

Detector Costing Exercise

- ◆ Overall costing exercise

- Head of study: Anders Unnervik
 - Scope: Update cost estimate of full FCC-ee project for the mid-term feasibility study
 - ❖ Including detectors

- ◆ Expected format for detector costing (beatriz.arias.alonso@cern.ch)

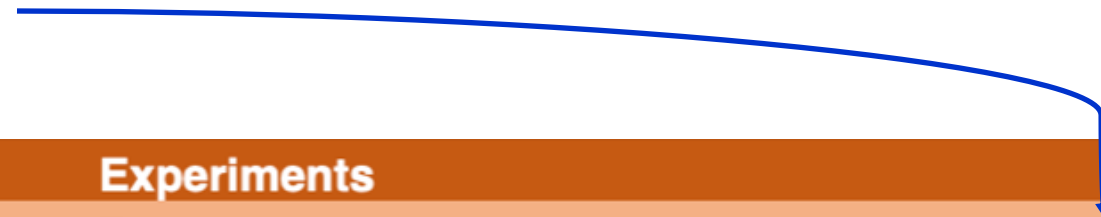
Level	Responsible	
1	Experiments	
2	Detector	
3	Support structures and scaffolding	?
3	Tracking system	} Agreed with Anders Unnervik that we will take care of this
3	Superconducting magnet	
3	Magnet shielding	
3	Calorimeters	
3	Muon	
3	Trigger	
2	Experiment technical infrastructures	
3	Industrial Gases	} L. Delprat
3	Proximity cryogenics	
3	Shielding	
3	Tooling	
2	Common experiment systems	
3	Data acquisition	} Some information already provided by us in CE and TI Requirements Review, Oct. 2022, https://indico.cern.ch/event/1183771/ Costs will be extrapolated from LHC/LEP
3	Physics data processing (online/offline computing)	
3	Detector control	
3	Experiment protection and interlock	

Detector Costing

- ◆ Already existing material on CLD concept

- *DRAFT - Cost Estimate for the CLD detector at FCC-ee, LCD-Note-2018-006, Konrad Elsener*

- ❖ Total: 480 MCHF



1	Experiments		
2	Detector		
3	Support structures and scaffolding		
3	Tracking system		63 MCHF
3	Superconducting magnet		50 MCHF
3	Magnet shielding	Return Yoke	24 MCHF
3	Calorimeters	ECAL + HCAL	286 + 37 MCHF
3	Muon		15 MCHF
3	Trigger		

Detector Costing

◆ Method:

- Aim to provide cost estimates on a sub-detector level (including FE electronics + links)
 - ❖ VTX
 - ❖ Tracking: Si sensors, Drift Chamber, TPC (including wrappers)
 - ❖ Calorimetry: CALICE-like ECAL, TileCal HCAL, Dual Readout, Crystal, Noble Liquid, ...
 - ❖ Muon system: ...
 - ❖ Others (LCAL, ...)
- Should not forget integration + support

◆ People/contacts:

- MD, Franco Bedeschi, Martin Aleksa, Patrick Janot, Felix Sefkow
- Meetings
 - ❖ 1st: Tuesday May 2nd
 - ❖ 2nd: Tuesday May 16th
 - ❖ 3rd: