Réunion groupe ILC sur la stratégie européenne

- Le 19/6/20 la stratégie européenne de la physique des particules a été présentée par sa secretaire générale Halina Abramowicz lors d'une session du Conseil du CERN
  - Pour en savoir plus: https://indico.cern.ch/event/924500/

- Réunion aujourd'hui

  - Rappel sur les points clés de la stratégie (sélection subjective)

  - Débat autour de quatre questions pour guider la discussion

Points clés - 1

2020 Strategy Statements

2. General considerations for the 2020 update

Global nature of particle physics research

- The increase in scale of the leading particle physics facilities and the resulting decrease in their number worldwide has led to the globalisation of the field
- The timely realisation of complementary, large-scale projects in different regions of the world, each of them unique in pushing further the frontiers of particle physics, remains essential for the progress of the field, as well as for the development of the key technologies
- With the neutrino programme, Europe has chosen to participate in the long-baseline programmes in Japan and the US rather than building its own facility. Instead, it has secured reciprocal support for the timely realisation of the HL-LHC project.
- Europe's long-term vision is to maintain its leadership in pushing the exploration of the energy frontier, and this vision is supported by the other regions

c) The broad range of fundamental questions in particle physics and the complexity of the diverse facilities required to address them, together with the need for an efficient use of resources, have resulted in the establishment of a global particle physics community with common interests and goals. This Strategy takes into account the rich and complementary physics programmes being undertaken by Europe's partners across the globe and of scientific and technological developments in neighbouring fields. *The implementation of the Strategy should proceed in strong collaboration with global partners and neighbouring fields.*

Points clés - 2

2020 Strategy Statements

3. High-priority future initiatives

It is essential for particle physics in Europe and for CERN to be able to propose a new facility after the LHC

- There are two clear ways to address the remaining mysteries: Higgs factory and exploration of the energy frontier
- Europe is in the privileged position to be able to propose both: CLIC or FCCee as Higgs factory, CLIC (3 TeV) or FCChh (100 TeV) for the energy frontier
- The dramatic increase in energy possible with FCChh leads to this technology being considered as the most promising for a future facility at the energy frontier.
- It is important therefore to launch a feasibility study for such a collider to be completed in time for the next Strategy update, so that a decision as to whether this project can be implemented can be taken on that timescale.

a) An electron-positron Higgs factory is the highest-priority next collider. For the longer term, the European particle physics community has the ambition to operate a proton-proton collider at the highest achievable energy. Accomplishing these compelling goals will require innovation and cutting-edge technology:

- *the particle physics community should ramp up its R&D effort focused on advanced accelerator technologies, in particular that for high-field superconducting magnets, including high-temperature superconductors;*
- *Europe, together with its international partners, should investigate the technical and financial feasibility of a future hadron collider at CERN with a centre-of-mass energy of at least 100 TeV and with an electron-positron Higgs and electroweak factory as a possible first stage. Such a feasibility study of the colliders and related infrastructure should be established as a global endeavour and be completed on the timescale of the next Strategy update.*

The timely realisation of the electron-positron International Linear Collider (ILC) in Japan would be compatible with this strategy and, in that case, the European particle physics community would wish to collaborate.

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Stratégie – Remarques supplémentaires

- La stratégie souligne l'exclusivité de “l'ecosystème” europeénne dans la physique des particules
- La stratégie met en avance l'importance des centres européens hors CERN pour le succes de la discipline
- La stratégie qualifie la R&D accélérateur comme cruciale pour l'avenir de la discipline
- La stratégie souligne l'importance de la R&D collaborative pour les détecteurs
  - ... en mentionnant explicitement AIDA2020, je pense qu'aussi CALICE et R&D sur les pixels s'inscrivent dans cette observation
  - Coté accélérateur je n'oublie pas ATF2

Quatre questions

- Quelle est l'impression générale de la stratégie?
  - Je trouve plutot bien pour l'ILC
  - ... mais je sais que nos amis FCCee prennent la stratégie comme une approbation pour le projet FCCee
  - Personellement je trouve important que le besoin d'une globalisation a été mis en avance

- Quel est le paysage autour de l'ILC?
  - Transition vers la nouvelle organisation
  - Situation au Japon et premières réaction sur la stratégie?

- Quelle conséquences à court et moyen terme à l'IJCLab?
  - Une accélération du processus vers l'ILC implique le besoin d'une augmentation des resources d'ici dans environ un an
  - Comment preparer ces démandes?

- Quelles actions a prendre immédiatement?
  - Comment preparer la réunion à l'IJCLab sur la stratégie prévué “avant l'été”
  - ... et Giens en octobre
  - Je pense qu'il nous faut bien affûter nos arguments
  - Organisation des journées collisionneurs linéaires à l'IJCLab vers la fin de 2020?