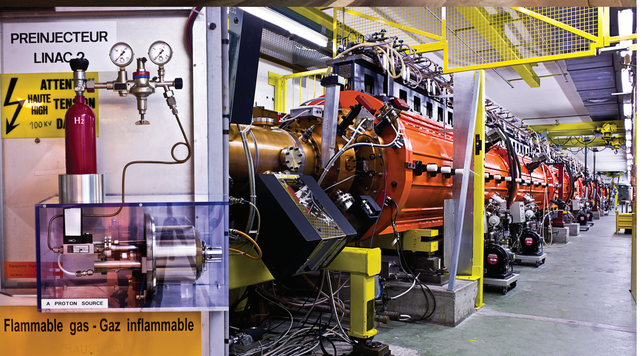
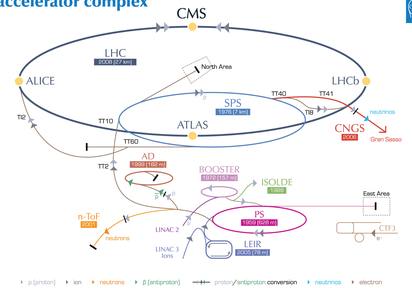


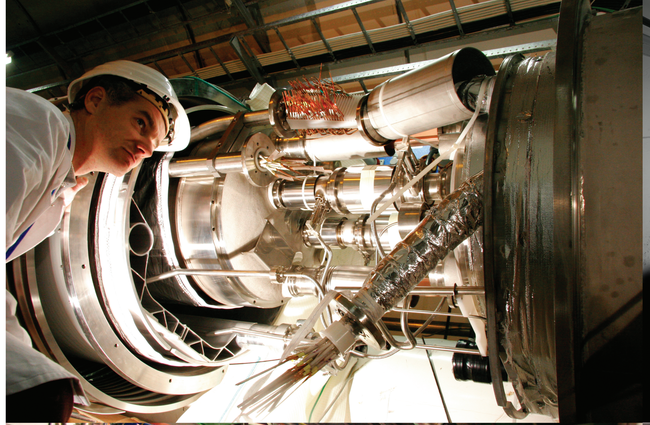
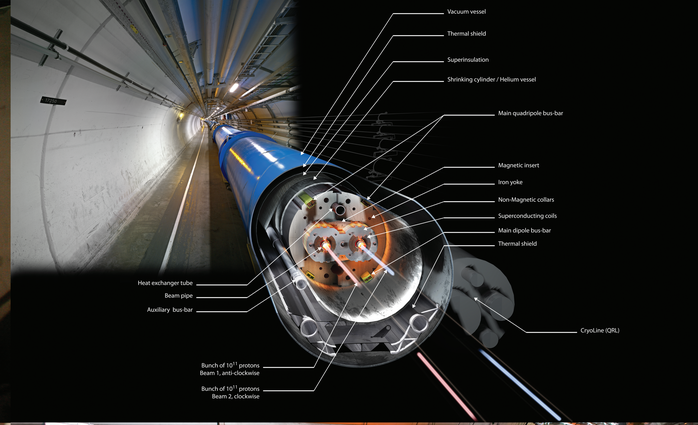
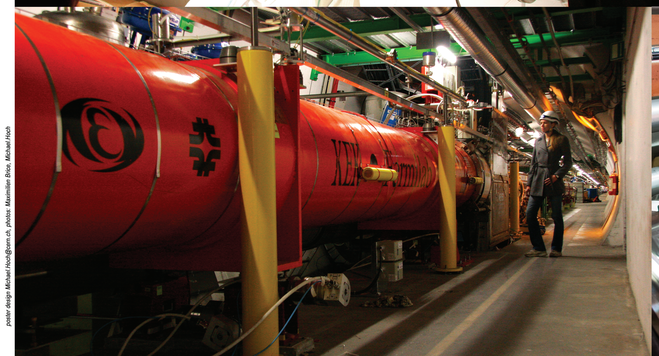
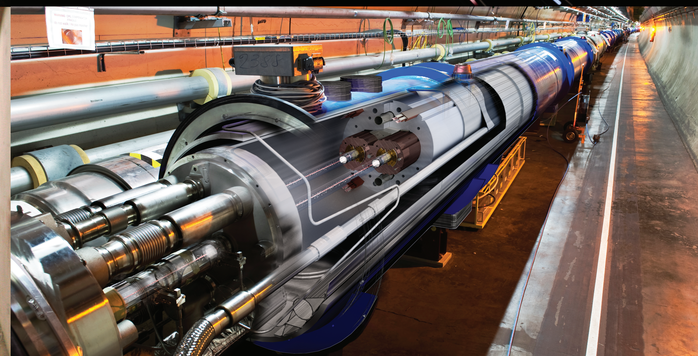

## CERN's accelerator complex




p [proton] · ion · neutrons · p̄ [antiproton] · proton/antiproton conversion · neutrinos · electron

LHC Large Hadron Collider · SPS Super Proton Synchrotron · PS Proton Synchrotron
AD Antiproton Decelerator · CTF3 Clic Test Facility · CNGS Cern Neutrinos to Gran Sasso · ISOLDE Isotope Separator OnLine DEvice
LEIR Low Energy Ion Ring · LINAC LINear ACcelerator · n-ToF Neutrons Time Of Flight

| *Accelerator* | *Speed [% c]* | *Kinetic energy of a proton* |
|---|---|---|
| *LINAC 2* | *31.4* | *50 MeV* |
| *PS Booster* | *91.6* | *1.4 GeV* |
| *PS* | *99.93* | *25 GeV* |
| *SPS* | *99.9998* | *450 GeV* |
| *LHC* | *99.9999991* | *7 TeV* |

| *LHC parameter :* | |
|---|---|
| *Circumference* | *26 659 m* |
| *Operating temperature dipole* | *1.9 K (-271 Celsius)* |
| *superconducting filaments:* | *niobium - titanium* |
| *Number of magnets* | *9593* |
| *Peak magnetic dipole field* | *8.33 T* |
| *Nominal energy [protons]* | *7 TeV* |
| *Nominal energy [ions]* | *2.76 TeV/u* |
| *Distance between bunches* | *~7m (25ns)* |
| *Design luminosity* | *$10^{34}$ $m^{-2}$ $s^{-1}$* |
| *No. of bunches / proton beam* | *2808* |
| *No. protons per bunch* | *1.1 x $10^{11}$* |
| *No. of turnes per second* | *11 245* |

*poster design Michael Hoch@cern.ch, photos: Maximilien Brice, Michael Hoch*