

Strategic R&D Programme on Technologies for future Experiments

EP R&D Days
20 and 21 June 2022



21 June 2022

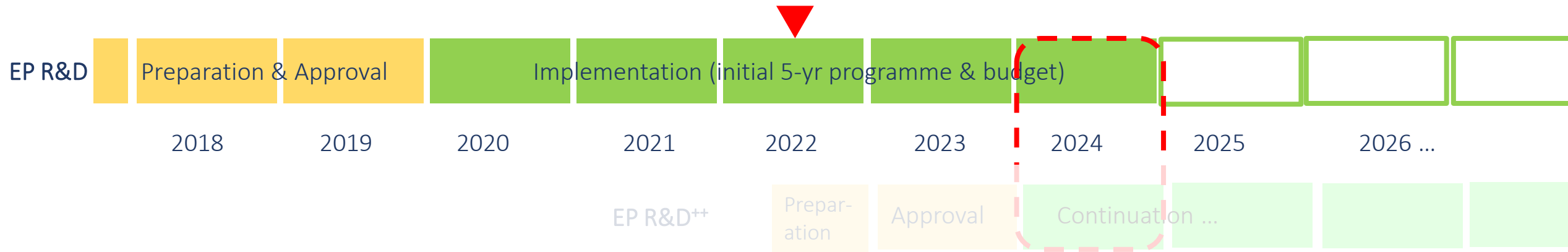
EP R&D DAY 2022-1



<https://ep-rnd.web.cern.ch/>

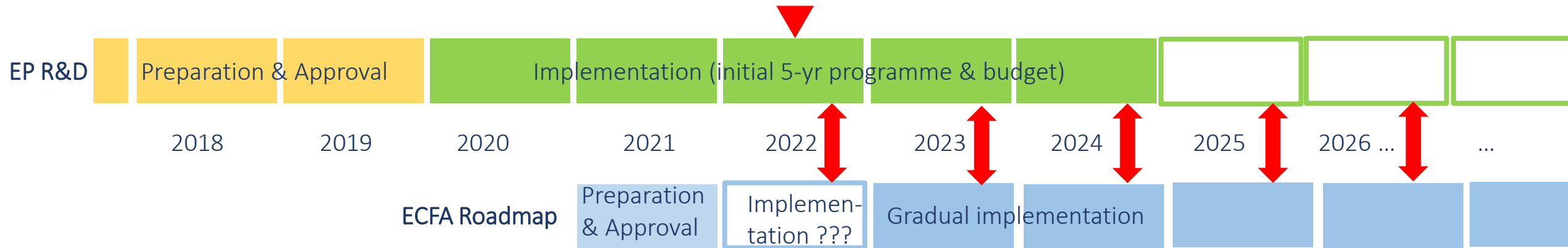
Purpose of the meeting

- We are quite precisely at the midpoint of our programme



- Take stock of status and achievements in all WPs
- This time: include milestones and deliverables (defined in late 2018)
- Very first ideas about the continuation of EP R&D. Strategy, topics, work plans, ...
- Keep bottom-up approach, i.e. proposals should come from WPs => Steering Committee will assess and comment => Presentation of new work plans in R&D Day 2022-2 (late 2022)
- Aim for 1 year overlap (2024) to switch from EP R&D to EP R&D++.
- Details TBD.

Align with ECFA detector R&D Roadmap



- Compare / align with ECFA detector R&D Roadmap ↑↓
- Vast majority of our activities should be “thematically” well-aligned with ECFA Roadmap. Some are - to a certain extent - CERN specific (magnets, cooling, optical links, ASIC platform, software)
- Implementation of ECFA Roadmap is still being discussed. Aim for new Detector R&D Collaborations (DRDx).
- Hope for a lighter model than initially conceived.
- RD50 and RD51 may become nucleation points for Silicon and Gas detector DRDs (under discussion).

In view of the ECFA Roadmap ...

What is the self-conception and modus operandi of EP R&D?

CERN established *a Strategic R&D Programme on Technologies for Future Experiments*, also referred to as **EP R&D** programme.

