

Detector-related Sessions:

Introduction

FCC Week 2023

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Opening Remarks

Detectors in the feasibility study:

- **support the implementation of the Roadmap for Detector R&D**
 - to stay informed, register at <https://indico.cern.ch/event/957057/page/27294-implementation-of-the-ecfa-detector-rd-roadmap>
 - see also workshops in the framework of the ECFA study <https://indico.cern.ch/event/1044297/page/28993-wg3-group-activities>
- **develop detector concepts to guide the R&D and establish the link between technologies and physics performance**
- **the “D” in MDI**

Detector Sessions

This session:

10:35

Calorimetry R&D for FCC-ee and FCC-hh

Speaker: Gabriella Gaudio (INFN-Pavia)

10:57

Si tracking and vertexing R&D for FCC

Speaker: Prof. Daniela Bortoletto (University of Oxford (GB))

11:19

Particle ID and Photodetector R&D for FCC

Speaker: Roger Forty (CERN)

11:41

Gaseous detector R&D for FCC

Speaker: Dr Maksym Titov (IRFU, CEA Saclay, Université Paris-Saclay)

This afternoon:

15:30

→ 17:00

PE&D: Detectors (II)

Convener: Paolo Giacomelli (INFN Sezione di Bologna)

15:30

Tracking system requirements ALICE-3 versus FCC-ee

Speaker: Didier Claude Contardo (Centre National de la Recherche Scientifique (FR))

16:00

Si detector development for ALICE ITDS3 and ALICE-3

Speaker: Magnus Mager (CERN)

16:30

Detector activities and plans in the US

Speaker: Srinivasa Rajagopalan (Brookhaven National Laboratory (US))

Joint Sessions

This afternoon:

13:30 → 15:00 PE&D: Software and Computing / Detectors

Convener: Marc-Andre Pleier (BNL)

- 13:30** **Status of software for detector studies**
 Speaker: Brieuc Francois (CERN)
- 13:50** **IDEA vertex and drift chamber in Key4hep**
 Speaker: Armin Ilg (University of Zurich)
- 14:10** **RICH full sim implementation in Key4hep**
 Speaker: Alvaro Tolosa Delgado (CERN)
- 14:30** **IDEA Dual readout calorimeter in Key4hep** ¶
 Speaker: Sang Hyun Ko (Seoul National University (KR))
- 14:45** **FCC-ee TileCal simulation and reconstruction**
 Speaker: Michaela Mlynarikova (CERN)

Tuesday: IR design and background studies

MDI (I) Convener: John Seeman (SLAC)	
M. Boscolo (INFN)	MDI overview
F. Palla (INFN)	Mechanical integration of the IDEA detector in the IR
A. Ing (Un. Zurich)	IDEA VXD implementation in full simulation
F. Franesini (INFN)	Mechanical model of the MDI
L. Brunetti (CNRS)	Towards mechanics and optics evaluation of the vibration effects for the MDI

MDI (II) Convener: Manuela Boscolo (INFN-LNF)	
H. Nakayama (KEK)	SuperKEKB MDI lessons
G. Broggi (CERN&Sap.&INFN)	Beam Losses in the MDI
K. Andre (CERN)	Synchrotron radiation background studies
A. Ciarma (INFN)	Detector background simulations
G. Lerner (CERN)	Beamstrahlung dump and radiation levels in the experiment IRs

