2nd ANUAL MEETING – Frascati
April 10-12, 2013

GASEOUS DETECTOR FACILITIES

WP 9.2 Summary

P. COLAS

Status of the 3 subtasks

- 9.2.1 (CEA, CERN, DESY, Ulund) Large TPC prototype infrastructure
  - Magnet upgrade at DESY (100% done)
  - Pad readout integration (AFTER : 90% done, 80% spent – SALTRO : 40% done, 60% spent)
- 9.2.2 (CERN) – Infrastructure for Large MPGD production. (95% done, 75% spent)
- 9.2.3 (CEA, DESY, Ubonn, FOM) - Common readout for pixels. TimePix and TimePix3 (70% done, 80% spent)

9.2.1 – Upgrade of the Large Prototype at DESY (R. Diener)

Upgraded superconducting magnet PCMag (KEK-Toshiba) successfully commissionned by June 2012 and intensively used since then

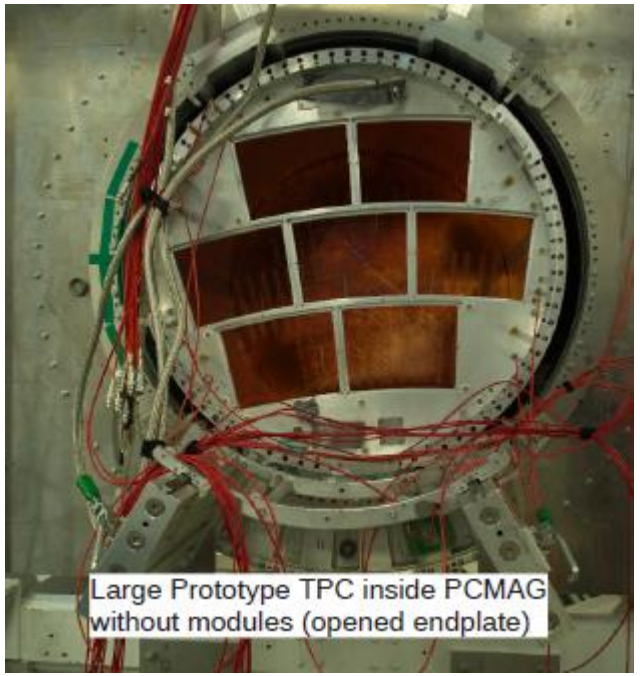
(Micromegas in July, German GEMs in July and August, Asian GEMs in November and December, Micromegas in January 2013, ATLAS Si tracking in February…)

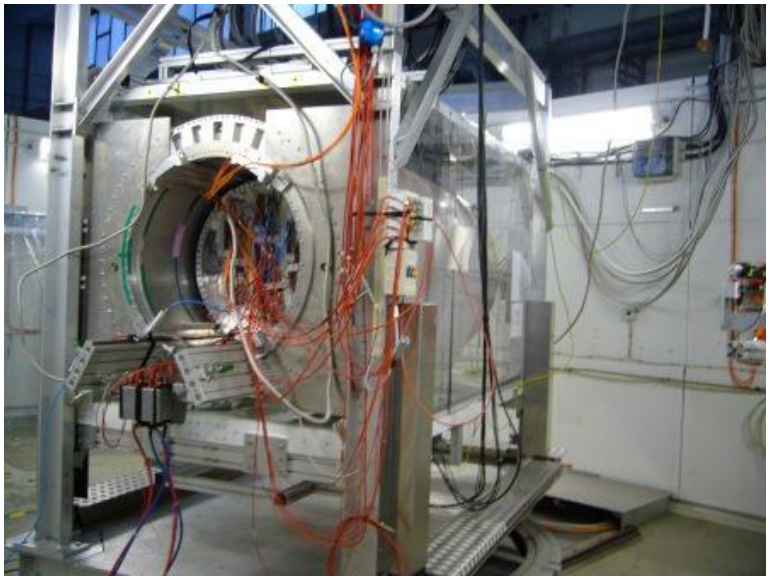
Much simpler and more reliable operation.

Increased safety.

Moving stage improved (DESY own funds): all translations/rotations.

