

RRB April 2006

LHCb Report

COMMON FUND Spending 2005

kCHF

Detector

Common Fund

CALO

459

DAH

118

OTR

0

INFRASTRUCTURE

1,487

MAGNET

265

RICH

13

MUON

530

TOTAL

2,872

CORE Spending 2005

Trigger is only update.

2005	CALO	DAH	MUON	OTR	RICH	STR	TRIGGER	VELO	TOTALS
FRANCE	1,120,000						585,000		1,705,000
GERMANY BMBF				954,000					954,000
GERMANY MPG						582,000			582,000
ITALY		10,000	2,260,000		430,000		280,000		2,980,000
NL				859,000			35,000	305,000	1,199,000
POLAND				100,000					100,000
RUSSIA	110,000								110,000
SPAIN	37,570	100,000				250,000			387,570
CH		375,000				829,000		2,050,000	3,254,000
UKRAINE						35,000			35,000
UK					3,812,600			649,000	4,461,600
CERN	523,122	505,000	65,000		312,000	735,000			2,140,122
TOTALS	1,790,692	990,000	2,325,000	1,913,000	4,554,600	2,431,000	900,000	3,004,000	17,908,292

CALO figure includes contributions in kind.

COMMON FUND Spending 2006 & 7	
	kCHF
Detector	Common Fund
CALO	1,420
DAH	480
OTR	900
INFRASTRUCTURE	2,820
MUON	546
RICH	672
TOTAL	6,838

EXPECTED CORE SPENDING IN 2006

excluding Common Fund

2006	CALO	DAH	MUON	OTR	RICH	STR	TRIGGER	VELO	TOTALS
FRANCE							796,000		796,000
GERMANY BMBF				218,000					218,000
ITALY			1,575,000		20,000		100,000		1,695,000
NL							180,000		180,000
RUSSIA	330,000		135,000						465,000
SPAIN	50,000	100,000				200,000			350,000
CH		625,000				100,000			725,000
UKRAINE						35,000			35,000
UK					1,163,800			105,600	1,269,400
CERN		44,000							44,000
TOTALS	380,000	769,000	1,710,000	218,000	1,183,800	335,000	1,076,000	105,600	5,777,400

Only Trigger updated.

Cat A M&O Outcome 2005

Item list	Outcome of 2005 Spending	Budget kCHF
Detector related costs	81	120
Secretariat	150	180
Communications	13	5
On-line computing	115	180
Test beams, calibration facilities	72	20
Laboratory operations	38	45
General services	280	320
Total	749	870
Power	0	60

The spending on the Category A M&O account on 7th April was 420 kCHF. It is higher than expected for this time of the year because some services that have traditionally been invoiced later in the year have already been invoiced.

The balance of the account was 200 kCHF as not many of this year's contributions had been received.

Cat A M&O Estimate for 2007

Estimated Category A M&O Costs for LHCb	2007
Items	kCHF
Detector related costs	978
Secretariat	189
On-Call communications	9
CORE Computing	0
On-line Computing	740
Test Beams	40
Laboratory Operations	35
General Services	321
Total	2312
Power	100

Cat A M&O 2007 Budget Sharing

FUNDING AGENCY	PhD	% PhD	2007	Power	Total Cat A
	Equivs	Equivs.	Share	Share	plus Power
BRAZIL	14	4.01%	92,745	24,069	116,814
CERN	52	14.90%	344,481		
CHINA	3	0.86%	19,874	5,158	25,032
FRANCE IN2P3	47	13.47%	311,358		
GERMANY BMBF	13	3.72%	86,120		
GERMANY MPG	7	2.01%	46,372		
ITALY INFN	49	14.04%	324,607		
NETHERLANDS	15	4.30%	99,370		
POLAND	13	3.72%	86,120		
ROMANIA	4	1.15%	26,499	6,877	33,375
RUSSIA	32	9.17%	211,989	23,310	235,298
SPAIN	15	4.30%	99,370		
SWITZ Lausanne	11	3.15%	72,871		
SWITZ Zurich	6	1.72%	39,748		
UK	58	16.62%	384,229		
UKRAINE	4	1.15%	26,499	6,877	33,375
USA NSF	6	1.72%	39,748	9,768	49,516
TOTAL	349	100.00%	2,312,000	76,058	

Forecast Cat A M&O Budgets for 2008-2010

Estimated Category A M&O Costs for LHCb	2008	2009	2010
Item	kCHF	kCHF	kCHF
Detector related costs	978	978	978
Secretariat	192	195	200
On-Call communications	9	9	9
CORE Computing	0	0	0
On-line Computing	740	740	740
Test Beams	25	25	25
Laboratory Operations	35	35	35
General Services	318	328	328
Total	2297	2310	2315
Power	903	903	903
Grand Total	3200	3213	3218

Memorandum of Understanding for Maintenance and Operation of LHCb

Updated 6-04-06

List of Funding Agencies and their Representatives

Country	Funding Agency	Represented by	Signed on
Brazil Silva	CNPq *	E. Mirra de Paula e	
CERN	European Laboratory for Particle Physics	D. Schlatter	04.12.2002
China	NSFC	N. Wang	*
France	IN2P3	G. Wormser J.J. Aubert	25.09.2002
Germany	BMBF	H.-F. Wagner	*
	Max-Planck-Institute, Heidelberg	W. Hofmann	*
Italy	INFN	E. Iarocci	25.11.2002
The Netherlands	NIKHEF	G. van Middelkoop J.Engelen	14.11.2002
Poland	State Committee for Scientific Research	A. Wiszniewski	18.10.2004
Romania	ANSTI, IFIN - HH	G. Mateescu	21/04/2004
Russia	Ministry of Industry, Science and Technology of the Russian Federation	G.V. Kozlov	04/2006
Spain	MCYT	R. Marimón	17.02.2003
Switzerland	Swiss National Science Foundation	P. Burkhard	*
	Lausanne University	G. Chapuis	*
	Zürich University	U. Straumann	*
United Kingdom	PPARC	R. Wade	24.09.2002
Ukraine	Ministry of Science and Education	Ya.. Yapkin	*
U.S.A.	Syracuse University	S. Stone	9.03.2006

Category B

Most detectors do not plan on having Category B costs until 2007 or 2008.

Exceptions are the STR and Muon.

The sharing method is decided by the detector groups and is typically proportional to the original M&O CORE sharing or to the number of names on papers.

Manpower required for 2007 as Cat B contribution to CORE software production and maintenance

CORE Software Manpower 2007	FTE's
Project Management	2.7
Software Framework	2.8
Alignment & Conditions DB	2
Software Infrastructure	3
Applications	4.7
Distributed Production	10.2
Production	5
Global Applications	6.5
Total CORE Computing	36.9

Estimated Cat B budgets for 2007

Cat B Estimates for		2007
Sub-detector		
	kCHF	
VELO	126	estimate from 2002
RICH	114	Will increase to 719 k if HPD spares are not funded.
STR	160	
OTR	460	3 FTE in 2007, 3x2 months in 2008 onwards
CALO	340	estimate from 2002
Muon	356	Expected to drop to about 200 k /yr for later years
Online	325	
Trigger	60.3	

Some preliminary Cat B shares for 2007

Detector	Country	kCHF
MUON		
	Italy	158
	CERN	45
	Russia	23
L0 Trigger		
	France	48.3
	Italy	12
	Netherlands	0
RICH		
	UK	84.4
	Italy	14.8
	CERN	14.8