

Higgs-Factory in the P5 Report



An off-shore Higgs factory, realized in collaboration with international partners, in order to reveal the secrets of the Higgs boson. **The current designs of FCC-ee and ILC meet our scientific requirements.** The US should actively engage in feasibility and design studies. Once **a specific project** is deemed feasible and well-defined, the US should aim for a contribution at funding levels commensurate to that of **the US involvement in the LHC and HL-LHC**, while maintaining a healthy US on-shore program in particle physics.

Maintaining engagement with ILC accelerators through the ILC Technology Network can include design updates and cryomodule construction. These will support significant US contributions to potential projects. **A global framework for future collider development, such as the ILC International Development Team as implemented by ICFA for the ILC, is relevant for all future colliders.**

Starting ILC Technology Network

Oct. 16/17, 21 Directors of national laboratories gathered at CERN and an information meeting was held.

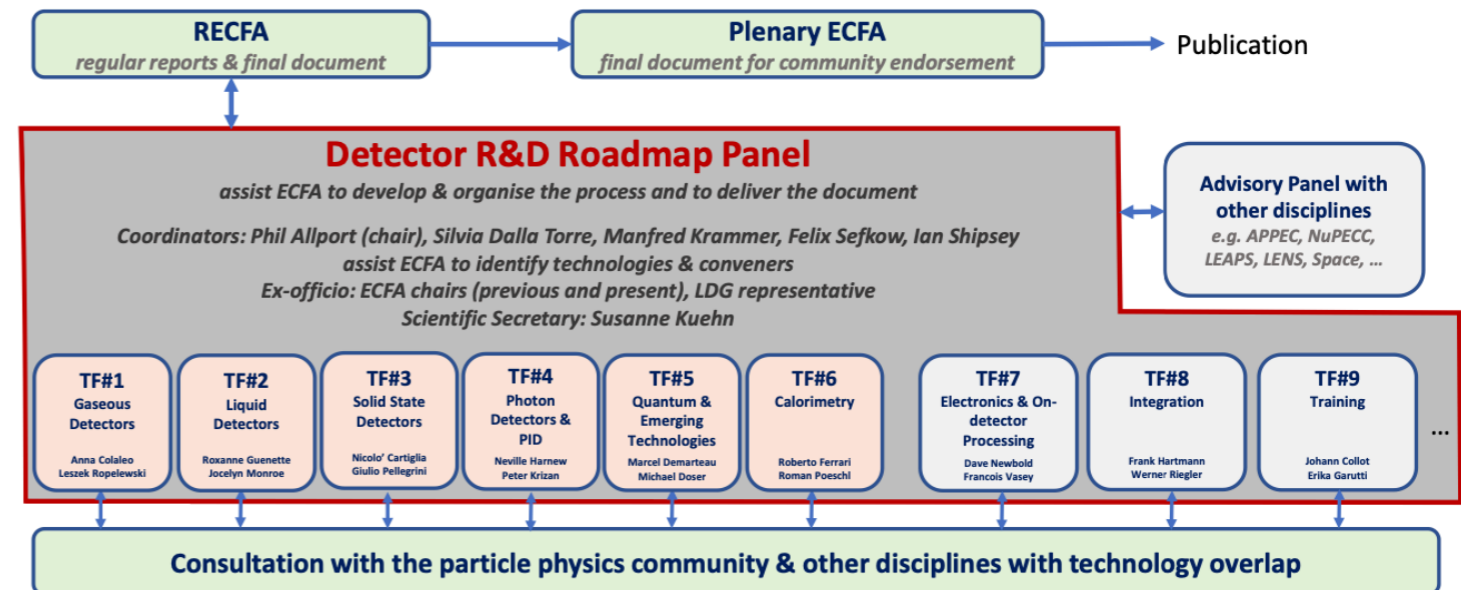


July 7th, KEK-CERN agreement is signed

4. Detector R&D Roadmap



- *As suggested by the 2020 ESPP, a Roadmap for Detector R&D has been developed; Released at the end of 2021*
- *Work was organised by a Detector R&D Roadmap Panel (ECFA)*