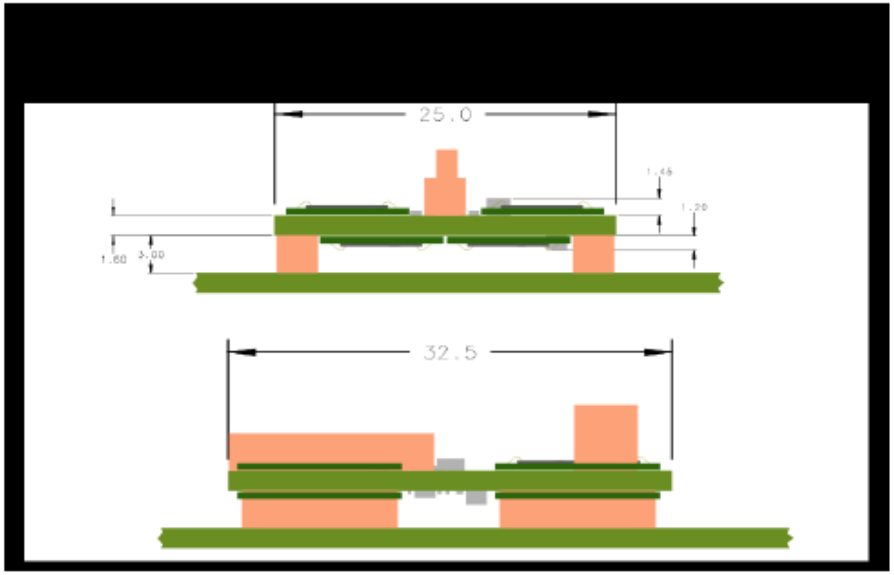
This autonomous operation without LHe opens the way to moving the magnet to another beam.





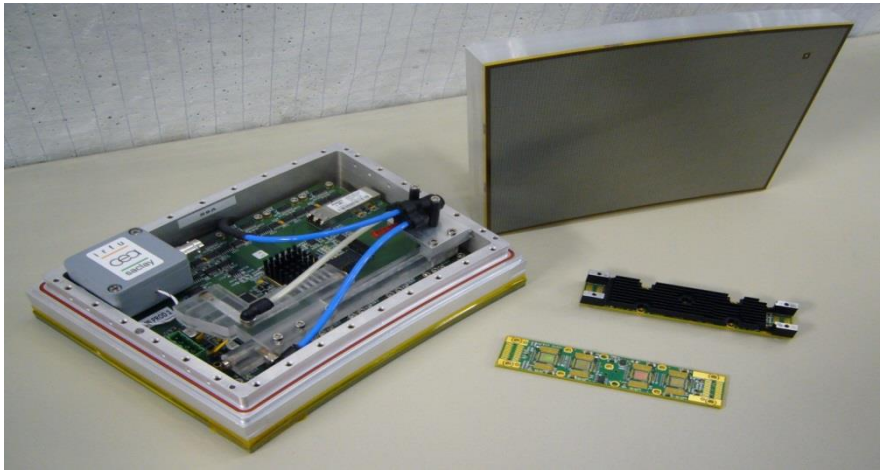
Endplate and module integration

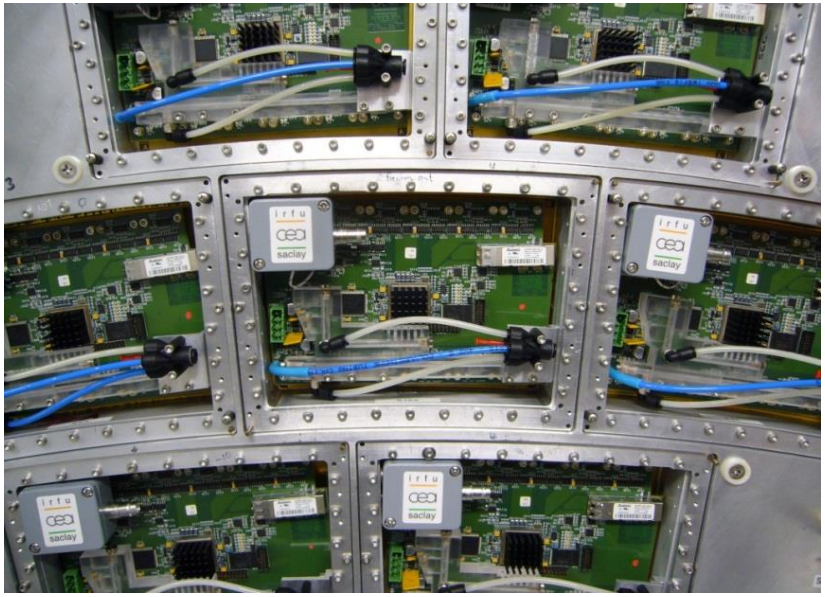
From AFTER-based (W. Wang)and S-ALTRO-based electronics (F.Muller) bare chip wire-bonded on card.

