

Trends and priorities in International Relations at CERN 18th IPPOG Meeting

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Good to be back with IPPOG

Memories from 11th IPPOG Meeting in Krakow in May 2016



Tweet



Charlotte Warakaulle
@cwarakaulle

Enjoying great meeting #ippog in #krakow, much inspiration to bring particle physics to all!



Steven Goldfarb and 2 others

2:37 PM · May 20, 2016 · Twitter for iPhone



From 2016 to 2019: continuity and change

Objectives of the new Sector

– supporting a global lab with a global mission

Enable CERN to promote **science** in our discipline and more generally, and serve **society** on a **global** level, **now** and for the **future**

1. Strengthen CERN's position as a global centre of excellence in science and research through sustained support from all stakeholders
2. Help shape a global policy agenda that supports fundamental research, and includes science perspectives more generally
3. Connect CERN with people across the world to inspire scientific curiosity and understanding

Key task across all three dimensions will be to leverage partnerships and join forces to multiply and reach further

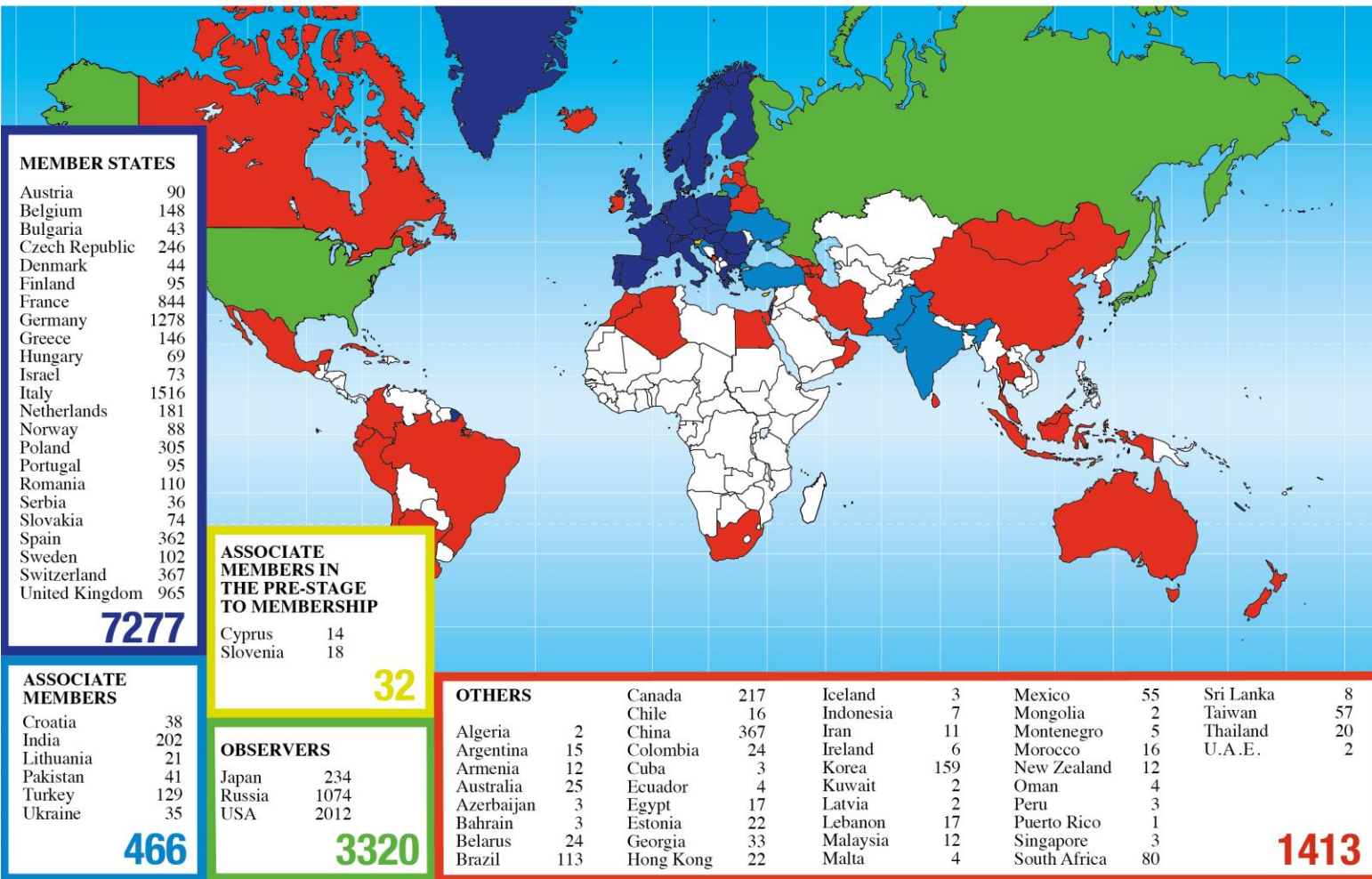
→ **IPPOG will be a key partner in these efforts**

