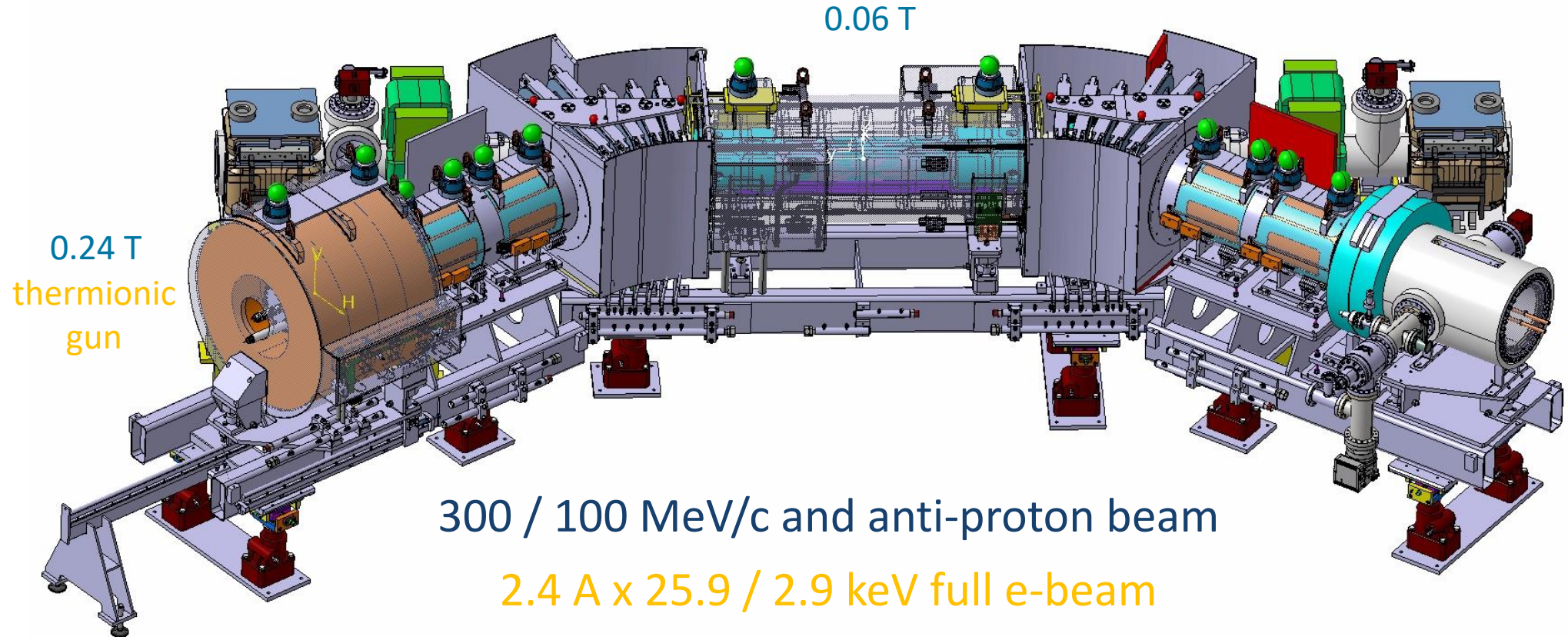
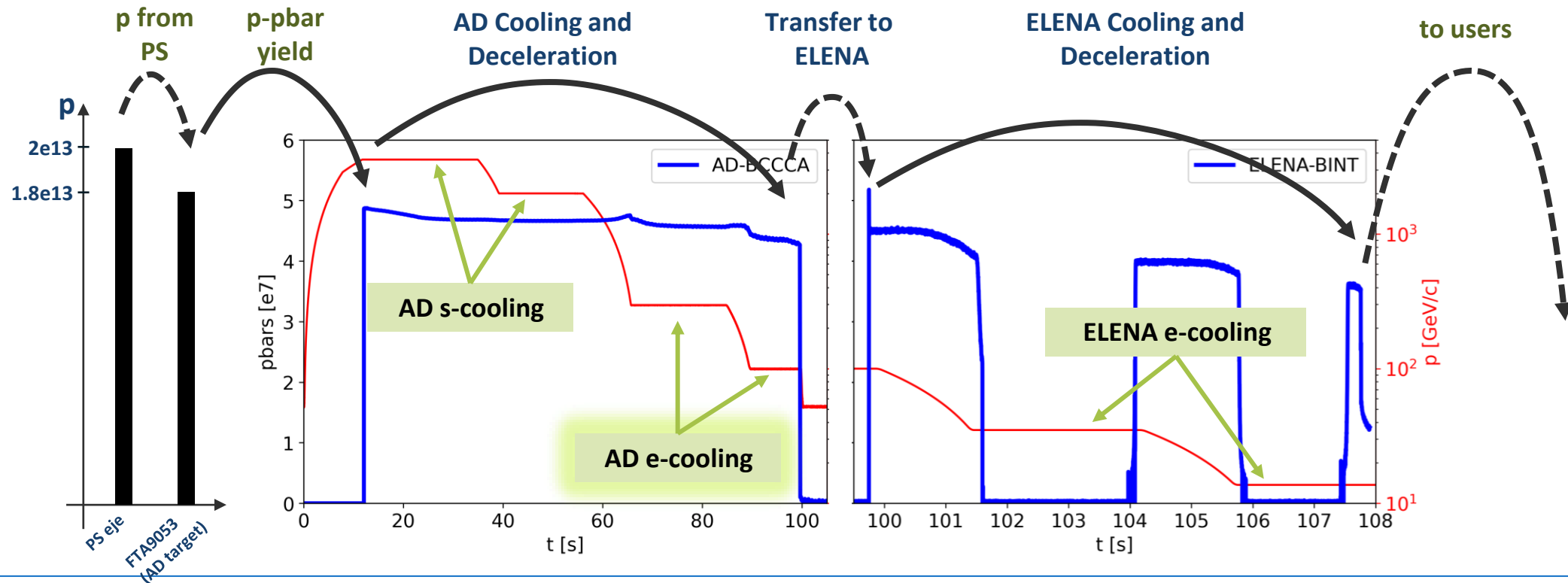


