Summary

- It is crucial we do not optimize detector systems in isolation but directly look at the integration issues, including service needs (readout, cabling, cooling, …).
- The EIC science relies heavily on a high-resolution PbWO4-based electromagnetic calorimeter in the backward direction
  - This has implications for the material budget for the other backward-region detectors in front of it – one must obey the total integrated amount and localization of tolerable materials, which are additive (as % of formulated regions).
  - For example, if I need 10%X/X0 in the close-to-collision region, that's all. If I use Cu tubing for cooling with 2 mm wall thickness near the PbWO4, that may be all.
  - This has implications in that the backward EM calorimeter relies on a stable ambient temperature (+/- 1^{o} C) to achieve high-precision performance, and thus prevents existence of large heat sources nearby.
- Folding in realistic readout space needs for any backward RICH detector invokes space budget issues.
- We suggest to consider study of a backward RICH detector based on LAPPD readout, even if there are also quantum efficiency issues to solve there, it may be the most practical solution compatible with EIC science needs and integration constraints.