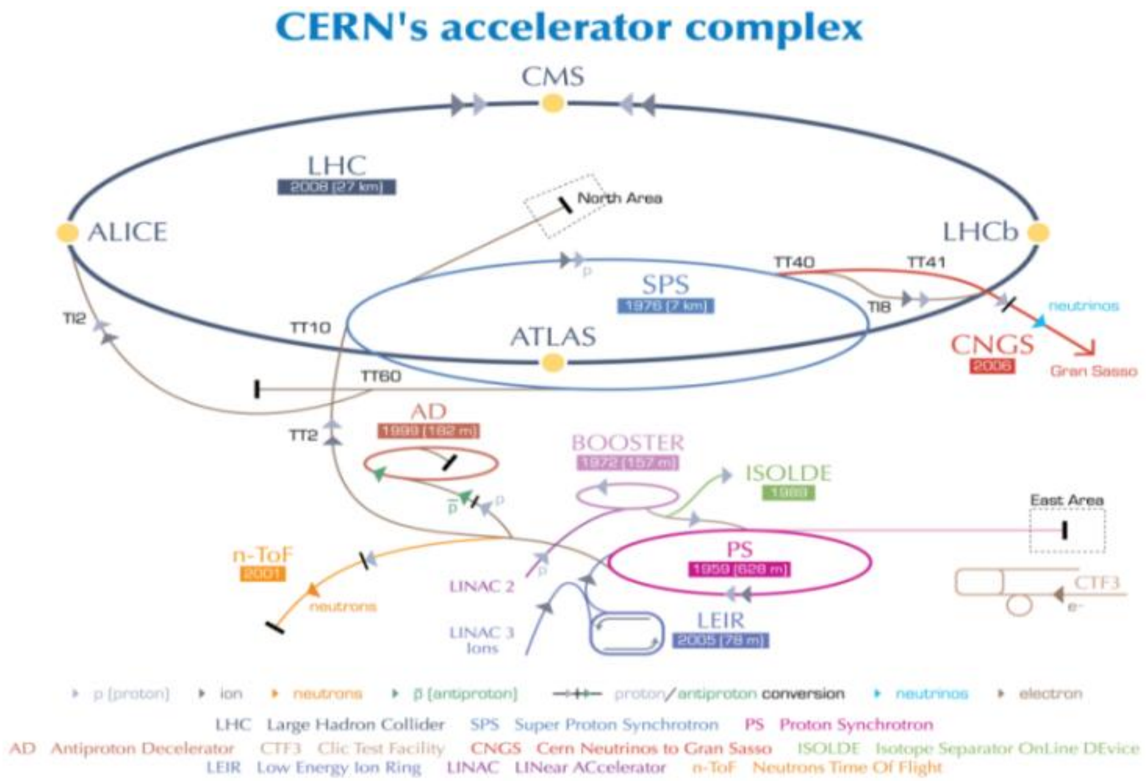
European Organization for Nuclear Research

General information

CERN operates the world's leading laboratory for particle physics. Its mission is fundamental physics, finding out what the Universe is made of and how it works.
Founded in 1954, CERN has become a prime example of international collaboration, with currently 20 Member States. The CERN Laboratory sits astride the Franco–Swiss border near Geneva. At CERN, complex scientific instruments are used to study the basic constituents of matter - the fundamental particles. The Large Hadron Collider - the LHC - is the flagship research facility at CERN. Housed in a 27 kilometer tunnel, it is the largest and most complex scientific instrument ever built.

Facts and figures



Manpower	Budget
~ 2300 staff	~1000 MCHF
~ 1000 other paid personnel	
> 11000 *registered* users (from ~ 100 countries)	
> 5000 *registered* contractors	

1954 CERN is born
1957 CERN's 1st Accelerator, the **S**ynchro**C**yclotron
1959 The **P**roton **S**ynchrotron
1968 G. Charpak revolutionizes detection
1971 1st Proton collisions - **I**ntersecting **S**torage **R**ings
1976 **S**uper **P**roton **S**ynchrotron tunnel starts up
1981 proton-antiproton collisions
1983 W and Z particles discovered
1989 **L**arge **E**lectron-**P**ositron collider 1st injections
2008 **LHC** starts up
2012 ATLAS and CMS observe particle consistent with the Higgs boson

HSE Organization

Occupational Health & Safety | **Environmental Protection**

Head office of HSE
(Staff: 5)
General management of HSE Unit
Relations with the Host States Bodies in matters of Safety

Radiation Protection Group
(Staff 44)
Dosimetry; Management of radioactive sources and wastes; operational radiation protection for accelerators, experiments and sites, radiographies, Instrument calibration, Instrumentation & Logistics, Research activities, etc…

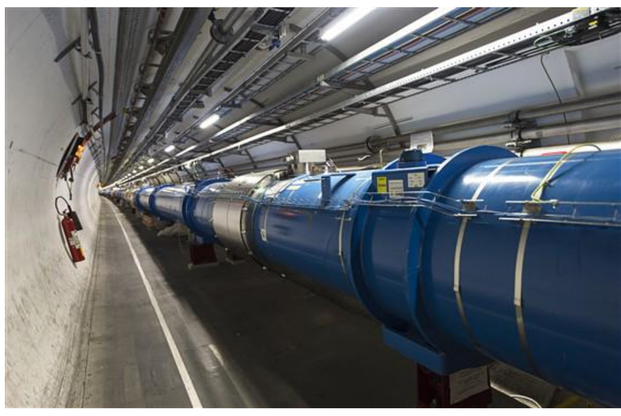
Safety Engineering and Environment Group
(Staff 36)
Follow-up accident/incident, Environmental Protection, Experiments safety support, Prevention & Safety engineering support, Safety conformities review, Safety regulatory framework, support in call for tenders, Safety system computing support, Safety training awareness, etc….

CERN Safety Organization

Safety Hazards

- The **main hazards** are:

- The annual accident statistics reveal the following **top 3 categories**:
  - **Manual handling**
  - **Collision, false movement**
  - **Slips & trips**
- A major concern is road safety, with an emphasis on **cycling**
- A permanent challenge is related to **"contractors safety"**



The principle consolidation activities of the LHC machine during Long Shutdown 1 (2013 – 2014)

The Opening of CMS