

ECCE Tracking Introduction

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ECCE

- ECCE shares the vision of the Nuclear Physics community that the EIC science mission is best served by two detectors.
- ECCE is investigating a detector based on an existing 1.5T solenoid in both EIC interaction regions, ready for the beginning of EIC accelerator operation.



The image shows the ECCE logo on the left, consisting of the letters 'E', 'C', 'C', 'E' in a stylized green font. To the right is a diagram of the EIC Comprehensive Chromodynamics Experiment, featuring a central cluster of green and black spheres representing a nucleus, surrounded by a circular structure with various components and arrows indicating particle paths.

*EIC Comprehensive
Chromodynamics
Experiment*

<https://www.ecce-eic.org/>

We are open for all members of the EIC science community to join our effort.

Please contact:
Or Hen (hen@mit.edu)
Tanja Horn (horn@cuu.edu)
John Lajoie (lajoie@iastate.edu)

for details on how you can get involved!



EVERYONE are welcome here

You can also sign up to the ECCE mailing lists [here](#). These include:

- ecce-eic-public-l** : ECCE consortium public announcements
- ecce-eic-ib-l** : Institutional board announcements
- ecce-eic-dei-l** : Diversity, Equity and Inclusion Team discussions and announcements
- ecce-eic-det-l** : Detector Team discussions and announcements
- ecce-eic-phys-l** : Physics Benchmark Team discussions and announcements
- ecce-eic-prop-l** : Proposal Team discussions and announcements

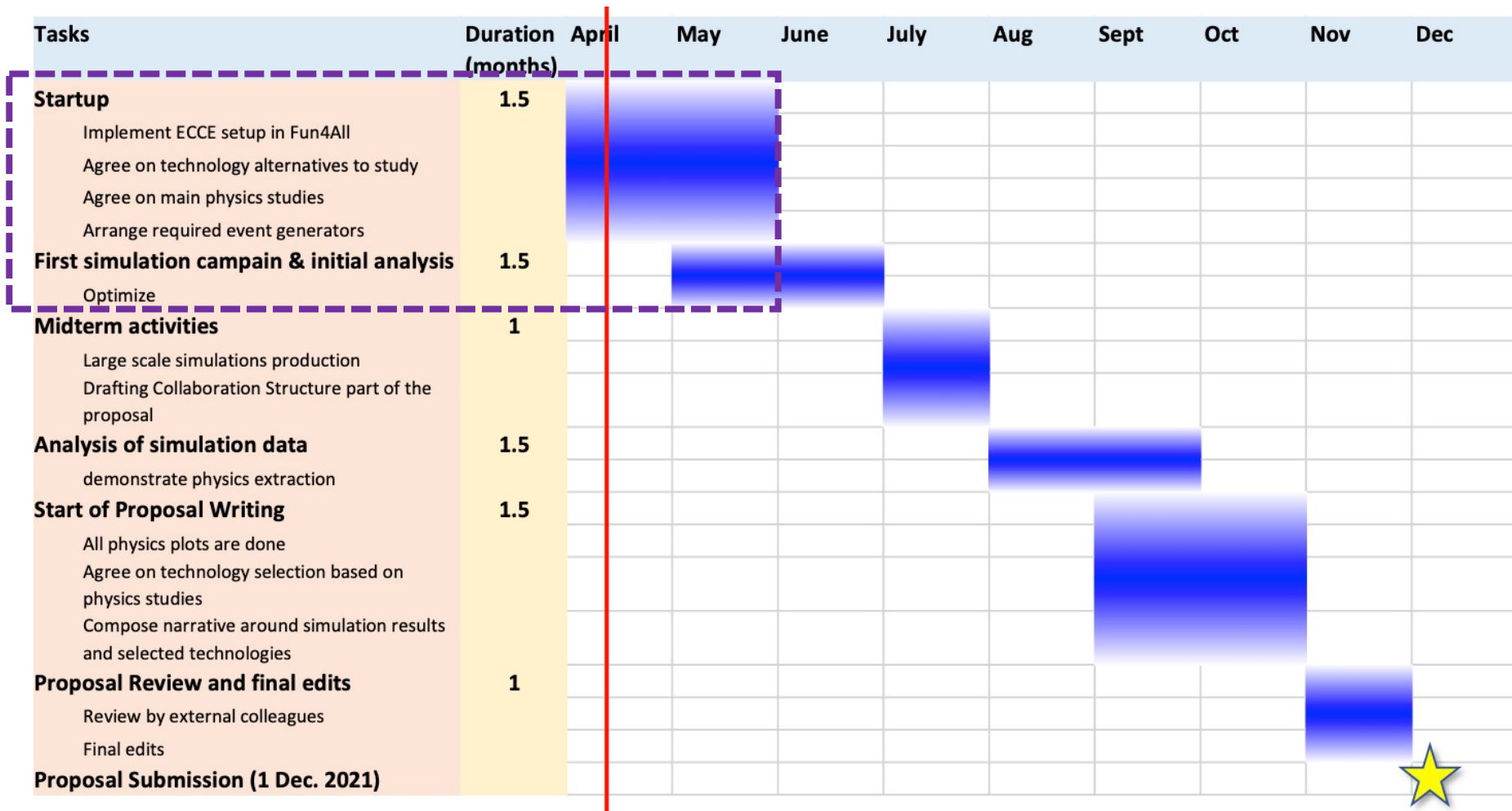
EIC timeline

- Detector proposal deadline: Dec. 1st, 2021.

