

FCC-ee vertex detector technologies

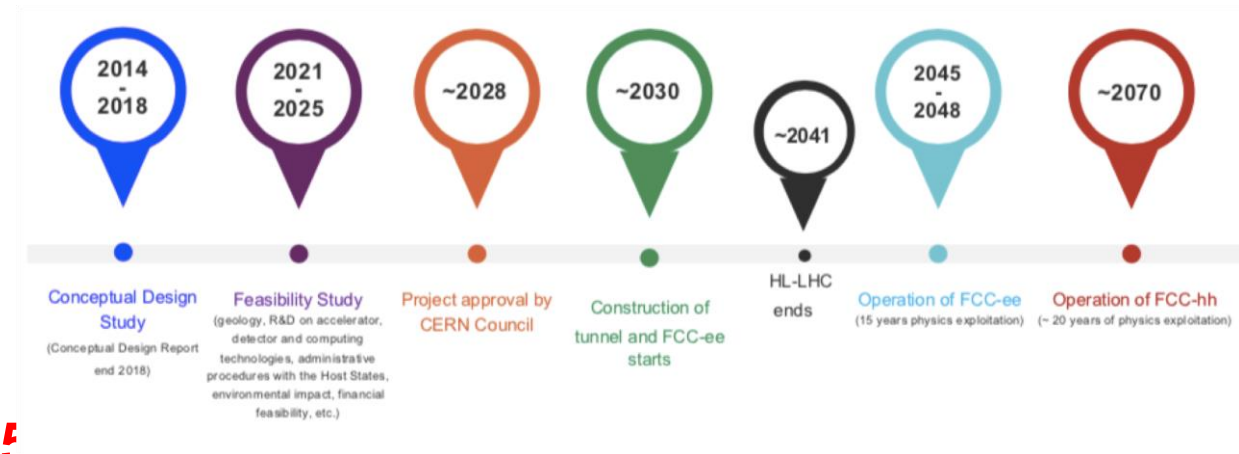
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1 – 2 July 2024

Context



- **FCC Feasibility Study due by March 2025**
 - Investigate the technical viability of the Future Circular Collider
 - The scientific success of the FCC relies on exploiting the unprecedented luminosity of the machine with the most precise and reliable detectors ever built
 - In particular the tight constraints on the mechanical layout of the interaction region, as well as the machine backgrounds and the requirements from the physics put the challenge of building a lightweight and precise vertex detector with very high demands on handling large data rates, while keeping the power dissipation under control.

Aim of the workshop

- **The primary objective** of the workshop is to discuss the aspects which need to be developed by the future R&D activities related to MAPS regarding the sensor, readout electronics, integration with the machine elements and support mechanics, eventually to be developed also in the DRD and CPAD
 - The results of the workshop will be useful for drafting the layout of the light vertex detector for the FCC feasibility study.
- This workshop **is not** intended to review all ongoing MAPS activities, but rather to set the stage on the requirements and assess the leap needed to fill the gap between the current R&D and that which is needed to address the needs of FCC-ee vertex detectors
- Another workshop is under discussion for the fall to review the R&D landscape and the different technological approaches in more depth

Schedule

Format of the discussion

- Keynote presentations followed by a generous discussion sessions
- Urgent questions only after each presentation, all others on the discussion session
- Accommodate also for 1 slide from all other contributors on the topic

	MONDAY JULY 1ST	TUESDAY JULY 2ND
09:00	Registration	MAPS based systems
09:30		
10:00	Physics requirements and machine constraints	
10:30		
11:00		
11:30		
12:00		Fabiola'meeting
12:30	Lunch	Lunch
13:00		
13:30	MAPS Sensors R&D	Mechanics and integration
14:00		
14:30		
15:00		
15:30		
16:10		Conclusions
16:30	Readout Architectures and data handling for low power	
17:00		
17:30		
18:00		
18:30		
19:00		
19:30		
20:00	Dinner	
22:00		

All presentations and discussions will be recorded

Some logistic aspects

- Tomorrow (Tuesday) at 11 we break to allow people to follow **Fabiola's** presentation at the Machionne auditorium on the outcome of the Council and European Strategy
- **Coffee** is served on the TH coffee area one storey below (except on Monday afternoon)
- **Social dinner** tonight (Monday) at 20:00 at the **Meyrinoise** Pizzeria (Tram 18 stop “Village”) or ask a friend for a ride.
 - REGISTERED PEOPLE PLEASE CONFIRM
 - IF NOT REGISTERED PLEASE LET US KNOW NOW!



Have a nice workshop