

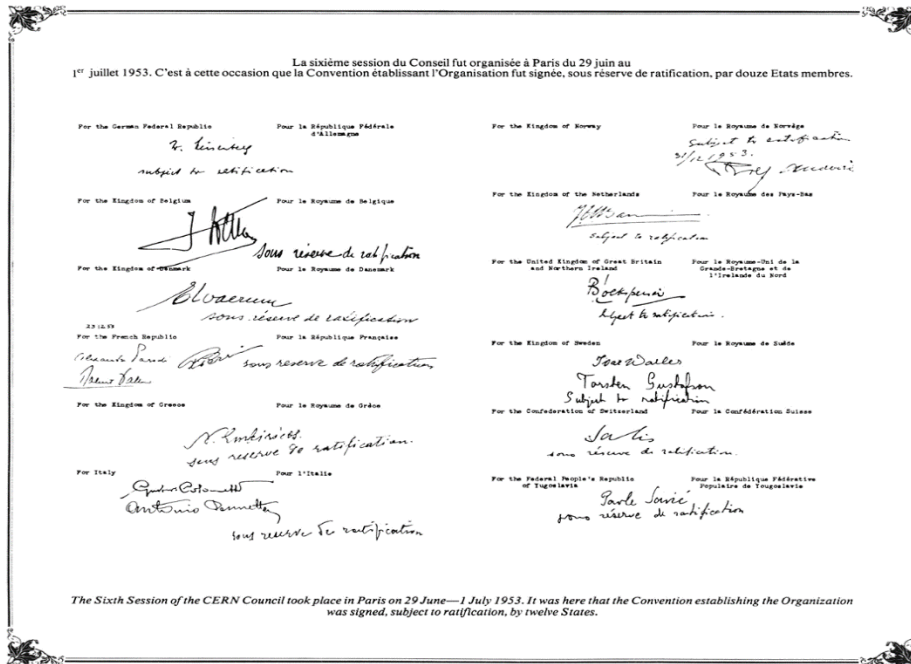




# CERN

## European Organization for Nuclear Research

- Founded in 1954 by 12 countries
- Now: 22 member states, 4 associate MS (India, Pakistan, Turkey and Ukraine) + 2 observers EU and UNESCO)
- Serbia, Cyprus and Slovenia are in pre-stage to membership
- More than 12000 users from all over the world

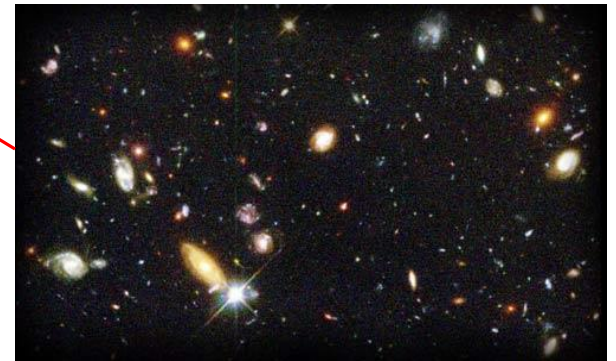
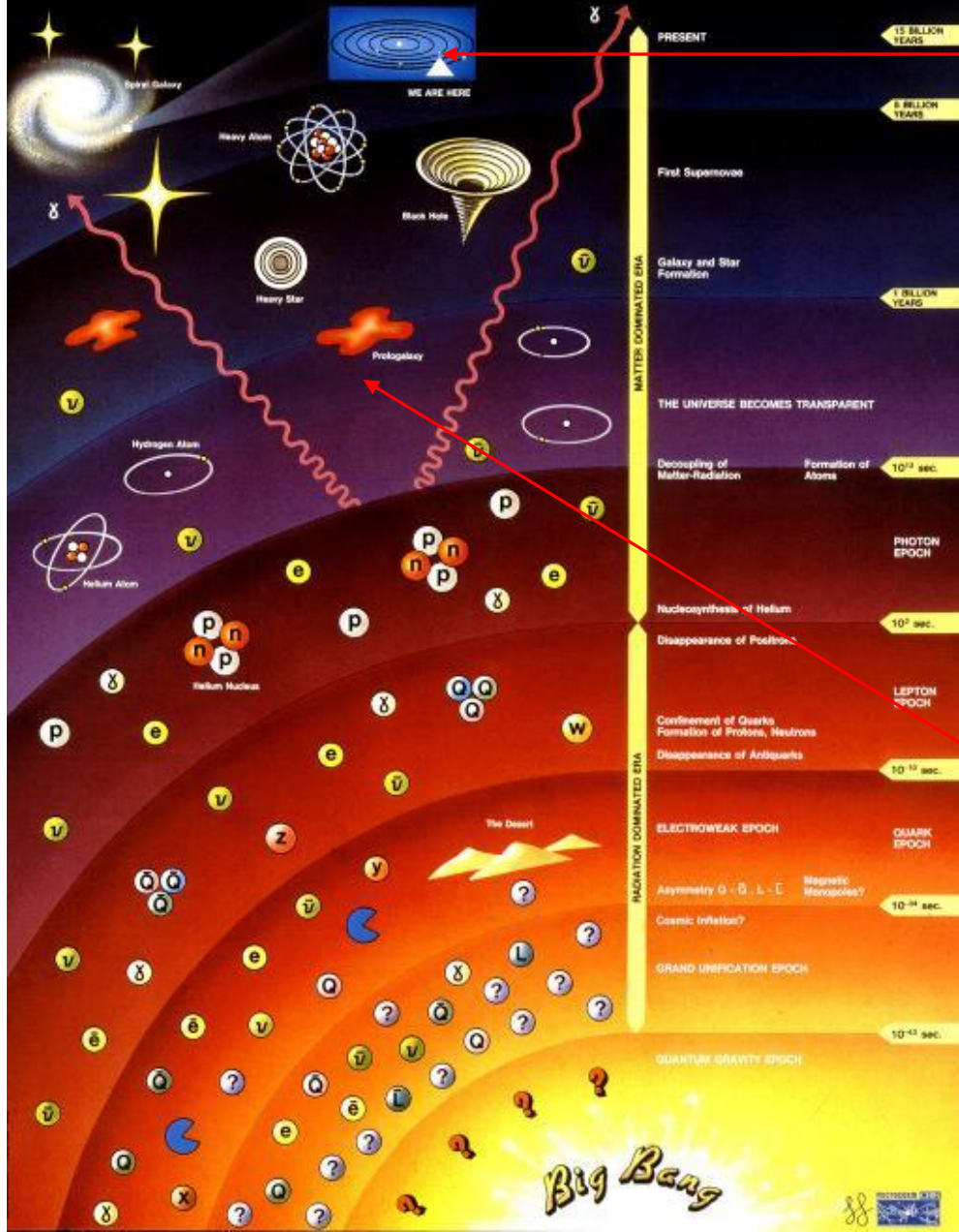


