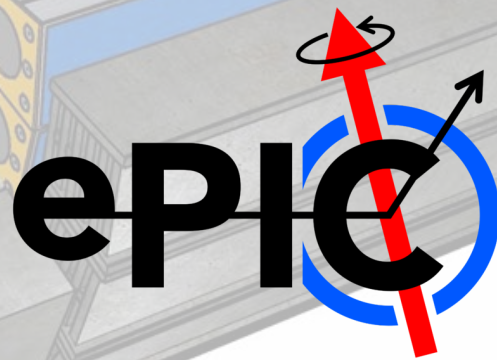


A detailed 3D cutaway diagram of the ATLAS detector at CERN. The diagram shows the internal structure, including the inner tracking detector (silicon and straw tubes), the calorimeters (ECAL and HCAL), and the muon system (drift tubes and RPCs). The detector is housed in a large, cylindrical concrete structure. The text "TC-Office News" and "Detector preTDR News" is overlaid in blue.

# TC-Office News Detector preTDR News

*S. Dalla Torre*

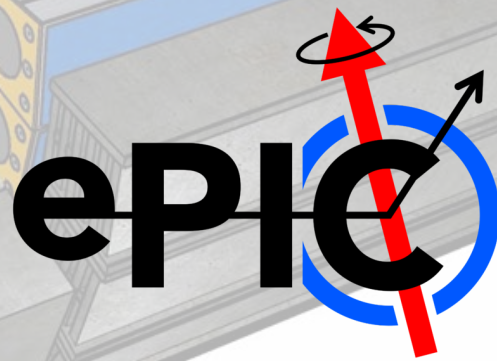
December 5<sup>th</sup>, 2025



A detailed cross-sectional diagram of a particle detector, likely a bubble chamber or similar tracking detector. The diagram shows a central cylindrical region with a grid of green and white layers, surrounded by a thick, multi-layered structure. The outermost layer is a blue, segmented ring. The inner layers are labeled with various components like 'TC-Office News' and 'Detector preTDR News'.

# TC-Office News

## Detector preTDR News



# Recent TC-Office activity – Support the detector optimization

## ***REMINDER: Decision flow***

1. Baseline Modifications for detector optimization initially **elaborated within DSCs**
  - Based on *simulation* and *technical studies*
2. Presented and discussed at **Technical and Integration Council (TIC) meetings** (iterating when improved proposal maturity may be beneficial) → **TIC RECOMMENDATION**
3. **Different paths** according to the modification entity:

- ***Modest modifications:***

- Spokesperson Office approval, in consultation with the Project Management

- ***Substantial modifications:***

- Spokesperson Office submits to Collaboration Council for decision
- SP-office requests to Project management to start a **Change Control Process**

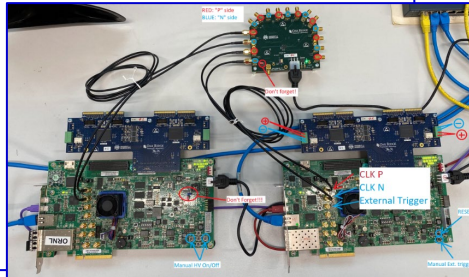
# Recent TC-Office activity – Support the detector optimization

## *Baseline Modifications, recent, present and coming cases:*

### CALOROC layout

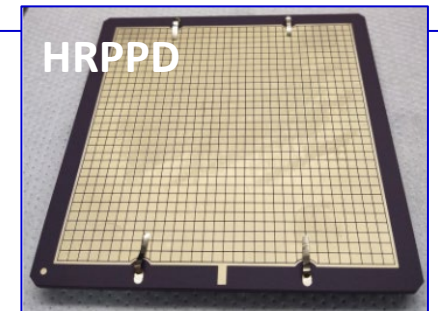
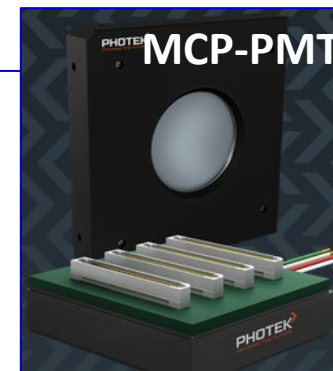
- CALOROC: the FEE ASIC for ePIC Calorimetry
- 36 ch.s instead of 72 ch.s
- Examined:
  - Technical merits;
  - Flexibility in PCB layout; Compatibility with the different Calorimeters;
  - Costs (not significant difference);
  - Risks

→ **TIC RECOMMENDATION :**  
**less dense version (36 ch.s)**  
**(Sept. 29<sup>th</sup>, 2025)**