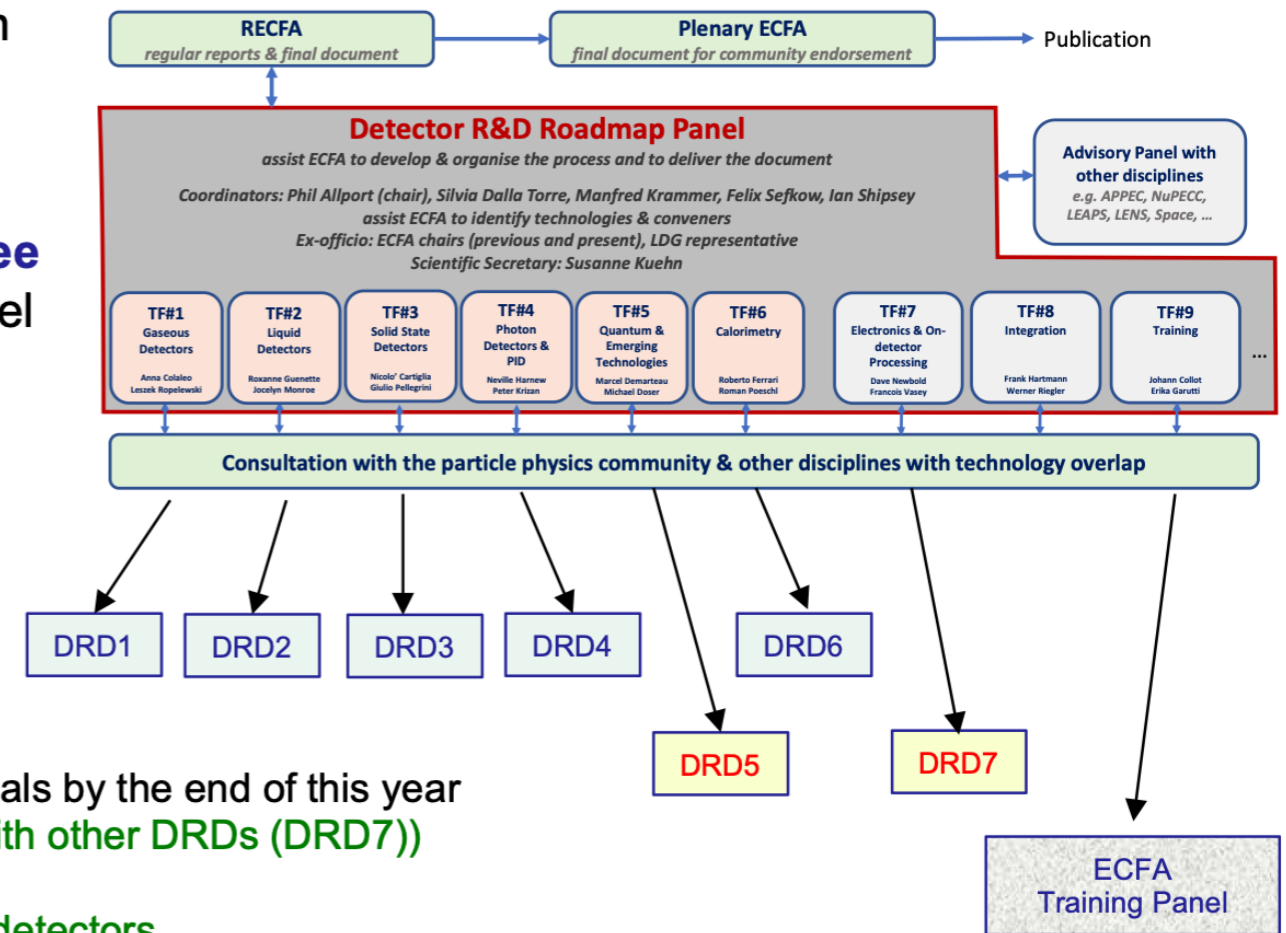


- **Task forces** were composed of experts from the community covering key sub-topics in the relevant technology areas; followed by full community involvement, bottom-up approach
- *Implementation defined throughout 2022*

<https://cds.cern.ch/record/2784893>

Detector R&D Roadmap

- The implementation of the roadmap foresees the formation of Detector R&D Collaborations (DRDs) at CERN;
- Five proposals have been submitted and are under review by the newly established **Detector R&D Committee (DRDC)** at CERN with support by the ECFA Detector Panel
 - DRD1: gaseous detectors
 - DRD2: liquid detectors
 - DRD3: solid state detectors
 - DRD4: particle identification and photon detection
 - DRD6: calorimeters



DRD5 (quantum, emerging technologies) and DRD7 (electronics, transversal activity, Lol exists) will submit proposals by the end of this year (later timescale due to: internal coordination (DRD5), coordination with other DRDs (DRD7))

DRD8 will probably follow later, focussing on mechanics of tracking detectors

- Collaborations are open for world-wide collaboration; participation from outside Europe is very welcome!
- First decisions on approval expected in Dec. 2023 (CERN Research Board), for startup in Jan. 2024
- MoUs to follow in 2024, funding agency involvement via RRB-like structure

Main session

2:30 PM

Introduction

Speaker: Masaya Ishino (University of Tokyo (JP))

2:40 PM

Higgs and BSM: EFT in LHC

Speaker: Tatsuya Masubuchi (University of Tokyo (JP))

3:10 PM

Higgs and BSM: ECFA focused study on Higgs self coupling

Speaker: Junping Tian (University of Tokyo)

3:40 PM

Higgs and BSM: discussion

4:00 PM

Higgs factory and flavor physics: theory perspective

Speaker: Teppei Kitahara (Nagoya University)

4:30 PM

Student talk: Disentangling Z decay to upper and down quarks

Speaker: Krzysztof Mekala

4:50 PM

Higgs factory and flavor: discussion

H Precision Measurement

HHH

Flavor