- Presented the objectives of the then-new International Relations Sector in Krakow in 2016 → **overarching objectives remain the same**, international context continues to evolve and priorities of Member States are adjusted in line with developments at the Laboratory and in national contexts, including as concerns funding.
- **Partnerships remain essential**, leveraging complementarities and different approaches to help strengthen the community overall.
- Working from **comparative advantages** and avoiding overlap.



Snapshot of global engagement at CERN today

Distribution of All CERN Users by Location of Institute on 10 October 2019



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

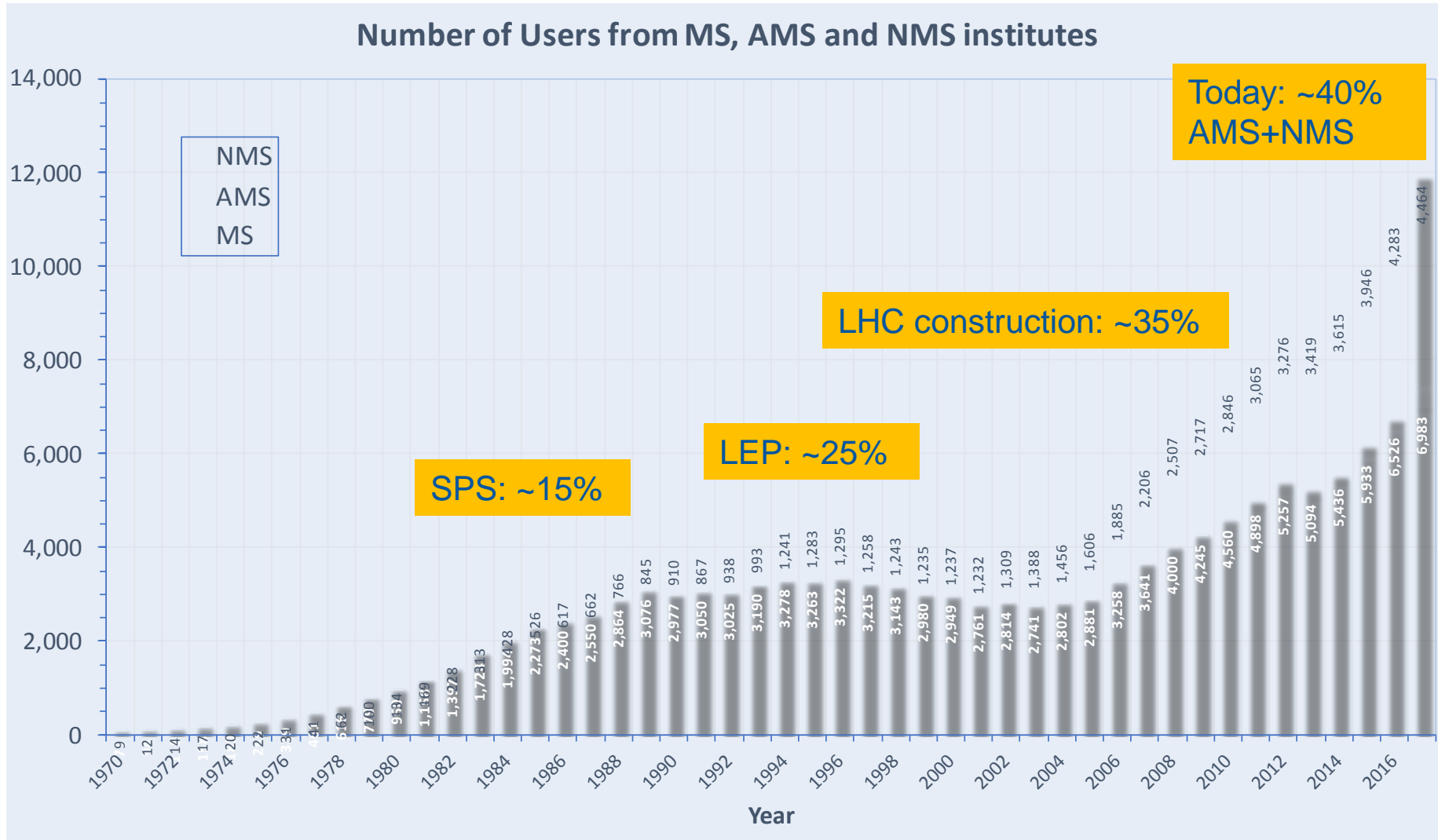
2 Associate Member States in the pre-stage to membership: Cyprus and Slovenia

