

Ladies and Gentlemen, Distinguished Colleagues and Guests,

The first thing that sprung to my mind when I was offered the honour and privilege to address you on this occasion celebrating the 60th years' youth of CERN, was the question "Why me ?" As a *scientific* delegate to the CERN council the "why" question is not unfamiliar to me, so I could not help analysing the possible answers. My best, though unproven, hypothesis is: "The Netherlands is more or less *the* average CERN Member State."

This is true in the sense that we have an active particle physics community, but already for a very long time we cannot afford, as a single country, the investments that are needed to do energy frontier particle physics. This is true for most CERN Member States. A few decades ago, a number of larger European countries were still able to run national facilities at the energy frontier, but also they are finding it increasingly difficult to continue to do so. And now, for the energy frontier, we all depend on CERN. To those countries that more recently had to give up their national position at the energy frontier I can say from our national experience: don't worry, be happy, but take very good care of CERN. This includes assuring CERN's exposure in your own country and being proud of CERN as if it had been built in your own backyard.

With the current 21 Member States, the average CERN contribution of each Member State is 1 over 21 of the CERN budget: 4.8%. The Dutch relative contribution happens to be 4.6%. In fact this makes the Netherlands also the most average CERN Member State from a monetary perspective.

Now, this is the material contribution, something that is well measurable. But of course, we are NOT, say, like any most average cities in a country, such as the Bromley of the UK, the Haßloch of Germany, the Brive-La-Gaillarde of France, or the Woerden of the Netherlands. No, no, no, *our intellectual* contribution is far above average. And fortunately, all Member States agree with this statement: "That *their intellectual* contribution is far above average."

For a mathematician, being all above average is plainly wrong. For a physicist it sounds at least suspect. But for CERN this is exactly what makes it tick. Striving to be better than the rest by *all* Member States and even by the non-Member States is exactly what makes that, as the late CERN Director General Victor Weisskopf put it in a lecture that I attended as a summer student: "At CERN there are no problems, there are challenges."

Many challenges have been conquered by CERN. We are all still light-headed from the Higgs discovery, and this is just one of the many scientific breakthroughs that CERN has delivered. But we cannot rest. There are many challenges ahead of us. Scientists are facing a number of these challenges right now, full of imagination and ambition, full of plans of pushing the frontiers of particle physics. And this is a point where CERN Council pops up in the process. The body of the reality check.

CERN functions a bit like a classical household. The Member States, embodied by Council, bring in the money. The Director General runs the show. As usual, major decisions are taken by the partner with the money, minor ones are left to the partner running the household. What this really means depends on the definition of major and minor. A typical example of a major decision at CERN is: an accelerator must be acquired at a very high energy matching a specific budget that should never be exceeded. The minor decisions then boil down to actually constructing the accelerator, making sure it fulfils all the specs, and preferably, but in practice not necessarily, within budget. These minor decisions, by the Director General, turn out to be hard work for at least 10 hours every day of the week. You can probably imagine that the major decisions, to be taken by Council, are really very hard work, ...well at least for 8 days per year. An important recent major decision is to actively open up CERN to membership from all countries in the world that qualify according to certain criteria concerning their particle physics

community, their technological level and their stability. In fact, this was already possible under the original CERN convention. But up to a few years ago it was never really promoted. Council's adoption of new rules concerning full and associated membership have actively promoted new memberships, Israel has been able to join very quickly as full member in this spirit very. Romania, albeit under the old rules, and Serbia, already under the new rules, will also likely become CERN Member States in the near future. And this will not be the end to CERN's geographical expansion. These is a positive development. But it also brings some challenging new issues to resolve.

Some minor challenge will have to be faced by the Director General concerning the meeting room for Council. So far, a pragmatic approach has been followed by first reducing the arm rests on the chairs around the table in the Salle George Charpak to a round metal tube, followed by removing the arm rests altogether. The table has already been expanded to approach the inscribing oval of the room. We are waiting for benches to be rolled in. Or even more unorthodox measures that the Director General may resort to in his wisdom.

Expansion implies a new balance between the Member States. In particular the European character of the organisation may be guaranteed in practice still for a considerable time, but not necessarily forever any more. Using one-country-one-vote, this could be tackled by splitting the Member State countries. But it looks like we are voting *nay* to that for the moment.

On a more serious note: So far we have had two European Strategies for particle physics, the first in 2006, the most recent one last year. Notice the word European in European Strategy. In 2013 there were 20 CERN Member States, all undisputable European. Israel may regard itself sufficiently culturally connected to Europe to not pose a very serious problem. But in the not so distant future, in principle undisputable non-European countries may join CERN as Member State. Then what about the European Strategy? Will they be banned from discussing the European Strategy? Or will they just be denied voting? Will we define *closer* sessions as superlative for closed sessions? Or will the concept of European Strategy be abandoned? Will a World Strategy replace it ? And if so, what non-Member States think about that? Some serious challenges for Council to address!

We will have to confront these political issues in the face of physics. Moving the energy frontier will still be relatively easy next year. But even after a 14 TeV LHC, it seems hardly likely that we will know all about elementary particles. Technical and physical ingenuity will be required to meet the challenge of going up substantially in energy after the LHC. But also budgetary and political ingenuity will be required. Although this task may look nearly insurmountable, it should not be considered a problem, but a challenge. Even more so, it should be considered an opportunity for CERN to break new grounds in concocting budgetary and political solutions for World projects of unprecedented scale. With all of us intellectually far above average, there is every reason to think we will meet this challenge.

Thank you for your attention.