Tracking CC WG

- Perform simulations that demonstrate the integrated tracking performance of ePIC, including realistic backgrounds, and meeting the physics requirements in terms of track efficiency, purity, and angular, vertex and momentum resolution.
- In collaboration with the Reconstruction Working Group, aid the development of ACTS in ePIC to meet the performance needs.
- Integrate the tracking information from BIC first layer in the tracking reconstruction.
- Support the DSC's and PWG's in performing additional tracking-related studies and updating the tracking requirements.
- Foster the development of a broad base of expertise spread throughout multiple institutions within the collaboration.

Calorimetry CC WG

- Develop a comprehensive model of the effect of SiPM irradiation on the calorimetry systems. Ideally, this would be a generic model that can be adapted to the specifics of each calorimetry system. This should incorporate knowledge collected in existing and future SiPM irradiation campaigns, including the dark current rates and PDE variations.
- In conjunction with the Electronics, Readout and DAQ CC working group use this model to verify the parameters and requirements of the ASICS and discrete readout options for the electromagnetic calorimeters. Quantify the effect on detector performance of the need to raise hit thresholds as dark currents increases.
- Verify that the CALOROC meets the dynamic range requirements for all systems, both pre- and post-irradiation. Determine a requirement on the ToA timing of the CALOROC for these systems.
- Quantify in a simulation study the effect on detector performance of material in front of the forward and backwards electromagnetic calorimeters, using the latest estimates of service materials.
- Assist the Simulations Working Group in developing common approaches to detector digitization and response in simulations
- Work with the Reconstruction WG to develop the first implementation of a particle flow algorithm and validate the algorithm.

PID CC WG

- Coordinate and facilitate the sharing of information on topics common to all PID subsystems:
  - Aerogel test stations and protocols (pfRICH, dRICH);
  - Mirror test stations and protocols (pfRICH, dRICH);
  - Characterization of HRPPDs and detector requirements (pfRICH, hpDIRC).
  - Updated simulation geometry descriptions consistent with the current mechanical design
  - Realistic detector response and reconstruction in EICRecon
    - IRT2 implementation (pfRICH, dRICH)
    - hpDIRC reconstruction integrated in EICRecon
- Perform simulations that demonstrate the integrated PID performance of ePIC, including realistic backgrounds, for the following:
  - Low-momentum PID performance
  - Tracking performance requirements for the hpDIRC
  - Electron identification
  - Pion rejection, particularly in the barrel
- Work with the TOF DSC to determine the requirements of the FCFDv1.
- Work with the DSCs to define the requirements for FCFDv2 according to the needs of the pfRICH, hpDIRC.

Electronics, Readout and DAQ

- Follow the characterization of the preliminary FEE ASICs coupled to the sensors within the DSC's. Continue working with the DSC's to verify the ASIC performance requirements are matched to detector requirements.
- Work with the Calorimetry CC WG to verify the parameters and requirements of the ASICS and discrete readout options for the electromagnetic calorimeters are met as the SiPMs are irradiated.
- Working with the DSC's, determine worst case rates for the HCAL insert and ZDC and specify how many ASICS per lpGBT in the detector readout.
- Through the DAQ roadmap, in coordination with the Reconstruction WG, support the needs of DSC's in test benches and test beam configurations.
- Continue working with the Streaming Readout WG to develop the full data acquisition chain and interface to Echelon 1, consistent with ePIC requirements.
  - Frame builder test setups, Echelon-0 software
- Advise the Simulations and Reconstruction WG on the development of digitization in the simulations
- Develop the requirements for the ePIC Slow Controls System and summarize these requirements in a technical note. This note will be used by the DSCs to integrate their slow controls with the global ePIC Slow Controls System.
- Work with the mechanical engineers to fully develop cooling, grounding and service routing plans, with attention paid to how the detector will be serviced