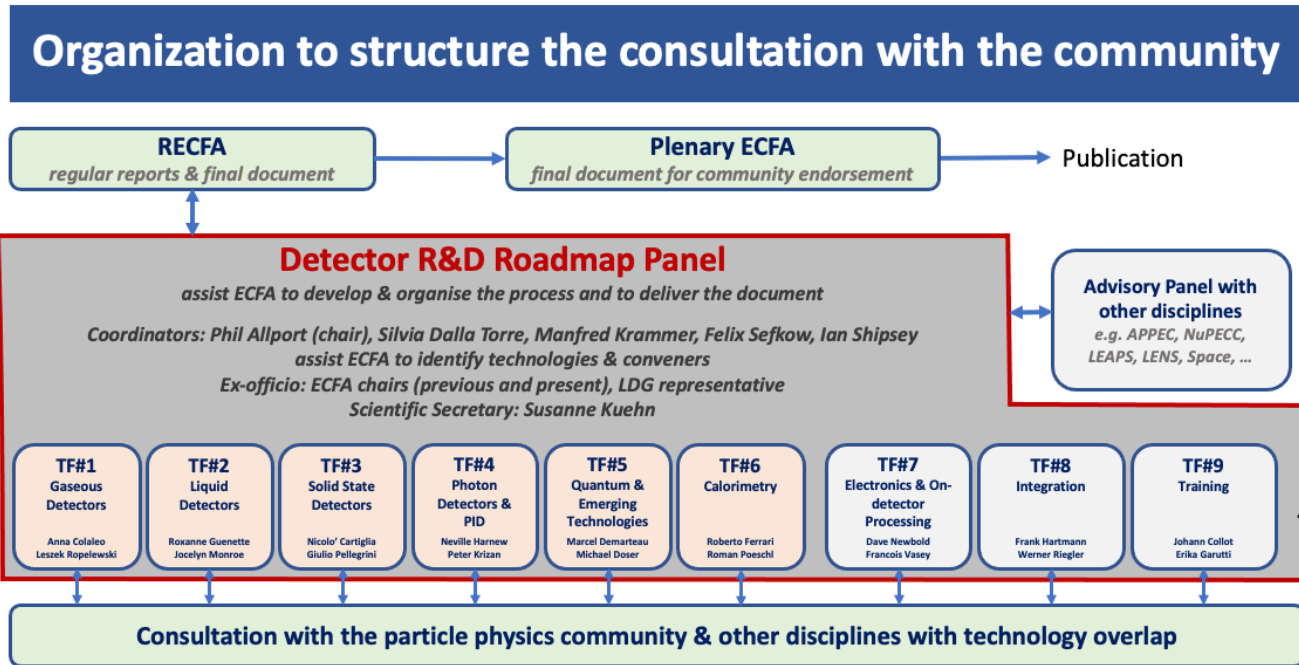


Detector R&D Roadmap

Introduction (1)

- As recommended by the EPPSU 2020, ECFA has initiated a global Detector R&D Roadmap to define the backbone of detector R&D required to deploy the community's vision for both the near- and longer-term. The mandate is to focus on the technical aspects to realise the research facilities in a timely fashion, and to provide strategic guidance for detector development at large, in synergy with neighbouring fields and industrial applications
 - for more details, see <https://indico.cern.ch/event/957057/>

Introduction (2)



- Goals:
 - balance the R&D efforts in Europe, taking into account progress with emerging technologies in adjacent fields
 - the roadmap should be used to support proposals at the European and national levels

Process (1)

- During spring 2021, most of the taskforces circulated questionnaires to national contacts, we have answered all of them
- Each TF prepared then 1-day symposium on the corresponding topics, everybody was invited to join
 - gaseous detectors (29.4.2021) - <https://indico.cern.ch/event/999799/>
 - liquid detectors (9.4.2021) - <https://indico.cern.ch/event/999815/>
 - solid state detectors (23.4.2021) - <https://indico.cern.ch/event/999816/>
 - photon detectors & PID (6.5.2021) - <https://indico.cern.ch/event/999817/>
 - quantum and emerging technologies (12.4.2021) - <https://indico.cern.ch/event/999818/>
 - calorimetry (7.5.2021) - <https://indico.cern.ch/event/999820/>
 - electronics and on-detector processing (25.3.2021) - <https://indico.cern.ch/event/1001692/>
 - integration (31.3.2021) - <https://indico.cern.ch/event/999825/>
 - training (30.4.2021) - <https://indico.cern.ch/event/1001747/>