1954: Convention establishing the Organization - original signatures



The 22 member states

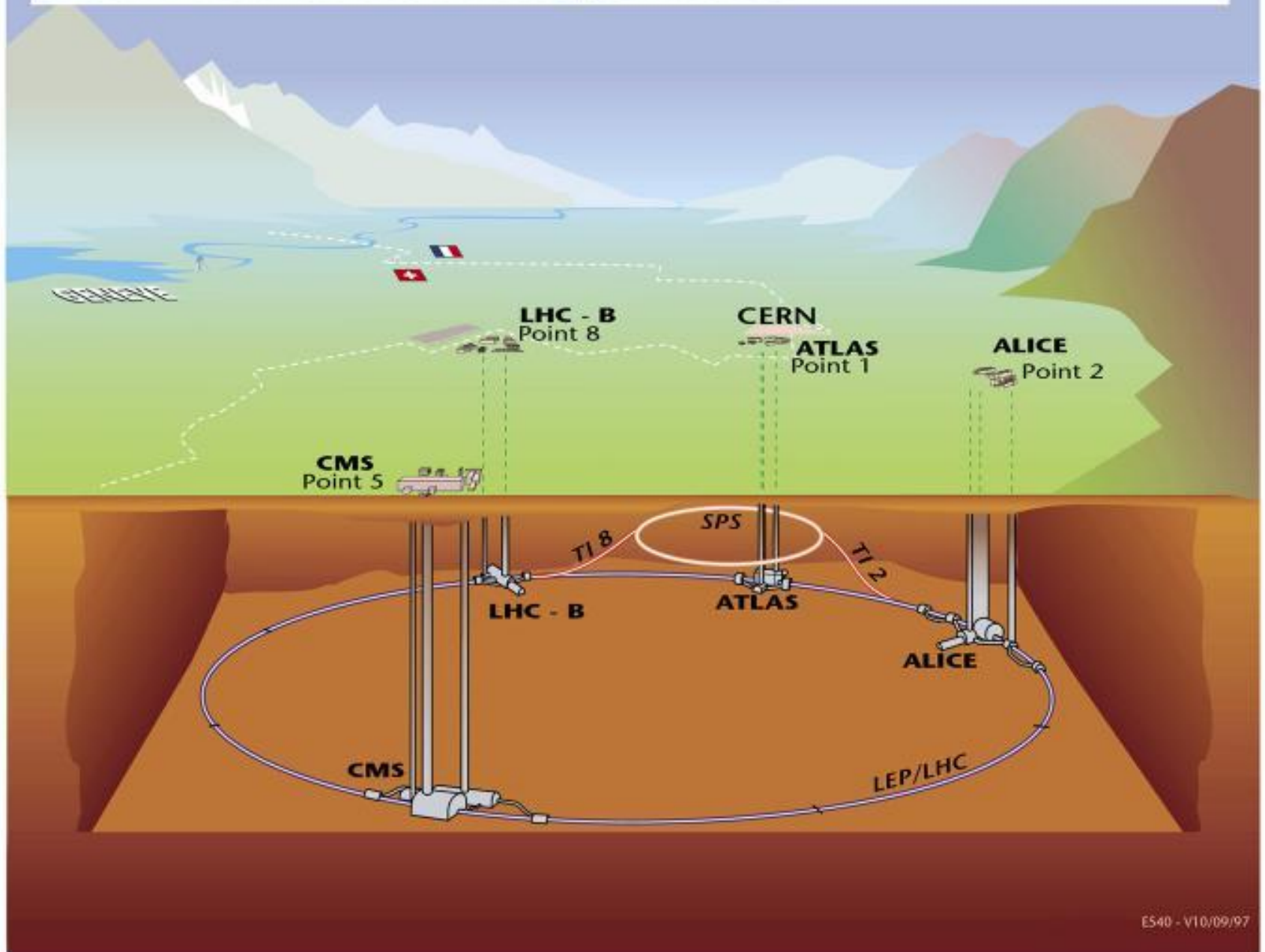
