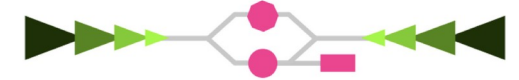




- **Update of European Strategy**
  - In May CERN Council adopted the European Strategy of Particle Physics confirming the importance of HL-LHC and the FCC-ee as next flagship project at CERN
  - The complete statement is [here](#)
  - CERN is now implementing the strategy recommendations with the aim for a go/no-go decision in 2028
  - A summary of CERN's MidTerm Plan (MTP) has been given by the CERN DG during the town hall meeting on July 7<sup>th</sup>
  - <https://indico.cern.ch/event/1698501/contributions/7142312/attachments/3309914/5923383/CERN-TownHall-2026-July.pdf>
  - There is a certain tendency to keep silence on reserves expressed by a certain number of member states
  - ... and the fact that CERN after all launched studies on options
  - See next slide ...
- **Nouveau DAS IN2P3**
  - Patrick Robbe (IJCLab) qui prend le flambeau de Laurent Vacavant au 1er Septembre



## Memorandum

Date : 16 June 2026  
To : Alessandra Lombardi  
Cc : Mark Thomson, Director General  
ATS Management Board  
Executive Board  
Yannis Papaphilippou  
From : Oliver Brüning, Director for Accelerators and Technology  
Subject : **Nomination as Study Coordinator for the LCF380 Study**  
Ref. : DG-DI-ATS-2026-052/ 3480039/1

Dear Alessandra,

I am pleased to nominate you as Study Coordinator for the LCF380 Study. The following sections set out the context and scope of the project, its expected timeline, your role and responsibilities, and the associated budget.

### 3. Timeline:

The timeline of the envisioned ILC380 study aims at delivering the following milestones:

- June 2026: initiation of the study with the identification of a CERN Study Coordinator
- September 2026: Status of the findings with the identification of possible gaps and missing information to be studied
- October 2026: appointment of an expert review committee
- December 2026: first status review of the work progress
- March 2027: second status review of the work progress
- September 2027: third status review of the work progress
- December 2027: delivery of all documentation related to study CDR and option analysis summary
- June 2028: inclusion of a LCF380 option document in preparation of the FCC-ee decision making documentation.

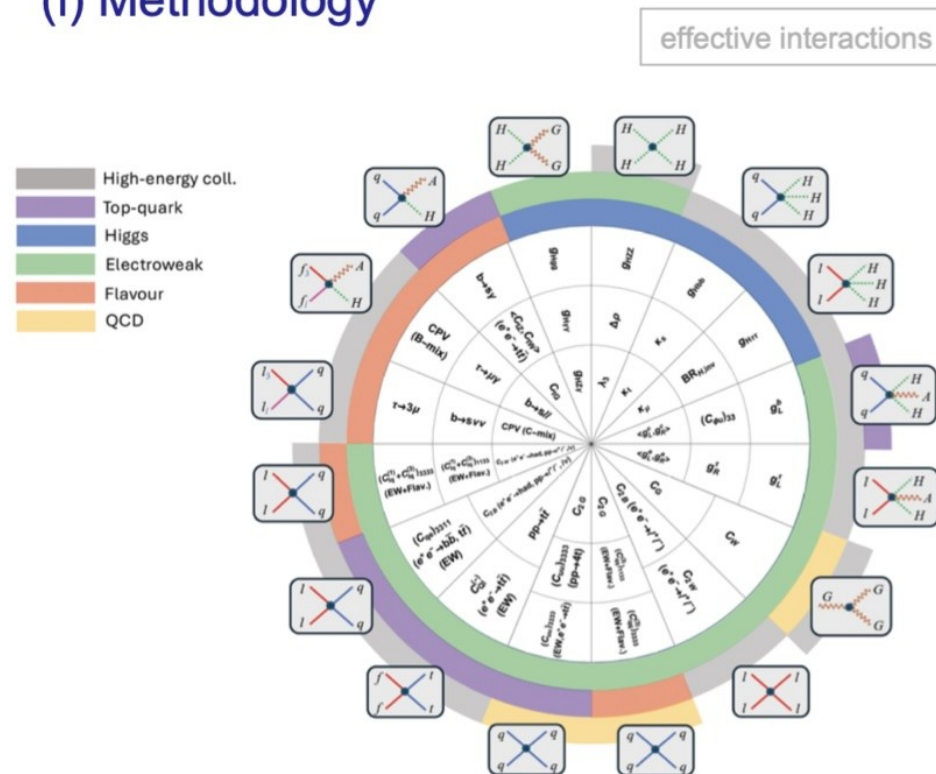
- Mandate for a LCF380 study → Superconductive RF → Abandon CLIC (!?)
  - Study Coordinator at CERN Alessandra Lombardi
  - Will take over coordination from LCVision team (who served as interim after end of ESG process)
- LCF380 will build up on existing LCF material
- Goal: be ready when FCC-ee shows signs of weakness
- Not a Goal: Proof its inferiority with respect to FCC-ee (though part of official mandate)
- Hope that Alessandra will not be too much obliged on this by CERN Management



