

CERN workshop upgrade Aida WP 9.2

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CERN workshop upgrade for MPGD

- CERN have invested in 9 machines for large MPGD production.
 - The 9 machines are at CERN
 - 4 machines are installed and commissioned
 - 1 is installed but not yet fully commissioned
 - 4 are still not installed , the installation is postponed .
 - The machines will be installed directly into the new building 107 (no space in existing premises)
 - This decision does not affect the running R&Ds
 - The processes involved in these 4 machines are standard only the size of the machine have been increased. No commissioning is needed
- Deliverables:
 - redefine all the process parameter related to the new equipment's
 - Build prototypes with these equipment
- Ressources:
 - 4 CERN staff during 4 years up to 15% of their time
 - 1 technician during 2 years
 - Juliens Burnens 1/07/2011 → 31/12/2011
 - Michal Zientec 1/01/2012 → 31/12/2012
 - Kacper Kapusniak 1/04/2014 → 31/12/2014

Equipment status

	installation	Commissioning
• GEM		
– 1/ continuous polyimide etcher	06/2012	in progress
– 2/ Cu electro-etch line	06/2012	OK
• Micromegas		
– 3/ large laminator	06/2011	OK
– 4/ large Cu etcher	postponed	no need
– 5/ large UV exposure unit	06/2011	OK
– 6/ large resist developer	postponed	no need
– 7/ large resist stripper	postponed	no need
– 8/ large oven	06/2011	OK
– 9/ large dryer	postponed	no need

•Juliens Burnens 1/07/2011 → 31/12/2011

Machines: 3,8

•Michal Zientec 1/01/2012 → 31/12/2012

Machines: 2,5

•Kacper Kapusniak 1/04/2014 → 31/12/2014

Machine: 1



•UV exposure unit limited to 2m x 0.6m → 2.2m x 1.4m



•Resist developer limited to 0.6m width → 1.2m

•Resist stripper “

•Copper etcher “

•Dryer “



•GEM electro etch limited to 1m → 2m



•GEM polyimide etch limited to 1m → 2m



•Ovens limited to 1.5m x 0.6m → 2.2m x 1.4m



•Laminator limited to 0.6m width → 1.2m

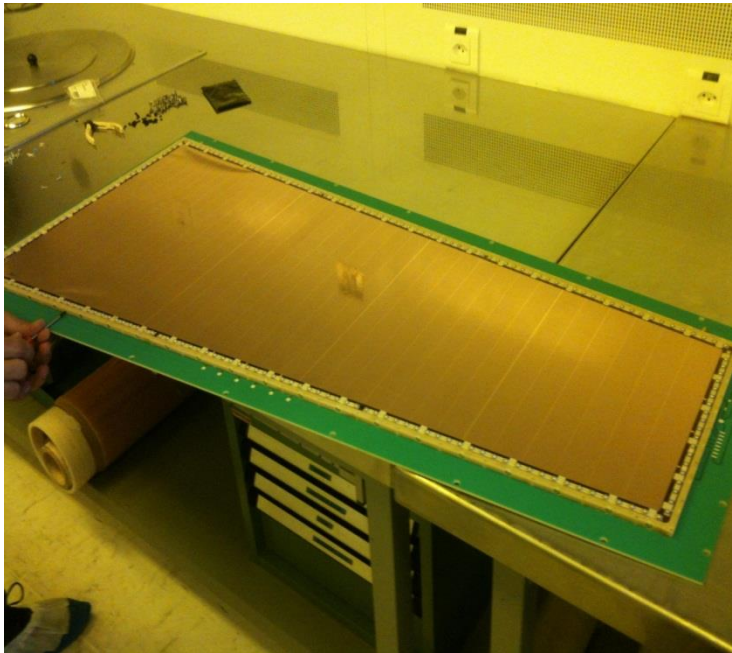


Projects using these equipment

•SBS tracker	GEM 600mm x 500mm
•ALICE TPC upgrade	GEM 600mm x 400mm
•CMS muon	GEM 1.2m x 450mm
•ATLAS NSW muon	Micromegas 2m x 1m
•COMPASS pixel Micromegas	GEM & Micromegas 500mm x 500mm
•BESIII	GEM 600mm x 400mm
•KLOE	GEM 700mm x 400mm
•SOLID	GEM 1.1m x 400mm
•CLAS 12	Micromegas 500mm x 500mm
•LSBB (geoscience)	Micromegas 1m x 500mm

•Most of them are still at the R&D phase but a few are close to full production:

•SBS Tracker	100 GEMs
•ALICE TPC upgrade	250 GEMs
•COMPASS pixel Micromegas	20 GEM + Micromegas
•BESIII	15 GEM
•CLAS 12	30 Micromegas
•CMS	450 GEM



- CMS GE1/1 GEM detector
- 1m x 50cm
- 10 detector produced

- ATLAS Muons Micromegas detector
- 2m x 1m ready

