

Opening CERN to non-European States

(aka as 'geographical enlargement')

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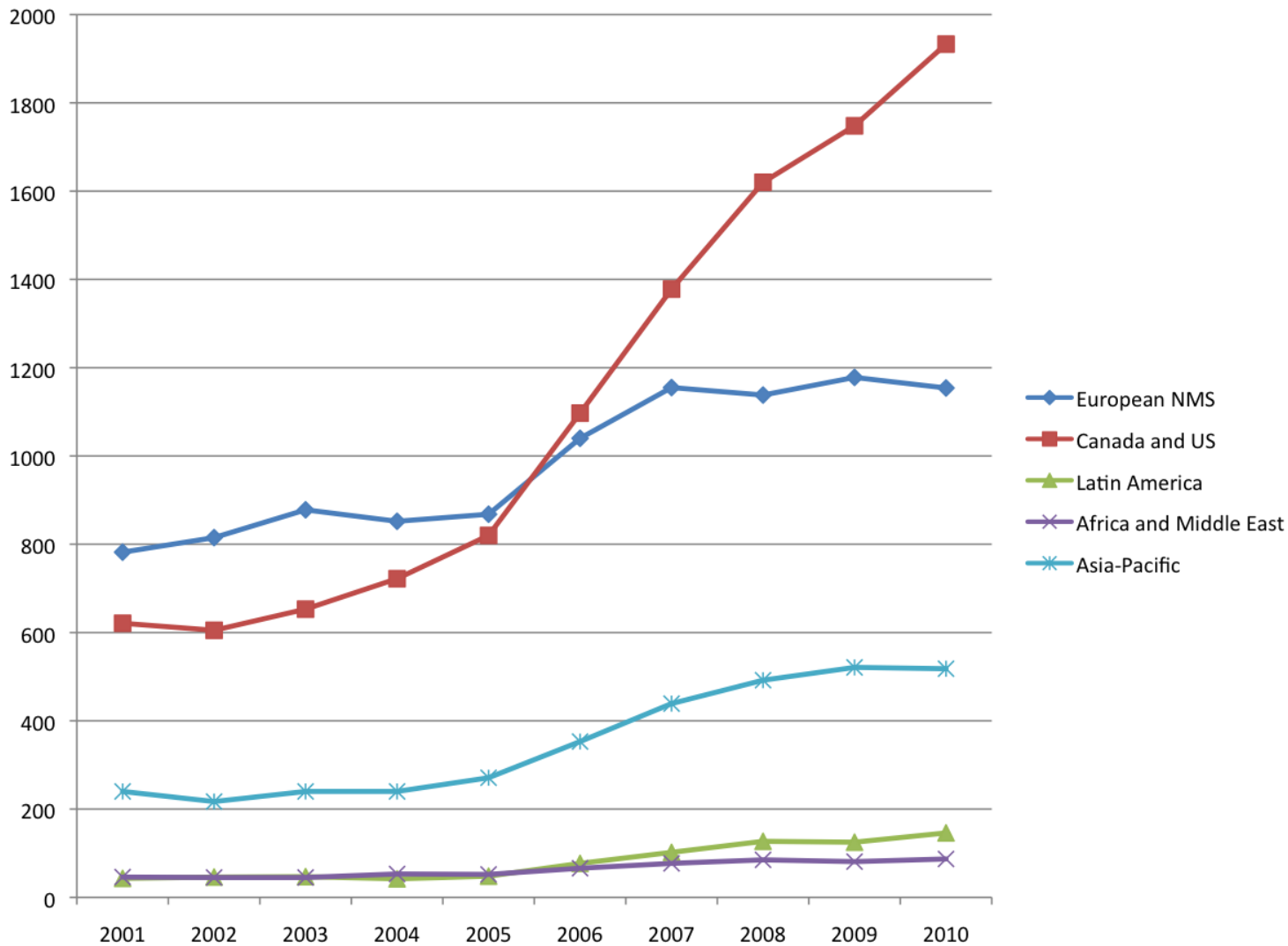


The rationale

- *Follow*, at the institutional level, the ‘vote with the feet’ of the global particle physics community and their unprecedented move to CERN triggered by the LHC
- *Anticipate* the fact that the next big project in particle physics can only be realized as a global project, with
 - Global scientific participation
 - Global funding
 - Global governance

