

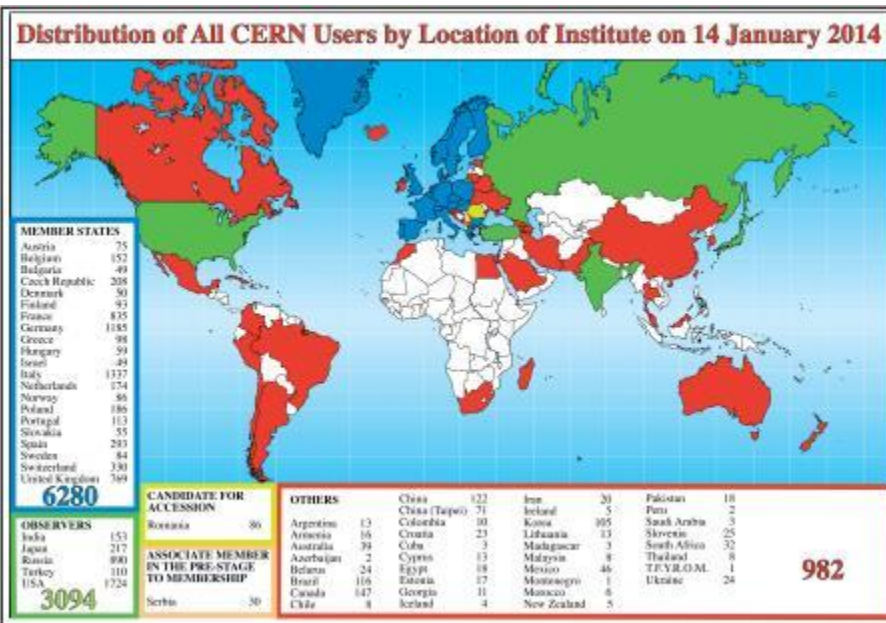
CERN – The European Laboratory for Particle Physics

Maria Alandes Pradillo





CERN



- **Founded in 1954**
- **21 member states**
- **Largest particle physics laboratory**

~ 2300 staff
 ~ 1600 other paid personnel
 ~ 10500 users

Budget (2014) ~1000 MCHF

Member States: Austria, Belgium, Bulgaria, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Israel, Italy, the Netherlands, Norway, Poland, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom

Candidate for Accession: Romania

Associate Member in Pre-Stage to Membership: Serbia

Applicant States for Membership or Associate Membership: Brazil, Cyprus, Pakistan, Russia, Slovenia, Turkey, Ukraine

