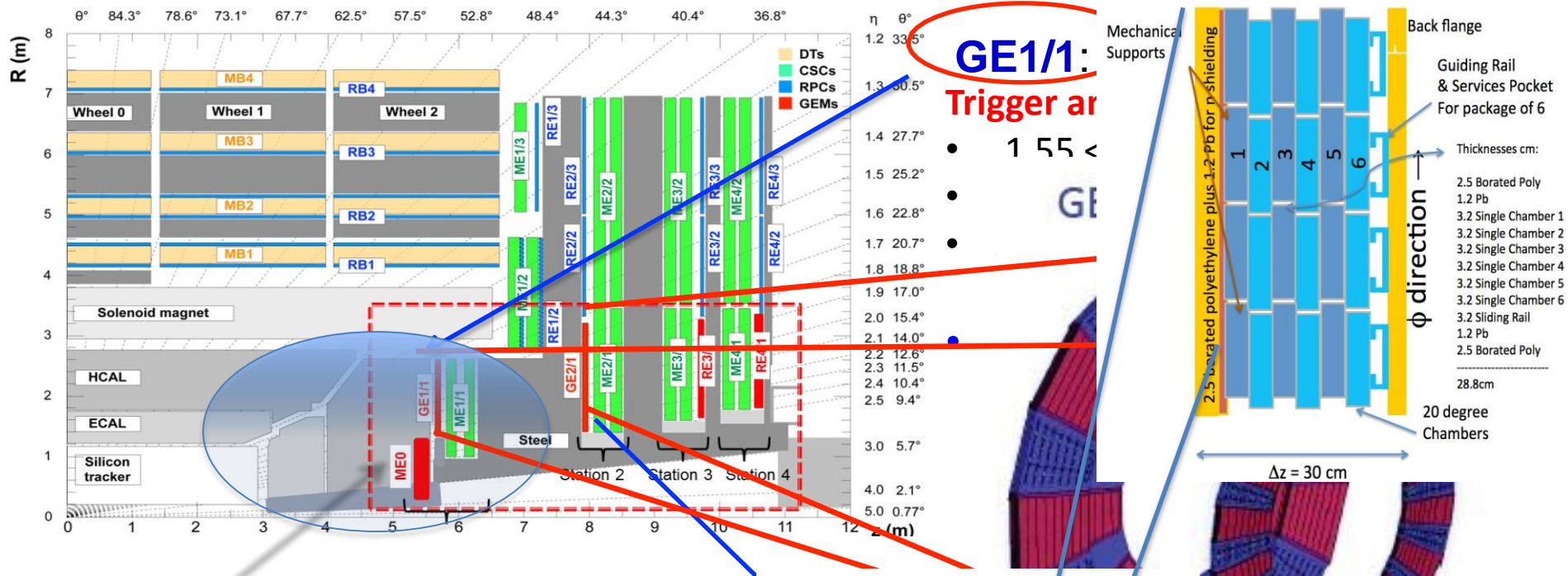


# Forward muon system enhancement



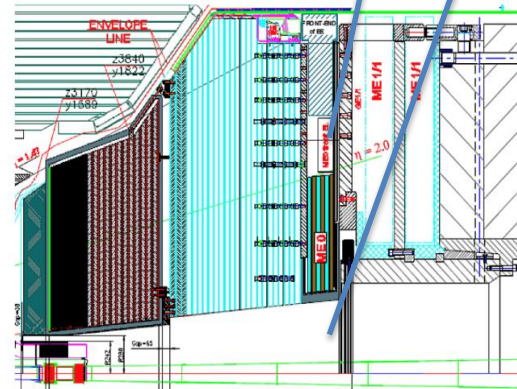
**GE1/1:**  
Trigger area

- $1.55 < \eta < 2.0$
- $2.0 < \eta < 2.5$
- $2.5 < \eta < 3.0$

**MEO:**

Triggering and reconstruction

- at highest  $\eta$ :  $2 < |\eta| < 3$
- 6 layers of Triple-GEM
- each chamber spans  $20^\circ$
- Installation: LS3 (2022-24)



10 cm cap, each

- Installation: LS3 (2022-24)

