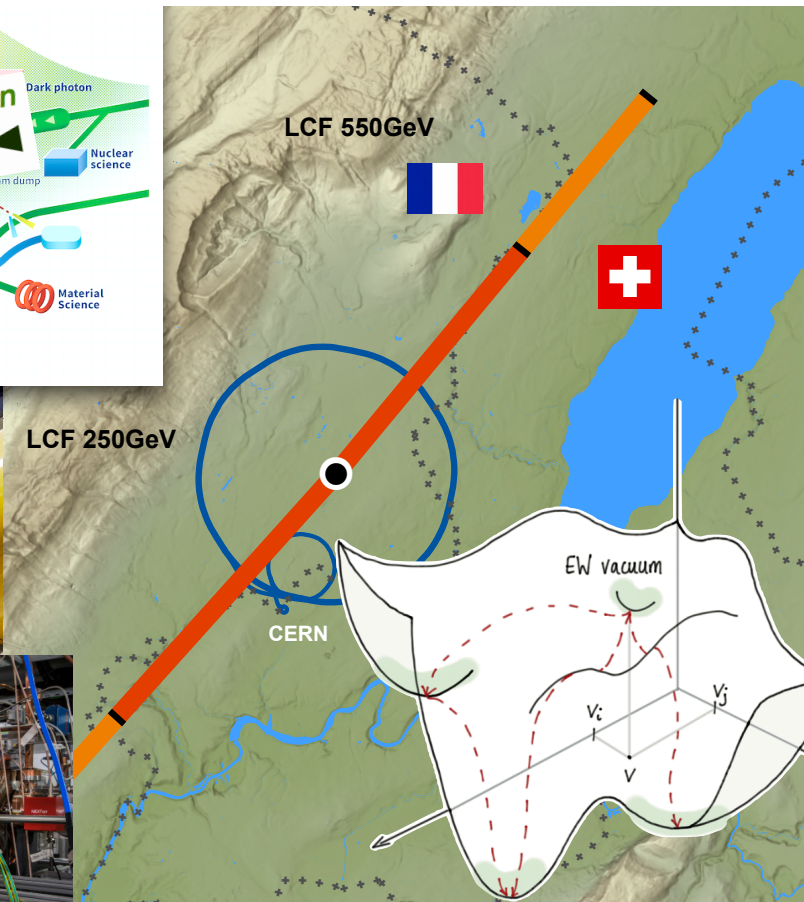
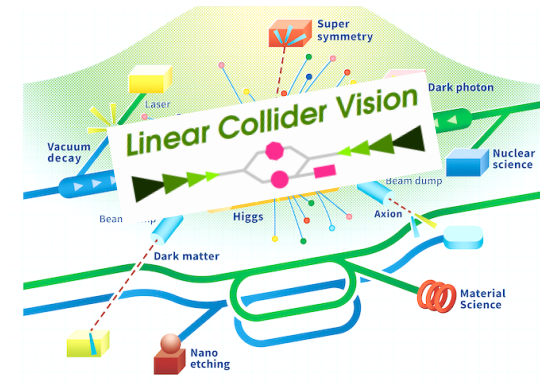


LinearCollider @ CERN WS

Jan 7-9

Dec 9/10 2025

Erik Adli / Jenny List for the LCVision EB



Introduction

and overview

- in its September session, CERN council decided that a 2-year study should be launched (2026-2027), to bring a “preferred alternative” (wrt FCCee) to decision-readiness in 2028
- LC provided first idea on workplan and required budget to CERN management
- **main objective of January 7-9 workshop at CERN (& hybrid) is to detail and substantiate this workplan**
- indico: <https://indico.cern.ch/event/1602105>
- currently 130 registered participants and counting...(deadline: **Dec 18**)



Block Agenda

2 1/2 days... apologies to all Spanish colleagues for meeting so early in January!

Wednesday Jan 7:

- [11- 13 executive session]
- **14-18** plenary: overview / strategic
- reception

Friday Jan 9:

- **9-12** parallel working groups / discussions - continuation
- **13-16** plenary: working group reports, community organisation, way forward
- [16-18 executive session]

Thursday Jan 8:

- **8:30-13** plenary: accelerator baseline, upgrade options and physics&detectors status
- **14-16:30** parallel working groups / discussions
- **17-18** intermediate WG reports



Charge to Working Groups

The main purpose of the workshop is to detail and consolidate the workplan to bring a Linear Collider at CERN to decision readiness by 2028. After the overview talks in the plenary part of the workshop, the parallel working group discussions will play a central role here. These working groups should bring together (hybrid mode) the relevant experts. Based on the preliminary, high-level document to be presented in the opening plenary, each working group such discuss and prioritise the next steps in their area, including milestones, deliverables and preliminary estimates of resources.