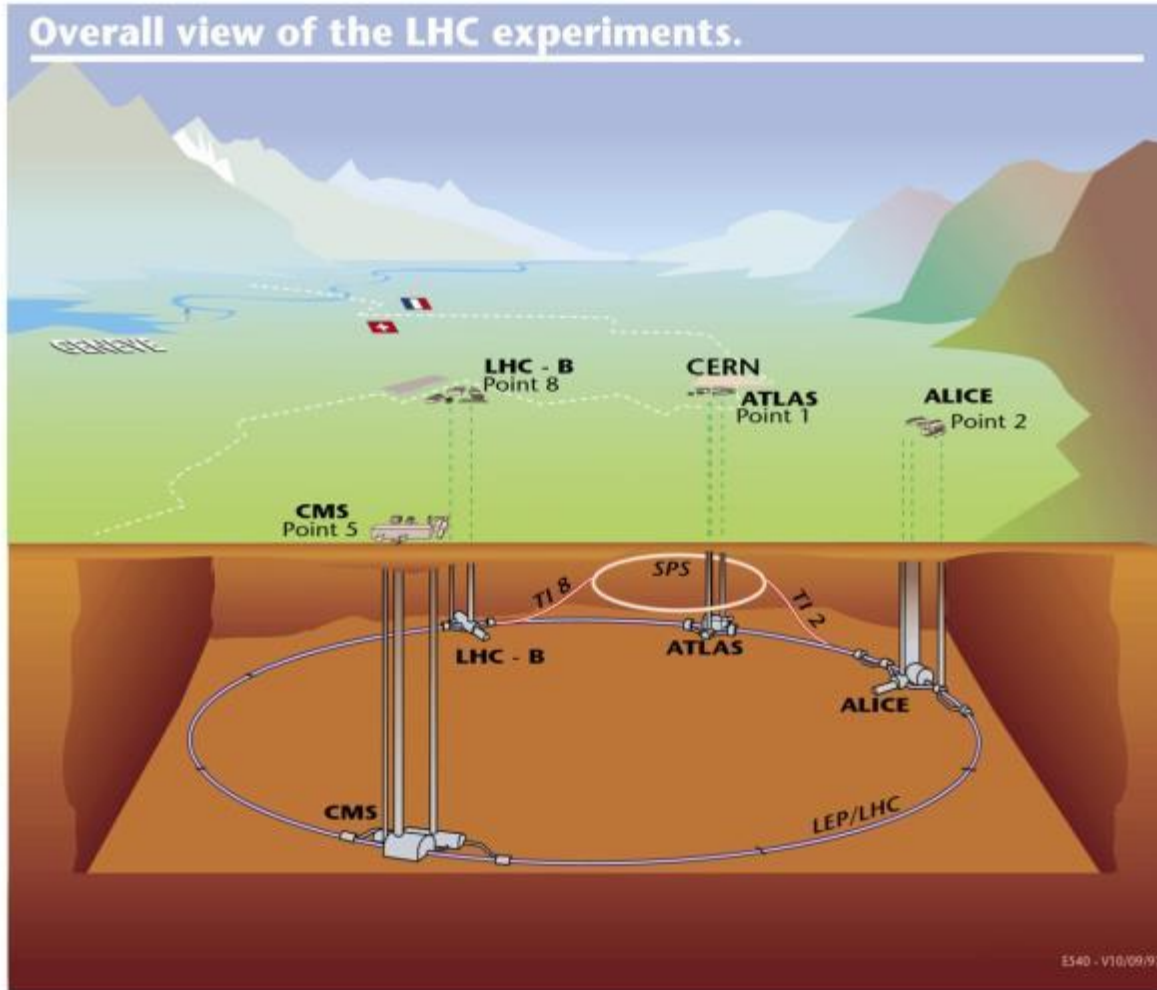
Observers to Council: India, Japan, Russia, Turkey, United States of America; European Commission and UNESCO



60 years of Science



What does CERN do?



How much money?



