



Update on TDAQ status for GSI data taking

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DAQ logical scheme

-VME crate:

Trigger and BM boards (TDC & discriminators)

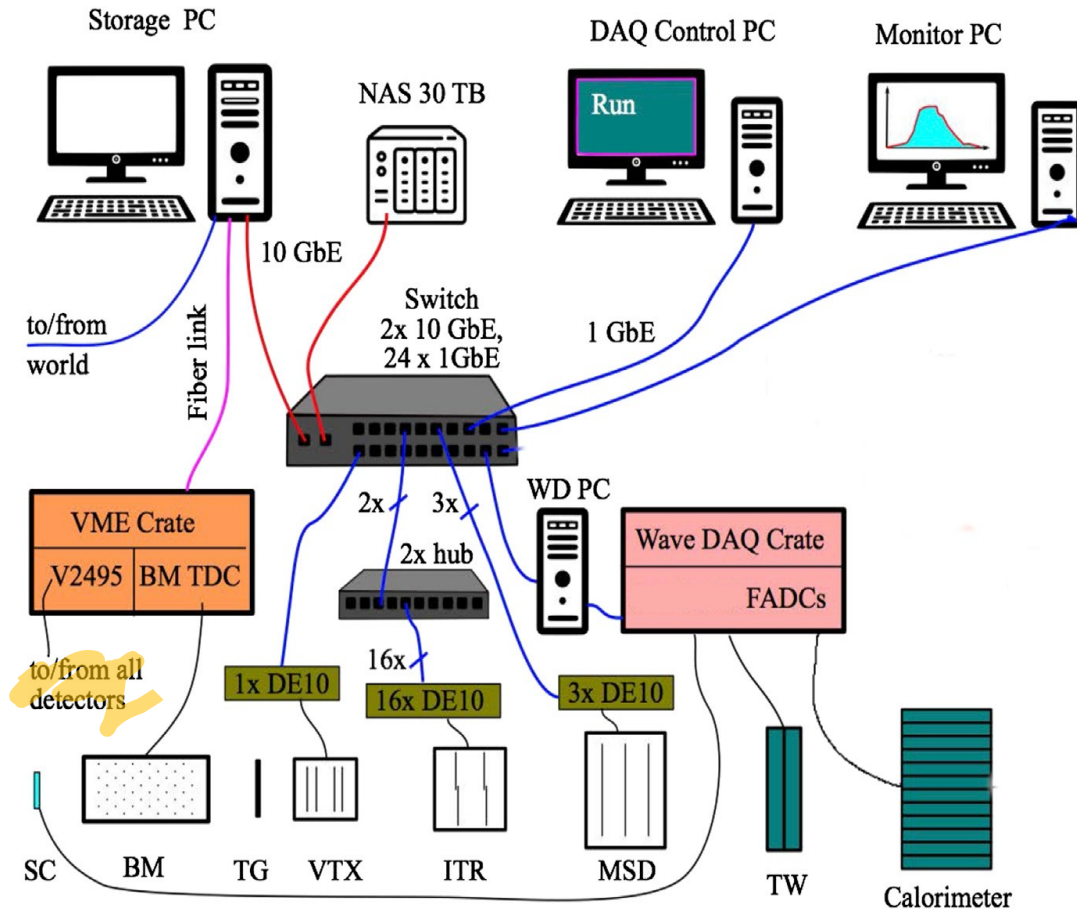
-3 DAQ PCs:

Storage, control and monitoring

-remote detectors:

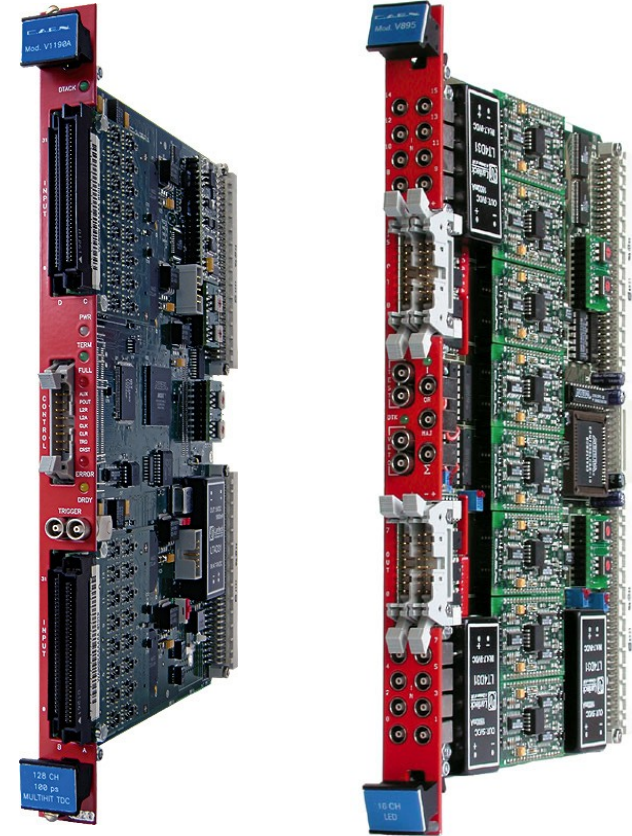
SC, VTX, IT, MSD, TW and CALO

-some of them have
intermediate PCs performing
some operations (VTX, IT, WD)



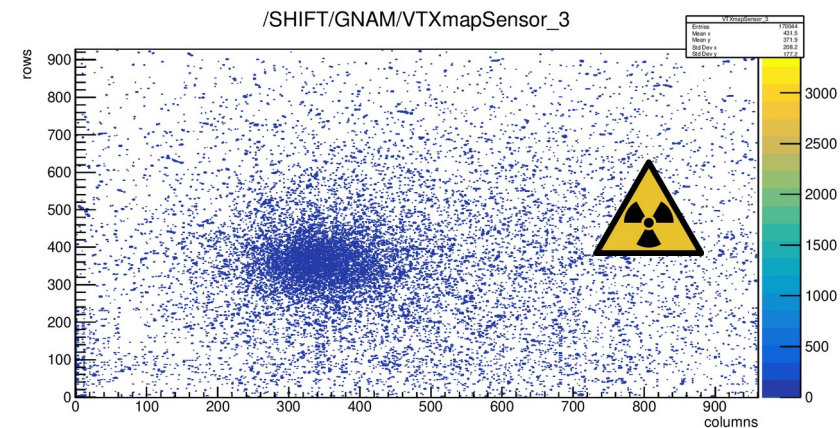
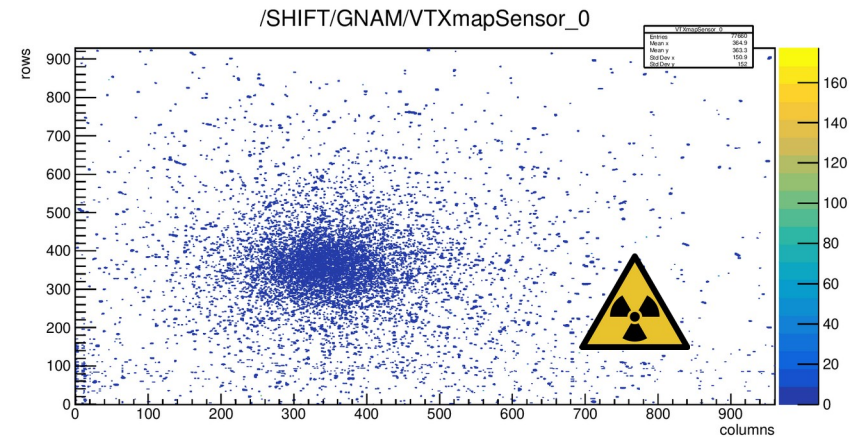
Beam monitor