6 Associate Member States: India, Croatia, Lithuania, Pakistan, Turkey and Ukraine

3 Observers: Japan, Russia and the United States of America

50+ Non-Member States Collaborating with CERN through International Cooperation Agreements

Growth in collaboration linked to scientific programme



- The growth in international collaboration has progressed as a function of the development of the scientific programmes and technology development.
- Today, some 40% of ~13,000 users are from non-Member States (i.e. outside the 23 Member States); the increase is driven mostly by US & Canada, together with countries in Asia-Pacific region.

Formal geographical enlargement process (2010)

- Membership opened to countries outside of Europe
- Introduction of Associate Membership category

Three countries joined as **Member States**

- *Israel (2014), Romania (2016), Serbia (2019)*

Two countries joined as **Associate Members in pre-stage to Membership**

- *Cyprus (2016), Slovenia (2017)*

Six countries joined as **Associate Members**

- *Turkey (2015), Pakistan (2015), Ukraine (2016), India (2017), Lithuania (2018), Croatia (2019)*

Two applications for Membership or Associate Membership **in progress or pending**

- *Estonia (applied 2018), Brazil (applied 2012)*

43. For the purposes of its assessment of all Associate Membership applications, the Council shall verify fulfilment of the following criteria:

- a. existence within the applicant State of a solid basis in elementary particle physics, both theoretical and experimental, adequately funded both for the support of the research within the country and also for payment of travel and living expenses to enable the scientists of that country to participate in CERN activities;
- b. existence of a sufficiently developed industry within the applicant State to enable it to tender for contracts with CERN with a reasonable chance of success;
- c. the will of the national authorities of the applicant State to support basic research and their awareness of the implications of participation in a common endeavour in the field of particle physics.

