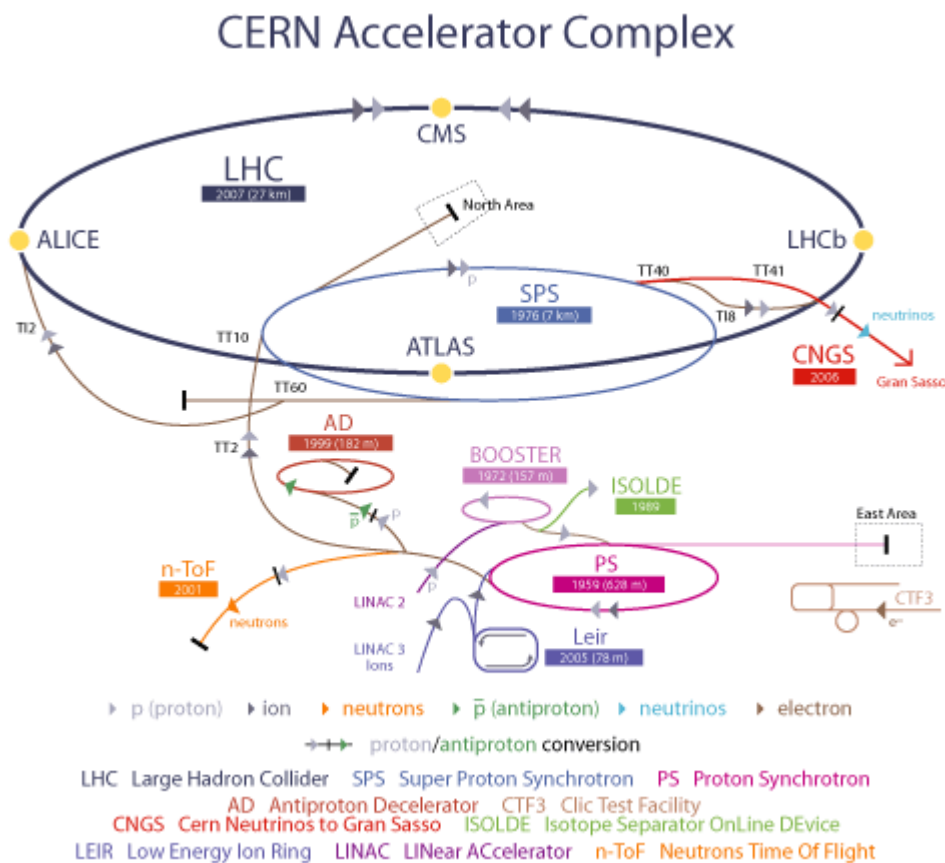


# The accelerator complex

CERN's accelerator complex is a succession of particle accelerators that can reach increasingly higher energies. Each accelerator boosts the speed of a beam of particles, before injecting it into the next one in the sequence.

The complex also includes the [Antiproton Decelerator](#) and the [ISOLDE](#) facility and feeds the [CNGS](#) project and the [CLIC](#) test area (CTF3).



## A proton's journey to maximum acceleration

Protons are obtained by removing electrons from hydrogen atoms. They are injected from the linear accelerator (LINAC2) into the PS Booster, then the [Proton Synchrotron](#) (PS), followed by the [Super Proton Synchrotron](#) (SPS), before finally reaching the [Large Hadron Collider](#) (LHC). Protons will circulate in the LHC for 20 minutes before reaching the maximum speed and energy.

Lead ions for the LHC start from a source of vaporised lead and enter LINAC3 before being collected and accelerated in the Low Energy Ion Ring (LEIR). They then follow the same route to maximum acceleration as the protons.

## The control centre

The CERN control centre combines all the control rooms for the laboratory's 8 accelerators, the cryogenic distribution system and the technical infrastructure.

There are 39 operation stations for 4 different areas – the [Large Hadron Collider](#), the [Super Proton Synchrotron](#), the [Proton Synchrotron](#) complex and the technical infrastructure. It can accommodate up to 13 operators, each assisted by a team of experts.