



CMS

M&O Expenditure for 2008

Compact Muon Solenoid

CERN-RRB-2009-034

Cf. CERN-RRB-2008-033

A. Petrilli, RRB-28, April 27, 2009



Introduction

- **This is the seventh time the CMS Collaboration presents an M&O Expenditure report**
- **Reported expenses are for payments and open commitments related to delivered goods**
- **Long-term commitments should normally not occur**
- **Expenses are compared to the approved budgets**



M&O-A 2002-2008 Contributions

- **M&O-A received contributions are as indicated in the Finance report (cf. CERN-RRB-2009-036)**
- **The budget years 2002 and 2005 are now fully paid**
- **Budget years 2003, 2004, 2006 and 2007 will be fully paid by 2010 April RRB**
- **CMS thanks all Funding Agencies for their timely payments to the 2008 M&O-A**



M&O-A 2008 Expenditures Overview

Year	2008
System	A. M&O-A

			kCHF	
Type		Subsystem	Budget	Payments
Expense	M&O-A w/o Power	A.1. Detector related costs	3,692	3,870
		A.2. Secretariat	340	277
		A.3. Communications	120	151
		A.4. On-line computing	2,541	2,313
		A.5. Test beams, calibration facilities	115	180
		A.6. Laboratory operations	270	311
		A.7. General services	1,670	1,649
		A.9. Core Computing Infrastructure & Services	1,411	1,247
	<i>M&O-A w/o Power Total</i>		10,159	9,999
	<i>Power</i>		1,800	640
<i>Expense Total</i>			11,959	10,638
<i>Income</i>			11,959	11,011

719 kCHF of outstanding commitments to be paid in 2009

All data extracted from Annex 1

(with corrections to Income and Electricity consumption)



Outstanding Contributions M&O-A-change

Budget Year	2002	2003	2004	2005	2006	2007	2008
Invoiced CHF	924,788	1,765,337	2,497,757	3,692,022	6,564,745	8,847,436	10,983,548
<i>Paid before following year April RRB</i>	805,287	1,548,732	2,301,570	3,371,721	6,384,062	8,839,133	10,664,148
<i>% Outstanding before following year April RRB</i>	12.9%	12.3%	7.9%	8.7%	2.8%	0.1%	2.9%
<i>Paid to-date</i>	924,788	1,713,013	2,462,961	3,692,022	6,551,377	8,839,133	10,664,148
<i>% Outstanding to-date</i>	0.0%	3.0%	1.4%	0.0%	0.2%	0.1%	2.9%



M&O-B Expenditures Overview

- **As CMS does not centrally invoice for M&O-B, the Collaboration is reporting qualitatively on these expenses**
- **The arrangements made in 2008 worked satisfactorily**
- **There are no reports of Institutes not participating to their fair share of M&O-B costs.**



Summary

The RRB is invited to take note of the present expenditure report.

- **We kindly ask Funding Agencies to ensure that payments are made as early as possible**
- **We urgently ask Funding Agencies with outstanding contributions for the previous years to make these payments as soon as possible**
- **With the help of CERN, we will keep working on reducing the outstanding contributions**

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Status of M&O MoU Signatures

Compact Muon Solenoid



Status of M&O MoU Signatures

Funding Agency	Signed on
Austria	9-Oct-2002
Belgium-FNRS	23-Aug-2002
Belgium-FWO	20-Aug-2002
Brazil	
Bulgaria	7-Aug-2008
Colombia	19-Sep-2008
CERN	4-Dec-2002
China NSFC/CAS	2-Aug-2002
Croatia	8-Oct-2002
Cyprus	16-Aug-2002
Estonia	17-Oct-2002
Finland	19-Sep-2002
France-CEA	26-Aug-2002
France-IN2P3	25-Sep-2002
Germany	12-Sep-2002
Greece	
Hungary	13-Sep-2002
India	16-Sep-2002
Iran	
Ireland	
Italy	25-Nov-2002



Status of M&O MoU Signatures

Funding Agency	Signed on
Korea	25-Oct-2006
Mexico	
New Zealand	
Pakistan	3-Mar-2003
Poland	19-Oct-2004
Portugal	26-Jun-2002
RDMS-Dubna	17-Sep-2002
RDMS-Russia	26-Mar-2006
Serbia	12-Aug-2005
Spain	17-Feb-2003
Switzerland-ETHZ	
Switzerland-PSI	
Switzerland-Univ. Basel	15-Nov-2002
Switzerland-Univ. Zurich	27-Nov-2002
Taipei	12-Jul-2002
Turkey	12-Mar-2003
UK	24-Sep-2002
USA-DOE/NSF	14-Oct-2002

