# RRB Apr. 21st 2010

- -Situation of Common Funds
- -Situation of Core Funds
- Projected M&O Cat. A budgets for the coming years
- Total M&O Cat. A budget and detailed expenditure in 2009
- Approved budget for 2010 and projected for 2011
- Conclusions

### Common Funds situation at end of year 2009

COMMON FUNDS expenditure at end of year 2009									
All in kCHF	n kCHF								
Detector	Expenditure	Committed	Totals						
OTR	318		318						
CALO	11.9		11.9						
DAQ	510.4	3.5	513.9						
INFRASTRUCTURE	356.1	62.8	418.9						
MUON	385		385						
RICH	293.1		293.1						
TOTAL	1874.5	66.3	1940.8						
VELO NON CORE	46.7		46.7						
	1921.2		1987.5						

A 615 kCHF is still uncommitted at present (March 2010).

In view of the long shutdown in 2012 - 13 and of the foreseeable important interventions on sub-detectors and on general safety and infrastructure, we would like to ask for an extension of the Common Funds lifetime beyond the foreseen year 2010 to year 2013.

#### Core

Most of the Core spending came to an end in 2006. Purchasing for DAQ and data storage will continue throughout 2010 with the future DAQ – FARM expenditure planning being finalized in June. It will be funded by Core and non-Core resources.

## M&O A forecast (without VELO and Power) in kCHF:

	Year					
	2008	2009	2010	2011	2012	2013
Detector related costs	986	914	920	925	930	930
Secretariat	192	192	192	200	200	200
Communications	12	12	50	50	50	50
Core Computing	0	100	150	150	150	150
Online Computing	705	850	750	775	800	825
Test beams, calibration facilities	30	20	30	40	40	40
Laboratory operations	60	60	60	60	60	60
General services	360	360	360	360	360	360
	2345	2508	2512	2560	2590	2615

Communication, takes in account EVO or whatever comes next.

Core Computing in agreement with SG and RRB has been risen from 0 to 150 kCHF.

Online Computing maintenance part has been modulated to take in account the delay in LHC startup and (at that time) foreseen shutdown in 2011 (now 2012).

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# Budget 2009 main lines (without VELO and Power, in kCHF)

2009	Budget	Used	Difference
detector related	914	921	-7
secretariat	192	161	31
communication	12	40	-28
core comp	100	123	-23
on line	850	740	110
test beams	20	18	2
laboratory	60	47	13
general services	360	337	23
Totals	2508	2387	121

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LHCb M&O	Category A at	Book Closing en	d 2009 (all in kCHF)
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2009	Budget	Used	Difference
detector related	914	921	-7
secretariat	192	161	31
communication	12	40	-28
core comp	100	123	-23
on line	850	740	110
test beams	20	18	2
laboratory	60	47	13
general services	360	337	23
Totals	2508	2387	121

Rather well balanced budget. Due to the November start of LHC, a few orders hit towards the end of the year and are being charged to year 2010.

Therefore, we propose to keep the 121 kCHF surplus in 2009 as buffer. We will report back to RRB in October.

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Detector related costs		
	Magnet	44
	Gas	305
	Cooling	123
	Safety	33
	Tech. support	223
	Beam pipe	91
Secretariat		
	Secretarial aid	155
Communication		
	EVO	37
On-line computing		
	System Manag.	466
	Hardware	275
Test beams, calibration		
	Operation	15
Laboratory operations		
	Operation	41
General services		
	Cool., vent. etc	128
	Transport	147
	Survey	10

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# Approved 2010 M&O Category A Budget:

			M&O A	VELO	Power	
	PhD eq.		kCHF	kCHF	kCHF	
2010	total/		2,512	100	600	Total
2010	funding auth.					
		%	CHF	CHF	CHF	CHF
BRAZIL	11	3.1	78,724	3,134	18,803	100,661
FRANCE	42	12.0	300,581	11,966	0	312,547
BMBF GERMANY	16	4.6	114,507	4,558	0	119,066
MPI, MPG, GERMANY	6	1.7	42,940	1,709	0	44,650
IRELAND	2	0.6	14,313	570	3,419	18,302
INFN ITALY	47	13.4	336,365	13,390	0	349,755
NETHERLANDS	16	4.6	114,507	4,558	0	119,066
P. R. CHINA	3	0.9	21,470	855	5,128	27,453
POLAND	10	2.8	71,567	2,849	0	74,416
HHNIPNE ROMANIA	5	1.4	35,783	1,425	8,547	45,755
RUSSIA	32	9.1	229,014	9,117	23,177	261,308
SPAIN	16	4.6	114,507	4,558	0	119,066
SWITZERLAND	21	6.0	150,291	5,983	0	156,274
UKRAINE	3	0.9	21,470	855	5,128	27,453
UK	65	18.5	465,185	18,519	0	483,704
USA	9	2.6	64,410	2,564	14,569	81,544
CERN	47	13.4	336,365	13,390	0	349,755
TOTAL	351	100.0	2,512,000	100,000	78,772	2,690,772

# Projected 2011 M&O Category A Budget:

			M&O A	VELO	Power	
	PhD eq.		kCHF	kCHF	kCHF	
2011	total/		2,560	100	970	Total
2011	funding auth.					
		%	CHF	CHF	CHF	CHF
BRAZIL	11	3.1	80,228	3,134	30,399	113,761
FRANCE	42	12.0	306,325	11,966	0	318,291
BMBF GERMANY	16	4.6	116,695	4,558	0	121,254
MPI, MPG, GERMANY	6	1.7	43,761	1,709	0	45,470
IRELAND	2	0.6	14,587	570	5,527	20,684
INFN ITALY	47	13.4	342,792	13,390	0	356,182
NETHERLANDS	16	4.6	116,695	4,558	0	121,254
P. R. CHINA	3	0.9	21,880	855	8,291	31,026
POLAND	10	2.8	72,934	2,849	0	75,783
HHNIPNE ROMANIA	5	1.4	36,467	1,425	13,818	51,709
RUSSIA	32	9.1	233,390	9,117	37,469	279,976
SPAIN	16	4.6	116,695	4,558	0	121,254
SWITZERLAND	21	6.0	153,162	5,983	0	159,145
UKRAINE	3	0.9	21,880	855	8,291	31,026
UK	65	18.5	474,074	18,519	0	492,593
USA	9	2.6	65,641	2,564	23,554	91,759
CERN	47	13.4	342,792	13,390	0	356,182
TOTAL	351	100.0	2,560,000	100,000	127,347	2,787,347

### **Conclusions**

The M&O Cat A budget has shown to be well balanced over the recent years.

For the near future, we do not expect large fluctuations of the main expenditure lines inside an essentially constant total budget. Some adjustments will possibly come from Online and Offline Computing and Communication.