Back-up

ECFA Detector Roadmap Summary

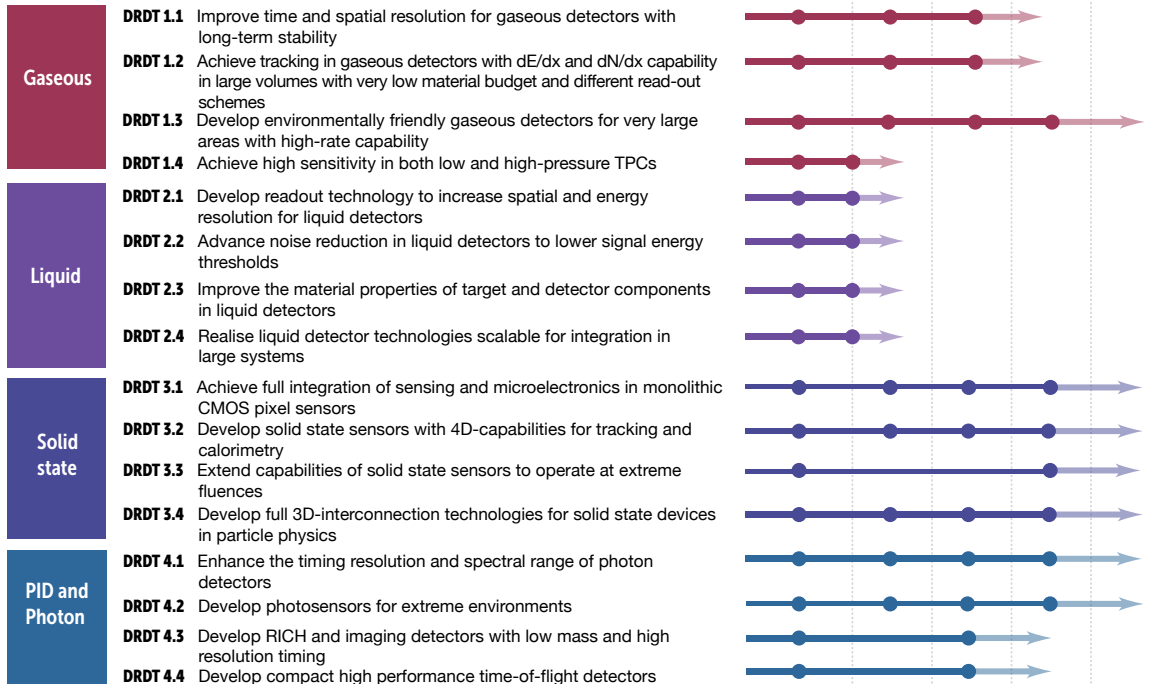
Relating Technology R&D to Major Drivers from Facilities

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

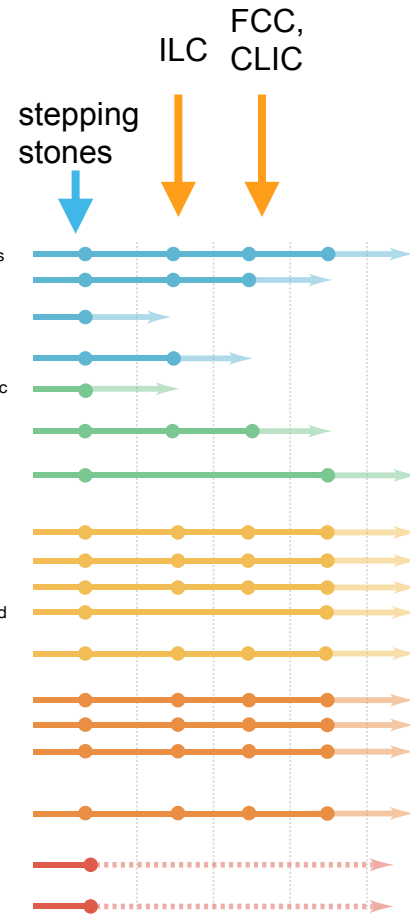


~ 200 pages
~ 1 year young

DETECTOR RESEARCH AND DEVELOPMENT THEMES (DRDTs) & DETECTOR COMMUNITY THEMES (DCTs)



Dates when R&D finished and real engineering & construction can start



Detector R&D Themes (DRDTs) and Detector Community Themes (DCTs). Here, except in the DCT case, the final dot position represents the target date for completion of the R&D required by the latest known future facility/experiment for which an R&D programme would still be needed in that area. The time from that dot to the end of the arrow represents the further time to be anticipated for experiment-specific prototyping, procurement, construction, installation and commissioning. Earlier dots represent the time-frame of intermediate "stepping stone" projects where dates for the corresponding facilities/experiments are known. (Note that R&D for Liquid Detectors will be needed far into the future, however the DRDT lines for these end in the period 2030-35 because developments in that field are rapid and it is not possible today to reasonably estimate the dates for projects requiring longer-term R&D. Similarly, dotted lines for the DCT case indicate that beyond the initial programmes, the activities will need to be sustained going forward in support of the instrumentation R&D activities).