# AD Electron Cooler – to be installed in LS3



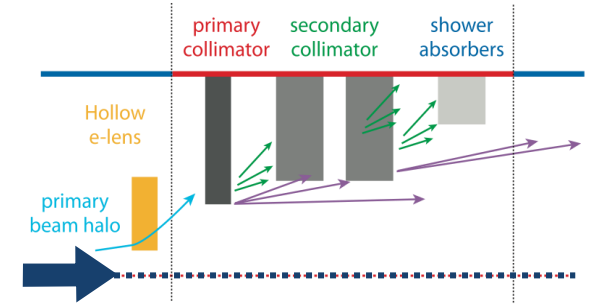
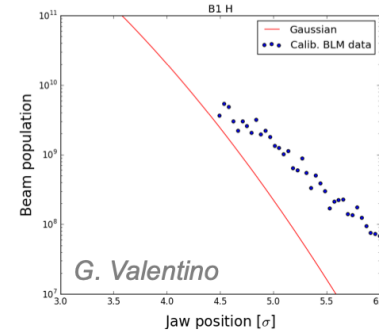
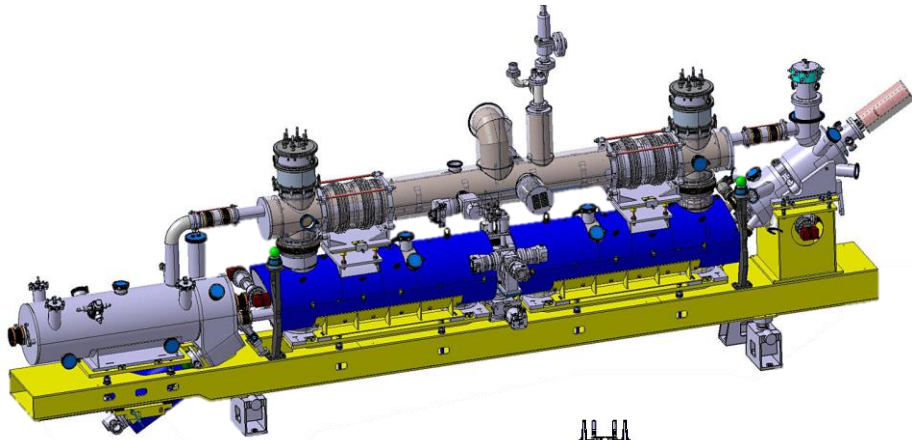
# From 25 GeV p to 100 keV pbar: 4e7 pbars/2'

- Generating pbars from 26 GeV/c protons (yield of the order of 3e-6 pbar/p)
- Up to 80% deceleration efficiency from 2.75 GeV (3.57 GeV/c) to 100 keV (13.7 MeV/c)
  - Thanks to **several stochastic** and **electron cooling steps**
- Up to 4e7 pbars every 2 minutes delivered to experiments