# History of the Universe

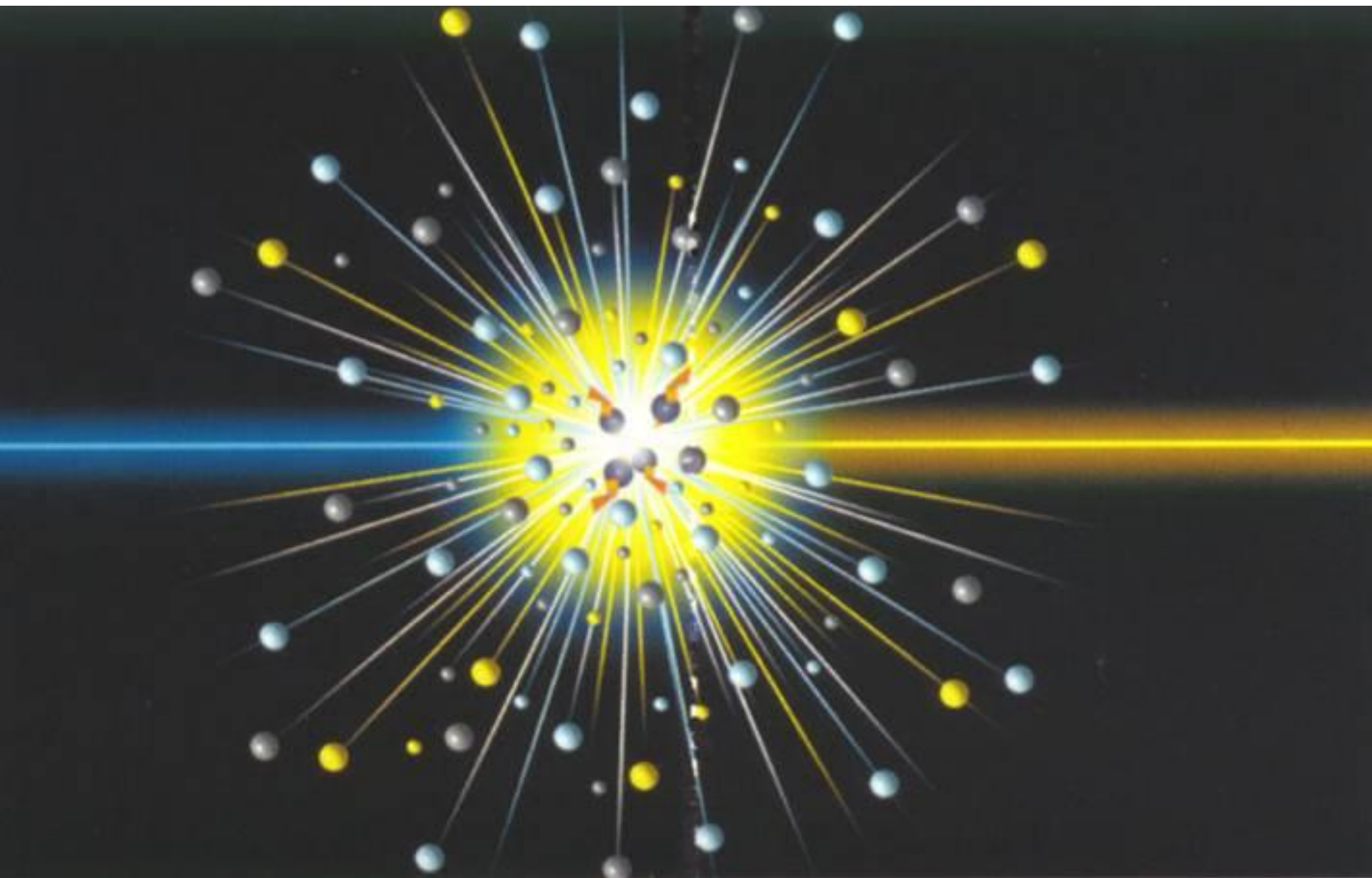




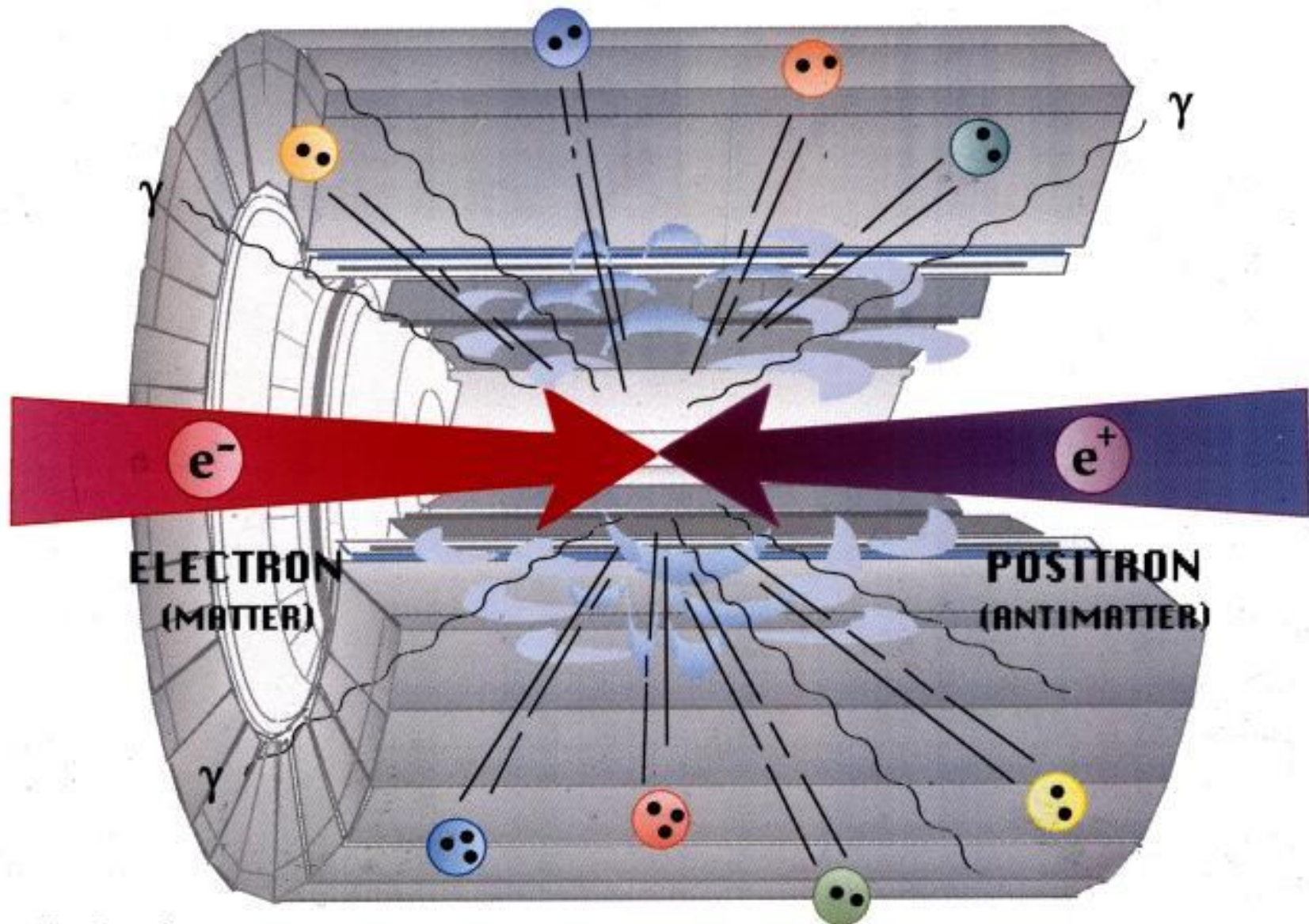


# Overall view of the LHC experiments.