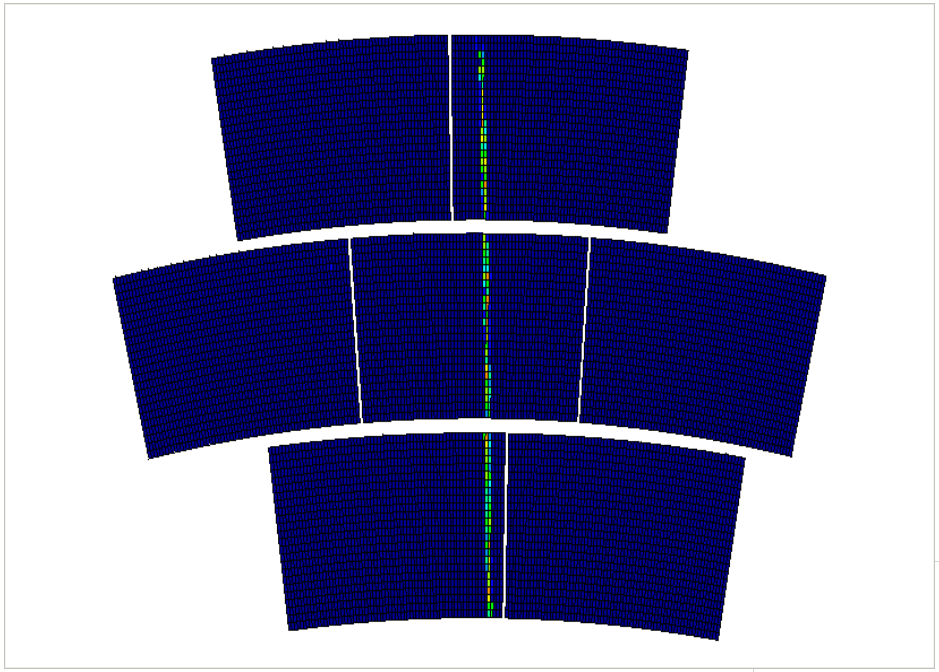


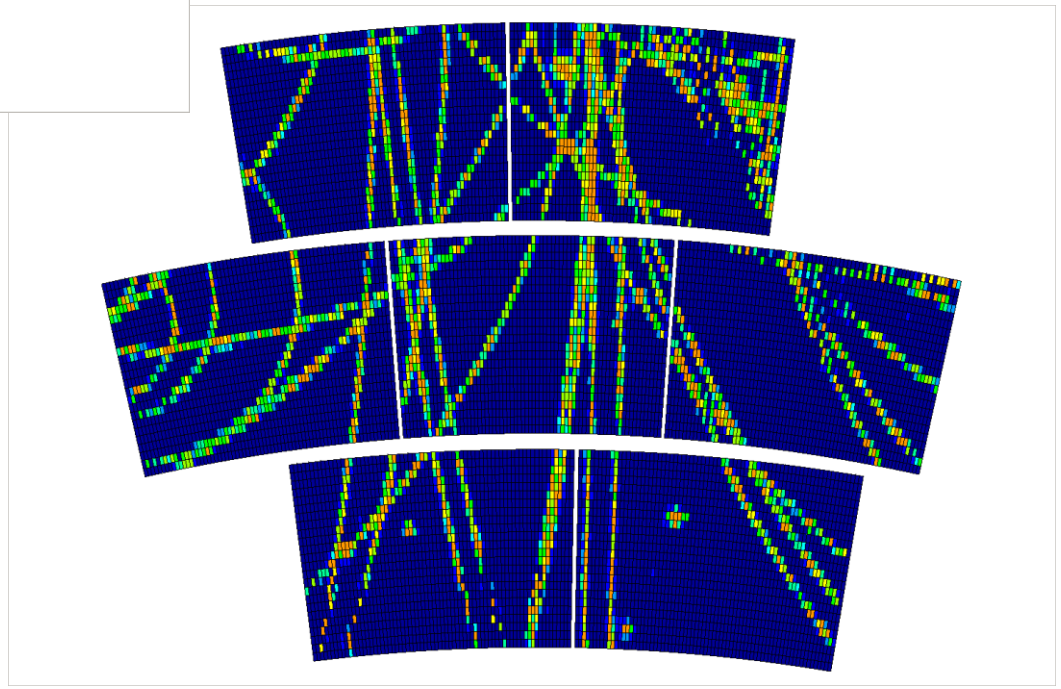
S-ALTRO: plans ready, 600 chips delivered.

