

CEPC Detector R&D Projects

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*Institute of High Energy Physics
Chinese Academy of Sciences*

Our Mission:

1. Produce **coherent list of Detector R&D activities**
 - **Help** Determine the presence of gaps and overlaps
2. Each **current** CEPC-related R&D project should provide, **key information to the IDRC:**
 - The objectives of the project
 - The anticipated schedule on which the objectives will be met
 - The funding available to the project, and the leadership arrangements within it
 - The extent to which the project is a CEPC-specific development
 - Manpower needs
3. This is the beginning of the process, not the end.

- 1) Collect missing documents before May 8
- 2) Report at CEPC Day/Steering Group

Detector R&D Tasks Arrangement

1. Vertex

- 1.1. Pixel Vertex Prototype
- 1.2. ARCADIA/LFoundry CMOS

2. Tracker

- 2.1. TPC
- 2.2. Silicon Tracker
- 2.3. Drift Chamber

3. Calorimeter

- 3.1. ECAL Calorimeter
 - 3.1.1. Crystal Calorimeter
 - 3.1.2. Scintillator-Tungsten
- 3.2. HCAL PFA Calorimeter
 - 3.2.1. DHCAL
 - 3.2.2. Sci AHCAL
- 3.3. DR Calorimeter

4. Muon Detectors

- 4.1. Muon Scintillator Detector
- 4.2. Muon and pre-shower MuRWell Detectors

5. Solenoid

- 5.1. LTS Solenoid
- 5.2. HTS Solenoid

6. MDI

- 6.1. LumiCal Prototype
- 6.2. Mechanics

7. Software and Computing

8. TDAQ

Detector R&D sub-projects to be identified and numbered accordingly

R&D tasks to be created under these tasks

e.g. 3.1.1 Crystal Calorimeter

Sub-group conveners and other detector R&D proponents were asked to compile documents with required information

Status:

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Status and actions

1.1: Need expanded version (João) - with help of Zhijun and Ouyang

1.2: Received update from Manuel

Looks good, but needs formatting updates

2.1: Needed a better schedule

2.2: Discussion on possibly merging projects. Need for more details
Meeting on Monday. Outcome?

3.1: Both needed update schedule

3.2.1: DHCAL needed update format

3.3: DR calorimeter project in Korea to be included and expanded

4.2: Update title

6.1: Considerable updates needed

6.2: Needed updates















8: Not existing

Meeting last week:

<https://indico.ihep.ac.cn/event/11799/>

Please update this indico page
and email me to let me know
you have done it.

Best way
not to loose information

1. Vertex	15'	Speaker: Prof. Qun OUYANG (IHEP)	Material: document 	▼
2.1 - TPC	15'	Speaker: Dr. Huirong Qi (Institute of High Energy Physics, CAS)	Material: document  notes 	▼
2.2 - Silicon Tracker	15'	Speaker: Prof. Meng Wang (Shandong University)	Material: document 	▼
2.3 - Drift Chamber	15'	Speaker: Francesco Grancagnolo (INFN-Lecce)	Material: Slides  document 	▼
3.1 - ECAL Calorimeter	15'	Speakers: Dr. Yong Liu (Institute of High Energy Physics), Dr. Jianbei Liu (University of Science and Technology of China)	Material: document 	▼
3.2 - HCAL Calorimeter	15'	Speakers: Haijun Yang (Shanghai Jiao Tong University), Dr. Jianbei Liu (University of Science and Technology of China)	Material: Slides  document 	▼
3.3 - DR Calorimeter	15'	Speaker: Roberto Ferrari (INFN)	Material: document 	▼
4 - Muon Detector	15'	Speakers: Paolo Giacomelli (INFN-Bo), Prof. Liang Li (Shanghai Jiao Tong University)	Material: document 	▼
5 - Solenoid	15'	Speaker: Mr. Zian ZHU Zian (高能所)	Material: document 	▼
6 - MDI	15'	Speakers: Dr. Hongbo ZHU (IHEP), Suen Hou (ISAP)	Material: document 	▼
7 - TDAQ	15'	Speaker: Prof. Zhen An LIU Zhenan (IHEP)		▼
8 - Software and Computing	15'	Speakers: LI Gang (EPC.IHEP), Dr. Weidong Li (高能所), Mr. Manqi Ruan (IHEP)	Material: Slides 	▼

Word document template:

Template to be used

CEPC Detector R&D Project

1.1 Vertex Prototype

Document Responsible:	Joao Guimaraes da Costa
Last saved by on	12/13/19 5:19:00 AM
Revision number:	1

Change history

Revision	When	What changed and why
1	12/12/2019	First draft
		< Add further lines to table as required >

Readme first

- i. Please do not delete or modify this section or its structure.
- ii. Only change text enclosed by (and including) angled brackets "< ... >".
- iii. Don't change field directly, instead modify the document options, under File→ Properties (or similar)
 - Enter name of person that wrote the document in Document:Summary: Author
 - The project ID number, should follow the rules provided to you earlier. The number should be changed in Document:Custom: PBS.
 - The project name should be changed in Document:Summary: Subject.
- iv. In Section Project Objectives provide a brief description of the project goals, i.e. why and what is being produced, for PBS item **1.1 Vertex Prototype**. If this project includes identifiable sub-projects you can indicate them in the Sub-projects Description Section, otherwise submit a separate document for each of them. The sub-project IDs are free for you to define.
- v. Finally, remember to update the Change History.

Preliminary Documents:

12 preliminary documents so far

CEPC Detector R&D Project 2.1 TPC Module and Prototype

Document Responsible:	Qihurong
Last saved by on	12/18/19 6:40:00 AM
Revision number:	1

CEPC Detector R&D Project 2.2 Silicon Tracker Prototype

Document Responsible:	Harald Fox, Meng Wang
Last saved by on	12/29/19 10:42:00 AM
Revision number:	1

CEPC Detector R&D Project 3.1.1 Crystal Calorimeter

Document Responsible:	Yong Liu
Last saved by Yong Liu on	12/30/19 5:56:00 AM
Revision number:	1

CEPC Detector R&D Project 3.3 Dual-readout Calorimeter

Document Responsible:	Roberto Ferrari
Last saved by Roberto Ferrari on	17/12/19 08:00:00 PM
Revision number:	1

CEPC Detector R&D Project 4.1 Scintillator-based Muon Detector Prototype

Document Responsible:	Xiaolong Wang, Liang Li
Last saved by on	12/18/19 3:15:00 AM
Revision number:	1

CEPC Detector R&D Project 4.2 muRWell detectors

Document Responsible:	Paolo Giacomelli
Last saved by Joao Guimaraes da Costa on	12/30/19 12:23:00 AM
Revision number:	1

CEPC Detector R&D Project 5.1 LTS solenoid magnet

Document Responsible:	Zhu Zian
Last saved by on	12/18/19 1:40:00 AM
Revision number:	1

CEPC Detector R&D Project 5.2 HTS solenoid magnet

Document Responsible:	Zhu Zian
Last saved by on	12/18/19 1:41:00 AM
Revision number:	1

CEPC Detector R&D Project 6.2 Interaction Region Mechanics

Document Responsible:	Microsoft Office User
Last saved by on	12/18/19 11:08:00 AM
Revision number:	1