

The background of the slide features a stylized, light gray line drawing of the CMS Compact Muon Solenoid. It shows the circular cross-section of the detector with concentric arcs representing the solenoid coils and the inner tracking structure. The text is overlaid on this graphic.

# CMS

## M&O Expenditure for 2012

**CERN-RRB-2013-012**

cf. CERN-RRB-2013-046

A. Charkiewicz, RRB-36, April 15, 2013



# Introduction

- **This is the eleventh time the CMS Collaboration presents an M&O Expenditure report**
- **Reported expenses are for payments (open commitments related to delivered goods are reported globally)**
- **Expenses are compared to the approved budgets**



## M&O-A 2002-2012 Contributions

- Budget years up to 2011 are now fully paid
- M&O-A received contributions for 2012 amount to **94%** of the total due
- For budget year 2012 the outstanding contributions amount to 848 kCHF
- CMS thanks all Funding Agencies for their timely payments to the 2012 M&O-A



## Outstanding Contributions M&O-A

Budget Year	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Invoiced CHF	924,788	1,765,337	2,497,757	3,692,022	6,564,745	8,847,436	10,983,548	11,216,034	12,741,585	13,366,267	14,050,863
<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	10,977,022	12,711,496	13,329,437	13,203,024
<i>Outstanding % before following year April RRB</i>	12.9%	12.3%	7.9%	8.7%	2.8%	0.1%	2.9%	2.1%	0.2%	0.3%	6.0%
<i>Paid to-date</i>	924,788	1,765,337	2,497,757	3,692,022	6,564,749	8,847,436	10,983,548	11,216,034	12,741,585	13,366,267	13,203,024
<i>% Outstanding to-date</i>	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.0%



## **M&O-A 2012 Expenditures Overview**

- **Overall M&O-A expenditures in 2012 were in line with the allocated budget**
- **There is an overspending in some areas and under-spending in others. A detailed explanation of each budget item where there is significant divergence between the allocation and expenditure is provided in the document 'Summary of Expenditure for CMS M&O for the year 2012' (CERN-RRB-2013-046)**
- **The main areas where some overspending occurred were:**
  - ◆ **Gas consumption, which was higher due to the fact that CF4 recuperation has not yet been optimized to the anticipated level**
  - ◆ **Expenditures related to ensuring readiness for Long Shutdown 1 (LS1), mainly the completion of the Operations Support Centre (OSC), cabling activities and engineering design work**
  - ◆ **Secretarial assistance cost increased mainly due to the need for maternity leave replacement**



## M&O-A 2012 Expenditures Overview (2)

- The actual amount of expenditures for Online hardware was 490 kCHF\*. However the total allocation of 2.8 MCHF is considered as spent as the balance has been transferred to the special DAQ Account approved by the RRB in October 2011. This will be used at the most appropriate time for DAQ hardware purchase, most likely at the end of 2013
- Expenditures on electrical power reported in Annex 1 are significantly lower than the allocated budget. This is due to the fact that power costs are not invoiced to FAs which belong to CERN Member States and hence not reported as expenditures. Discussions are underway with the RRB SG concerning the allocation for Power with the objective of proposing a reduction for the 2014 budget
- Due to the fact that overspending has been compensated by under-spending in other areas (e.g. cooling fluids, external cryogenics) the overall balance of the M&OA (without power) is only slightly negative. This global over-spending represents only 85 kCHF which represents only 0.6% of the budget

\* 1.8 MCHF taking into account transfer to special DAQ account the 2011 savings on hardware



## M&O-A 2012 Expenditures Overview

		kCHF	
	Subsystem	Budget	Payments
M&O-A	A.1. Detector related costs	3,956	3,914
(without Power)	A.2. Secretariat	297	361
	A.3. Communications	370	368
	A.4. On-line computing	3,798	3,805
	A.5. Test beams, calibration facilities	96	100
	A.6. Laboratory operations	919	925
	A.7. General services	1,835	1,880
	A.7. Core Computing Infrastructure & Services	1,964	1,967
<i>M&amp;O-A without Power Total</i>		13,235	13,320
Power	A.8. Electricity	1,800	372
<i>Expense Total</i>		15,035	13,692

**978 kCHF of outstanding commitments to be paid in 2013**

All data extracted from Annex 1 of the Expenditure Report



## M&O-B 2012 Expenditures Overview

- **As CMS does not centrally invoice for M&O-B, the Collaboration is reporting qualitatively on these expenses. A large part of these expenses are in-kind contributions from participating institutes**
- **The overall Subsystem arrangements made in 2012 worked satisfactorily**
- **Almost all Funding Agencies now participate in the M&O-B budget and for a few formal arrangements for recognizing their contribution to Subsystems are being finalized**
- **No major problems have been encountered by the Subsystems in obtaining funding for their M&O-B budgets**
- **The sharing of costs in Subsystems is largely in line with the principle of reflecting current responsibility of Funding Agencies/Institutes**
- **As requested by the RRB, the M&O-B expenditures will undergo formal scrutiny by the RRB Scrutiny Group as in the previous two years**