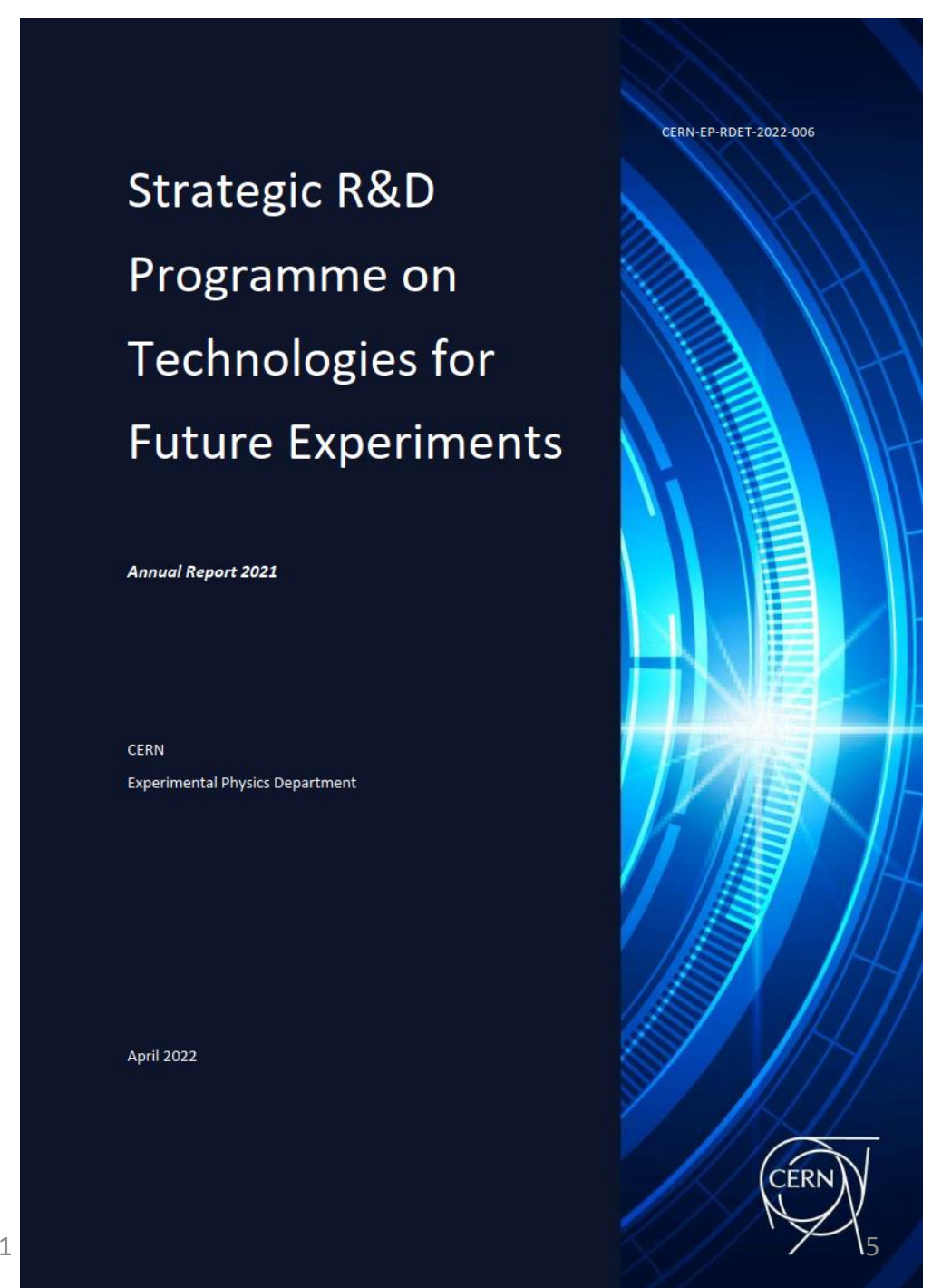
EP R&D is a set of technological detector R&D projects, approved and funded by the CERN Enlarged Directorate for the period 2020 – 2024. Similar R&D activities exist in other universities and national labs.

In **EP R&D**, Fellows and students are supervised profiting from small FTE-fractions of staff members who spend the vast majority of their time in LHC or support groups working towards the completion of the LHC phase-II upgrade. The involved resources are under the control of CERN.

In terms of the scientific programme **EP R&D** strives for alignment with the ECFA Roadmap. Wherever appropriate, the activities are carried out inside the RDxx (DRDx) collaborations. This is currently the case for RD50 and RD51.

Annual report 2021

- 125 pages
- 194 co-authors => Many thanks to all contributors
- My apologies for a few hick-ups with author list
- A printed copy was given to each of the CERN directors



Uncertain news

- Funding request for “R&D on Remote Maintenance and Inspections of HEP Detectors” jointly with robotics activity in BE dept., directly submitted to directorate (MTP).
- Thanks to Corrado Gargiulo and team for initiative and persistence.
- Our robotics activity (WP4) could profit from an extra 1 MCHF funding (2023 and 2024).