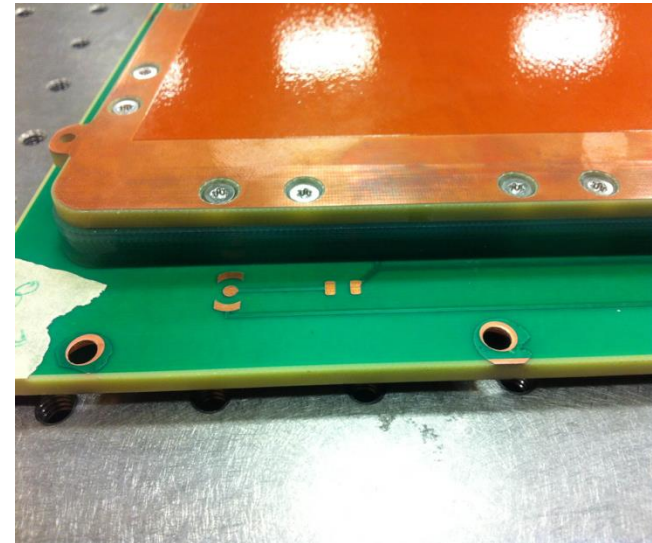
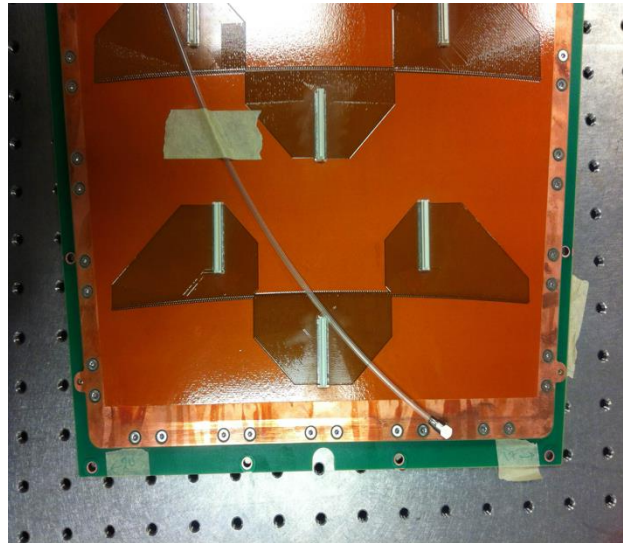
# CMS

## GEM Detector Production Status

### Slice Test

- Assembled 2 of 8 detectors for P5!
- Commissioning of quality control test stands on-going
- Price inquiries for the LS2 chambers components are running