## Summary

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

- **In view of the operational nature of the CMS expenses we kindly ask Funding Agencies to ensure that payments are made as early as possible**

The image features the CMS logo in large red letters at the top. Below it, the title 'Preliminary Draft Budget (PDB) for M&O 2014' is written in bold blue text. At the bottom of the main content area, there is a reference 'Cf. CERN-RRB-2013-011' in red. The entire content is enclosed in a light gray rectangular frame. The background of the frame contains a faint, light gray diagram of the Compact Muon Solenoid (CMS) detector, showing its curved structure. On the right side of the frame, the text 'Compact Muon Solenoid' is written vertically in a light gray font.

# CMS

## **Preliminary Draft Budget (PDB) for M&O 2014**

**Cf. CERN-RRB-2013-011**

A. Charkiewicz, RRB-36, April 15, 2013



# 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 in document CERN-RRB-2013-011 is **preliminary and for information only** (based on the latest PhDs list from September 2012) and will change for the October 2013 RRB
- The M&O-A costs will be reviewed by the CMS Finance Board and further input from the Scrutiny Group will be taken into account in the October M&O Draft Budget



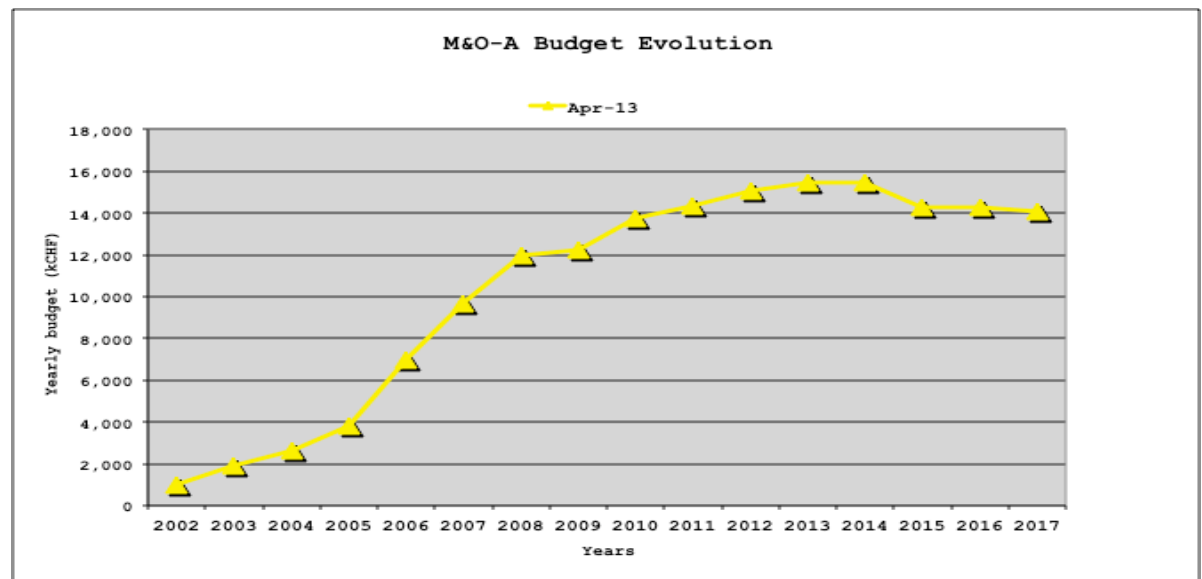
## 2014 M&O-A PDB Comments

The M&O-A cost estimates have changed only slightly with respect to the October 2012 RRB meeting. The only change is a request of 20 kCHF for website maintenance (A.3 Communications).

- *The total estimated budget for M&O-A excluding power is **13'676 kCHF***
- *The total estimated budget for M&O-A with power is **15'426 kCHF***

This budget request may be revised further before being presented to the October 2013 RRB taking into account discussions at the CMS Finance Board and input from the RRB Scrutiny Group

- The budget projection up to the year 2017 shows that, as agreed with the RRB, the total M&O-A allocation decreases after LS1 remains at a flat level in following years





## 2014 **M&O-A** Preliminary Draft Budget

		kCHF
	Subsystem	Budget
M&O-A without Power	A.1. Detector related costs	4,592
	A.2. Secretariat	297
	A.3. Communications	140
	A.4. On-line computing	3,898
	A.5. Test beams, calibration facilities	96
	A.6. Laboratory operations	578
	A.7. General services	2,111
	A.9. Core Computing Infrastructure & Services	1,964
	<i>M&amp;O-A without Power Total</i>	<i>13,676</i>
Power	A.8. Electricity	1,750
<i>Expense Total</i>		<i>15,426</i>



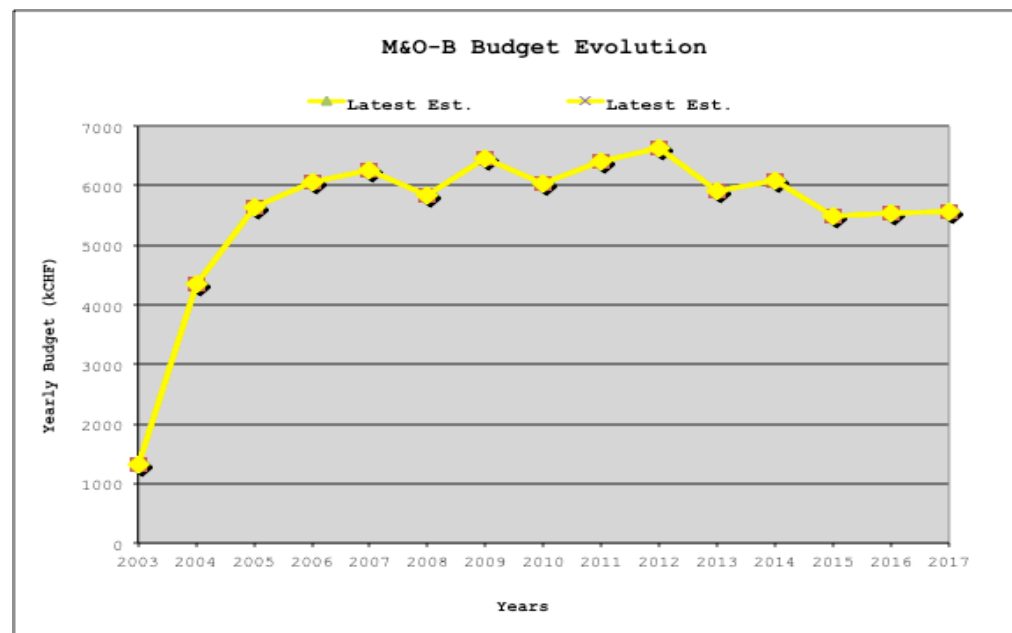
## 2014 M&O-B PDB Comments

- **M&O-B costs have been partially reviewed by the CMS Collaboration. This will continue via an internal scrutiny process with dedicated Internal Scrutiny Groups (ISG) set up for each Subsystem**
- **This budget request will be further updated before being presented to the October 2013 RRB taking into account input from the RRB Scrutiny Group**
- **As requested by the RRB, the M&O-B budget request will undergo formal scrutiny by the RRB Scrutiny Group as in the previous two years**
- **Some modifications have been made in the M&O-B cost sharing as compared to the one presented in October 2012**



## 2014 M&O-B PDB Comments (2)

- *With respect to the forecast of the M&O-B budget for 2014 as presented at the October 2012 RRB the budget has increased slightly from 5'983 kCHF to 6'097 kCHF*
- *The total M&O-B budget for 2014 is higher by 182 kCHF as compared to the 2013 budget of 5'915 kCHF. This is mainly due to maintenance and repair work necessary in Sub-detectors during LS1*
- *The forecast for the next four years shows a decrease of the M&O-B budget as of 2015 after the end of LS1 and remaining at a reduced flat level*





# 2014 M&O-B Preliminary Draft Budget

## Overview of Annex B.1

Amount (kCHF / FTE)			Detector						
Description	Ref.	Budget Category	Tracker	ECAL	HCAL	Muon	Trigger	Core Comput.	Grand Total
Material Resources (kCHF)	B.1.01	Mechanics	40	10	0	20			70
	B.1.02	Gas-system	120	5	0	20			145
	B.1.03	Cryo-system		5	0	0			5
	B.1.04	Cooling system	135	50	10	0			195
	B.1.05	FE electronics		0	157	46			203
	B.1.06	Standard electronics, PS (LV, HV)	0	80	7	97			184
	B.1.07	Standard electronics, Crates		20	37	70			127
	B.1.08	Standard electronics, RO Modules	155	50	102	91	234		632
	B.1.09	Controls, (DCS, DSS)	80	50	55	72			257
	B.1.10	Sub-Detector Spares	0	0	37	22			59
	B.1.11	Areas	55	50	62	50			217
	B.1.12	Communications	90	10	28	30	15		173
	B.1.13	Store Items	50	50	27	58			185
	B.1.14	Hired Manpower @CERN	790	640	811	1,234	170		3,645
Material Resources (kCHF) Total			1,515	1,020	1,333	1,810	419		6,097
Human Resources (FTE)	B.2.01	Technical Manpower @CERN	0	0	0	0	0		0
	B.2.02	Core Computing Manpower @CMS						8	8
Human Resources (FTE) Total			0	0	0	0	0	8	8





## Summary

- **The total M&O-A Preliminary Draft Budget 2014 amounts to 15.4 MCHF**
- **The M&O-B Preliminary Draft Budget 2014 amounts to 6.1 MCHF and some 8 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**