Thoughts about the EXL DAQ system

Haik Simon – GSI Darmstadt

i. Current

GSI Multi Branch System

RISING, ALADIN-LAND, FOPI, …

ii. Near future

Digital Signal Processing

RISING (DGF), RHIB, FOPI II, Hades, …

iii. Far future

NUSTAR DAQ system

EXL, R^{3}B, ILIMA, ELISe, …

→ panda, CBM, …

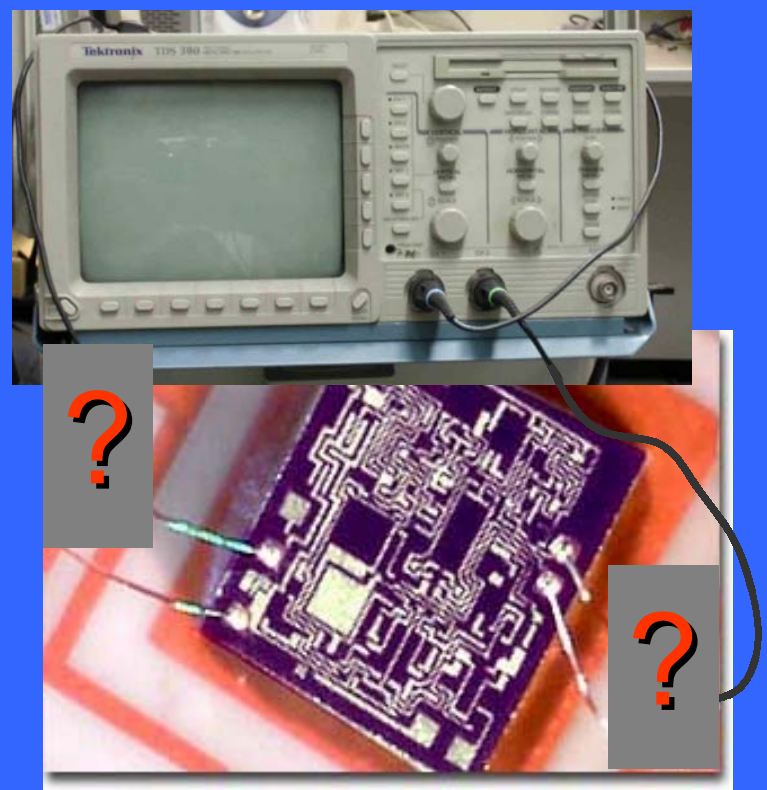
What does/should a common DAQ provide ?

- DAQ (module drivers, i.e. information and knowledge about module bugs, …)
- Event format → Common Analysis Clients
- Taping/Mass Storage ANSI labels, rfio server/client, …
- Framework/Interoperability between experiments

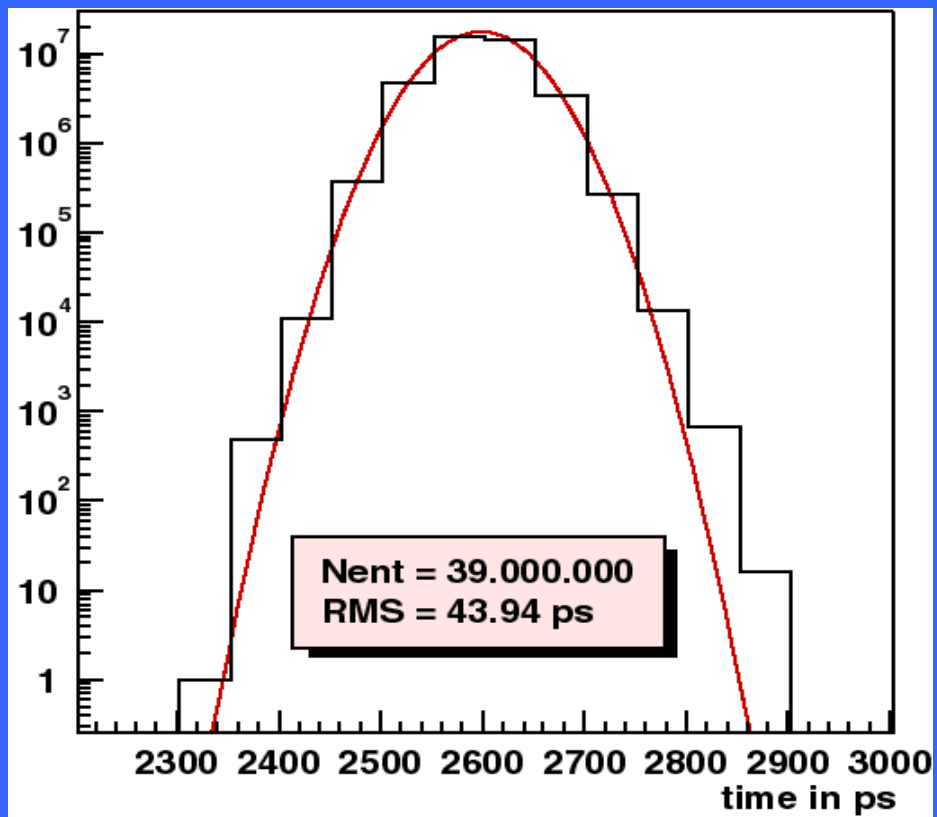
What could be interesting also …

- Synchronisation of standalone DAQ systems along the beam line
- Time distribution system (TDS)

