

# TIC meeting

## September 30

# NEWS from DSCs

## **Gaseous Trackers:**

DSL: Kondo Gnanvo <[kagnanvo@jlab.org](mailto:kagnanvo@jlab.org) ↗>

DSTC: Francesco Bossu <[francesco.bossu@cea.fr](mailto:francesco.bossu@cea.fr) ↗>

DSTC: Kondo Gnanvo <[kagnanvo@jlab.org](mailto:kagnanvo@jlab.org) ↗>

DSTC: Annalisa D'Angelo <[annalisa@jlab.org](mailto:annalisa@jlab.org) ↗>

Thank you, Annalisa and Francesco for stepping in, contributing to your DSC also serving as DSTCs

This new structure of the Gaseous Trackers DSC better reflect the organization of the work inside the DSC; it will certainly be beneficial to the activity

# TIC meeting - preTDR, Version0; Calorimeter testbeam



Monday 30 Sept 2024, 09:00 → 11:00 US/Eastern

Silvia Dalla Torre (INFN, Trieste)

**Description** Technical and Integration Council Meeting

Join Zoom Meeting

<https://cern.zoom.us/j/9374314394?pwd=YTFjZjFGcXptMG13cGFQYWw0WdrZz09>

Recording:

09:00 → 09:05 **Communications**

5m



**Speaker:** Silvia Dalla Torre (INFN, Trieste)

09:15 → 09:35 **DSC communications**

20m



**Speakers:** Alexander Jentsch (Brookhaven National Laboratory), Alexander Kiselev (BNL), Brian Page (Brookhaven National Laboratory), Carlos Munoz Camacho (IJCLab, CNRS/IN2P3), Ernst Sichtermann (Lawrence Berkeley National Laboratory), Friederike Bock (ORNL), Grzegorz Kalicy (CUA), Hwidong Yoo (Yonsei University), Jaroslav Adam, Kondo Gnanvo (Jefferson Lab), Krzysztof Piotrkowski (AGH UST), Laura Gonella (University of Birmingham), Dr Leszek Kosarzewski (Ohio State University), Marco Contalbrigo (INFN Ferrara), Maria Zurek (Argonne National Laboratory), Megan Connors (Georgia State University), Miguel Arratia (University of California, Riverside), Nicholas Zachariou (University of York), Oleg Tsai, Satoshi Yano (Hiroshima University), Dr Simon Gardner (University of Glasgow), Stefan Bathe (Baruch College, CUNY, & RBRC), Sylvester Joosten (Argonne National Laboratory), Tanja Horn (Cath), Zhangbu Xu (Kent State University)

09:40 → 10:00 **preTDR, Version0, review process**

20m



**Speaker:** Silvia Dalla Torre (INFN, Trieste)

10:05 → 10:25 **Calorimeter test beam at CERN, first news**

20m



**Speaker:** Oskar Hartbrich (Oak Ridge National Lab)

preTDR draft, Version0

The following slides have been updated on  
October 1st

# preTDR draft, Version0

**The deadline has expired yesterday, September 29!**

**Thanks :**

to Doug, who, with his careful assistance, has made a first version that could be compiled

Thank you to all DSLs and DSTCs for the abundant text which is already in

**Version0 downloaded and uploaded in ZENODO:**

uploaded 9/30, 2024: <https://zenodo.org/records/13859854>

uploaded 10/1, 2024: <https://zenodo.org/records/13866213>

# Status of the draft (1/2)

Here for completeness, TIC focus is on chapter 8

*REMINDER: chapter 2 is also an input for various aspect of chapter 8*

		chapter	section	subsection	subsection	title
		2				<b>Physics Goals and Requirements</b>
			2.1			EIC Context and History
ePIC			2.2			The Science Goals of the EIC and the Machine Parameters
responsibility			2.3			Scientific Requirements
				2.3.1		Systematic Uncertainties
Project				2.3.2		Radiative Corrections
responsibility			2.4			The EIC Science (ePIC performance for key observables)
				2.4.1		Origin of Nucleon Mass
Joint				2.4.2		Origin of Nucleon Spin
responsibility				2.4.3		Multi-Dimensional Imaging of the Nucleon
					2.4.3.1	Imaging in Momentum Space
					2.4.3.2	Imaging in Transverse Position Space
				2.4.4		Properties of Nuclear Matter
					2.4.4.1	Gluon Saturation
					2.4.4.2	Nuclear Modifications of Parton Distribution Functions
					2.4.4.3	Passage of Color Charge Through Cold QCD Matter