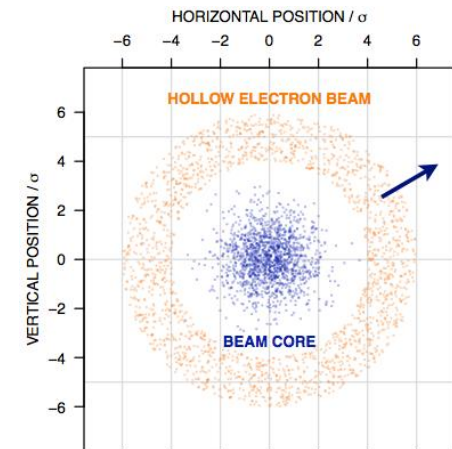
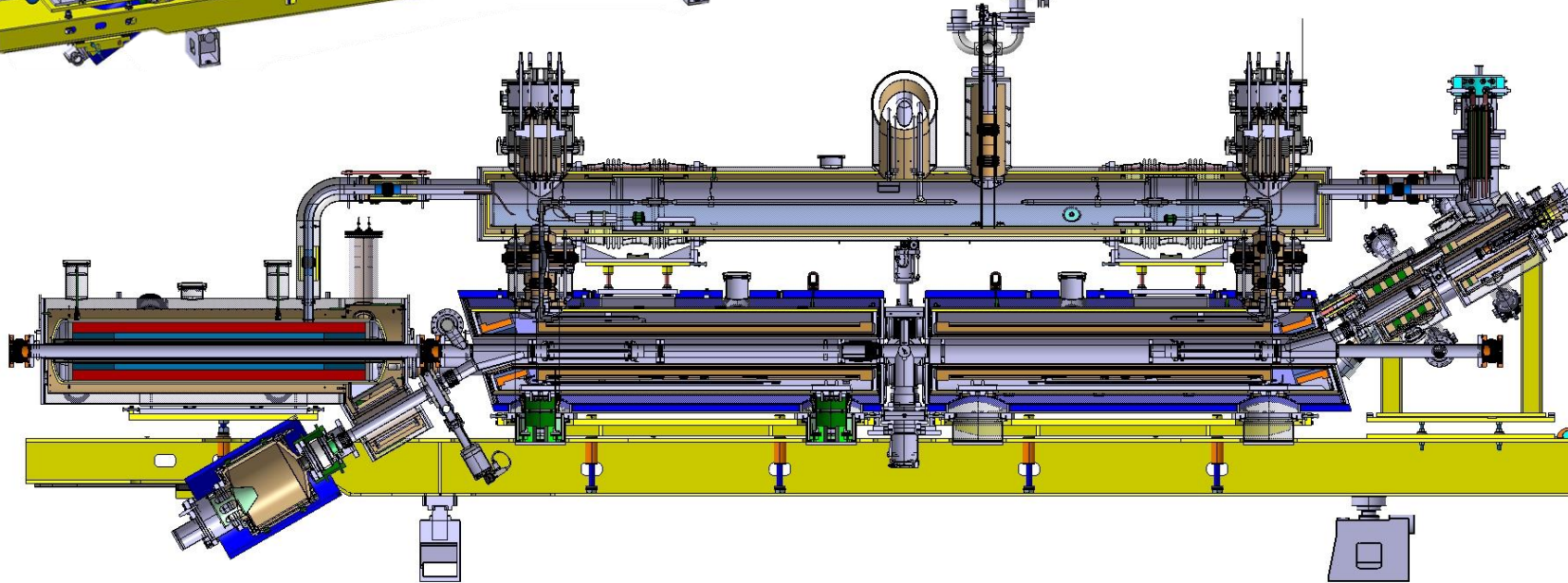
# Hollow Electron Lens to enhance halo diffusion