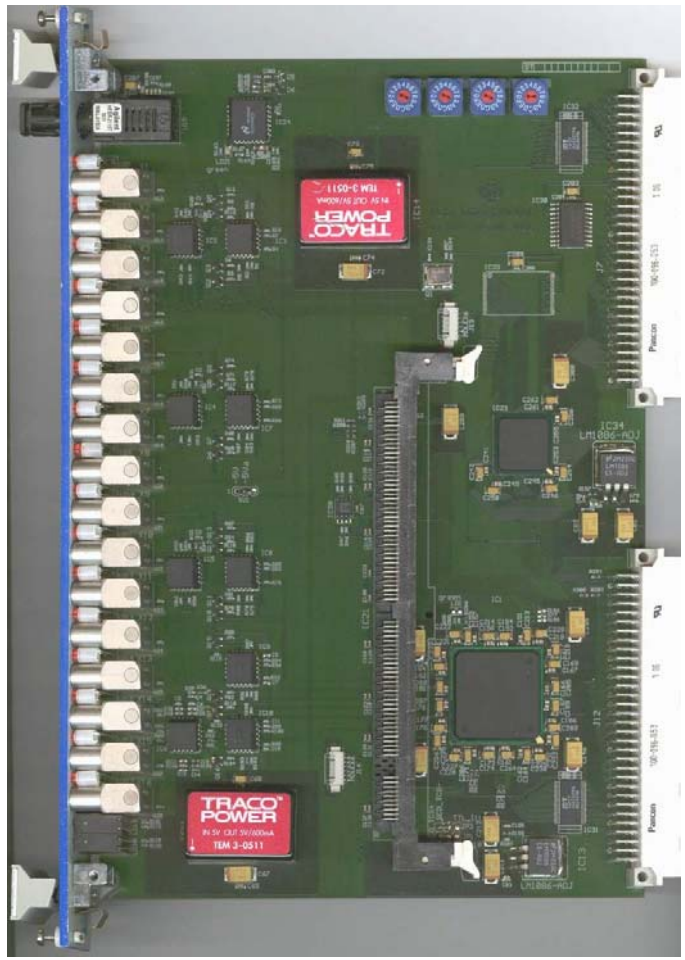
- Firmware upload scheme
- Slow control
- Feedback loops



Performance of a TDS - Igor Konorov / TUM
COMPASS / panda - I3HP - JRA



Provides **time reference** + **metadata of the event** for **up to 8 DAQ systems (via fiber)**



‚Server'/VME 6U

MBS + DSP + Multibranch (up to N × M)

FOPI readout sc

Complicated systems can be realized

multiprocessor
digital signal processing
rfio to disk array or tape robot

Y.Leifels, P.Kozcon

NUSTAR / about 660 collaborators (!)

NUSTAR/STORIB

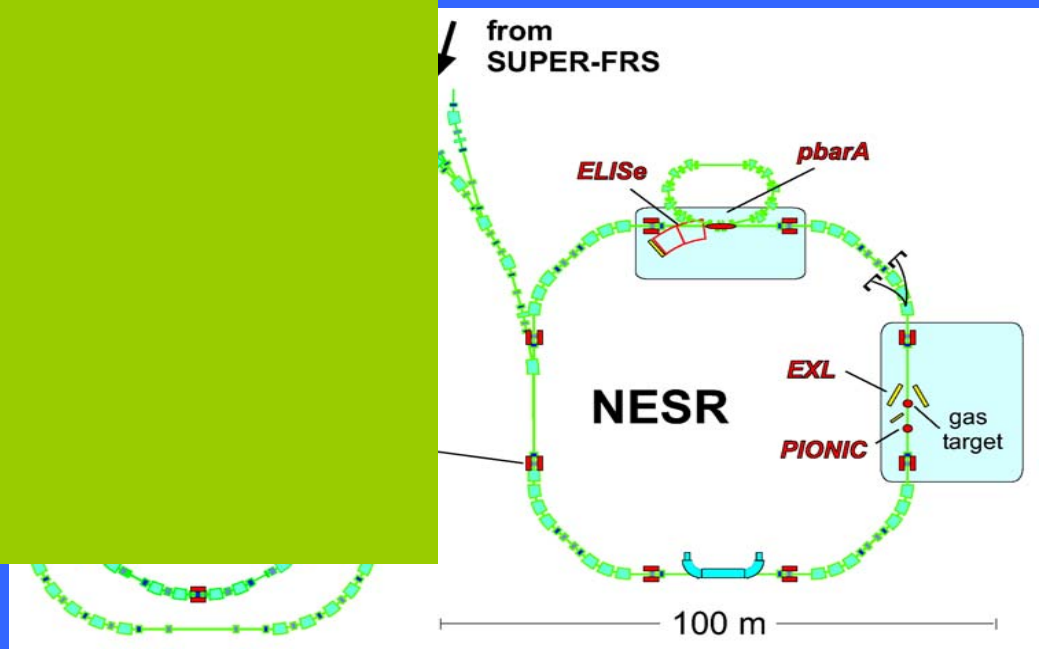
ng

NUSTAR/R³B

→ *Tom Aumann*

NUSTAR/

- decay st
- slow cor
- MHz sar
- …



→ *Common DAQ group*

Discussion topics

a. Should we (NUSTAR) form a own DAQ group ?
b. What are our (too) specific needs ?
c. What can we expect from GSI/FAIR ?
d. How can we include collaborative i.e. external efforts ?

UECS, I3HP/JRA, modularity, 'OSI layers', …