

A European laboratory for a global project

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Key facts & figures

Founded 1954:

12 European States: “Science for Peace”

Today: 21 Member States

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, United Kingdom

In accession to Membership: Romania, Serbia

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

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

~ 2300 staff

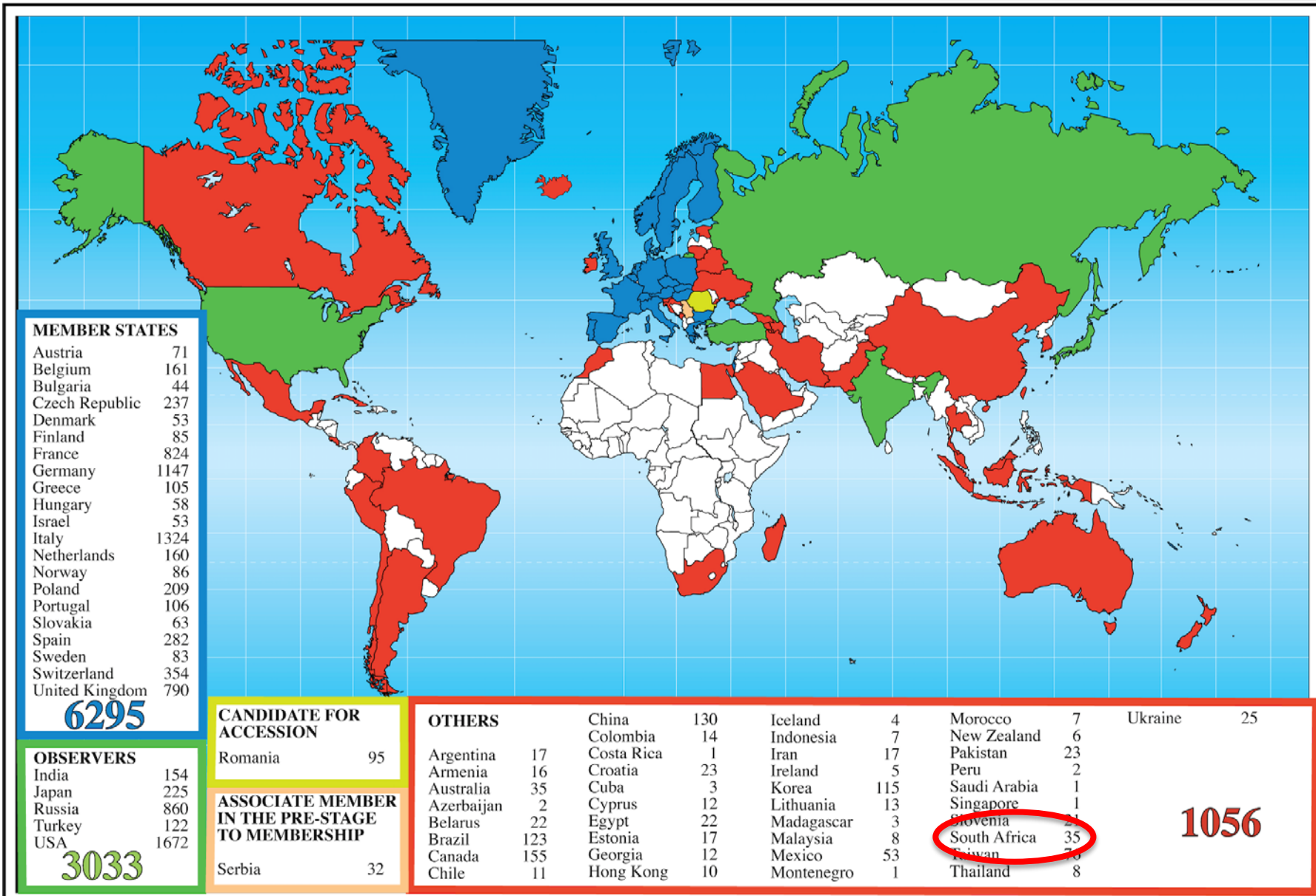
~ 1600 other paid personnel

~ 10500 users

Budget (2014) ~1000 MCHF

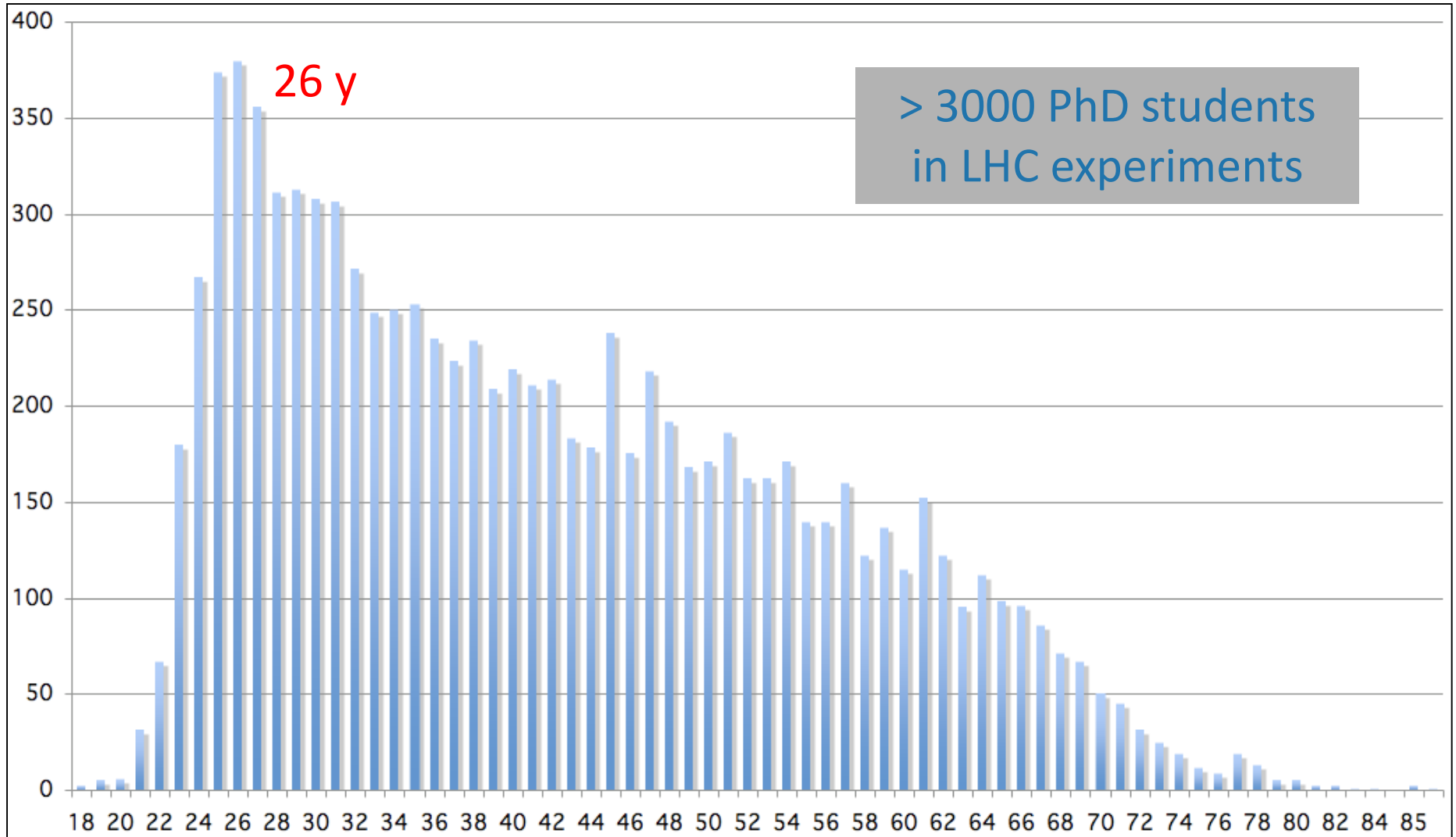


CERN Users by location of Institute