- EIC CD-0 December 19, 2019 (A)
- EIC Siting Decision January 9, 2020 (A)
- EIC CD-1 4th Quarter FY2021
- Proposed EIC CD-2 2nd Quarter FY2023
- Proposed EIC CD-3 3rd Quarter FY2024
- Proposed EIC CD-4a Early Finish 4th Quarter FY2030
- Proposed EIC CD-4a 4th Quarter FY2031
- Proposed EIC CD-4 Early Finish 4th Quarter FY2031
- Proposed EIC CD-4 4th Quarter FY2033

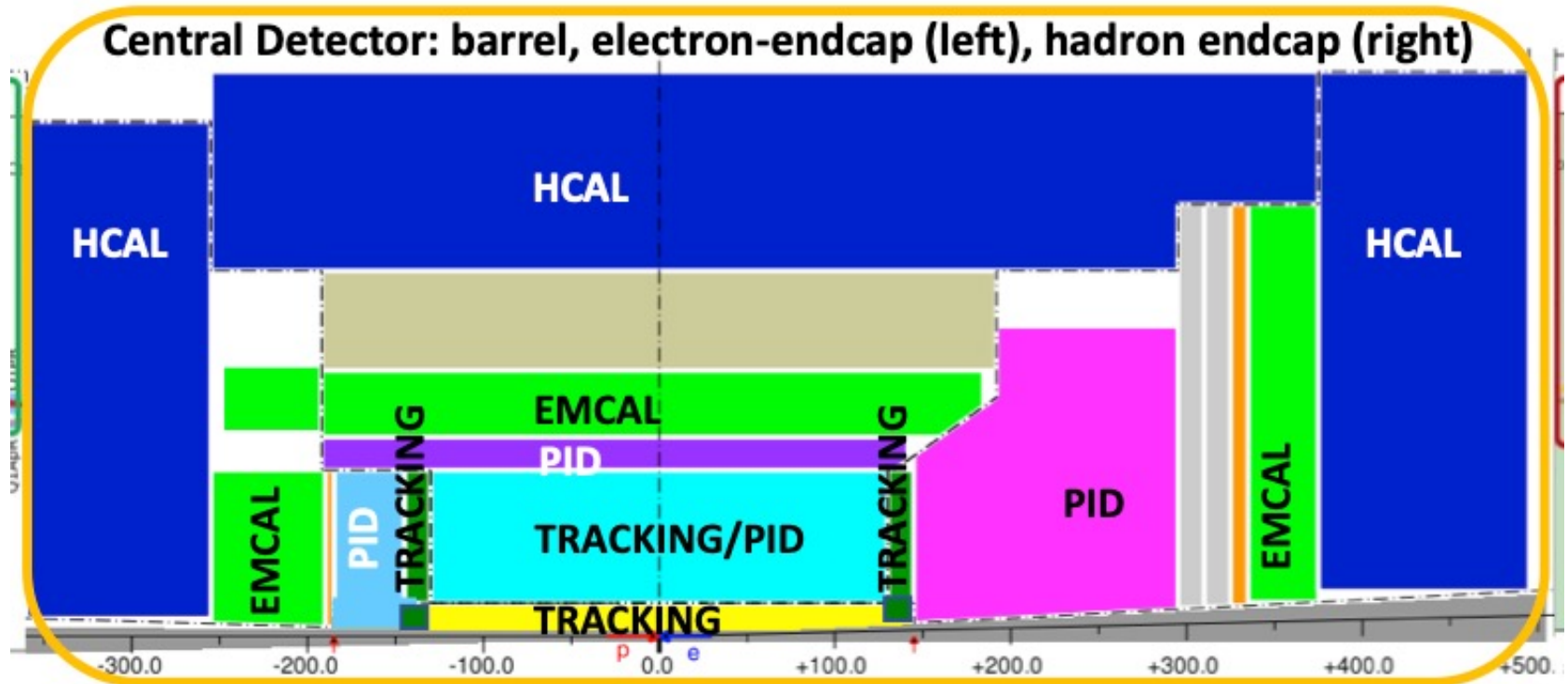
ECCE timeline

- The technology selection and simulation tasks should fit into the timeline.



EIC reference detector layout

- We need inputs from you about
 - The tracking detector technologies.
 - work on the corresponding simulation configuration and evaluation.
 - Detector integration.



The most relevant and urgent questions in the tracking sector

- Who wants to join the tracking simulation now?
- Physics requirements: heavy flavor, jets, SIDIS, Inclusive, Exclusive, Diffractive and tagging, precision electroweak, the other topics?
 - Better to merge into a table of the specific tracking requirements.
- Integration between gas and silicon detectors:
 - e.g., integrations in the barrel, forward and rear regions.
- Joint mechanical design for the barrel, forward and rear tracking detectors?
- Costs and risks:
 - Complementary options to mitigate the costs and risks?
 - Any risks for the proposed detector technologies to be able to fit in the EIC timeline?

Detector Technology Matrix

- Technology options: silicon (MAPS, ...), gas (MPGD, ...)

Kin & Tech	Rear Si	Rear Gas	Barrel Si	Barrel Gas	Fwd Si	Fwd Gas
Tech. Candidate						
Institution/ consortium						
Geometry						
R&D/Cost/ schedule						
Simulation status						

ECCE Reference

- ECCE home website: <https://www.ecce-eic.org>
- How to contact us? <https://www.ecce-eic.org/contact>
- Please sign up for [ecce-eic-public-l](#) and [ecce-eic-det-l](#) to receive future meeting announcements and share your thoughts!
- ECCE WIKI page: <https://wiki.bnl.gov/eicug/index.php/ECCE>
- ECCE indico page: <https://indico.bnl.gov/category/339/>

Welcome and look forward to see you in upcoming meeting!