LHC build cost
\$5B



USS Ford
Airforce
Carrier
\$12.8B



2014 budget
\$1B



Team Value
\$1.3B



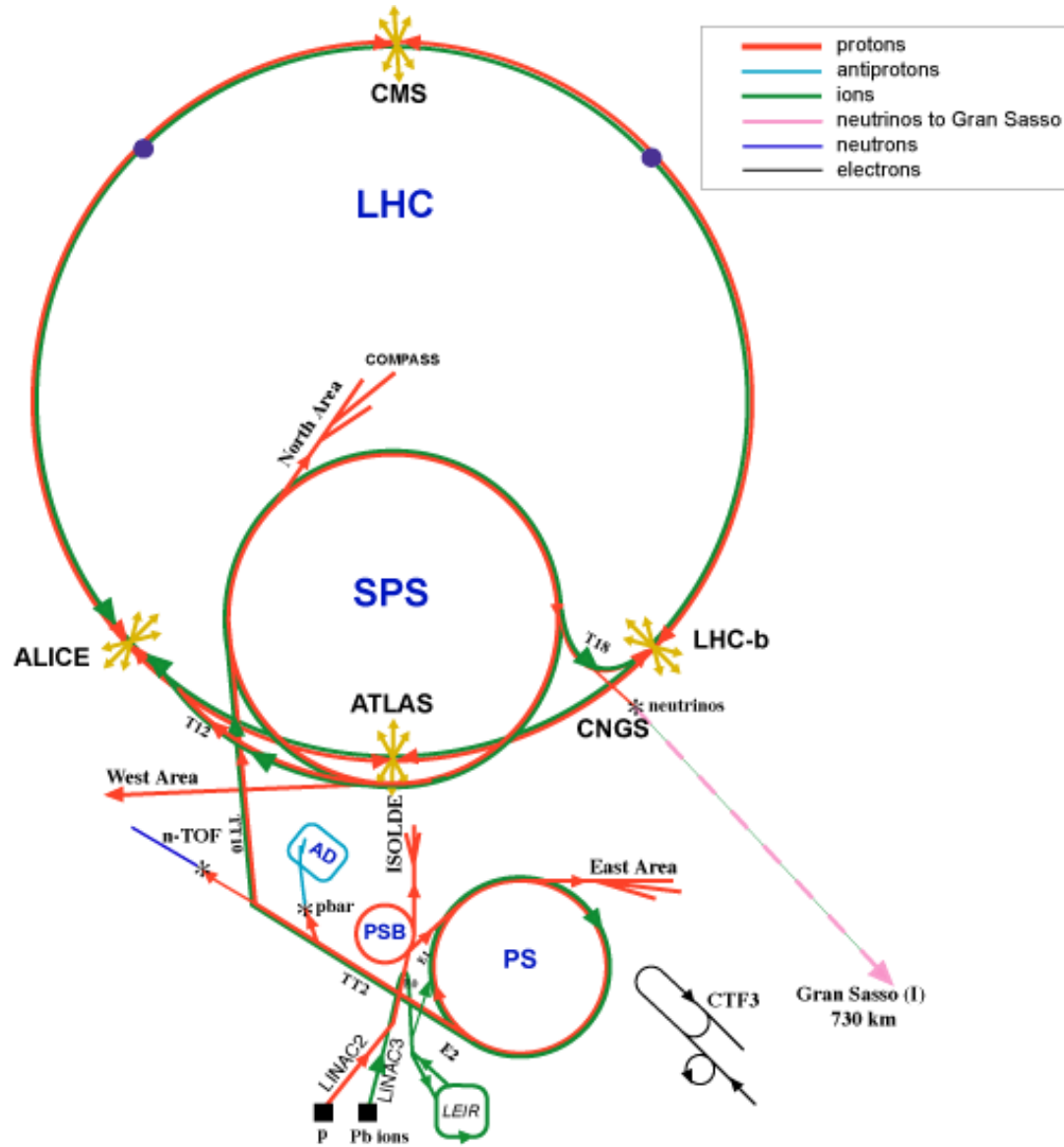
\$19B