As a working group leader, we expect you to

- identify the relevant experts and motivate them to join, in-person or via zoom
- prepare the discussions (topics, structure, collect information...)
- chair the sessions
- take notes
- summarize the results in the intermediate report back and the closing plenary
- after the workshop, provide short written summary



Wednesday 14-18h plenary - DRAFT!

Opening Plenary, overview & strategic talks (120' + 30' + 80' = 230' i.e. 10' reserve)

- Welcome addresses 5'
- Charge to LinearCollider@CERN study / the workshop (tbd) 15'
- Physics case of linear colliders - what we know and what we don't know (J.Tian) 30'
- ITN status and how it could contribute to a LinearCollider at CERN study (S. Michizono) 25'
- CLICX X-band and two-beam technology outlook (W. Wünsch) 25'
- ATF status & plans (tbd) 20'

COFFEE 30'

- US/ALCC take on LinearCollider at CERN (tbd) 20'
- Japan's take on LinearCollider at CERN (M. Ishino) 20'
- China's take on LinearCollider at CERN (J.Gao (tbc)) 20'
- A linear collider at CERN: Workplan for 2026-28 (S.Stapnes) 20'

Thursday 8:30-13h plenary, part I - DRAFT!

Overview, ideally talks given by e.g. discussion session leaders (120' + 30' + 80' = 230' i.e. 10' reserve)

- **ESPPU update (K. Jakobs) 20'**
- **Accelerator baseline - total 100'**
 - Accelerator Design and Parameters:
 - Start-to-end CLIC, design and simulation status (sub-system by sub-system) (E.Adli)
 - Start-to-end ILC, design and simulation status (sub-system by sub-system) (N.Terunuma, A.Latina)
 - Accelerator design & integration for a Linear Collider @ CERN (B.List)
 - BDS for a Linear Collider @ CERN (R.Thomas & A.Faus-Golfe)
 - Implementation – Civil Engineering and Conventional Systems:
 - CFS conventional facilities & siting for a Linear Collider at CERN (E.Mactavish)
 - Technology developments:
 - R&D: SRF (tbd)
 - R&D: e⁺ source (S.Döbert)

COFFEE 30'

Thursday 8:30-13h plenary, part II - DRAFT!

Overview, ideally talks given by e.g. discussion session leaders (120' + 30' + 120' = 270')

- **Upgrade Options 60'**
 - **highE - RF-based upgrades (E.Nanni)**
 - highE - (P)WA as upgrade (M.Turner)
 - highLumi / ERL-based upgrades (tbd)
 - Gammagamma collider (T.Barklow (tbc))
- **Physics & Detector incl Beyond Collider 40'**
 - e+e- detector concepts (ILD, SiD, CLICdp/CLD, IDEA, ALLEGRO, ...), focus MDI & software/computing (R. Pöschl)
 - Beam dump & fixed target experiments (P. Koppenburg (tbc))
- **Management 20'**
 - PIP project implementation preparation (costing, risks, sustainability, ...) incl. introduction and organisation of the parallel sessions (J.List)

Thursday 14-18 - DRAFT!

Parallel working groups, setting objectives for 2026-2028

14-16:30 parallel WGs, part I

- AD&I accelerator design and parameters (E.Adli, B.List)
- BDS (R.Thomas, A.Faus-Golfe)
- CFS conventional facilities & siting (E.Mactavsish, C.Rossi)
- Main linac technology (joint SRF / NRF / drive-beam / HL-RF / ...) (W.Wünsch, NN(SRF))
- Positron Source (S.Döbert, G.Moortgat-Pick)
- Upgrade Options (highE-RF, highE-WA, highL, gammagamma) - each upgrade to consider their potential and implications for the LCF-baseline (E.Nanni, M.Turner, T.Barklow (tbc), NN(ERL))
- Detector (MDI / concept simulation heavy!) (A.Robson, R.Pöschl, F.Gaede, A.Sailer)

16:30-17:00 coffee

17:00-18:00 short, intermediate plenary report back



Friday morning - DRAFT!

Parallel working groups, setting objectives for 2026-2028

9-12:00 parallel WGs - part II

- AD&I accelerator design and parameters (continued from Thu)
- **BDS & Detector Concept MDI** (chairs from BDS / MDI sessions Thu)
- Main linac technology (continued from Thu)
- Upgrade Options (continued from Thu)
- **Beyond Collider** (P.Koppenburg, I.Schulthess (tbc))
- **Priorities for sharpening the LC Physics case** (M.Vos, J.Tian, G.Wilson (tbc), Jürgen Reuter (tbc))



Friday afternoon

Plenary

13-16:00

- Reporting back in plenary (all groups Thu & Fri)
- Discussion
 - Results / open points from report back
 - Community organisation (relation CERN <-> rest of world)
- Conclusion / Way Forward



Questions?
Comments?
Volunteers?
=> Your Turn!