

The following table summarises the current cost estimates at CERN for the Tier-0, Tier-1 and Analysis Facility. The requirements are from the TDR, including a full ALICE run in 2008. This has a significant impact on the cost in Phase 2 (2006-08) as it brings in investments previously budgeted in 2009. Note that there is now about a 15% gap between the cost estimate and the budget, while the **funding** is now only two thirds of the estimated cost. I am assuming that in the end we will get the full budget – but I think that there is no chance of getting more than this. We should have a first discussion of how to handle the fluctuating requirements.

### Summary of Cost Estimates for the CERN LHC Computing Facility LCG Phase 2 - 2006-08

*This model uses as a base the requirements of the experiments as documented in the LCG TDR*

*2007 assumption: 50 days of data in second half of the year*

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*All costs - MCHF*

	year	2006	2007	2008	total	% of total cost	check (rounding)
<b>Basic Infrastructure</b>		<b>8.5</b>	<b>8.6</b>	<b>3.4</b>	<b>20.5</b>	<b>27%</b>	
Computer Centre UPS and Cooling		2.0	2.0	0.0	4.0		0.0
Systems administration services		0.5	0.5	0.5	1.5		0.0
Physics Database Services		0.5	0.5	0.5	1.5		0.0
Grid certification, test and servers		0.8	0.3	0.3	1.4		0.0
Wide Area Network - line costs, intergration with LAN		2.0	2.0	2.0	6.0		0.0
LAN infrastructure		2.7	3.3	0.1	6.1		0.0
<b>Tier-0 Operation</b>		<b>9.6</b>	<b>9.7</b>	<b>12.7</b>	<b>31.9</b>	<b>41%</b>	
Processors		1.5	1.7	4.1	7.3		0.0
Disk systems		0.3	0.6	1.5	2.3		0.0
Tape storage infrastructure (including robots, maintenance)		1.5	2.0	3.0	6.5		0.0
Tape drives		5.5	2.2	0.0	7.7		0.1
Tape media		0.8	3.2	4.1	8.1	10%	0.0
<b>Tier-1 Operation</b>		<b>4.3</b>	<b>3.6</b>	<b>7.5</b>	<b>15.4</b>	<b>20%</b>	
Processors		1.6	1.1	1.8	4.5		0.0
Disk systems		1.6	1.3	3.2	6.1		0.0
Tape storage infrastructure (including robots)		0.5	0.0	1.0	1.5		0.0
Tape media		0.0	0.6	1.2	1.8		0.0
LAN - low level connectivity		0.6	0.6	0.3	1.5		
<b>CERN Analysis Facility</b>		<b>2.1</b>	<b>1.8</b>	<b>5.4</b>	<b>9.4</b>	<b>12%</b>	
Processors		1.0	0.7	1.7	3.4		-0.1
Disk systems		0.7	0.7	3.2	4.7		0.0
LAN - low level connectivity		0.4	0.4	0.5	1.3		0.3
<b>Total cost of CERN Facility</b>		<b>24.5</b>	<b>23.7</b>	<b>29.0</b>	<b>77.2</b>		
<b>Current Budget</b>		<b>21.9</b>	<b>22.0</b>	<b>21.9</b>	<b>65.8</b>	<b>85%</b>	
<b>Planned Funding (MTP May 2005)</b>		<b>16.6</b>	<b>15.2</b>	<b>18.8</b>	<b>50.6</b>	<b>66%</b>	
<b>Tape media - Tier-0 + Tier-1 + CERN Analysis Facility</b>		<b>0.8</b>	<b>3.8</b>	<b>5.3</b>	<b>9.9</b>	<b>13%</b>	
<b>Estimated additional costs in 2007 for 100 days of data taking</b>			<b>2.0</b>				