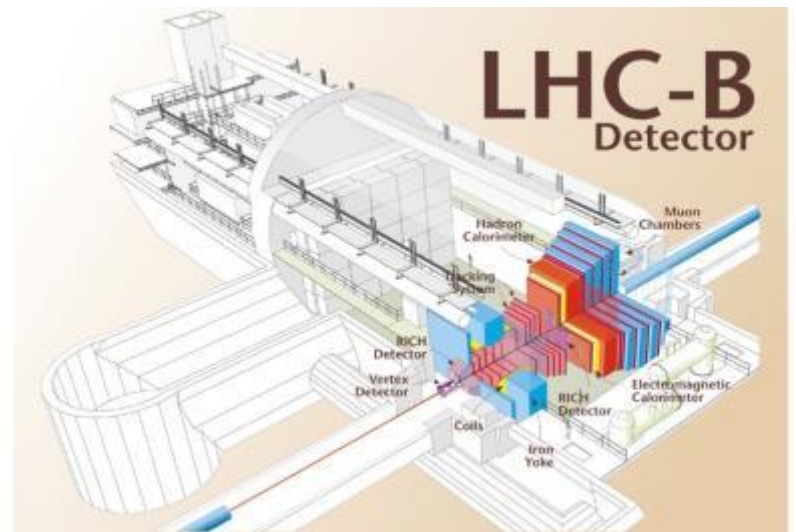
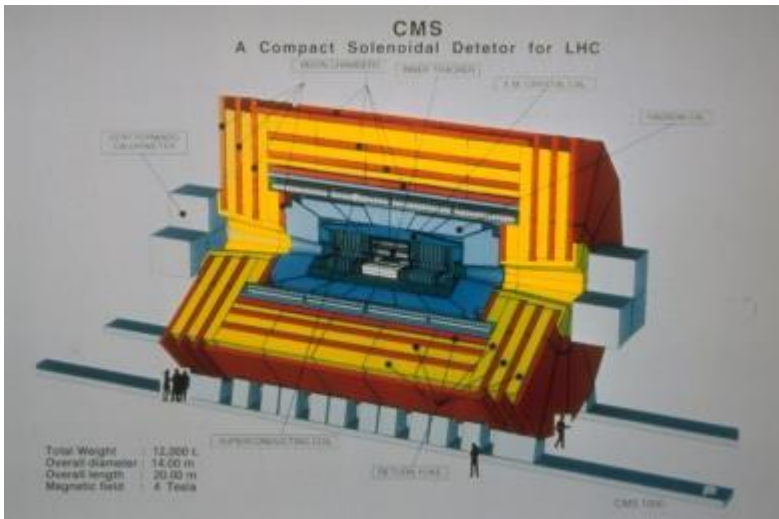
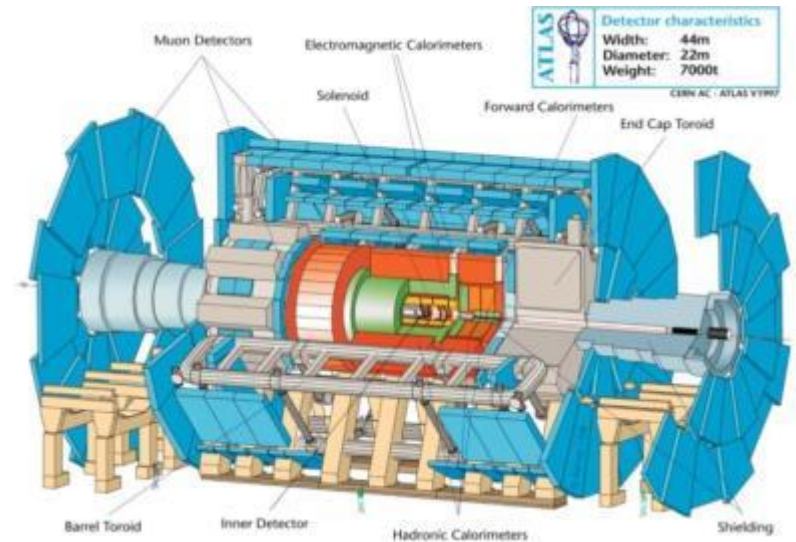
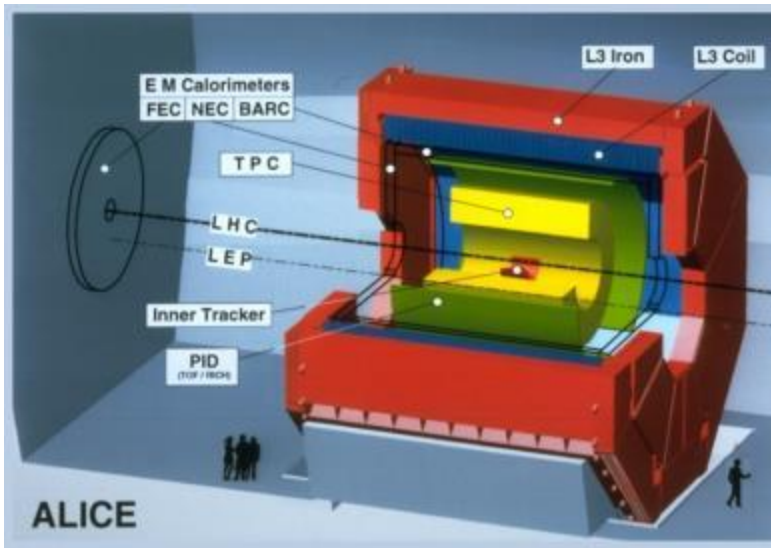
\$13.3B