- it is the only detector **read by VME**
- simple integration with DAQ
- added a lot of **online monitoring** tools such as time alignment, beam monitoring and event size



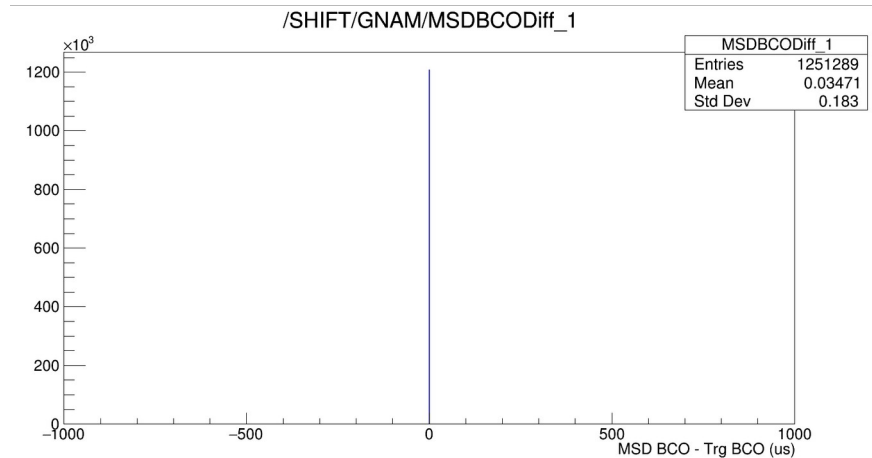
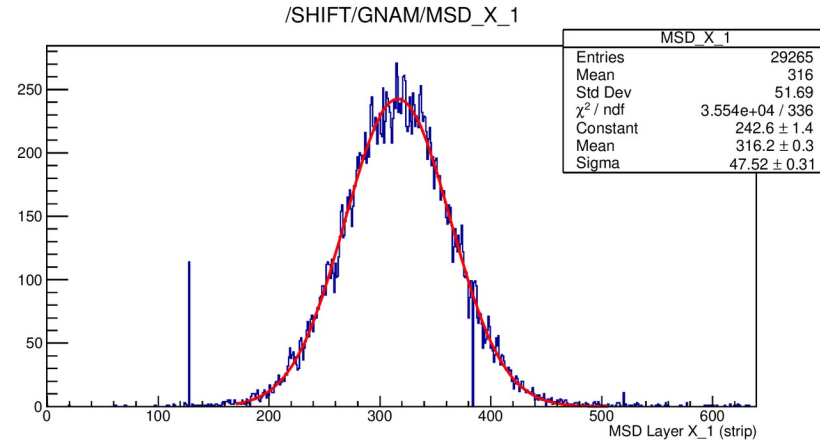
Vertex detector

- one board for four planes
- tested in lab** for 2 days in Frascati in mid-June
- start and stop processes** were **automated** to ease the shifter during the run
- long tests** (>1h) were performed also with Sr90 source
- DAQ rate up to 1.2 kHz (detector constraints), **safe rate ~750 Hz** (above that we spotted some trigger losses still under investigation)
- added some **online monitoring** tools such as beam profile (both integrated and instantaneous)



Microstrip detector

- three board for six planes (3 x-y stations)
- tested in Trento** with proton beam in June
- long runs** (>4h) were performed w/o problems
- DAQ rate up to 2.1 kHz** (limited by sensor reading)
- added **online monitoring** tools such as beam profile and time alignment (see slides of last physics meeting)

