Analysis Coordinator Meeting Planning for TDR

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Technical Design Report (TDR) – Detector, the needs

From the Project Management talk, ePIC Meeting, Warsaw, July 2023

Chapter 2: Physics Goals and Requirements *(should be short, < 50 pages)*

- 2.1 EIC Context and History (like CDR 2.2 or YR section 1)
- 2.2 The Science Goals of the EIC and the Machine Parameters (like CDR 2.3)
- 2.3 The EIC Science (follow YR structure)
- 2.4 Scientific Requirements

Chapter 3: Interaction Region 6 Overview (Elke/Rolf contributing)

Chapter 8: Experimental Systems *(can be long such that we can use as standalone detector TDR)*

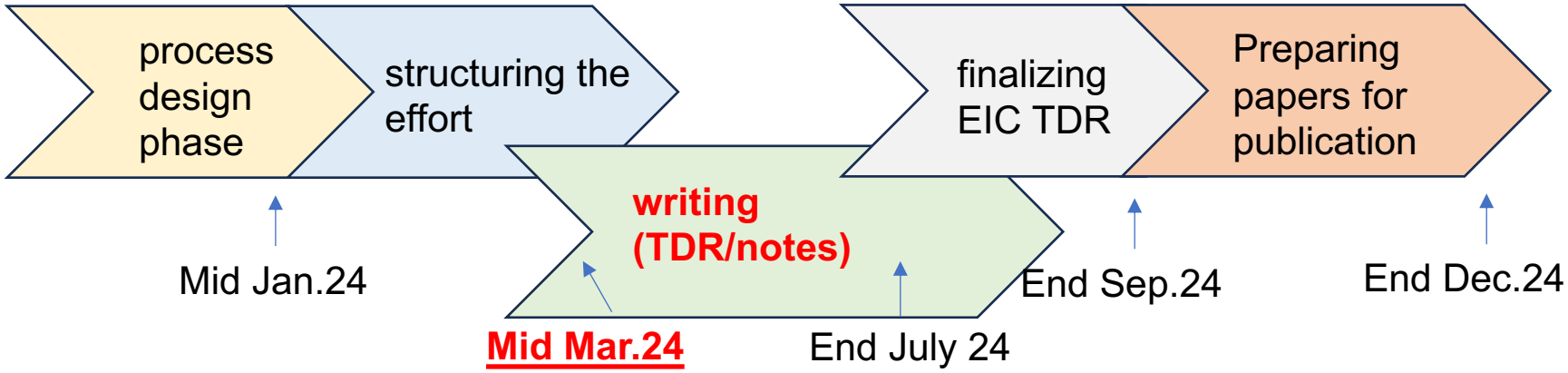
- 8.1 Experimental Equipment Requirements Summary (like CDR 8.2)
- 8.2 General Detector Considerations and Operations Challenges (YR 10, CDR 8.3)
- 8.3 EIC Detector
- 8.4 Detector R&D Summary
- 8.5 Detector Integration
- 8.6 Detector Commissioning and Pre-Operations

Chapter 11: Commissioning (Elke/Rolf contributing)

Appendix-B: Integration of a Second Experiment (mainly emphasizing feasibility, luminosity sharing, polarization with two experiments, and first-order checks of magnets/acceptance)

TDR – the ePIC goals and timelines

- The ePIC contributions to the EIC TDR (Chapters 2,8)
  - The EIC TDR is the top priority
  - Precise timescale driven by EIC project requirements
- Scientific production/dissemination
  - An extended version of the ePIC detector section from the EIC TDR with appropriate front matter, published in a scientific journal (such as NIMA, JINST, PRC, …)
    - *Derived from TDR Chapter 8*
  - An ePIC Physics Performance long paper published in a scientific journal (such as NIMA, JINST, PRC, …)
    - *Derived and expanded from TDR Chapter 2 (Section 2.3)*



TDR – structuring the effort

TDR

- **PM Serves as the "managing editors" for the ePIC Contributions to the EIC TDR**

- **TDR Chapter 2**
  - ***Holistic detector performance*** (short form)
    - The TC Office acts as "editor"
    - Organized/supervised by CC WG conveners
  - ***Physics performance and science reach*** (short form)
    - The ACs acting as "editors"
    - The Physics WGs as subgroups for text drafting

- **TDR Chapter 8**
  - ***Detector description and basic performance***
    - Project CAMs/Collab. DSL's acting as "co-editors" for their sections
    - The DSCs provide studies, material, text, etc.
  - ***Software, Analysis and Data Preservation***
    - Project CAMs and SCCs acting as "editors"
    - The electronics/DAQ CC WG and the software WGs

ePIC publications

- **SP Office serves as the "managing editors" for the ePIC publications**

- **ePIC Physics Performance Publication:**
  - ***Holistic detector performance*** (extended text)
    - The TC Office acts as "editor"
    - Organized/supervised by CC WG conveners
  - ***Physics performance and science reach*** (extended text)
    - The ACs acting as "editors"
    - The Physics WGs as subgroups for text drafting

- **ePIC Detector Publication**
  - ***Detector description and basic performance***
    - DSL's acting as "editors" for their sections
    - The DSCs provide studies, material, text, etc.
  - ***Software, Analysis and Data Preservation***
    - SCCs acting as "editors"
    - The electronics/DAQ CC WG and the software WGs for text drafting

TDR Details

- **Writing needs to start in March!** Not much time
- Plots are required in order to write → And also for ePIC specific talks in the meantime
- Please start placing approved plots (with descriptions) on PWG wikis
- Early February → TDR physics kickoff Planning Meeting
  - Any dates we should avoid due to conflict?
- Physics TDR should come from everyone – we should discuss a tentative readiness plan now to be discussed at the January collaboration meeting
  - Readiness = ability to produce plots and analyze software compains
- Physics will be a key part of the detector as it is needed to **motivate why** resolutions, efficiencies, etc need to be what they are.