- **Scope and pace:** Enlargement has been gradual and relatively limited in scope, driven by scientific objectives
- **Geographical reach:** Main interest in closer ties with CERN has come from the wider European region, followed by Asia
- **Dimensions:** Particular interest has been manifested by smaller to medium-sized countries (in terms of size of particle physics community, geographical size, financial means)

Building capacity for the field

- Growth in field supported through **International Cooperation Agreements**
- Dynamic developments, in particular, in **Asia** (also beyond China) and (with less momentum but still noticeable) in **Latin America**
- Supporting capacity-building within existing budgetary constraints → **priorities are necessary**



International Cooperation Agreements signed since 2010

- ❑ Australian Nuclear Science and Technology Organisation
- ❑ Republic of Estonia
- ❑ Colombia (COLCIENCIAS)
- ❑ Republic of Costa Rica
- ❑ Republic of Tunisia
- ❑ Republic of Albania
- ❑ Mongolia
- ❑ People's Republic of Bangladesh
- ❑ United States of America (update)
- ❑ Lebanon (CNRS-L)
- ❑ Palestine
- ❑ Qatar Foundation
- ❑ Republic of Latvia
- ❑ Democratic Socialist Republic of Sri Lanka
- ❑ Nepal
- ❑ Republic of Kazakhstan
- ❑ Republic of the Philippines
- ❑ Kingdom of Thailand
- ❑ Republic of Paraguay (CONACYT)
- ❑ Russian Federation (update)

Supporting regional initiatives

- **Encouraging and nurturing intra-regional cooperation and exchange, for communities to grow through mutual support**
 - CERN-South Asian High Energy Physics Instrumentation Workshop on Detector Technology and Applications (SAHEPI) → Kathmandu (2017), Colombo (2019), Dhaka (2021)
 - Support for intra-regional community-building in Latin America through various community-driven platforms and initiatives





THE GLOBAL GOALS
For Sustainable Development

CERN and the GLOBAL GOALS a framework for prioritizing

SDG 3 - HEALTH

CERN helps to develop technologies that contribute to better healthcare for all, such as medical imaging and hadron therapy.



THERAPY

Accelerators provide particle beams for more targeted cancer treatment.

SDG 4 - EDUCATION

Education is one of CERN's core missions. We offer high quality programmes that inspire thousands of students, teachers and young researchers each year.

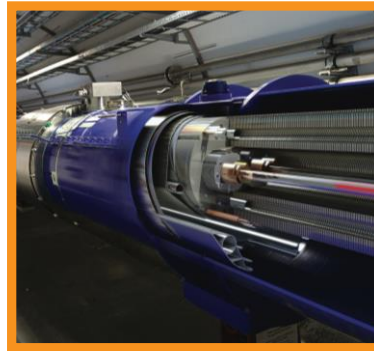


BEAMLINE FOR SCHOOLS COMPETITION

Students from the two winning teams spend a week at CERN to carry out their experiment using a CERN accelerator.

SDG 9 - INNOVATION

CERN inventions are brought to industry through knowledge transfer, to have a positive impact on society and innovation.



A MAGNET IN THE LHC TUNNEL

Exploring the universe requires new technologies and ingenious engineering to build the machines that explore physics at a new frontier.

SDG 16 & 17 - INTERNATIONAL COOPERATION

CERN is a successful model for international collaboration. CERN gathers researchers from all over the world, contributing to human knowledge and peace, for the benefit of all.



SESAME

This new synchrotron light source in Jordan started operation in 2017. It is a unique collaboration between eight Middle East members, modelled on CERN's governance structure.

Trends

- **Continued interest in the field:** growth in particular in Asia and (to a lesser extent) Latin America.
- **Regional initiatives:** opportunities for intra-regional support and dynamism to be tapped.
- **Value of broader frameworks:** the Global Goals agenda provide an important framework within which to place capacity-building for the field.

Looking ahead

- **Focus of CERN will be on the implementation of the European Strategy for Particle Physics Update** → emphasizing international engagement and outreach that will support a next big project
- **Capacity-building for the field will continue** → supporting momentum that has already been built in different regions, and special effort to nurture communities in Africa





Thank you

Partnerships beyond (but in support of) the science



- In a changing global environment, partnerships with actors beyond science are becoming increasingly important to ensure continued support for the scientific mission.
- Multilateral fora, the private sector and other non-governmental actors can serve as avenues for partnership-building.