Status of the draft on 9/30  
(2/2)

	chapter	section	subsection	subsection	title	test inserted	n. of pages	already some Additional Material
ePIC	8				Experimental Systems			
responsibility		8.1			Experimental Equipment Requirements Summary	N	common respinsibility of ACs and TC-office, needs chapter 2	
		8.2			General Detector Considerations and Operations Challenges			
Project			8.2.1		General Design Considerations	N	it requires 2.2, 8.2.2, 8.2.3, which are not available	
responsibility			8.2.2		Backgrounds and Rates	N	effor by the background WG	
			8.2.3		Radiation Level	N	effor by the background WG	
Joint		8.3			The ePIC Detector			
responsibility			8.3.1		Itroduction	Y	7	NA
			8.3.2		Magnet	N		
			8.3.3		Tracking	N		
				8.3.3.1	The silicon trackers	Y	10	
				8.3.3.2	The MPGD trackers	N		
			8.3.4		Particle identification	N		
				8.3.4.1	The time-of-flight layers	Y	19	
				8.3.4.2	The proximity focusing RICH	Y	13	
				8.3.4.3	The high performance DIRC	Y	14	
				8.3.4.4	The dual radiator RICH	Y	23	some
			8.3.5		Electromagnetic Calorimetry	N		
				8.3.5.1	The backward endcap electromagnetic calorimeter	9		
				8.3.5.2	The barrel electromagnetic calorimeter	16		some
				8.3.5.3	The forward endcap electromagnetic calorimeter	11		
			8.3.6		Hadronic Calorimetry	N		
				8.3.6.1	The backward endcap hadronic calorimeter	N		
				8.3.6.2	The barrel hadronic calorimeter	Y	11	
				8.3.6.3	The forward endcap hadronic calorimeter	N		
			8.3.7		Far forward detectors	Y		
				8.3.7.1	The detectors in the B0 bending magnet	Y	4	
				8.3.7.2	The roman pots and the off-momentum detectors	Y	6	
				8.3.7.3	The zero degree calorimeter	Y	2	text to be completed
			8.3.8		Far backward detectors	Y		
				8.3.8.1	The luminosity system	Y	9	
				8.3.8.2	The low Q2 taggers	Y	6	
			8.3.9		Polarimeters	N		
				8.3.9.1	The electron polarimeters	N		
				8.3.9.2	The proton polarimeters	N		
			8.3.10		Readout Electronics and Data Acquisition	Y	16	
			8.3.11		Software and Computing	N		
		8.4			Detector Integration	N		
			8.4.1		Installation and Maintenance	N		
		8.5			Detector Commissioning and Pre-Operations	N		

		chapter	section	subsection	subsection	title	test inserted	n. of pages	already some Additional Material
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Joint			8.3			The ePIC Detector			
responsibility			8.3.1			Itroduction	Y	7	NA
			8.3.2			Magnet	N		
			8.3.3			Tracking	N		
				8.3.3.1		The silicon trackers	Y	10	
				8.3.3.2		The MPGD trackers	Y		
			8.3.4			Particle identification	N		
				8.3.4.1		The time-of-flight layers	Y	19	
				8.3.4.2		The proximity focusing RICH	Y	13	
				8.3.4.3		The high performance DIRC	Y	14	
				8.3.4.4		The dual radiator RICH	Y	23	some
			8.3.5			Electromagnetic Calorimetry	N		
				8.3.5.1		The backward endcap electromagnetic calorimeter		9	
				8.3.5.2		The barrel electromagnetic calorimeter		16	some
				8.3.5.3		The forward endcap electromagnetic calorimeter		11	
			8.3.6			Hadronic Calorimetry	N		
				8.3.6.1		The backward endcap hadronic calorimeter	Y		
				8.3.6.2		The barrel hadronic calorimeter	Y	11	
				8.3.6.3		The forward endcap hadronic calorimeter	N		
			8.3.7			Far forward detectors	Y		
				8.3.7.1		The detectors in the B0 bending magnet	Y	4	
				8.3.7.2		The roman pots and the off-momentum detectors	Y	6	
				8.3.7.3		The zero degree calorimeter	Y	2	text to be completed
			8.3.8			Far backward detectors	Y		
				8.3.8.1		The luminosity system	Y	9	
				8.3.8.2		The low Q2 taggers	Y	6	
			8.3.9			Polarimeters	N		
				8.3.9.1		The electron polarimeters	N		
				8.3.9.2		The proton polarimeters	N		
			8.3.10			Readout Electronics and Data Acquisition	Y	16	
			8.3.11			Software and Computing	N		
			8.4			Detector Integration	N		
			8.4.1			Installation and Maintenance	N		
			8.5			Detector Commissioning and Pre-Operations	N		