FIFA WORLD CUP
Brasil

The accelerator complex at CERN



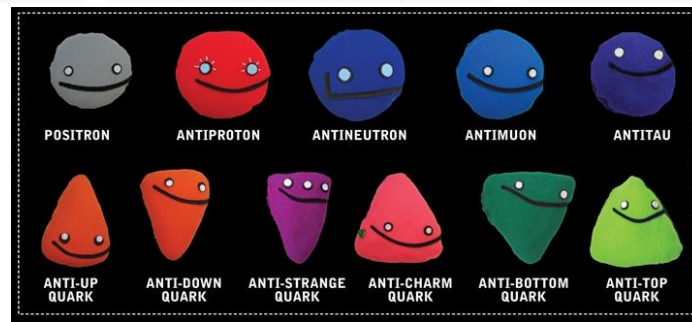
LHC Detectors



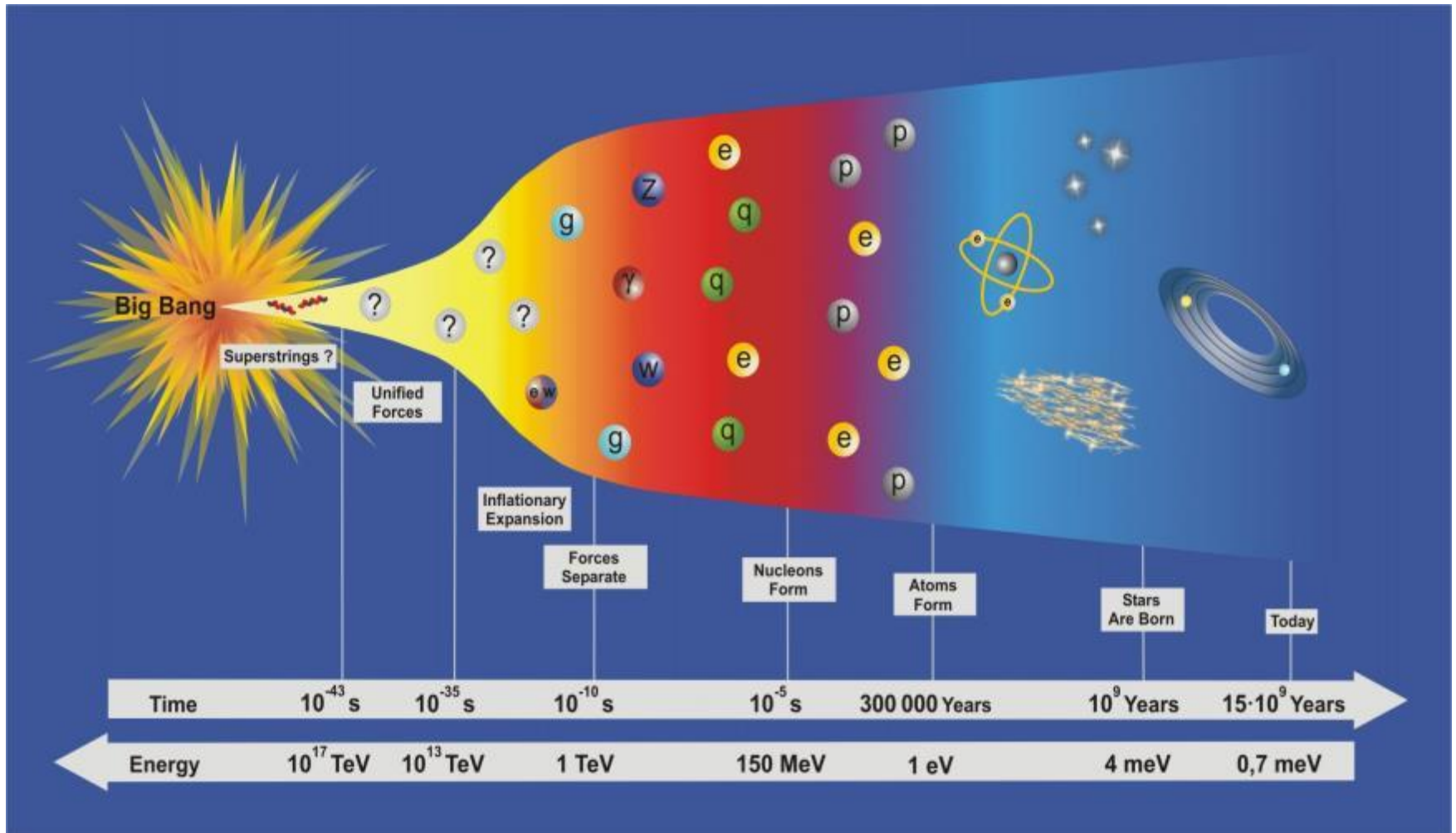
Standard model



Images: www.particlezoo.net

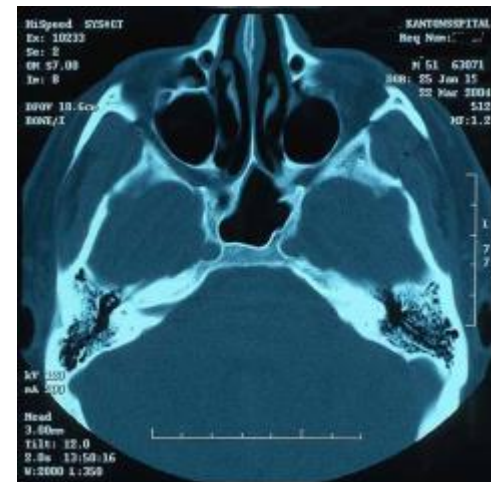


The origins of the universe

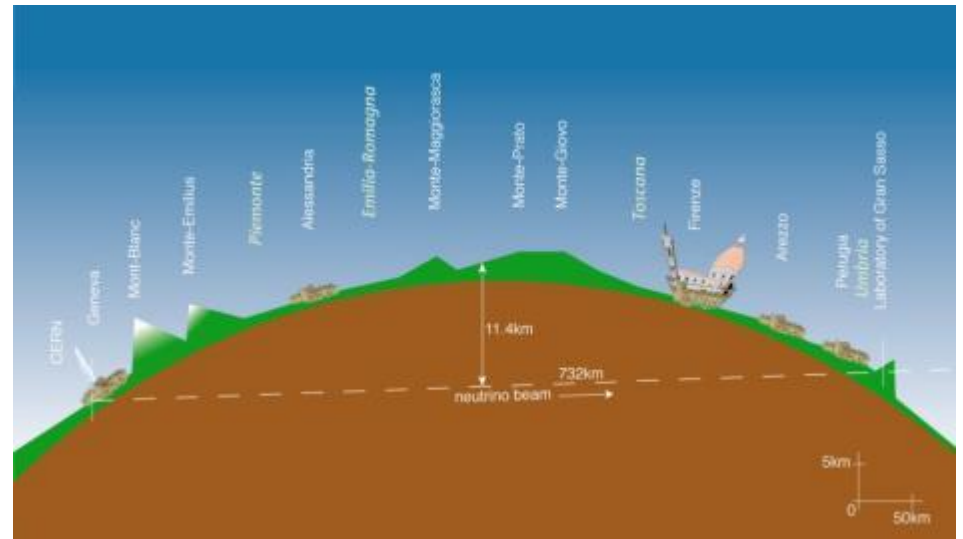
