

The future is just around the corner

This week and next see a series of meetings looking at the future of CERN, and indeed of particle physics. By future, I mean the long term: what will CERN be doing 20 years from now, or 30? That may seem a long way off, but if we don't prepare now, it will be even further. That's why this week's Compact Linear Collider ([CLIC](#)) workshop is looking at all aspects from the accelerator to detectors and physics. And that's why the Future Circular Colliders ([FCC](#)) initiative, which puts the emphasis on an 80-100km hadron collider while also examining the potential for a lepton collider of the same size as an intermediate step, is having its kick-off meeting next week. The FCC initiative will also examine the lepton-hadron option.

Today, we don't know what the post-LHC future for CERN will be. Before we can decide what project to take forward to our Member States, we need to understand the technologies behind the various acceleration and detection options. We need to understand what those options bring us in terms of physics reach. We need to know what direction LHC results will point us in for future studies. And we need to understand how the rest of the global physics community is thinking. All of this, we need to do on a timescale of around 4-5 years, so that when physicists in Europe come together to update their long-term strategy in 2018-19, they'll have all the ingredients they need to make an informed decision. That's why these meetings are so important now.

Although CERN is clearly a strong candidate to host a future energy-frontier machine, both the CLIC and FCC studies are global initiatives whose results will be applicable anywhere. Whether or not we build one of these machines here depends on many factors. From my perspective, physics motivation comes top, but political will is also vital. Through CERN Council and other channels, we must bring our Member States, our neighbours and other stakeholders along with us, explaining what we are doing at each step of the way. That's why I discussed the matter in the annual meeting we hold in January each year with representatives of our neighbouring communities, and it's why we put out a [press release](#) yesterday explaining where CLIC and the FCC fit into the laboratory's plans.

But there are other, more mundane, factors that influence site choice, notably geology. Since CLIC has been established longer, a survey has already been done, indicating that the Lemman basin is a geologically sound region for such a project. For the FCC, you may come across maps of the region with 80 and 100km circles drawn on them. This doesn't mean that we've been tunnelling beneath people's feet. It's simply a sign that the geological feasibility studies for a possible future circular collider are underway.

All this may seem a little premature to the younger among you, for whom the LHC adventure is just beginning. But as someone who has been involved with CERN for over half of its 60 years, I can say with some authority that our long-term future is just around the corner, and the time to start planning is now.