### First Long Slice Test chamber assembled



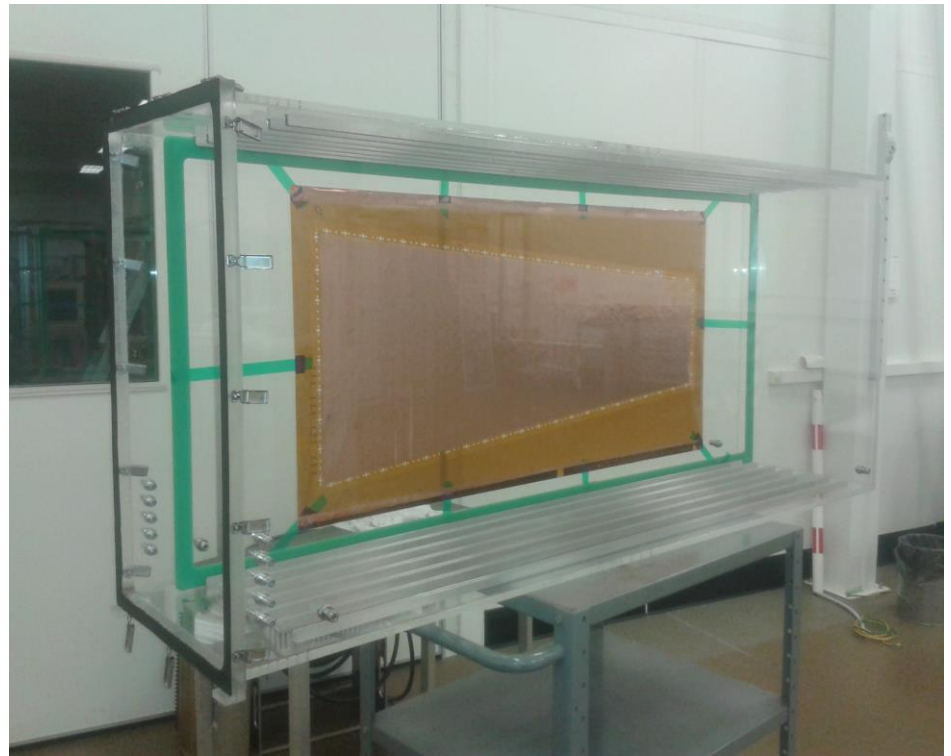
# CMS Foil Production at CERN

- Foils Production for the Slice Test project completed on 29<sup>th</sup> Feb
- 18 Foils (9 long+ 9 short plus spare), have been correctly produced in 4 weeks during February 2016, the expected production rate for the GE1/1 project is 20 foils/month
- Foils production for GE1/1 project has been launched on Monday 7<sup>th</sup> February, first batch is expected for beginning of April



# Foils QC

- Slice Test foils have been tested by Rui in air @ 500 Volts
- GE1/1 foils will be tested by CMS group using Argon
- A dedicated setup, able to host up to seven foils has been designed and built by the CERN GEM group
- Test results will be stored in the GE1/1 QA/QC database



# Chamber production

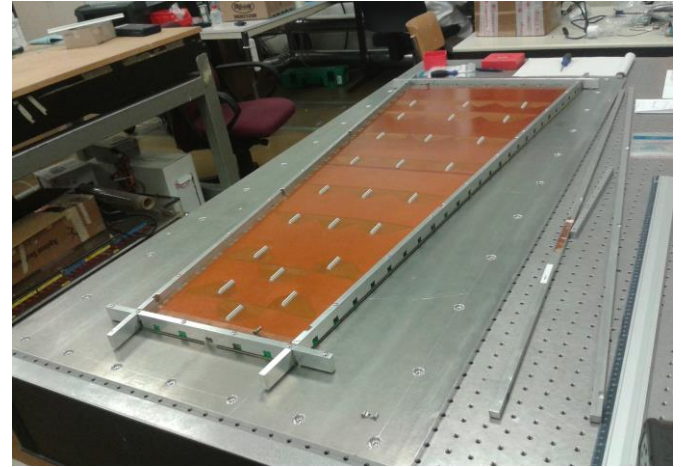
- Two “extra” chambers “version V” were built in Dec 2015, we use this occasion to train technicians coming from production sites.
- Two Slice Test chambers were built in Feb 2016.
- Three chambers are expected to be assembled by the end of this week and the last three chambers by the end of the next week.



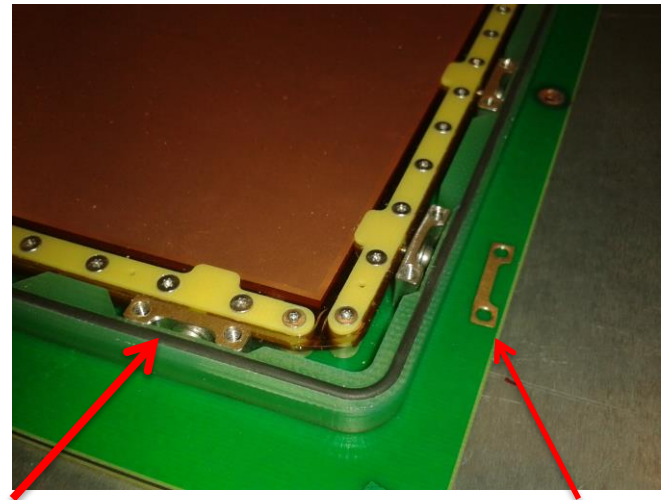
# Chamber production

- A complete review of the assembling has been performed during last weeks using “dummy foils” in view of the imminent GE1/1 chamber production.
- To reach a good planarity of the Drift and RO plane the chamber assembling has been done fixing the Drift board on a reference plate.
- The thickness of the Pull-Out elements, used to stretch the foils in the GE1/1 chambers has been tuned to avoid extra stress on the Drift and RO boards

Assembling with Drift PCB fixed on reference plate



Tuning of the Pull-Out thickness



Pull-Out

Calibrated spacer for the Pull-Out adjustment