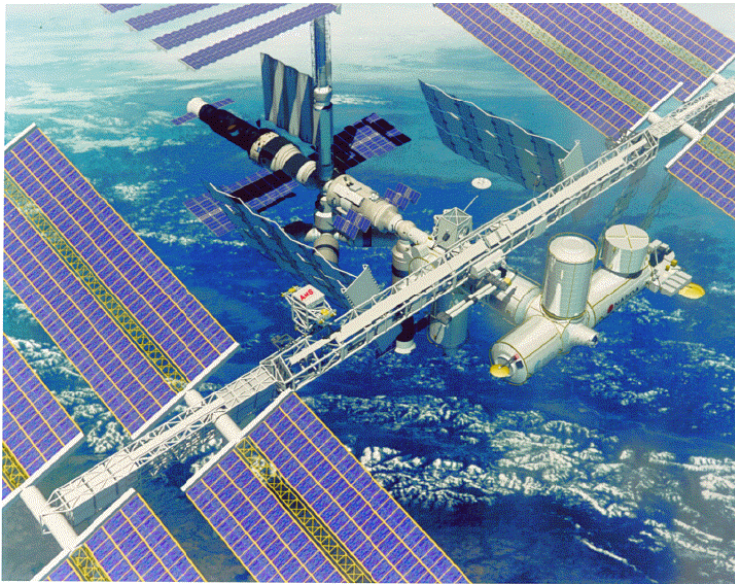


Impact on Society

Vacuumwaste insulation
Science Electricity
Cooling Cryogenics
Medical transport applications
Accelerators Microelectronics
Energy
Nuclear **Detectors**
Thermal Production
Material

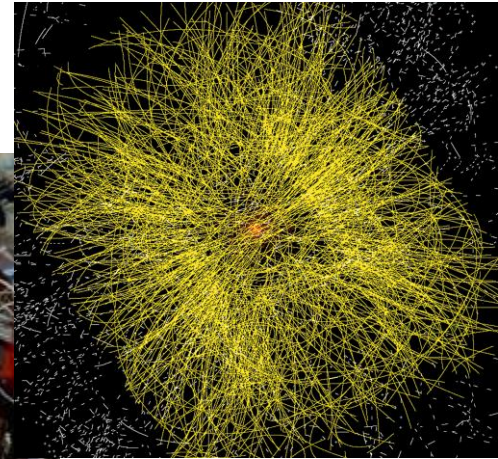


Not only LHC...