AFTER: successful test in February 2013









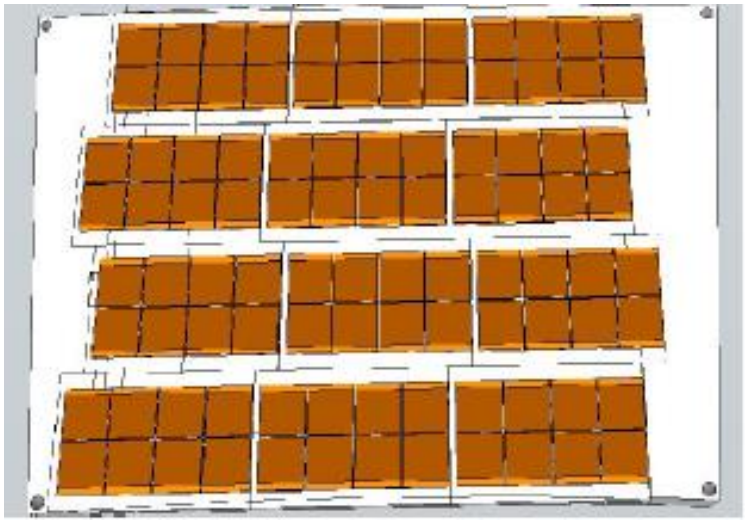
CERN MPGD workshop (R. de Olivera)

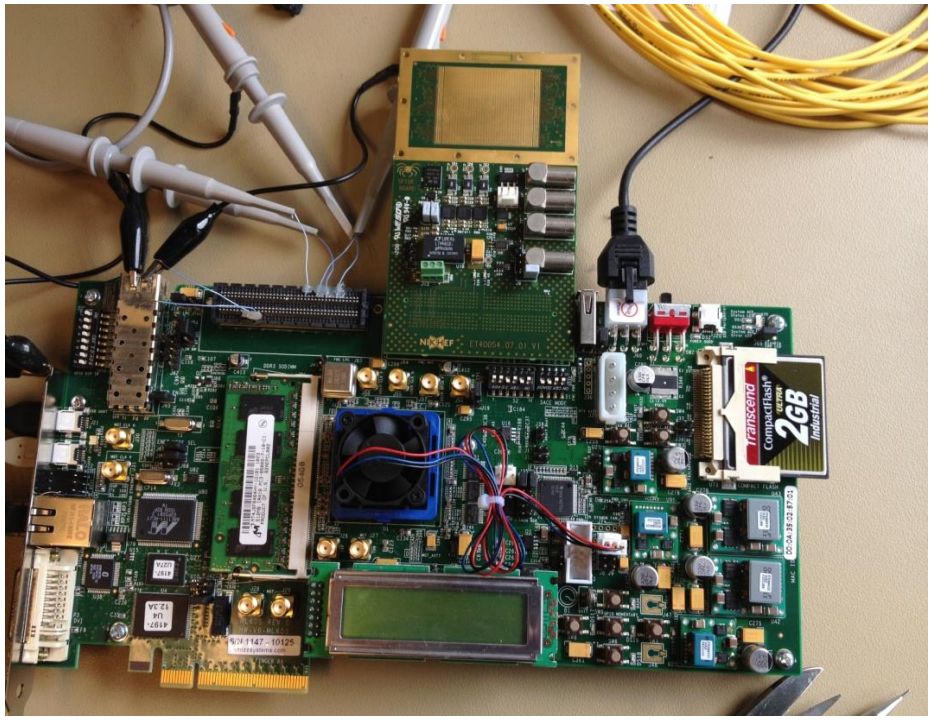
9 Larger machines (2m), larger oven for the CERN MPGD workshop