### Photosensors for hpDIRC

- Baseline: Photek MCP-PMT
- Alternative: HRPPD by INCOM, used in the pfRICH
- Being considered:
  - hpDIR performance
  - Costs
  - Production timelines
- **Process started on October 20<sup>th</sup>, on going**



### Coming: EEEMCal read-out

- **COT approach vs CALOROC**

# Recent TC-Office activity – testbeam information and coordination

- ***Information:***

- **Preparatory activity for dRICH, MPGD test beams at CERN** (TIC mtg on September 15) and for **LFHCAL** (TIC mtg on October 16)
- **Report of recent testbeams at TIC meetings**
  - MPGDs at CERN (TIC mtg Dec. 1)
  - LFHCAL at CERN (TIC mtg Dec. 8)
  - dRICH at CERN (TIC mtg Dec. 15)
  - AC-LGAD at Jlab (TIC mtg Dec. 15)

- ***Coordination:***

- In view of the CERN call for testbeam in 2026 (TIC mtg. on October 27)
- Initial feedback from CERN and need of exploiting internal ePIC synergies (TIC mtg on December 1)

# Recent TC-Office activity

## *Information line for detector-related matter*

- ***Monthly update about mechanics and integration***
  - ***TIC mtg.s : Sep. 8, oct. 6., Nov. 3***
- ***BIC, selection of SciFis and dedicated review, TIC mtg Oct. 6***
- ***Radiation simulation update, TIC mtg Nov. 10***

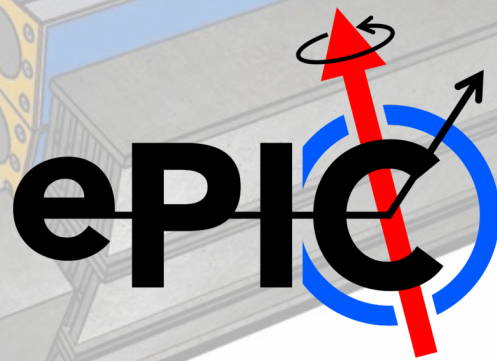
## *Bridging with other ePIC activity domains*

- ***Joint SC-TC: PID meeting, September 22***
- ***Joint SC-TC: The ePIC Computing Model and Calibrations, December 1***
  - ***A process that will continue at the beginning of 2026***

A detailed cross-sectional diagram of a particle detector, likely a bubble chamber or similar tracking detector. The diagram shows a central cylindrical region with a grid of green and white layers, surrounded by a thick, multi-layered structure. The outermost layer is a blue, segmented ring. The inner layers are labeled with various components like 'TC-Office News' and 'Detector preTDR News'.

# TC-Office News

## Detector preTDR News



# The new layout of the Detector preTDR document

Available in overleaf for the text authors since September 24<sup>th</sup>

- **Executive Summary**
- **CHAPTER 1 – Introduction**
  - About the EIC project and the accelerator complex (high level approach)
- **CHAPTER 2 – Requirements**
  - Requirements resulting as an evolution of the YR ones
- **CHAPTER 3 – Experimental Systems**
  - Past “chapter 8”
  - Presenting the detector subsystems matching the requirements (mainly individual performance)
- **CHAPTER 4 – Detector Performance for the EIC physics program**
  - Past “chapter 2”
  - Presenting the holistic detector performance by the performance for key physics measurements
- **CHAPTER 5 – Detector-Accelerator interfaces**
  - INTEGRATION INTO THE FACILITY

Document hartNext coming goal:  
These chapters finalized in 2025

# The logic flow of the Detector preTDR document

- **Executive Summary**
- **CHAPTER 1 – Introduction**
- **CHAPTER 2 – Requirements**
- **CHAPTER 3 – Experimental Systems**
- **CHAPTER 4 – Detector Performance for the EIC physics program**
- **CHAPTER 5 – Detector-Accelerator interfaces**
  - INTEGRATION INTO THE FACILITY

- **Chapter 2** reminds the **REQUIREMENTS** as resulting from the evolution of the YR ones
- **Chapter 3** discuss the individual **subsystem** presenting the **performance** versus the **REQUIREMENTS**
- **Chapter 4** discuss the **overall detector performance** versus the **REQUIREMENTS** as resulting from the detector response to key physics measurements

# The activity of the preTDR Editorial Board, so far

*Highlights only:*

- Designing the **document layout** (as presented in the previous slides)
- Supporting the **redesign of the strategy of the Physics Chapter**, while the content is under the guidance of PACs
- **21 meetings with authors/groups of authors**