# preTDR draft, Version0 - NEXT STEPS

## A Version0.1 on next Monday ?

- *Only if DSCs who could not contribute are stating they can the new deadline Sunday October 6*
- An email to the whole collaboration today or tomorrow with link to document in ZENODO
- Everyone in the collaboration is invited to submit comments and recommendations.
  - On top of this, the **internal reviewers** will scrutinize with particular care the sections assigned to them.
  - Reviewers' input and input from the whole collaboration **by October 20**.
  - A **google form** will be available to submit inputs; address will be circulated by e-mail

# preTDR draft, Version0 - google form

- A list of all sec.s/subsec.s provided
  - *When needed, you can click more of them*
- Comments can be provided in text format or uploading files

Please select the subsection(s) that your comments correspond to. \*

- ☐ Experimental Systems - about the whole chapter
- ☐ 8.1 Experimental Equipment Requirements Summary
- ☐ 8.2.1 General Design Considerations
- ☐ 8.2.2 Backgrounds and Rates
- ☐ 8.2.3 Radiation Level
- ☐ 8.3.1 The ePIC Detector, Introduction
- ☐ 8.3.2 Magnet
- ☐ 8.3.3 Tracking
- ☐ 8.3.3.1 The silicon trackers
- ☐ 8.3.3.2 The MPGD trackers
- ☒ 8.3.4 Particle Identification
- ☐ 8.3.4.1 The time-of-flight layers
- ☐ 8.3.4.2 The proximity focusing RICH
- ☐ 8.3.4.3 The high performance DIRC
- ☐ 8.3.4.4 The dual radiator RICH
- ☐ 8.3.5 Electromagnetic Calorimetry
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- ☐ 8.3.10 Readout Electronics and Data Acquisition
- ☐ 8.3.11 Software and Computing
- ☐ 8.4 Detector Integration
- ☐ 8.4.1 Installation and Maintenance
- ☐ 8.5 Detector Commissioning and Pre-Operations

# preTDR draft, Version0 - Thank you to our reviewers!

subsystems	subsection no.	subsection title	invited revievers
SVT	8.3.3.1	The silicon trackers	Taku Gunji
			Rachel Montgomery
MPGD	8.3.3.2	The MPGD trackers	Fulvio Tessarotto
			Yan Bedfer
Cherenkov-PID	8.3.4.2, 8.3.4.3, 8.3.4.4	The proximity focusing RICH; The high performance DIRC; The dual	Prakhar Grag
			Chandradoy Chatterjee
ToF	8.3.4.1	The time-of-flight layers	Dominique Marchand
			Nick Apadula
HCAL			Sevil Salur
			Anthony Hodges
ECal-w/o-BIC	8.3.5.1, 8.3.5.3	The backward endcap electromagnetic calorimeter; The	Caroline Riedl
			Sean Stoll
			Craig Woody
BIC	8.3.5.2	The barrel electromagnetic calorimeter	Mathieu Benoit
			Jin Huang
FF	8.3.7	Far forward detectors	Zhenyu YE
			Frank Geurts
Luminosity	8.3.8.1	The luminosity system	Oleg Tsai
			Miguel Arratia
low-Q2-taggers	8.3.8.2	The low Q2 tagger	Oskar Hartbrich
			Manoj Jadhav
eL./r-o/DAQ		Readout Electronics and Data Acquisition	Pietro Antonioli
	8.3.10		Irakli MANDJAVIDZE
			Marco Battaglieri
software/computing	8.3.11	Software and Computing	Domenico Elia
			Peter Jones
			David Abbott

# preTDR draft, Version0 - review charge

## VERSION0 goals

- for each subsystem, a complete text in short format (10-15 pages) with figures;
- figures can be in a preliminary form;
- about "Additional Material", in Version 0, a list of the items to be included is enough; later, this Additional Material will be moved to Appendices to the main preTDR text; there is no page limit for the Additional Material.

## CHARGE:

- Consistency with the above goals
- Detect any obvious mistake or forgotten key information
- Provide improvement suggestions, when needed