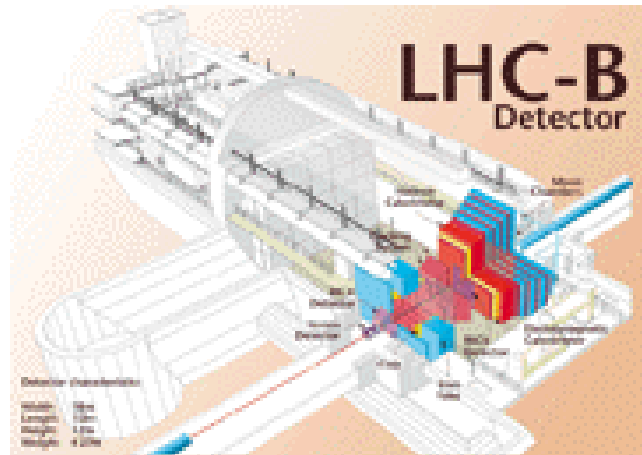
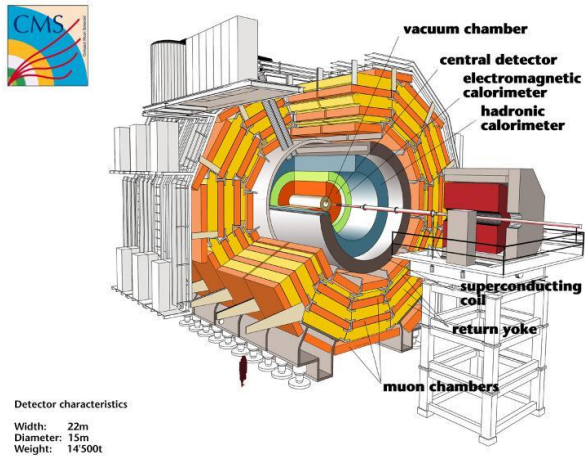
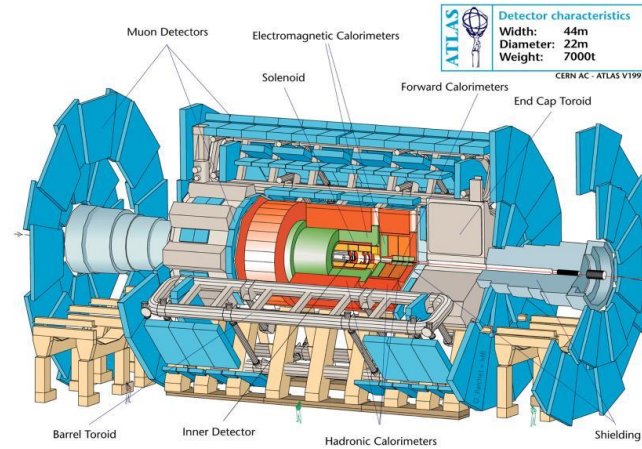
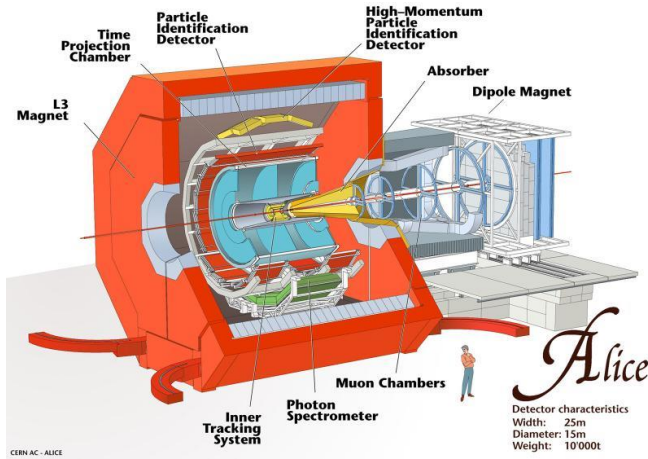




