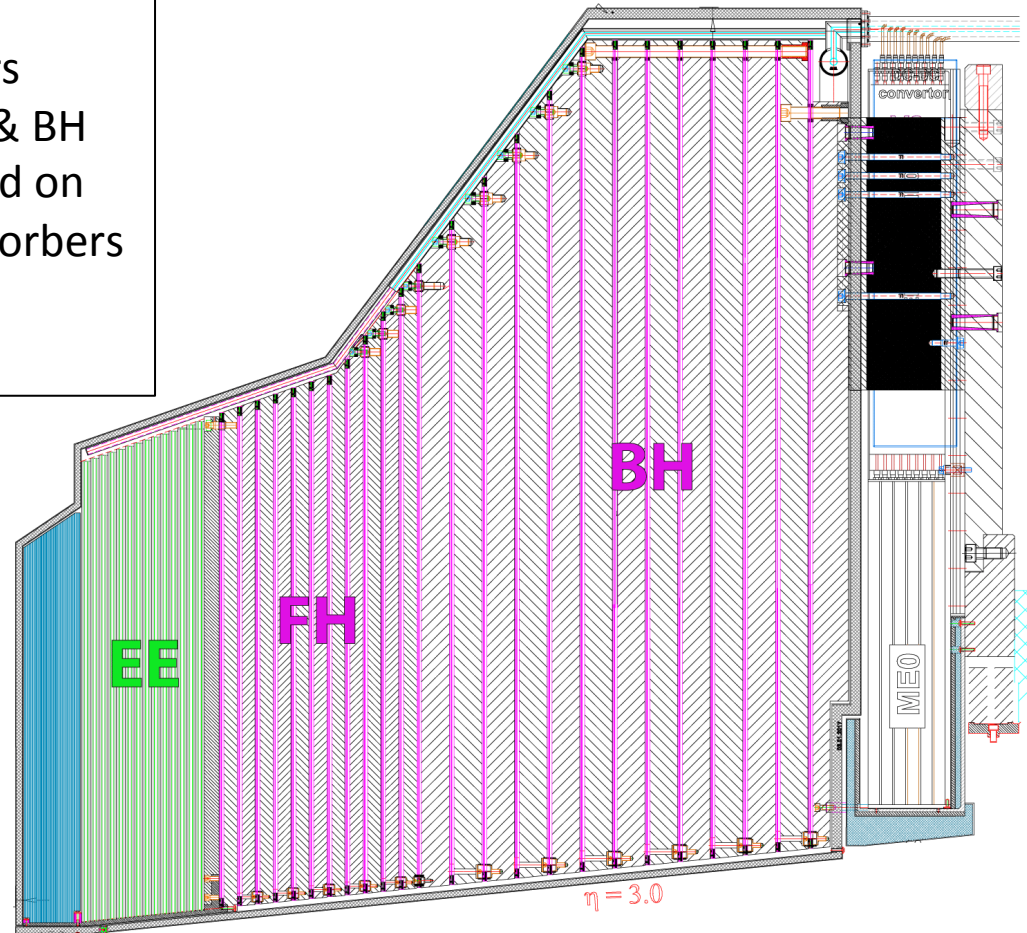


### Active Elements:

- Hexagonal modules based on Si sensors in EE and high-radiation regions of FH & BH
- “Cassettes”: multiple modules mounted on cooling plates with electronics and absorbers
- Scintillating tiles with SiPM readout in low-radiation regions of FH & BH

### Key Parameters:

- HGCal covers  $1.5 < \eta < 3.0$
- Full system maintained at  $-30^{\circ}\text{C}$
- $\sim 600 \text{ m}^2$  of silicon sensors
- 6 M channels,  $0.5$  or  $1 \text{ cm}^2$  cell size
- $\sim 22000$  modules
- Power at end of HL-LHC:  $\sim 60 \text{ kW}$  per endcap



**Endcap Electromagnetic calorimeter (EE):** Si, Cu & CuW & Pb absorbers, 28 layers,  $25 X_0$  &  $\sim 1.3\lambda$

**Front Hadronic calorimeter (FH):** Si & scintillator, steel absorbers, 12 layers,  $\sim 3.5\lambda$

**Backing Hadronic calorimeter (BH):** Si & scintillator, steel absorbers, 12 layers,  $\sim 5\lambda$