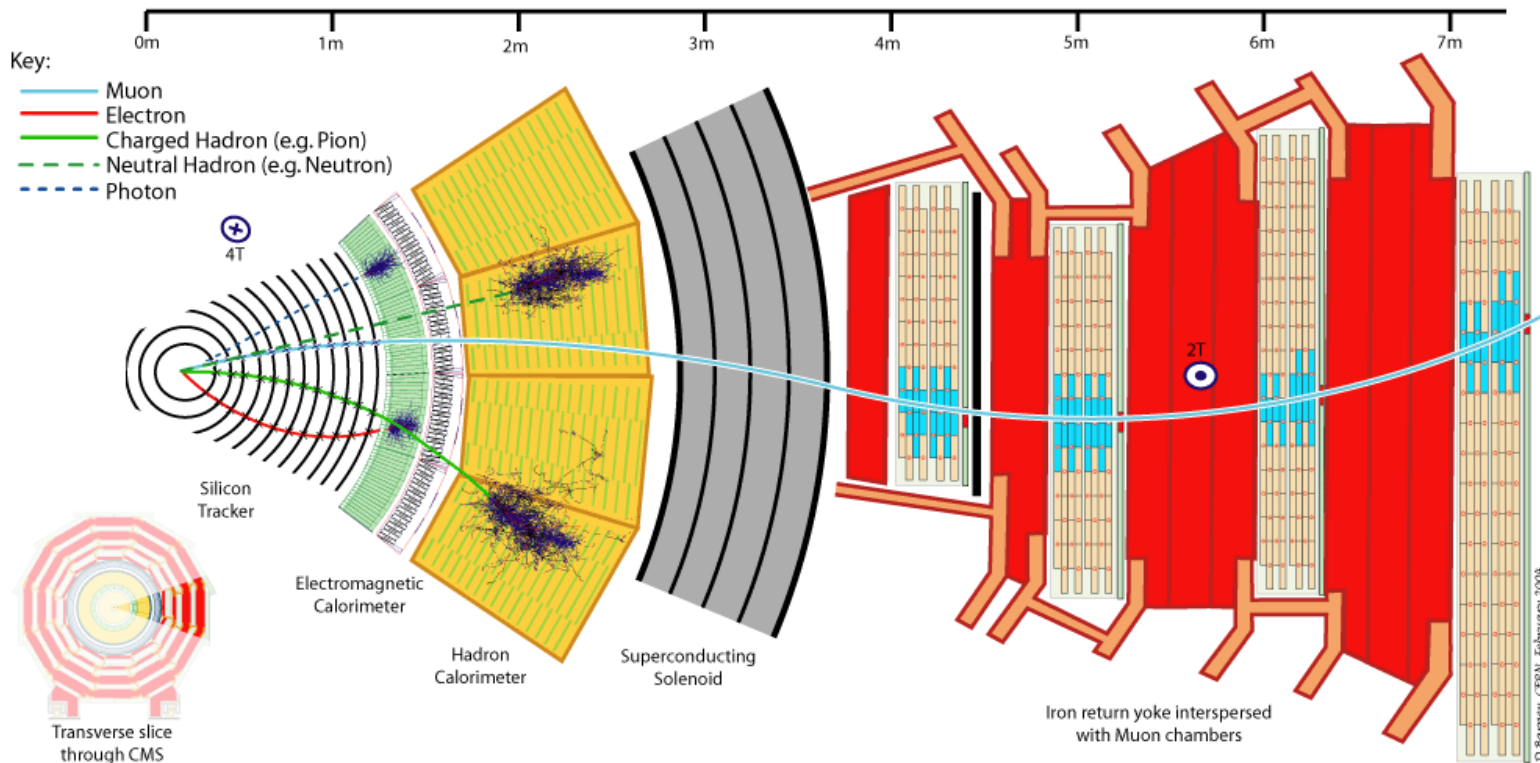
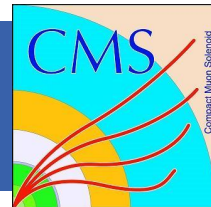


# Upgrades to the CMS HCAL Run Control System

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UM CERN REU 2014



# The Compact Muon Solenoid Experiment



# The CMS Hadron Calorimeter



- Accurately measure the energies of any hadrons
  - Alternating layers of absorber/scintillator
- Interactions with brass plates produce particle showers
- Plastic scintillators produce light
- Photodetectors turn optical signals into electrical ones



# My Project



- HCAL Run Control system: allows user to monitor & configure the subdetector software
- Interface either with human user or CMS central run control system
- Various upgrades needed: eliminating memory leaks, interface improvements, etc.

# Concerns



- Large and complex experiment = very large software base
- Lots of information to take in

# Lucerne & Pilatus