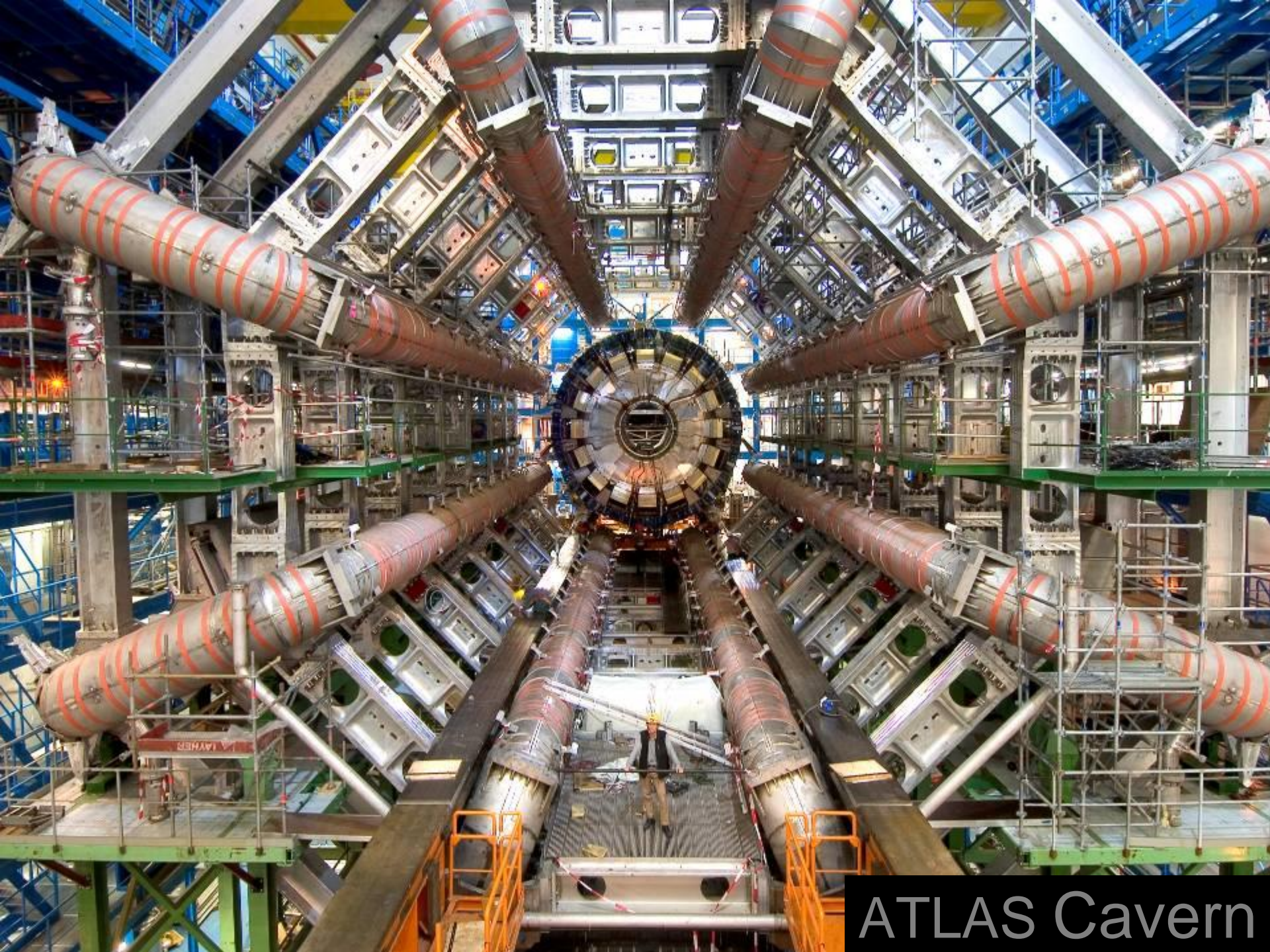




# LHC Experiments



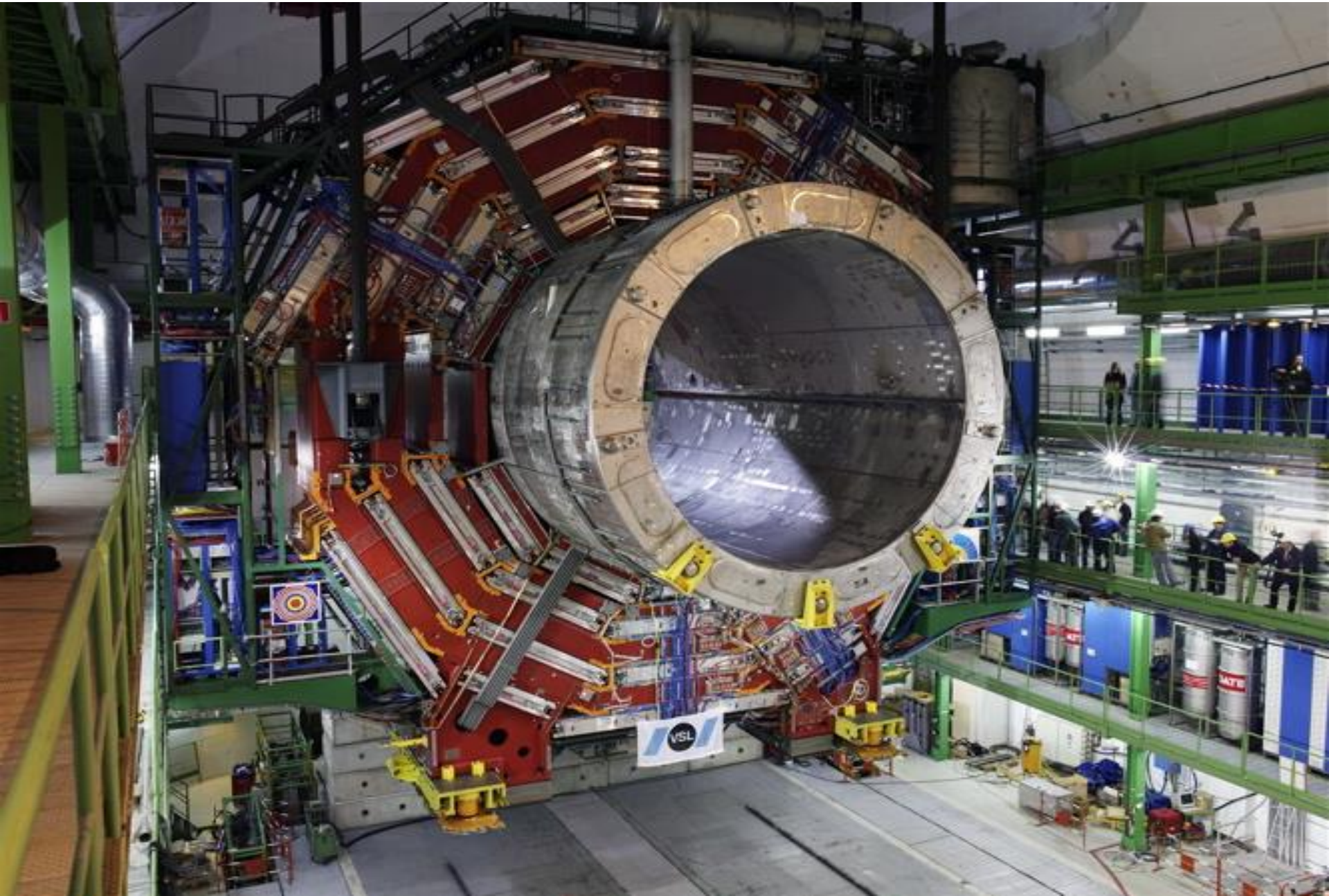




ATLAS Cavern



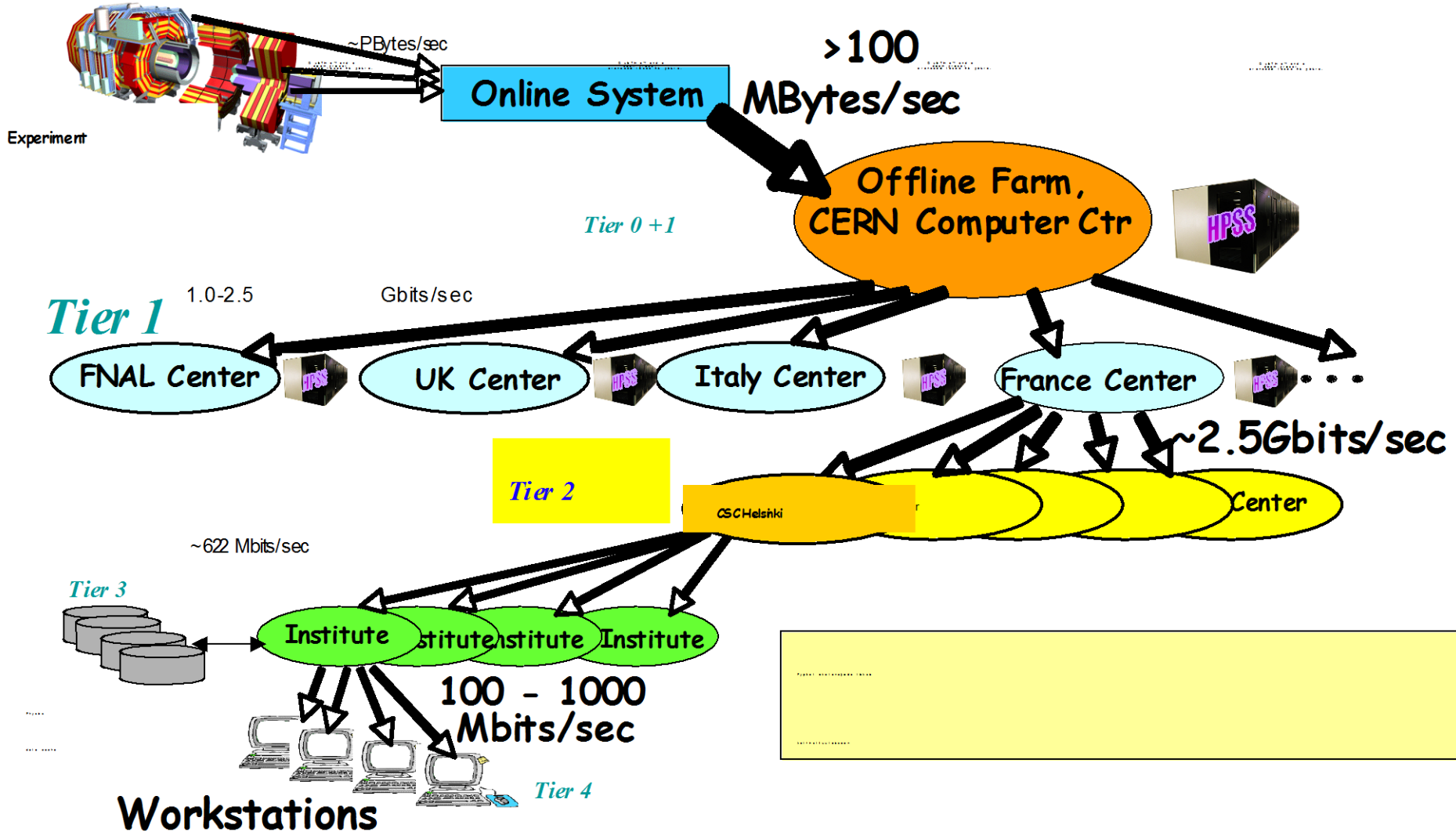
# Building CMS







# Data Grid