Non-Member State Users

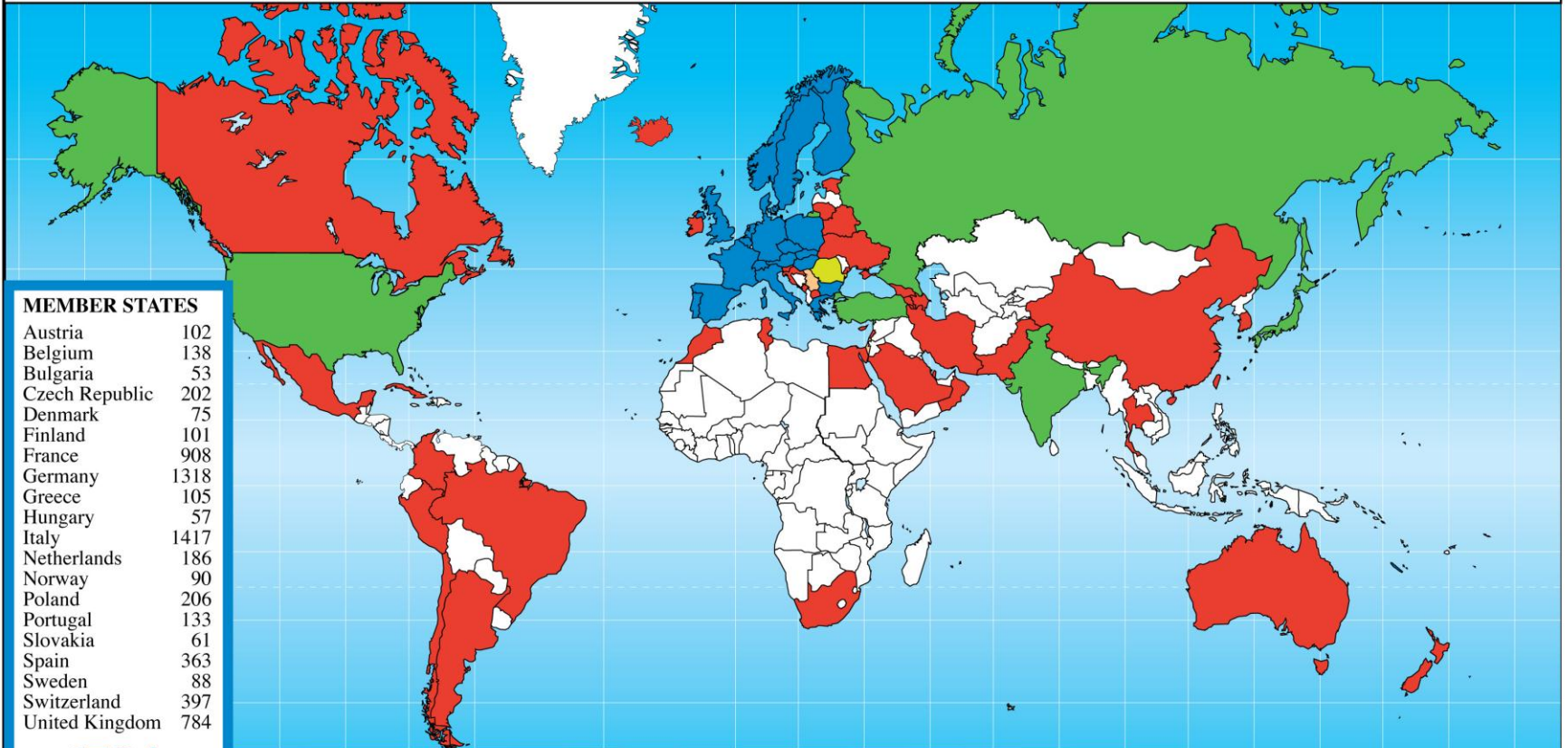
Evolution of Non-Member State Users by region 2001-2010





CERN Users by Institute

Distribution of All CERN Users by Nation of Institute on 4 April 2012



MEMBER STATES

Austria	102
Belgium	138
Bulgaria	53
Czech Republic	202
Denmark	75
Finland	101
France	908
Germany	1318
Greece	105
Hungary	57
Italy	1417
Netherlands	186
Norway	90
Poland	206
Portugal	133
Slovakia	61
Spain	363
Sweden	88
Switzerland	397
United Kingdom	784

6784

OBSERVERS

India	134
Japan	225
Russia	859
Turkey	83
USA	1749

3050

CANDIDATE FOR ACCESSION

Romania	78
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ASSOCIATE MEMBER IN THE PRE-STAGE TO MEMBERSHIP

Israel	67
Serbia	26

OTHERS

Argentina	18
Armenia	13
Australia	28
Azerbaijan	1
Belarus	22
Brazil	102
Canada	170
Chile	4

China	115
China (Taipei)	70
Colombia	10
Croatia	21
Cuba	4
Cyprus	9
Egypt	7
Estonia	17
Georgia	10
Iceland	3

Iran	16
Ireland	10
Korea	91
Lebanon	1
Lithuania	13
Malta	1
Mexico	43
Montenegro	1
Morocco	6
New Zealand	11