Subject to final approval of CERN budget !!!

- EP R&D Steering Committee has approved 500 kCHF as fall back in case request doesn't survive arbitration iterations.



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Accelerator & Technology Sector MTP Request

Collaboration Between EP and BE departments for robotics remote maintenance and inspections of HEP Detectors

ABSTRACT:

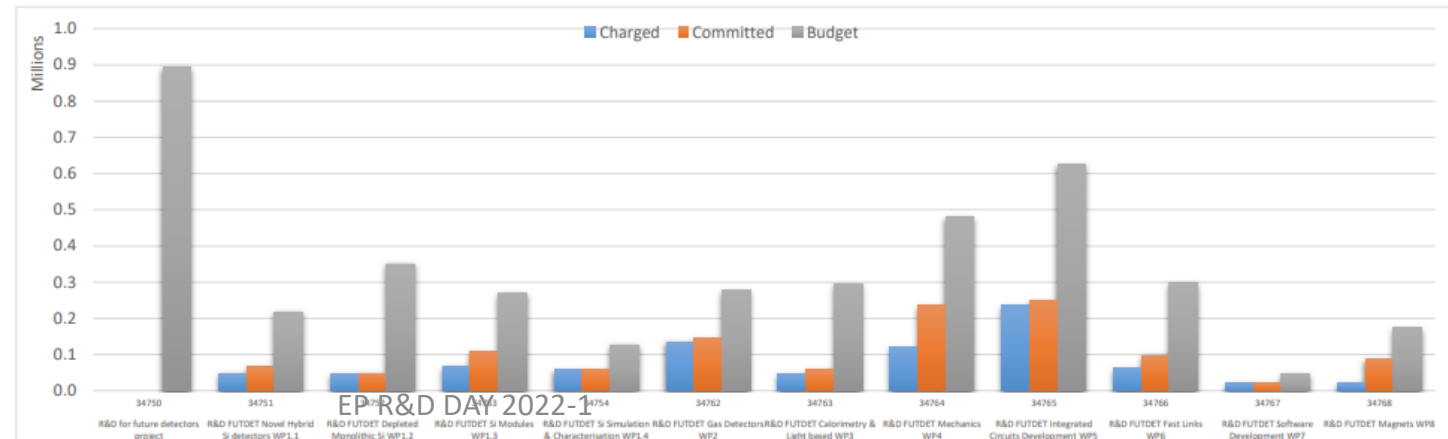
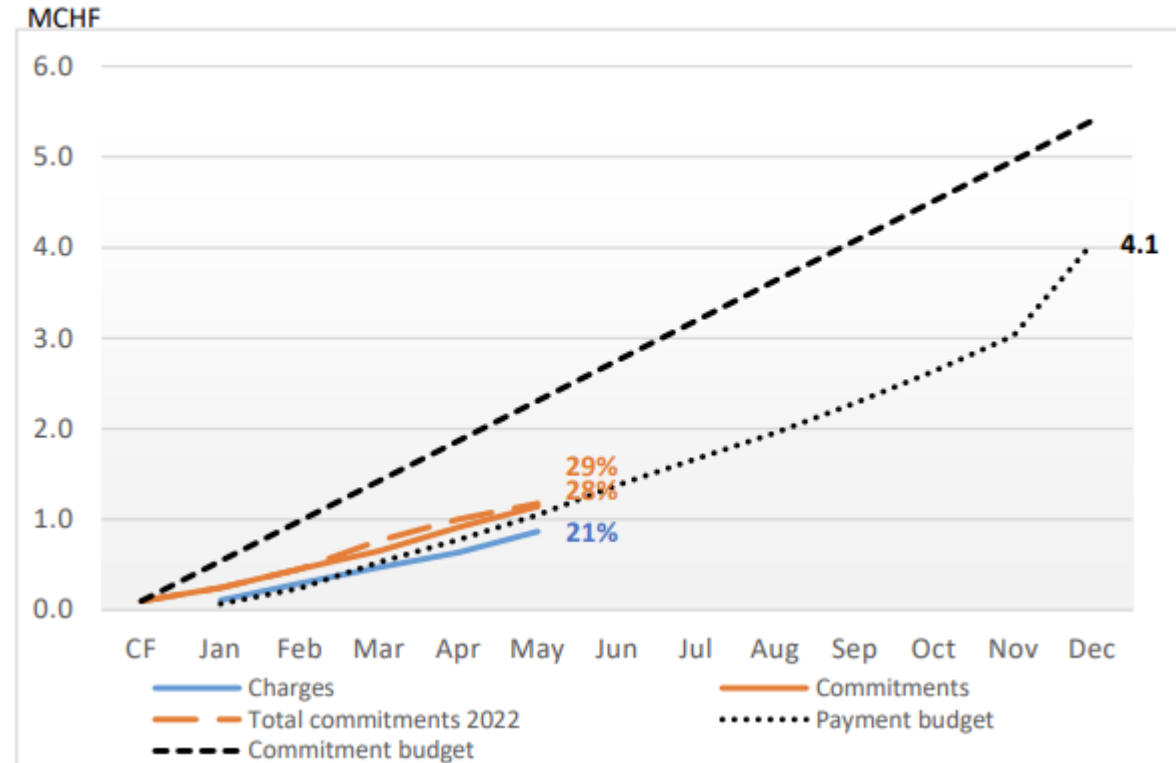
This document defines the goal, roles, and responsibilities of the collaborations between the experimental physics (EP) and the beams (BE) departments. The aim of this collaboration is the development of a high-energy physics detector design that is operated and maintained robotically and automatically to a large extent. The design of the robotic and automatic systems handling the detector is also a goal of the collaboration.