The M&O MoU has not yet been sent to the following Funding Agencies:
Brazil, Iran, Ireland, Mexico and New Zealand



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Preliminary Draft Budget for M&O 2010

Compact Muon Solenoid

Cf. CERN-RRB-2008-065

A. Petrilli, RRB-28, April 20, 2009



Introduction

- **The CMS Collaboration is presenting, as last year, a preliminary draft Budget Request both for Category A and Category B M&O for information only**
- **The cost sharing presented here is for information only and will change**
- **Further input from the Scrutiny Group will be taken into account in the October M&O Draft Budget.**



2010 M&O-A PDB Comments

- **M&O-A costs will be reviewed by the CMS Finance Board prior to be submitted to the Scrutiny Group**
- **The M&O-A cost estimates have not changed with respect to the November 2008 RRB meeting**
- **The M&O-A sharing is based on the latest PhDs list available in October 2008 (cf. CERN-RRB-2008-099), this list will be updated for the October 2009 RRB**



2010 M&O-A PDB Overview of Annex A.1

Maintenance & Operations (kCHF)		Year
Group	Description	2010
Maintenance & Operations	Detector related costs	3,633
	Secretariat	290
	Communications	120
	On-line computing	4,682
	Test beams, calibration facilities	95
	Laboratory operations	270
	General services	1,585
	Core Computing Infrastructure & Services	1,645
Maintenance & Operations Total		12,320
Power	Electricity	1,800
Power Total		1,800
Grand Total		14,120



2010 M&O-B PDB Comments

- **M&O-B costs have been reviewed by the CMS Collaboration partially**
- **This budget request will be further updated before submission to the Scrutiny Group**
- **The M&O-B cost sharing presented is the same as the one presented in October 2008**
- **The sharing is still subject to changes**



2010 M&O-B PDB Overview of Annex B.1

Year	2010
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Amount (kCHF/FTE)			Detector					Core Computing	Grand Total
Description	Ref.	Details	Tracker	ECAL	HCAL	Muon	Trigger		
Material Resources (kCHF)	B.1.01	Mechanics	30	28	90	7		154	
	B.1.02	Gas-system	30	5	2	20		57	
	B.1.03	Cryo-system			0			0	
	B.1.04	Cooling system	250	35	2	10		296	
	B.1.05	FE electronics	0	0	0	172		172	
	B.1.06	Standard electronics, PS (LV, HV)	350	215	0	185		750	
	B.1.07	Standard electronics, Crates	0	48	0	68		116	
	B.1.08	Standard electronics, RO Modules	200	167	0	245	490	1,102	
	B.1.09	Controls, (DCS, DSS)	80	100	0	134		314	
	B.1.10	Sub-Detector Spares	0	210	0	74		284	
	B.1.11	Areas	200	80	24	82		385	
	B.1.12	Communications	25	21	98	29		174	
	B.1.13	Store Items	60	60	31	49		200	
	B.1.14	Hired Manpower @CERN	600	465	354	286	200	1,905	
Material Resources (kCHF) Total			1,825	1,433	600	1,362	690	5,910	
Human Resources (FTE)	B.2.01	Technical Manpower @CERN	8	10	0	15	8	41	
	B.2.02	Core Computing Manpower @CMS						96	
Human Resources (FTE) Total			8	10	0	15	8	137	



M&O-B Manpower

- **The CMS Collaboration has now finalized the Memoranda of Agreement (MoA) to formalize the service work to operate the CMS detector during the year 2009**
- **As a result, item B.2.01, Technical Manpower at CERN, will be absorbed by the MoA and removed from the M&O-B tables**
- **This change has already been implemented for HCAL**



Summary

- **The M&O-A Preliminary Draft Budget 2010 amounts to some 14 MCHF**
- **The M&O-B Preliminary Draft Budget 2010 amounts to some 5.9 MCHF and some 137 FTEs of collaborating Institutes manpower**
- **The RRB is invited take note of the present, unscrutinized, cost estimates for M&O-A and M&O-B**