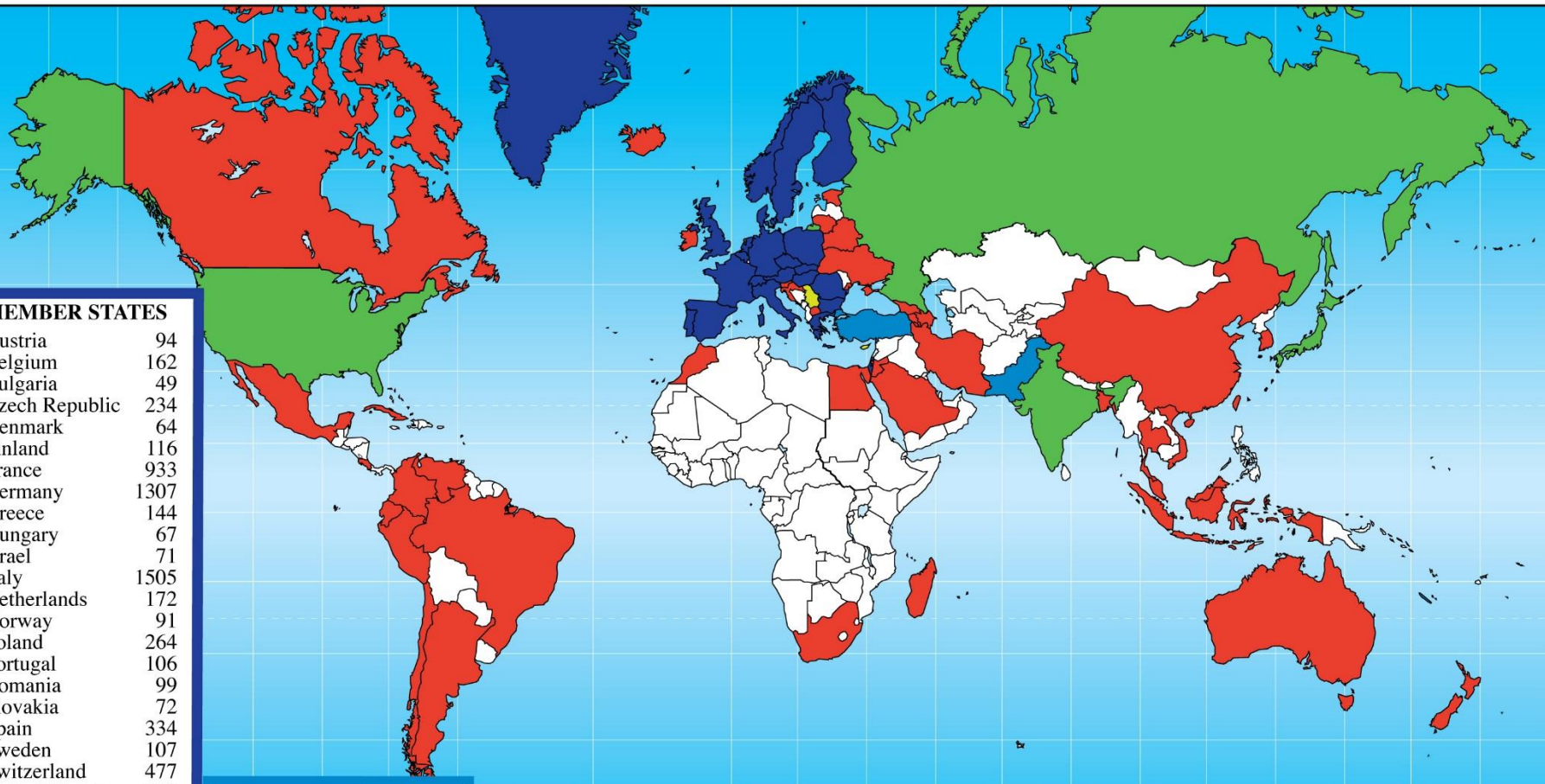








# Distribution of All CERN Users by Location of Institute on 12 January 2016



## MEMBER STATES

Austria	94
Belgium	162
Bulgaria	49
Czech Republic	234
Denmark	64
Finland	116
France	933
Germany	1307
Greece	144
Hungary	67
Israel	71
Italy	1505
Netherlands	172
Norway	91
Poland	264
Portugal	106
Romania	99
Slovakia	72
Spain	334
Sweden	107
Switzerland	477
United Kingdom	910