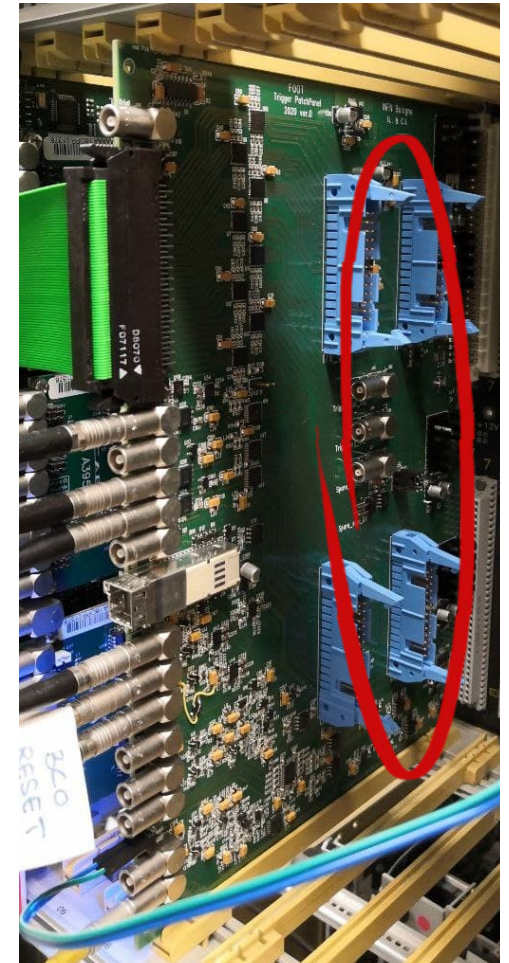
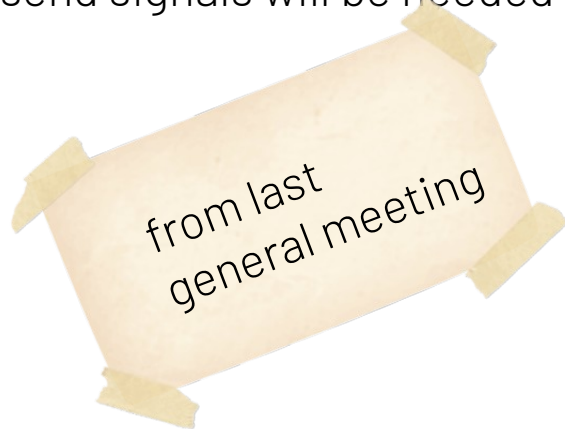


FOOT Trigger Patch Panel(s)

-Motivation:

Distribution of triggers, timestamp and busy signal from/to detectors in a compact way

-IT and MSD are treated in the same way (blue connectors), **interface boards** to receive and send signals will be needed



MSD interface board

- the Perugia board is in Bologna since a few days
- cables and connectors** were prepared and now they are **ready** (thanks to technical service)
- we checked that all signals are correctly delivered
- our test were **successful!**



Wavedream (SC, TW, CALO)

- “heavy” events ($>60\text{ kB/evt}$)
- very long runs** ($>12\text{ h}$) were performed w/o problems
- DAQ rate up to 2.4 kHz**, limited by the bandwidth
- several **online monitoring** tools such as time alignment, trigger patterns (no waveform decoding)
- all signals are received directly on the patch panel



Auxiliary tools

- MYSQL database** (information about the run and detector configurations)
- DAQ Electronic logbook**
- Fast and long-term **storage** (SSD→ NAS→ lxpool.gsi.de→ CNAF)
- the **FOOT network** will be available for any personal laptop and ancillary devices placed in the cave (no Internet access)

Ready for GSI (conclusions)

SC + TW + CALO:

extensive test for Wavedream, very long tests (>12h) w/o problems, max DAQ rate 2.4 kHz (limited by bandwidth)

VTX:

joint lab test in Frascati, max DAQ rate 1.2 kHz (limited by sensor reading), safe rate ~750 Hz to avoid trigger losses, long tests (>1h) performed

MSD:

joint test beam in Trento, max DAQ rate 2.1 kHz (limited by sensor reading), long tests (>4h) performed w/o problems



Thanks for your attention!