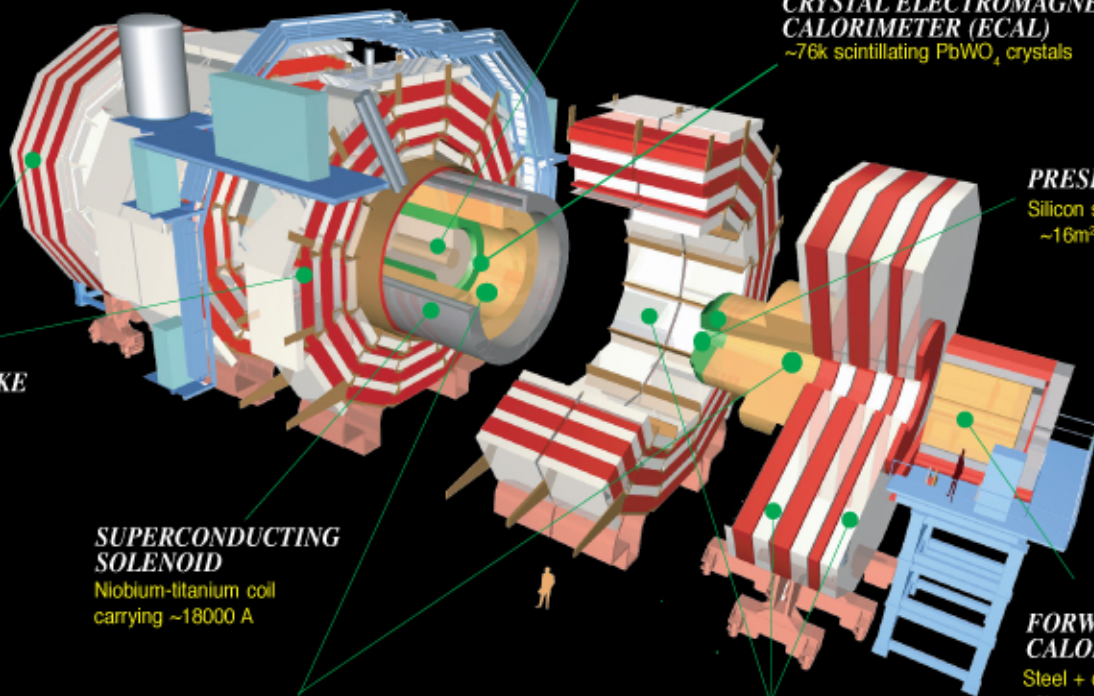


# CMS Detector

Pixels  
Tracker  
ECAL  
HCAL  
Solenoid  
Steel Yoke  
Muons



**SILICON TRACKER**  
Pixels ( $100 \times 150 \mu\text{m}^2$ )  
~1m<sup>2</sup> ~66M channels  
Microstrips ( $80\text{--}180 \mu\text{m}$ )  
~200m<sup>2</sup> ~9.6M channels

**CRYSTAL ELECTROMAGNETIC CALORIMETER (ECAL)**  
~76k scintillating PbWO<sub>4</sub> crystals

**PRESHOWER**  
Silicon strips  
~16m<sup>2</sup> ~137k channels

**STEEL RETURN YOKE**  
~13000 tonnes

**SUPERCONDUCTING SOLENOID**  
Niobium-titanium coil  
carrying ~18000 A

**HADRON CALORIMETER (HCAL)**  
Brass + plastic scintillator  
~7k channels

**FORWARD CALORIMETER**  
Steel + quartz fibres  
~2k channels

**MUON CHAMBERS**

Barrel: 250 Drift Tube & 480 Resistive Plate Chambers  
Endcaps: 473 Cathode Strip & 432 Resistive Plate Chambers

Total weight : 14000 tonnes  
Overall diameter : 15.0 m  
Overall length : 28.7 m  
Magnetic field : 3.8 T