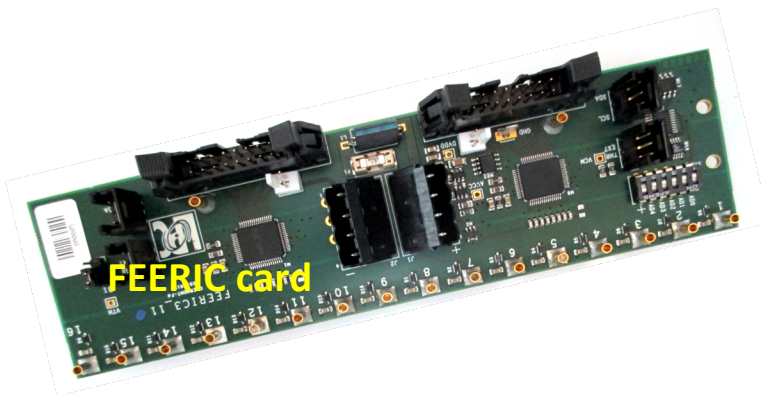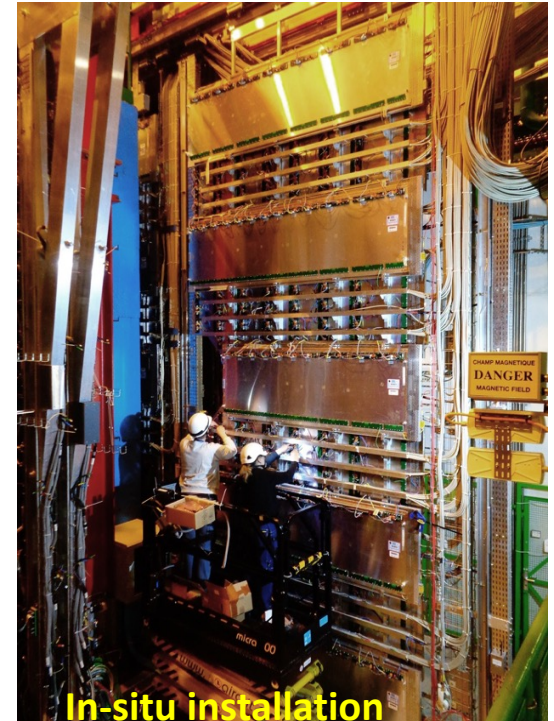
- **FEE and readout**
  - Noisy channel : **done**
  - Compensation delays : **done**
  - Debugging bad channels: **done**
- **CRU UL**
  - Working version depolyed in April : **done**
- **PC@p2**
  - 2 PCs installed to control GBT links and to configure local board fw
  - Issue: GBT links down after clock transition. For now, manually bring them up → Move to DCS network: **to be done**
- **QC**
  - Checking raw data: done
  - Digits QC : **to be done**
  - Reco. : **to be done**
- **FLP upgrade**
  - Writing data to file with AliECS: **OK**
  - Run DAQ + raw data QC: **OK**
- **DCS**
  - Migration to new DCS cluster: Done
  - FRED-WinCC development: **ongoing**
  - Renaming of MTR → MID: **ongoing**