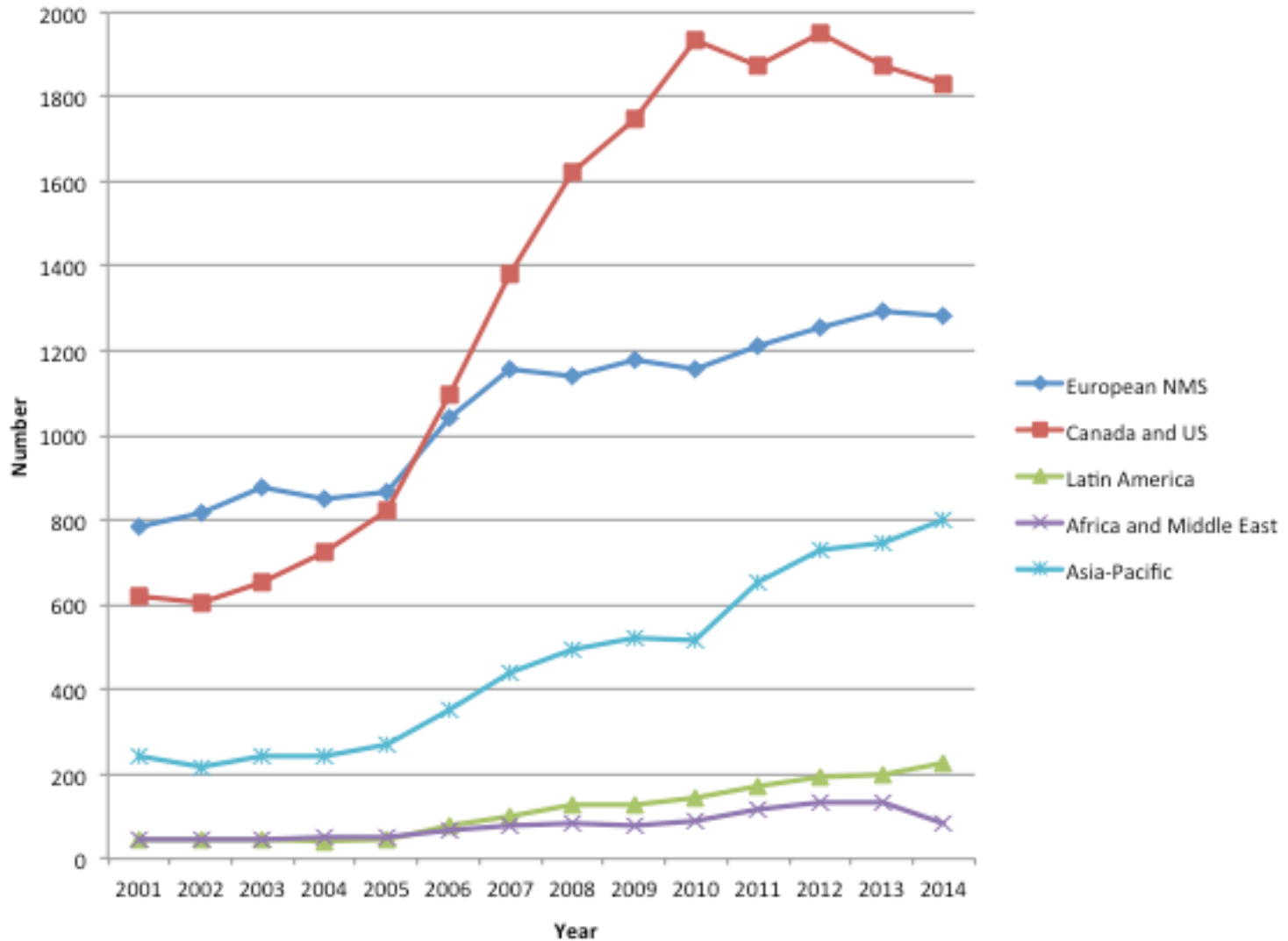


Age distribution of CERN Users



Non-Member State Users

Evolution of Non-Member State Users by region 2001-2014





CERN and non-Member States

- The participation of scientists from non-Member States (NMS) has reached 39%, and is expected to increase
- Past & present CERN managements have exercised a policy of 'open doors', with no discrimination between Member States and non-Member States
- Expect this to continue...
- ...but is it sustainable?



The historical perspective

- CERN's policy of free access is rooted in the ICFA policy of *mutual* free access of physicists from different regions to laboratories in other regions
- Policy shaped at a time when
 - three regions provided nearly all globally used facilities (Europe, North America, Japan)
 - the global HEP community was strongly dominated by scientists from the same regions
 - Exchange between different regions was healthy & balanced



The landscape has changed

- The SSC has not happened
- Major facilities in the US have been shut down, and have broken the symmetry of exchange between Europe, the US, and Asia
- The LHC has developed into a global endeavour
- New actors have appeared on stage:
 - Asia
 - Latin America
 - Africa



Where do we stand?

