The front-end electronics upgrade of the CMS ECAL Barrel

F. Cossio on behalf of the CMS collaboration

- New on-detector electronics to comply with HL-LHC CMS trigger and DAQ requirements
  - CATIA ASIC
  - LiTE-DTU ASIC
- Noise reduction and pile-up mitigation
- 30 ps time resolution for $E > 50$ GeV
- Off-detector trigger primitive generation
  - L1 trigger with single crystal information
  - On the fly pulse shape discrimination for APD spikes rejection

**CATIA ASIC**
- TIA architecture
- 35 MHz bandwidth
- Dual-gain outputs

**LiTE-DTU ASIC**
- 12-bit 160Ms/s ADCs
- Data selection and compression