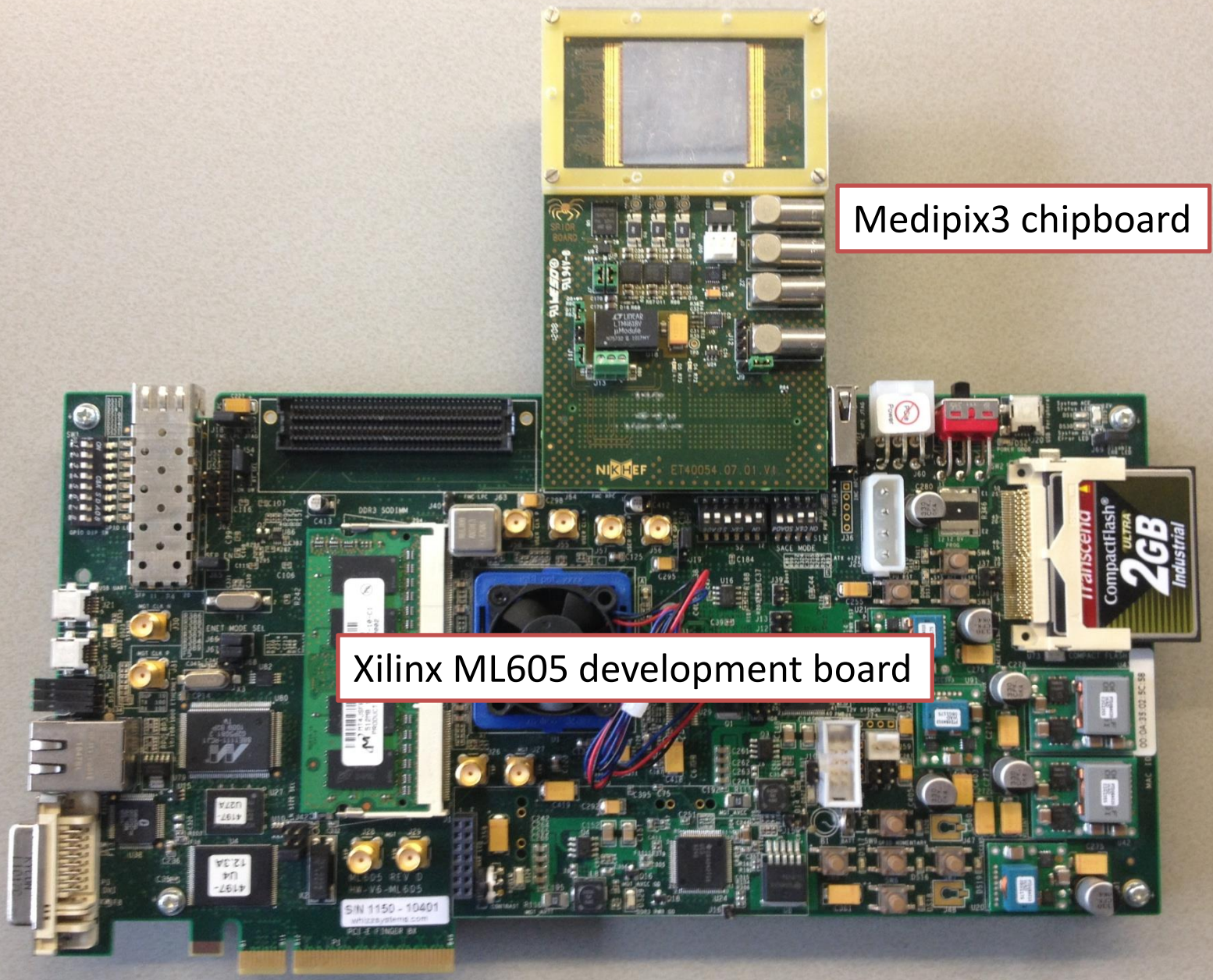
9.2.2 – Production of Large MPGDs. Upgrade of the CERN workshop (MS40) : 18 person.months (technicians) hired until now. Appointing another technician for 6 months is underway. New machines (payed by CERN) installed.

Last 3 machines to be commissionned after the installation in the new building.

- **9.2.3 – Pixel readout : for Time-Pix in Bonn and for TimePix3 at Nikhef (MS41). (N. Hessey, F. Muller)**
- SPIDR at Nikhef up and running in a first version. Should be ready when TPx3 comes from fundary.
- Successful test with TimePix in March 2013 with 8 channels
- SRS readout from RD51 used.
- Plan to evolve to 96 channels this year (but : cooling, integration?)






Medipix3 chipboard
Xilinx ML605 development board

CONCLUSION

- All task in good progress, most of them close to completion
- A few tasks start to attack challenging issues (packing for S-ALTRO, Large throughput and large consumption for TimePix 96 chips).