

Request from Yasuhiro on 2.Feb.1015

in TDR (DBD), we showed only so-called "CORE cost" of the detectors, which includes M&S (material and services) cost and human resource cost for out-sourcing. On the other hand, accelerator cost estimate in TDR includes institution personnel. Akira Yamamoto strongly suggested that detector groups should also show the cost for the human resource in universities and institutions.

If all of the collaborators including those who analyze the data are converted to cost, the ILD cost would become more than \$1B. In order to avoid blow-up of the detector cost, we (ILC Infrastructure and Planning Working Group) decided to take the following method:

- 1) Manpower for physics analysis is regarded as "Users", and excluded from the human resource requirement (This is usual way in high energy experiment in the past.)
- 2) FTE is counted separately for physicists, engineers, technicians, post-docs, and administration staffs so that different unit cost can be used.

So, I would like to ask you to help me in doing additional survey concerning (2). I have already received information from you on the human resource necessary for detector construction and operation in each sub-system and for each year. Now I would like to get the breakdown of each FTE into positions; physicists, engineers, technicians, post-docs, and administration staffs. Please fill the cells filled with light yellow in the attached excel file. Quite rough estimation would be fine (but the total number should be same).

Best regards,

TPC	Now	Y1				Y2			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Timeline	R&D	TDR							
Budget									
Annual budget (MILCU)	0.5					3.59			
FTE from external institutes									
Item									
Field cage					3				3
End plate					3				5
Modules					5				5
Electronics					5				5
Laser					2				2
Power supply					3				3
High voltage					2				2
Gas and Cooling					2				2
DAQ					2				2
Monitor					2				2
Software					3				3
Management					3				3
Total	0				35				37
15%	Physicists				6				6
25%	Engineers				9				10
25%	Technicians				9				10
15%	Post-docs				6				6
15%	Administration staffs				5				5
	Total	0			35				37

Assume:

- 15%
- 25%
- 25%
- 15%
- 15%

Y3				Y4				Y5				Y6				Y7				Y8			
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Construction off site								Assembly on site								Ins							

7.18	7.18	7.18	3.59	3.59	3.59
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3	3	3	3	3	3	3
5	5	5	3	3	3	3
10	15	15	20	10	5	5
10	15	15	20	10	5	5
2	2	2	2	2	2	2
3	3	3	3	3	3	3
2	2	2	2	2	2	2
2	2	2	2	2	2	2
2	2	2	2	2	2	2
2	2	2	2	2	2	2
3	3	2	2	2	2	2
3	3	2	2	2	2	2
47	57	55	63	43	33	33
8	10	10	10	6	6	6
12	15	14	15	11	8	8
12	15	15	16	11	8	8
8	10	9	15	8	6	6
7	7	7	7	7	5	5
47	57	55	63	43	33	33

Y9				Y10
Q1	Q2	Q3	Q4	Physics Run

Total in construction phase	TDR value

	2
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35.9	35.9
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3	
3	
5	
5	
2	
3	
2	
2	
2	
2	
2	
2	
2	
2	
33	0
6	
8	
8	
6	
5	
33	0

27
35
90
90
18
27
18
18
18
18
22
22
403
68
102
104
74
55
403