MID Commissioning

Readout electronics

- **Setup of delays:** **done**

- **Noisy channel masks:** **done**
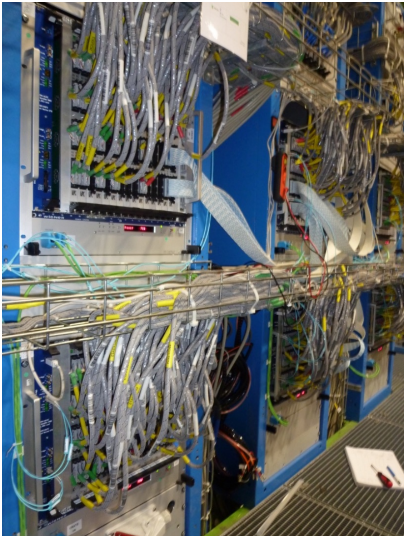
FLP

- **Data decoding: done**

- **2 CRUs**
  - **UL with zero suppression : done**

EPN

- **Track reco.: done**

- **Match with MCH: ongoing**

CRU for left side

CRU for right side

Node 1

Node 2

Node 3

Node 4

Node N

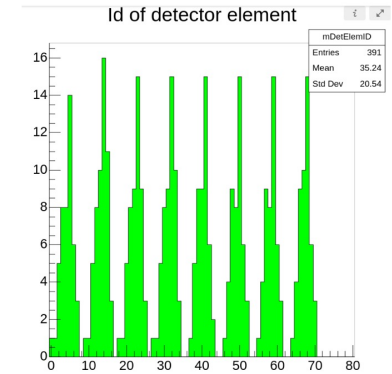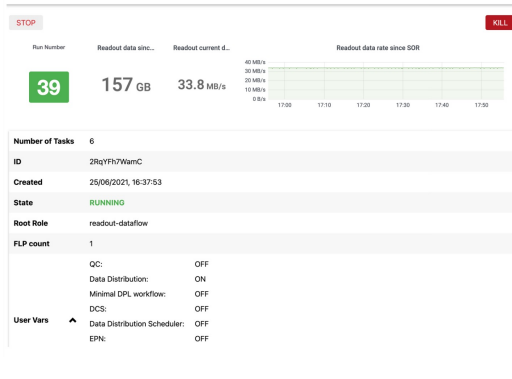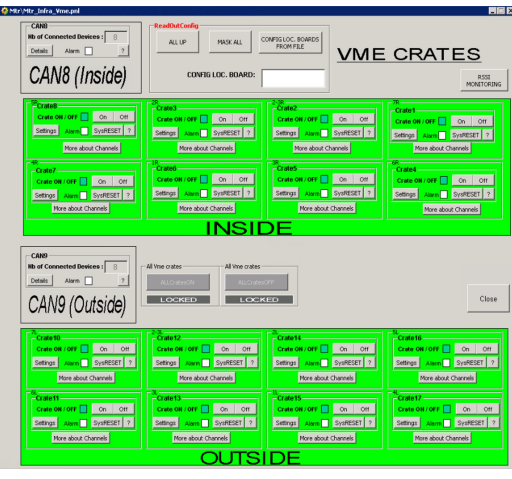# MID Integration

DCS

- **HV/LV control: no change**
- **Electronics control: ongoing**

ECS

- **Basic acquisition in FLP: OK**
- **Full integration with EPN: to be done**
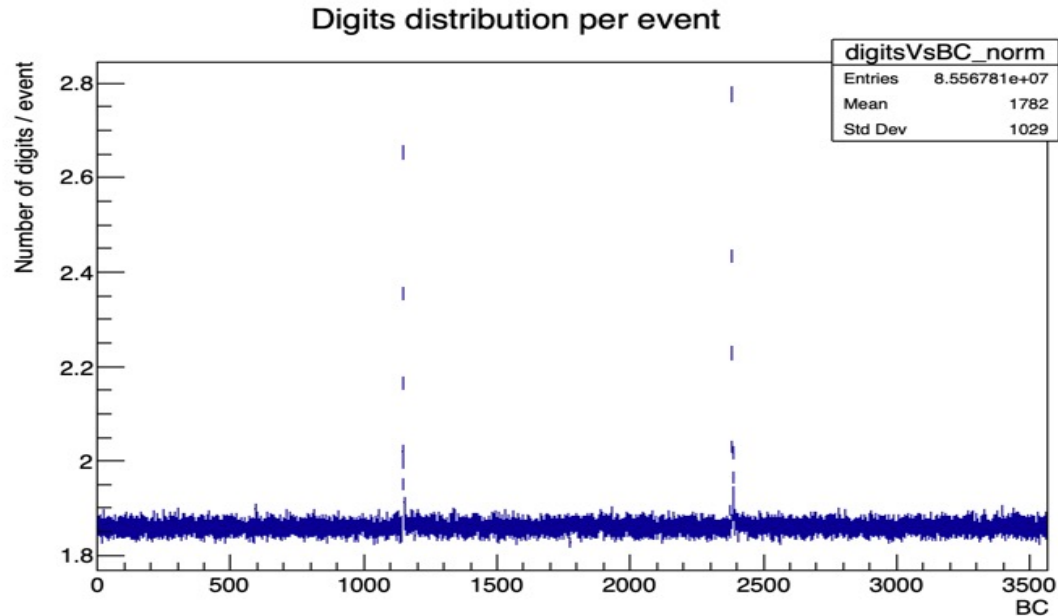- **Integration with DCS: to be done**
- **Integration with QC: to be done**

QC

- **Raw data: done**
- **Digits: to be done**
- **Reco.: to be done**

Pilote beam test

- *Beam condition:* Collisions in 2 BCs

- *MID:* 70/72 RPCs

- *MID Goals:*

  – Global alignment of muon signal with a single BC

  – Relative alignment & between channels

Digits distribution per event

Run	Collision 1 Obs. (expected)	Collison 2 Obs. (expected)	Diff (BCs)	HV – nominal (V)
505285	1145 (1238)	2381 (2474)	-93	-600

Summary

- *Production and insrallation of all electronics completed*

- *Standard commissioning ongoing*

  - **UL working since April**

  - **Noisy channels map: done**

  - **Compensation delays: done**

  - **WinCC-FRED interface: ongoing**

- *System integration ongoing*

  - **Run basic DAQ with ECS: OK**

  - **DAQ+raw data QC: ongoing**

- *Continue MID run coodinator*