- “Superiority” of FCC-ee is “demonstrated by” Dartdisk plots
- Worked out by ESG WG2b and published in ESG deliberation documents

## Coverage of the Physics Landscape

### (i) Methodology\*



\*Thanks to Jorge de Blas, Monica Dunford and Gino Isidori (ESG WG 2b)



ESG Recommendations, ECFA Meeting, Nikhef, 10<sup>th</sup> July 2026

- Slice physics landscape in 16 different sectors (adequate representation of the effective interactions among SM fields where new physics can show up)
  - Sensitive to: Higgs, el.weak, top, flavour, QCD, high-energy observables
- Each sector is subdivided in 2 or 3 rings with increasing measurement challenges
- Examples:
- Higgs-only operators ( $HZZ, \Delta\rho, \lambda_3$ )
  - Quark Yukawa ( $Y_b, Y_s, Y_t$ )
  - Tri-linear gauge operators (el.weak, GGG)
  - 4-lepton ops. (W parameter, Y parameter)
- Compare potential of each collider for all sectors/rings
  - HL-LHC performance is used as reference
  - **Improvement factors** in precision w.r.t. HL-LHC are evaluated and mapped on a log-scale covering the range 1 to 5

HL-LHC: 1 (gray scale 1 = black)  
 Best collider: 5 (gray scale 5 = white)

K.Jakobs, ESPP update at pECFA last week

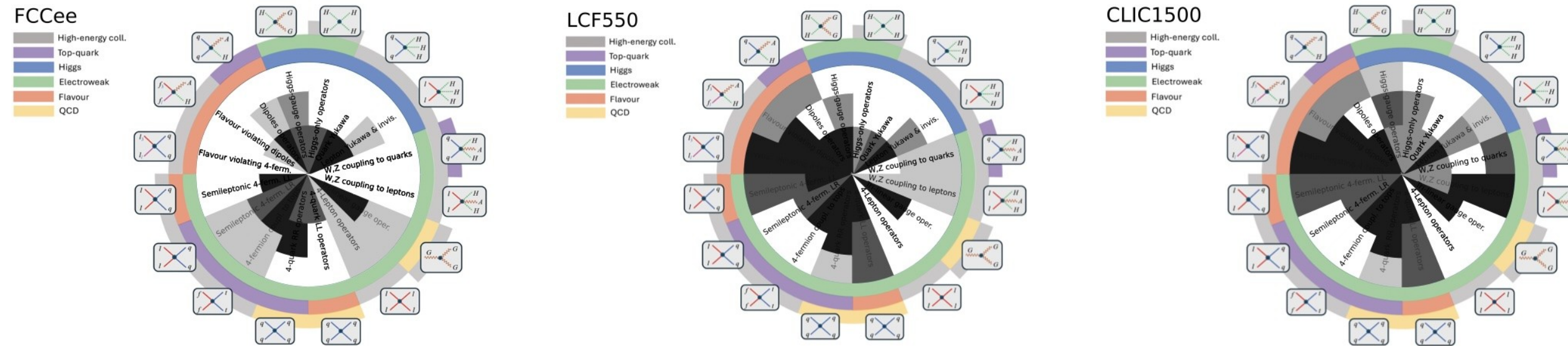
**White = good, black = bad**

22

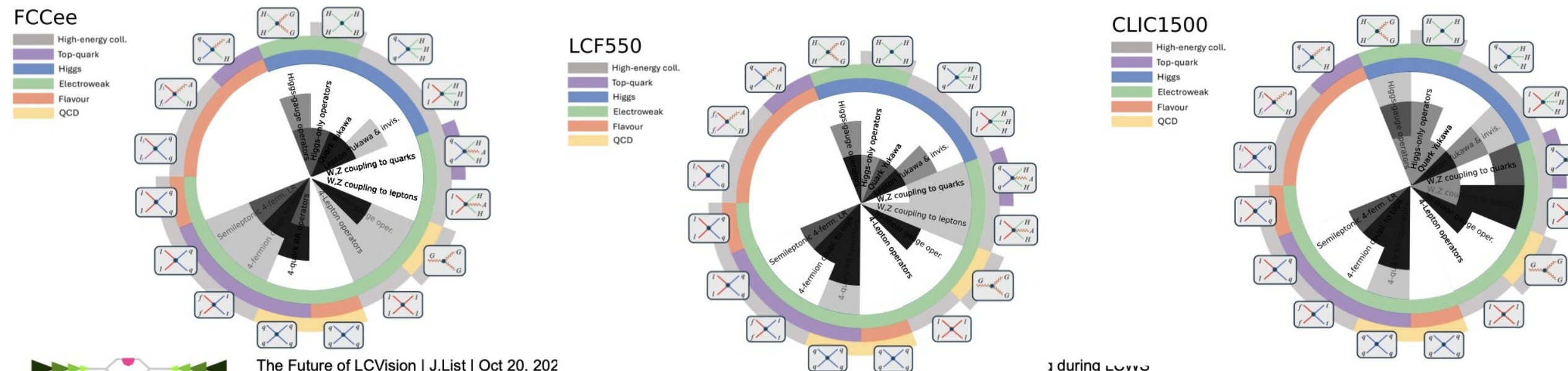
- Note that central measurements like  $\lambda_3$  and  $\kappa_t$  are in the small inner surfaces of the dartdisk