**7378**

## ASSOCIATE MEMBERS

Pakistan	36
Turkey	126

**162**

## OBSERVERS

India	187
Japan	279
Russia	980
USA	1915

**3361**

## STATES IN ACCESSION TO MEMBERSHIP

Cyprus	11
Serbia	37

**48**

## OTHERS

Argentina	29	China	208	Iceland	2	Mexico	64	TFYROM	2
Armenia	18	Colombia	12	Indonesia	9	Morocco	7	Ukraine	30
Australia	40	Costa Rica	1	Iran	25	New Zealand	6	Venezuela	1
Azerbaijan	4	Croatia	25	Ireland	9	Peru	3	Viet Nam	1
Belarus	2	Cuba	3	Jordan	2	Saudi Arabia	1		
Brazil	151	Ecuador	2	Korea	145	Singapore	1		
Canada	174	Egypt	26	Lithuania	15	Slovenia	20		
Chile	15	Estonia	17	Madagascar	3	South Africa	47		
		Georgia	23	Malaysia	12	Taiwan	78		
		Hong Kong	22	Malta	5	Thailand	13		

**1299**

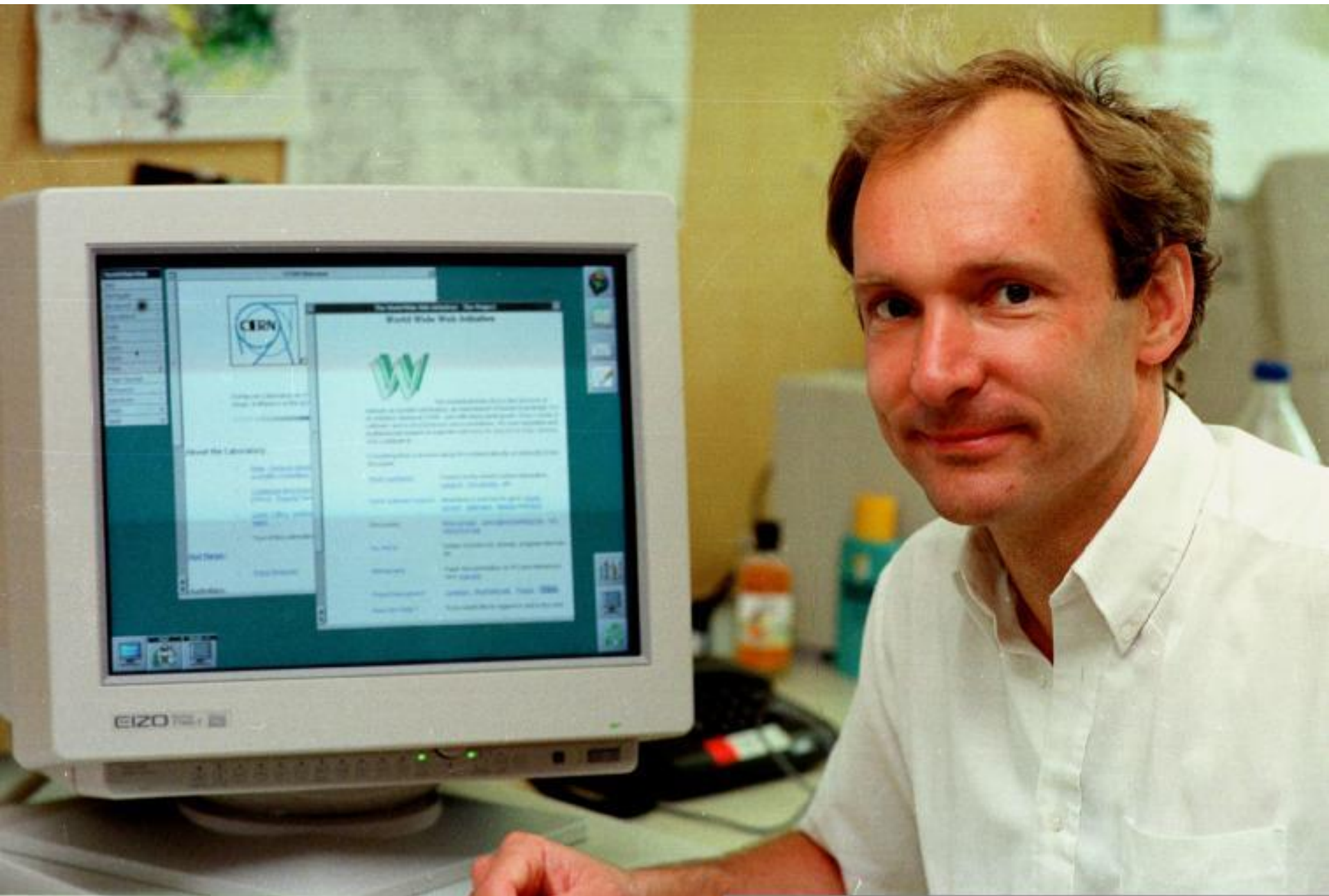












# FUTURE

**CLIC – Compact Linear Collider** Unprecedented energies beyond LHC for electrons and their antimatter twins, positrons in 50 kilometer long accelerator complex

## **FCC – Future Circular Collider**

An international collaboration to explore concepts for the most powerful particle collider in 100 kilometer long accelerator tunnel

## **The High-Luminosity LHC**

HL-LHC project aims to increase the potential discoveries after 2025 by increasing the LHC luminosity (the number of collisions occurring in a given amount of time...)



# Key Ingredients to CERN's success

- Facility was a priority of the science community
- Strong funding commitments and host role (CH+FR)
- Organisation populated with critical experience
- Realistic goals
- Experience over 'hope'
- Openness and transparency
- Collective ownership of problems and solutions
- Success requires energy and enthusiasm