- From a European perspective, the unprecedented Non-Member State participation in the LHC, spearheaded by the US, has brought about substantial scientific, technical *and* political benefits
- Helped to establish CERN firmly as world's leading center at the high energy frontier, in the perception of governments, funding agencies, and of the taxpayer



Where do we go from here?

- The LHC has convincingly demonstrated the potential of global partnership in basic science, and is widely perceived as a paradigm of successful, global co-operation on megascience projects
- To take this co-operation to the next-higher level, and to fully exploit its potential to the benefit of all stakeholders, CERN welcomes an enhanced *institutional* participation of its partners, in the framework of its new membership policy (aka 'Geographical Enlargement')



A twofold rationale

- *Catch up*, at a political and institutional level, with the migration of the global particle physics community to the LHC
- *Anticipate* the long-term (i.e. post-LHC) future of CERN
 - LHC experiments are truly *global* projects
 - the LHC accelerator was a 90% European project (~ 10% NMS contribution, mostly in-kind), born under enormous labor pains
 - A funding & governance model that is unlikely to work for a future large facility (FCC, CLIC,)



CERN's new enlargement policy

- For > 50 years, the CERN Council has repeatedly *interpreted* the 1953 Convention as restricting membership to European states
- In response to the strong global participation in the LHC – and in anticipation of the post-LHC era – the Council in 2010 approved the most significant shift in CERN's membership policy thus far, opening CERN fully to non-European states (CERN/2918/Rev.)



Dimensions of enlargement

- Full Membership open to non-European states
- Associate Membership – in two flavours:
 - Pre-stage to full membership: compulsory transition period on the way to full membership (2–5 years)
 - Regular ('steady state') Associate Membership
- Instrument of International Co-operation Agreements (ICAs) to be maintained
 - \approx 45 ICAs currently in force
- Observer status to be phased out for states
- CERN allowed to participate in *global* HEP projects outside Europe – confirmed by 2013 European Strategy Update
 - gateway for European participation in LBNF and ILC



Towards a global roadmap?

- Three key regional roadmaps:
 - The proposal of the Japanese community to host the ILC
 - The 2013 update of the European Strategy for Particle Physics
 - The P5 report of 2014
- For the first time, these three regions have developed complementary and coherent roadmaps
- CERN's enlargement policy fits seamlessly into the emerging *global* strategy of particle physics



Associate Membership

A simplified view of the 'regular' Associate Membership:

- Obligations

- Annual contribution to CERN budget corresponding to $\geq 10\%$ of 'theoretical' full Membership contribution (minimum 1 MCHF/year)

- Benefits

- Participation in CERN governance through representation in CERN Council and subordinate bodies (no voting rights)
- Access to employment and education programmes (excluding tenured positions)
- Access to industrial contracts



Status of Enlargement

Since 2008, ten applications received for Membership and Associate Membership:

- Israel, Cyprus, Serbia, Turkey and Slovenia applied for (full) Membership in 2008-2009
 - Will have to go through Pre-stage Associate Membership
 - Israel: signed October 2011, **first non-European Member State since January 2014**
 - Serbia: Associate Member (AMs) since January 2012
 - Cyprus signed in October 2012 – waiting for ratification
 - Turkey ‘downgraded’ application from full to Associate Membership, signed in May 2014 – waiting for ratification
 - Slovenia: slow progress, expect re-start under new government



Status of Enlargement (II)

- Ukraine, Brazil and Russia applied in 2012
 - Ukraine: signed October 2013
 - Brazil, Russia: accession procedure underway
- Pakistan applied in 2013, expect to sign in December 2014
- Croatia applied in 2014
- In discussion with other countries...



Conclusions

- The partnership between CERN, its Member States and non-Member States in building and operating the LHC has become a solid backbone of a successful scientific and technological collaboration of unprecedented, global dimensions
- CERN wants this partnership to continue, to expand and to flourish, while expanding its institutional base through participation of non-European countries
- “Geographical enlargement” well matched to the unfolding global particle physics roadmap