- Original plots produced by ESG WG2b



- Same plots with flavor blanked out (put at disposal by one ESG WG2b member)

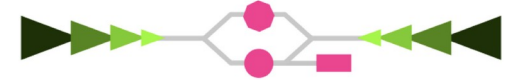


The Future of LCVision | J.List | Oct 20, 202

g during LCVision



- The dartdisk plots shown everywhere to underline the superiority of FCC-ee are entirely dominated by flavor physics
  - ... where improvements w.r.t HL-LHC (and SuperKEKB) are shown on logscale → Over-emphasising of improvements
  - Blanking out flavor observables show that LCF550 is at least on equal footing and on key observables superior to FCC-ee
- It's concerning that these suggestive plots are even shown by representatives in the highest ranks of the community
  - Upon question at pECFA Karl Jakobs admitted that flavor might be over-emphasised “but that’s the choice”
  - For me it reflects the pressure under which the Working Groups had to act
- Is this really high quality work? → Argument for a 16 BCHF (+x) project
- LCVision working group in place to provide pedagogy into community on interpretation of plots
  - How to go beyond community?
  - Difficult to convey message on biased plots (although)



- All events can be found here
- Three main events so far
  - Kick off June 4<sup>th</sup> at 74160 Archamps (Link)
    - Marc has been present
  - 23/6/26 “CERN’s Project to realise or not to realise” (Link)
    - CERN has presented FCC-ee as “alternativlos” (w/o alternative)
    - Non-CERN speakers accused the Gigantomania of CERN
    - Marc gave a balanced talk on the pros and cons of the FCC-ee and of doing nothing
      - Seems that this talk was not appreciated by people in favor of FCC-ee (to not say CERN)
  - 20/7/26 Lessons from LEP and LHC (Link to event, Link to accompanying document)
    - Organised in conjunction with Swiss Concertation
    - Contributions by M. Spiro and an introductory note by Mark Thomson (in French!)
      - First time that Mark participated in public debate!
    - Interesting talks on history of LEP/LHC
    - “Counter Contribution” on all the standards that were not respected during LEP/LHC construction
    - Interesting questions by Mme. Dominique Simon (CNDP)
      - Has LHC reached its initial objectives (cf. Supersymmetry)
        - Spiro admitted that Supersymmetry was expected but has not been discovered
      - How much data of LHC are still to come
        - Spiro admitted that LHC will still collect a factor 10 more data
    - Interesting table in accompanying document on cost of LEP and LHC (see next slide)



|                                                                        | LEP                                                               | LHC                                                                        | Source / remarques                                                                                                                                    |
|------------------------------------------------------------------------|-------------------------------------------------------------------|----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| Infrastructure et accélérateur                                         | 1,3 milliard pour la machine et les infrastructures <sup>58</sup> | 4,332 milliards pour les infrastructures et l'accélérateur <sup>59</sup>   | Les valeurs sont exprimées en francs suisses courants, c'est-à-dire en francs suisses des années au cours desquelles les dépenses ont été effectuées. |
| Détecteurs et expériences                                              | 504 millions pour le fonctionnement des expériences               | Financements principalement assurés par les collaborations internationales | Comparaison délicate selon les périmètres comptables                                                                                                  |
| Mise à niveau (milliards)                                              | LEP2 (cavités supraconductrices intégrées progressivement)        | HL-LHC (mise à niveau du LHC vers la haute luminosité*) : 1,2 milliard     | La mise à niveau du LHC vers la haute luminosité* est en cours.                                                                                       |
| Les sommes indiquées dans le tableau ci-dessus sont en francs suisses. |                                                                   |                                                                            |                                                                                                                                                       |

- These are CERN’s official numbers
- Certainly an excellent reference
- Initial cost estimate of LHC was 2.5 BCHF (to be compared with 4.3 BCHF as final cost)



- Important event to consolidate LC project after update of European Strategy
- Getting organised on LCF380 as concrete initial project and sharpening view on potential future
- French contributions
  - Angeles, Maxim and R.P. in Organisation Committee
  - Conveners: Benjamin Fuks (BSM), Vincent (Calorimetry/Muons) Ziad (Vertex), who else ?
  - R.P. will give physics talk in coordination with Hitoshi Murayama
    - Contrast between quantum fluctuations and direct observations (top, Higgs)
    - Clearly an opportunity to refer to Francois' studies on LHC discoveries



- New ECFA Chair
- Mandate of Paris Sphicas will come to an end
- Candidates for succession are
  - Daniela Bortoletto (Oxford), Arnaud Ferrari (Uppsala), Roberto Tenchini (INFN)
  - I would have a preference (but I won't get asked)
- Interesting discussion forum: Higgs Hunting 2026
  - Francois R. in contact with organisers
- What else?