Scaling to HL-LHC → up to 30MJ above  $3\sigma$



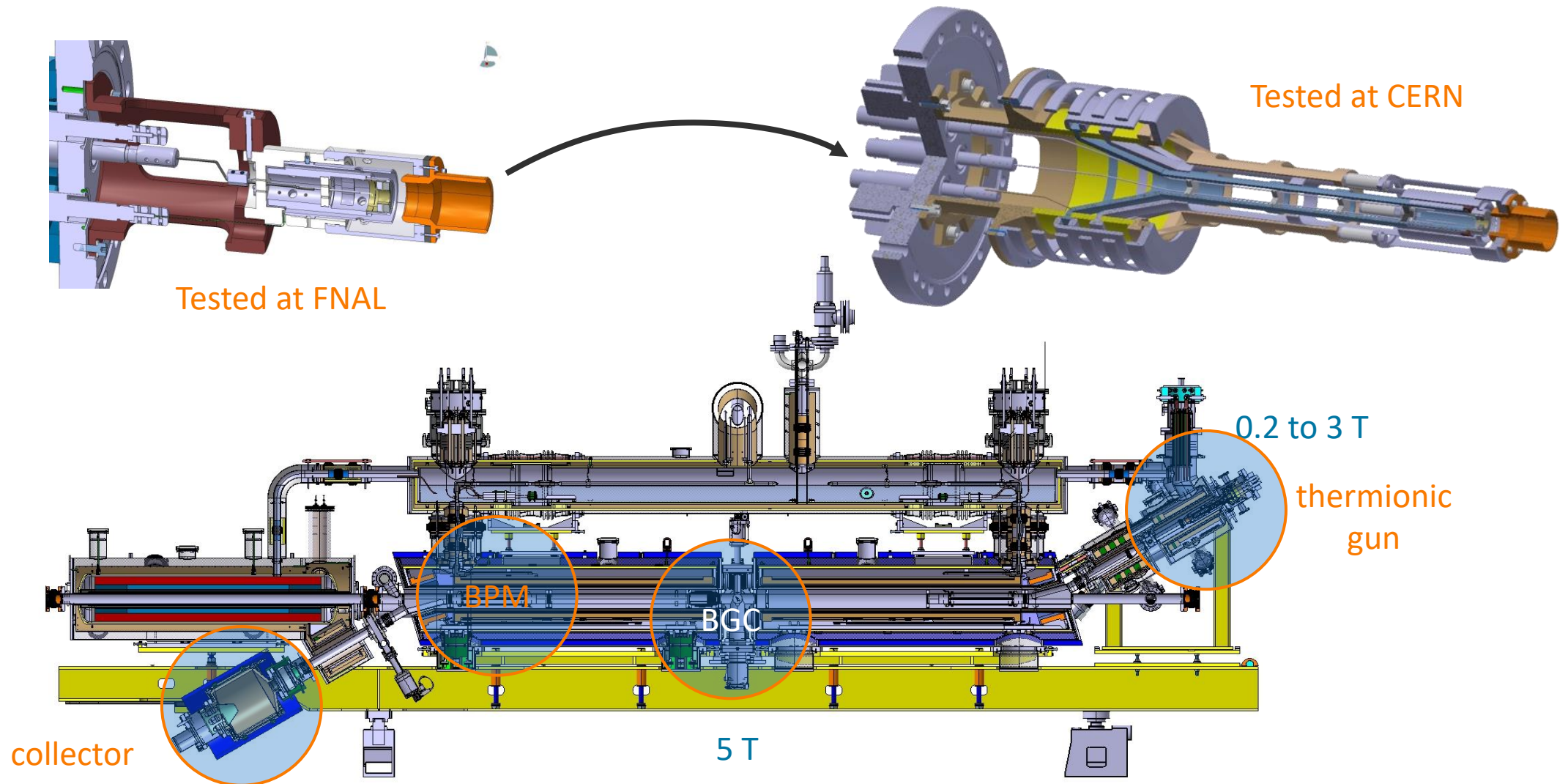
>1.8E11 p/b 7 TeV proton beam

5 A x 10 keV hollow e-beam

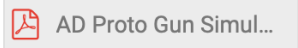
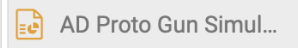




# Hollow Electron Lens – descoped from HL-LHC



# Timetable

- 15:05** → 15:25 **Electron Cooler Test Stand results and simulation of E-beam transport in new e-cooler**  
Speaker: Gunn Khatri (CERN)
- 15:25** → 15:30 **Q&A**
- 15:30** → 15:50 **Electron gun measurements at the EBTS**  
HEL gun measurements at the Electron Beam Test Stand  
Speaker: Dr - Sameed (CERN)
- 15:50** → 15:55 **Q&A**
- 15:55** → 16:15 **Electron gun measurements at FNAL**  
HEL gun measurements at the FNAL Test Stand  
Speaker: Giulio Stancari (Fermilab)
- 16:15** → 16:20 **Q&A**
- 16:20** → 16:35 **Simulations of electron beam at the AD electron cooler**  
Speaker: Gerard Alain Tranquille (CERN)  
 AD Proto Gun Simul...  AD Proto Gun Simul...
- 16:35** → 16:40 **Q&A**
- 16:45** → 16:55 **Simulations of electron beam at the HEL**  
Speaker: Dr - Sameed (CERN)
- 16:55** → 17:00 **Q&A**