Oman	1
Pakistan	22
Peru	2
Qatar	1
Saudi Arabia	3
Slovenia	38
South Africa	21
Thailand	5
T.F.Y.R.O.M.	2
Tunisia	1

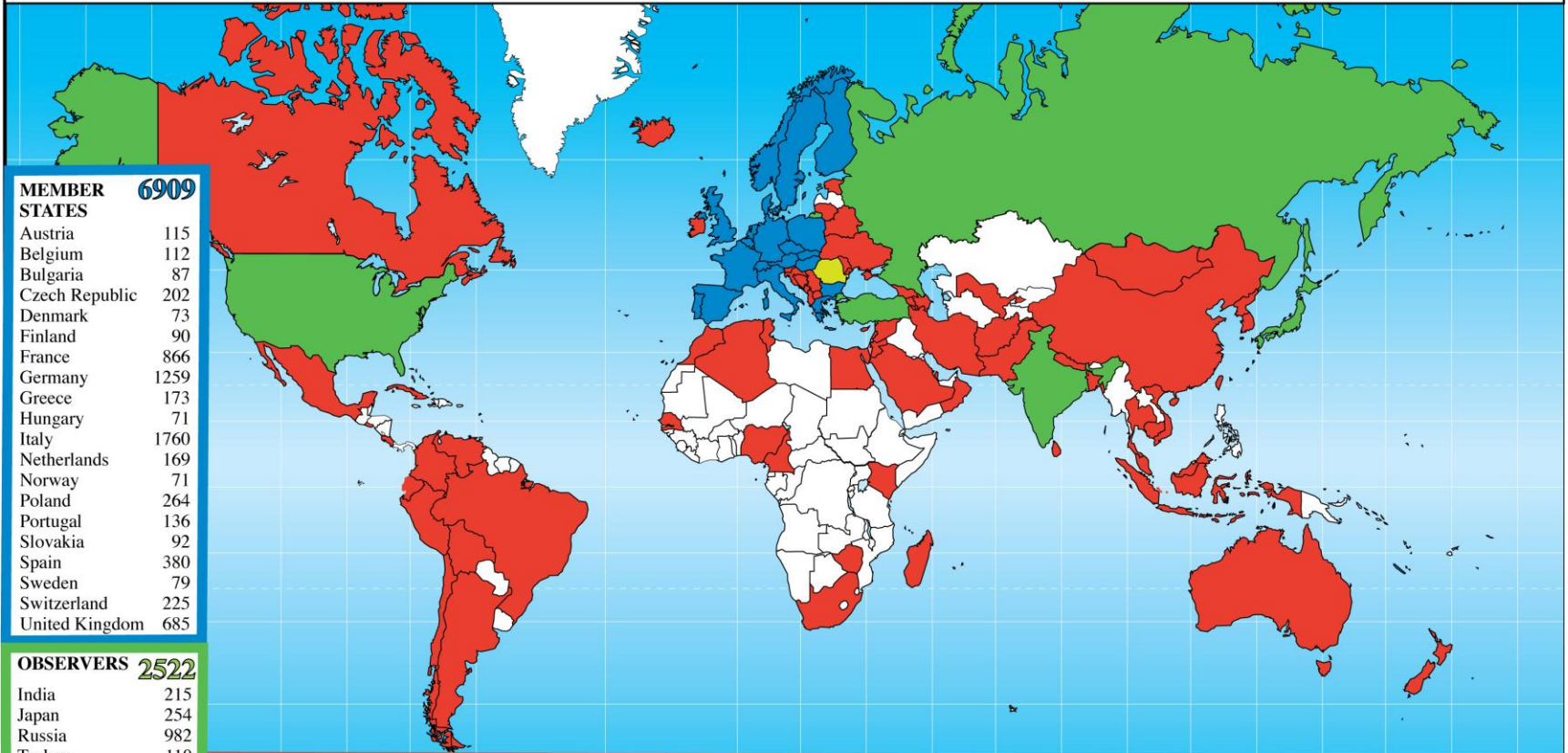
Ukraine	21
Uzbekistan	1

934



CERN Users by passport nationality

Distribution of All CERN Users by Nationality on 4 April 2012



MEMBER STATES 6909

Austria	115
Belgium	112
Bulgaria	87
Czech Republic	202
Denmark	73
Finland	90
France	866
Germany	1259
Greece	173
Hungary	71
Italy	1760
Netherlands	169
Norway	71
Poland	264
Portugal	136
Slovakia	92
Spain	380
Sweden	79
Switzerland	225
United Kingdom	685

OBSERVERS 2522

India	215
Japan	254
Russia	982
Turkey	110
USA	961

CANDIDATE FOR ACCESSION 117

Romania	117
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ASSOCIATE MEMBERS IN THE PRE-STAGE TO MEMBERSHIP 67