DOCUMENT PREPARED BY:	DOCUMENT TO BE CHECKED BY:	DOCUMENT RELEASED BY:
Lorenzo Teofili [EP-DT] Corrado Gargiulo [EP-DT] Mario di Castro [BE-CEM] Andrea Catinaccio [EP-DT] Burkhard Schmidt [EP-DT] Alessandro Masi [BE-CEM]	Rhodri Jones [BE] Manfred Krammer [EP] Christian Joram [EP]	ATS-MB RCS-MB (after arbitration)

Budget Situation 2022

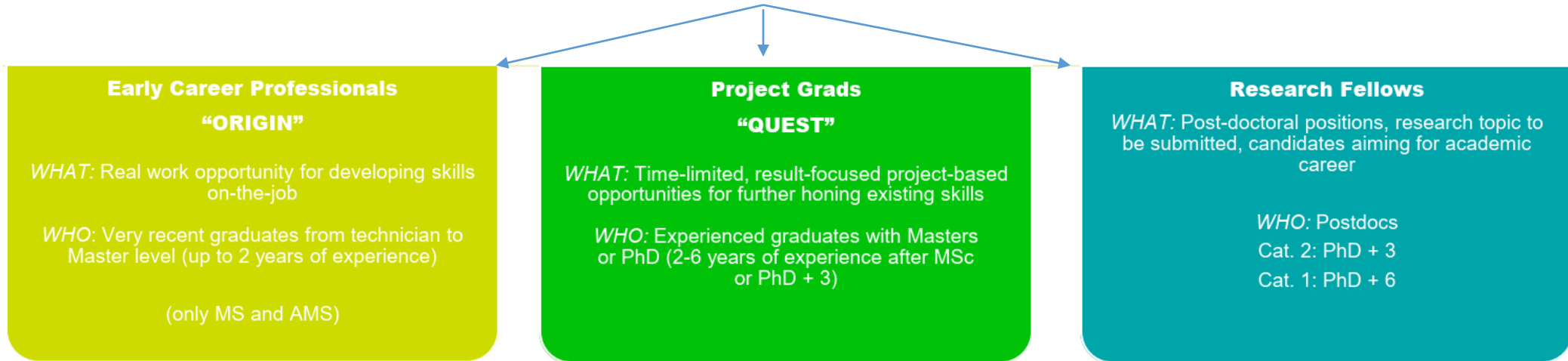
Budget and spending

- 2022 spending profile is somewhat flat
- Please do great research, but also spend your money – for the foreseen purposes.
- If you expect substantial (>20%) underspending, please let us know soon.



New CERN graduate program (becoming effective still in 2022.)

There will be just 3 categories of graduates



All three categories of graduates will be employed members of personnel, with competitive stipend, CERN Health Insurance & Pension Fund

. Recruitment via job specific
Vacancy Notice.

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No QUEST recruitment foreseen
in autumn 2022

"Research" Fellows include also
Applied Physicist and Engineers
with a research oriented profile.
Recruitment very similar to current
fellow selection. PhD is a must.

Perhaps only an old-style AFC for
research physicists in autumn
2022. Under discussion.

Barbecue !!!

- Please sign up for the EP R&D barbecue (today before 17:00)
- It starts tomorrow, Tuesday, 18:00 at Preveessin BBQ site (next to B972)
- Drinks (soft and alc.) and food (incl. vegetarian) will be provided
- Participants are asked to contribute 10 CHF/EUR (on site)