- Editorial Board calendar at :  
<https://indico.bnl.gov/category/683/>

December 2025	
17 Dec	meeting of the ePIC preTDR Editorial Board <span>new</span>
10 Dec	meeting of the ePIC preTDR Editorial Board
06 Dec	meeting of the ePIC preTDR Editorial Board
04 Dec	meeting of the ePIC preTDR Editorial Board - CANCELLED
November 2025	
27 Nov	meeting of the ePIC preTDR Editorial Board - CANCELLED
26 Nov	meeting of the ePIC preTDR Editorial Board - CANCELLED
20 Nov	meeting of the ePIC preTDR Editorial Board
19 Nov	meeting of the ePIC preTDR Editorial Board
13 Nov	meeting of the ePIC preTDR Editorial Board - Solenoide
12 Nov	meeting of the ePIC preTDR Editorial Board - hpDIRC; dRICH
06 Nov	meeting of the ePIC preTDR Editorial Board - CANCELLED
05 Nov	meeting of the ePIC preTDR Editorial Board
October 2025	
30 Oct	meeting of the ePIC preTDR Editorial Board - far backward detectors
29 Oct	meeting of the ePIC preTDR Editorial Board - CANCELLED
23 Oct	meeting of the ePIC preTDR Editorial Board
22 Oct	meeting of the ePIC preTDR Editorial Board
16 Oct	meeting of the ePIC preTDR Editorial Board - NOTE THE UNUSUAL TIME !
15 Oct	meeting of the ePIC preTDR Editorial Board
09 Oct	meeting of the ePIC preTDR Editorial Board
08 Oct	meeting of the ePIC preTDR Editorial Board
02 Oct	meeting of the ePIC preTDR Editorial Board
01 Oct	meeting of the ePIC preTDR Editorial Board
September 2025	
25 Sept	meeting of the ePIC preTDR Editorial Board
24 Sept	meeting of the ePIC preTDR Editorial Board
17 Sept	meeting of the ePIC preTDR Editorial Board
10 Sept	meeting of the ePIC preTDR Editorial Board
03 Sept	meeting of the ePIC preTDR Editorial Board--postponed and rescheduled to a future date
August 2025	
27 Aug	meeting of the ePIC preTDR Editorial Board
20 Aug	meeting of the ePIC preTDR Editorial Board (CANCELLED)
13 Aug	meeting of the ePIC preTDR Editorial Board
06 Aug	meeting of the ePIC preTDR Editorial Board

Reminder

# preTDR - Next steps

- ***End of the authors' editing phase: December 1<sup>st</sup>***
  - ***Polishing by the Editorial Board: December 2<sup>nd</sup>, 2025 – January 15<sup>th</sup>, 2026 (with end-of-the-year break)***
  - ***Version 3.1 in Zenodo: January 16<sup>th</sup>, 2026***
  - ***Presentation of Version 3.1 at the ePIC Collaboration meeting`***
  - ***Google form to collect feedback on Version 3.1 from the collaboration***
  - ***IMPORTANT: Version 3.1 distributed to the reviewers of the Director's Review of the EIC Detector (ePIC) Subproject to Assess Baseline Readiness (February 3-5, 2026)***

# preTDR - Goals of this polishing phase

- ***Main goals of this polishing phase:***
  - ***identify what is wrong/missing/duplicated***  
→ *engaging with authors in case of wrong or missing material;*
  - ***stick to a defined list of detector names copied at the end of this message by applying the needed modifications;***
    - *At present, through the document a variety of different names are used for several detectors;*
  - ***Check that the plots are accompanied by appropriate metadata:***
    - *Request the metadata when missing*

# About the authors' deadline (December 1<sup>st</sup>)

***Authors, please:***

***Support the Editorial Board by:***

- *Speeding-up the editing completion;*
- *Filling the google form to communicate about the completion status at:*

***<https://forms.gle/r61rk dHBdRAcqBMo7>***

CHAPTER / SUBSYSTEMS	meeting Ed. Board	NOTES
Chapter 2- Requirements	December 15	
Chapter 4 - Physics	December 19	some subsections completed earlier
SVT	December 3	
MPGD	November 30	
ToF		
pfRICH	December 8	
hpDIRC		
dRICH		
backw. Ecal	November 30	
BIC		
forw. Ecal		
backw. Hcal		
barrel Hcal		
forw. Hcal		
FF		
low Q2 taggers	December 1	
Luminosity system	November 27	
el/r-o/daq	December 2	
S & C	November 26	
magnet	December 15	
electron polarimeters	December 15	
ion polarimeters	December 15	
integration	October 31	
background & rates		
commissioning and preop.		still to be written