Israel	67
Serbia	39

OTHERS

Afghanistan	1	Bosnia & Herzegovina	2	Cuba	6	Ireland	23	Mexico	63	Peru	5	Tunisia	6
Albania	3	Brazil	98	Cyprus	14	Jordan	2	Moldova	1	Qatar	1	Ukraine	46
Algeria	11	Cambodia	1	Ecuador	2	Kenya	1	Mongolia	1	San Marino	1	Uzbekistan	2
Argentina	16	Cameroon	2	Egypt	9	Korea, D.P.R.	1	Montenegro	2	Saudi Arabia	3	Venezuela	10
Armenia	21	Canada	141	El Salvador	1	Korea Rep.	119	Morocco	13	Senegal	1	Viet Nam	10
Australia	23	Chile	6	Estonia	15	Lebanon	11	Nepal	3	Slovenia	43	Zimbabwe	2
Azerbaijan	6	China	270	Georgia	31	Lithuania	17	New Zealand	8	South Africa	16		
Bangladesh	2	China (Taipei)	48	Hong Kong	1	Luxembourg	3	Nigeria	1	Sri Lanka	6		
Belarus	41	Colombia	29	Iceland	4	Madagascar	3	Oman	1	Syria	1		
Bolivia	2	Costa Rica	2	Indonesia	2	Malaysia	7	Pakistan	44	Thailand	7		
		Croatia	30	Iran	21	Malta	2	Palestine (O.T.)	3	T.F.Y.R.O.M.	3		

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Non-European participation in CERN

- Observer Status
 - ‘Honorary’ status with right to attend (open) CERN Council Sessions – no other significant obligations and benefits
 - Mostly awarded to countries who made important in-kind contributions to LHC construction (**India!**)
- International Co-operation Agreements (ICAs)
 - Mostly umbrella agreements to provide formal framework
 - Actual collaboration implemented through Protocols/Addenda (accelerators) and MoUs (experiments)
 - **ICA with India (DAE) concluded in 1991**



Where do we stand?

- From a European perspective, the unprecedented Non-Member State participation in the LHC 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 collaboration in science, and is widely perceived as a paradigm of successful global collaboration on megascience projects
- To take this collaboration to the next-higher level, and to fully exploit its potential to the benefit of *all* partners, CERN invites an enhanced *institutional* participation of its major non-European partners, in the framework of CERN's new membership policy (aka 'Geographical Enlargement')



A bit of history

- 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
 - India presently one of 5+2 observers
 - New states will not be admitted
 - To be maintained for International Organizations (presently UNESCO, EU)



Associate Membership

A simplified view of the 'steady state' scheme:

- Obligations
 - Annual contribution to CERN budget corresponding to $\geq 10\%$ of 'theoretical' full Membership contribution (minimum 1 MCHF/year)
- Benefits
 - Representation in CERN Council (no voting rights)
 - Access to employment and education programmes (excluding tenured positions)
 - Access to industrial contracts



Criteria for Associate Membership

- A solid basis in experimental and theoretical elementary particle physics, adequately funded to support research at home *and* work at CERN
- A sufficiently developed industry able to tender for CERN contracts with reasonable chance of success
- The will of the national authorities to support basic research, and their awareness of the implications of participation in a common endeavour in the field of particle physics



The case of India

- The Atomic Energy Commission chaired by Dr. S. Banerjee approved Associate Membership in CERN on April 9, 2012
- Next steps:
 - Formal application to CERN Council
 - Evaluation by Council-mandated Task Force
 - Approval of admission by the Council (by consensus)
 - Signature & ratification of accession agreement
- Expected financial contribution in 2013:
MCHF 8.8 (49 Crore Rupees)



Looking beyond the borders

- Israel, Cyprus, Serbia, Turkey and Slovenia applied for (full) membership in 2008-2009
 - Will have to go through Pre-stage Associate Membership
 - Negotiations completed with Israel (Associate Member (AM) since October 2011) and Serbia (January 2012)
 - Expect others to join as AMs 2012-2013
- Ukraine applied for regular AM in January 2012
- Brazil signed Declaration of Intent
- In discussion with several other countries
 - Russia, US, Canada, ...
 - The Canadian community, through the 2010 IPP submission to NSERC and in later roadmaps, has issued a strong recommendation for Canada to join CERN as AM



Conclusion

- Beyond existing R&D collaboration, Associate Membership brings about substantial, additional benefits in a win-win-scenario for all partners:
 - Staff employment and participation in the Fellows, Associates and Student programmes;
 - The possibility to submit own research proposals
 - Participation in all training and education programmes
 - Industrial participation in selected areas of R&D, and in CERN procurement through industrial orders and service contracts
 - Participation in CERN's governing bodies
- CERN will be happy to welcome India amongst its members!