Summary

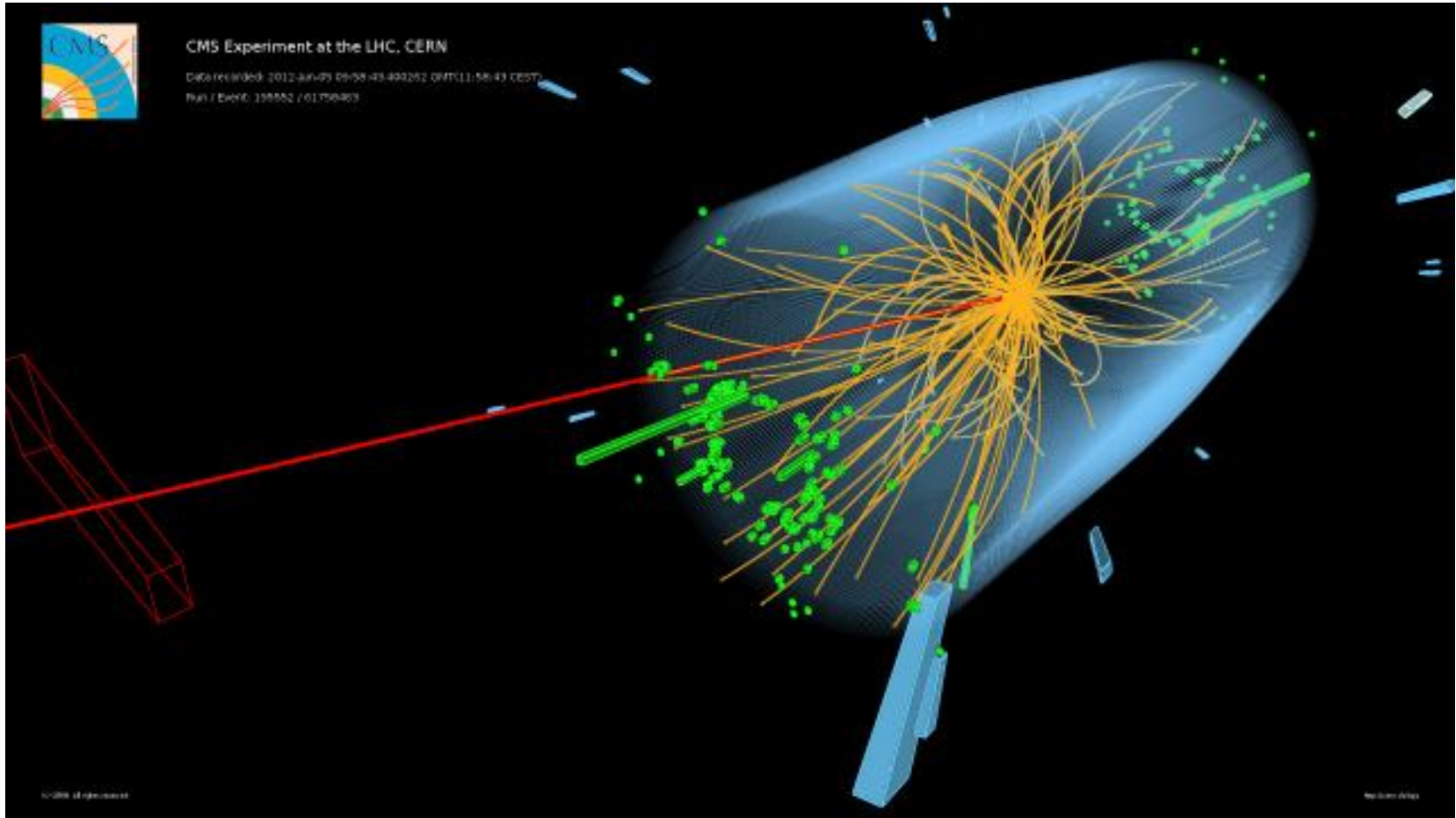
- International Collaboration
- Fundamental Science
- Impact on Society





CMS Experiment at the LHC, CERN

Data recorded: 2012-07-09 09:58:43.492252 (UTC+1:56:43 CEST)
Run / Event: 158562 / 61750403



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www.cern.ch