

Charge to the CEPC International Advisory Committee
October 29-30, 2024

The Circular Electron Positron Collider (CEPC+SppC) Study Group, consisting of scientists, engineers and students from China and abroad, hosted by the Institute of High Energy Physics of the Chinese Academy of Science, has been developing and refining the design of the CEPC accelerator and the detector system, carrying out the R&D program, the development of the software, and the site preparation.

The present goal of the CEPC Study Group remains to be ready for the scenario in which the CEPC will begin construction in 2027-8 during China's 15th 5-year plan (2026-2031), and to complete the construction during the 16th 5-year-plan (2032-2036). The CEPC Study Group has completed the e⁺e⁻ accelerator Technical Design Report (TDR) and published the report. A reference technical design of the detector (TDR_ref), for the purpose of domestic project approval only, is scheduled to be completed in June 2025. In the meantime the overall CEPC proposal has received highest ranking in the evaluation by the Chinese Academy of Sciences' Strategy Development Group on Future Particle Physics and Nuclear Physics Facilities, as part of the CAS' planning for the 15th 5-year period. The group has embarked on the Engineering Design Report (EDR) study, and will continue to improve the design and the critical technical systems, and will enhance the organization and the global collaboration.

The CEPC International Advisory Committee shall advise on all related matters for the CEPC project, in particular on the following aspects:

- 1. Examination of the EDR plan, scope and the progress, and providing IAC's professional opinion.**
- 2. The CEPC Study Group is working hard on a reference TDR for the detector system for the purpose of project review by the Chinese government. Guidance on the development of the detector systems and relevant international collaboration will be appreciated.**
- 3. In light of US P5 report and forthcoming EPPSU, advice on international cooperation and collaboration will be appreciated**
- 4. We plan to submit the CEPC proposal to the Chinese government in late 2025. An endorsement from the IAC will add critical weight to the proposal. Should we schedule a mid-year review by the IAC in 2025 for this purpose?**

The committee is invited to give suggestions on any aspect of CEPC beyond the above items.

It is requested that a committee report responding to this charge be delivered to IHEP director Yifang Wang by November 30, 2024.

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