Process (2)

- Summaries from each TFs were prepared and entered the final document
 - circulated to national contacts and experts for comments during July
 - first draft presented during ECFA plenary meeting at EPS-HEP 2021 conference <https://indico.desy.de/event/28202/timetable/#20210730.detailed>
 - the final document was presented in plenary ECFA in November 2021, along with similar document on [Accelerator R&D](#) (to be published as CERN yellow report early 2022)
 - then presented in December 2021 to CERN Council and made public afterwards

Detector R&D Roadmap document (1)

- The whole document is 264 pages long

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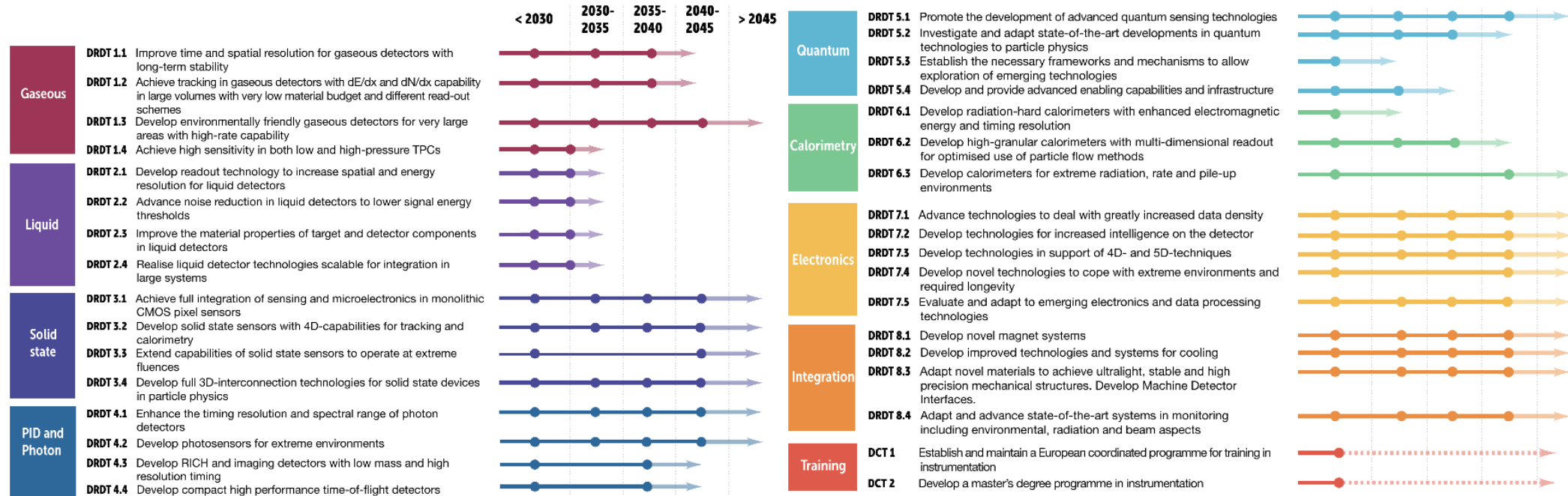
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Detector R&D Roadmap document (4)

- ... but 8-pages synopsis with themes and general strategic recommendations also available

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



Conclusions

- The Detector R&D Roadmap was discussed in 2021 and summarized [in this document](#), many thanks to huge effort to coordinators (Phil Allport, Silvia Dalla Torre, Manfred Krammer, Felix Sefkow, Ian Shipsey, ECFA chairs and Susanne Kuehn) and taskforce chairs.
- Now discussion about the implementation is ongoing
- Similar document on Accelerator R&D will appear soon as CERN yellow report