

CERN-RRB-2006-111



Status of ATLAS Resources

Presentation to RRB 23.10.2006

Markus Nordberg

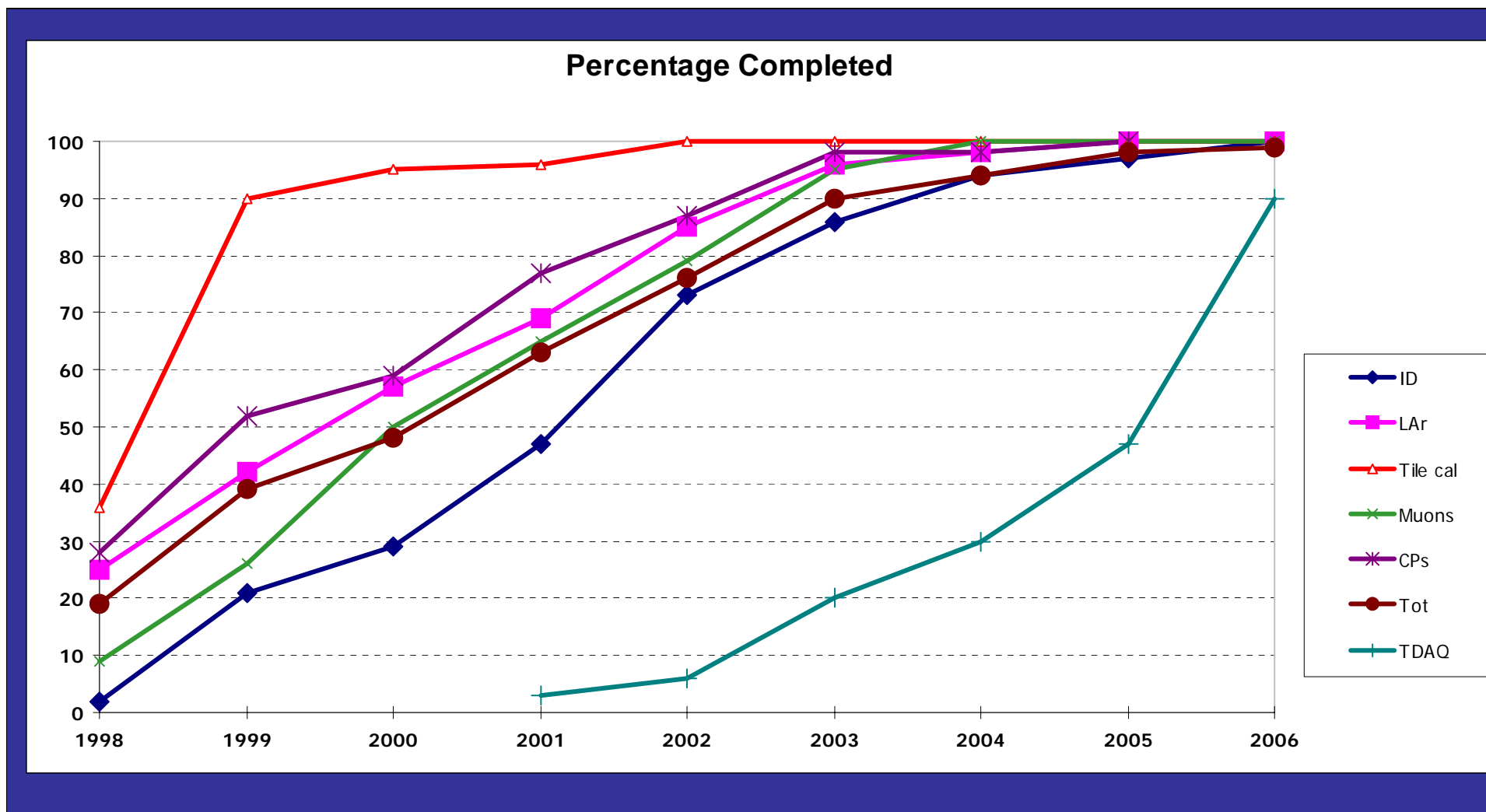
ATLAS Resources Coordination

Introduction to Funding Agency Tables



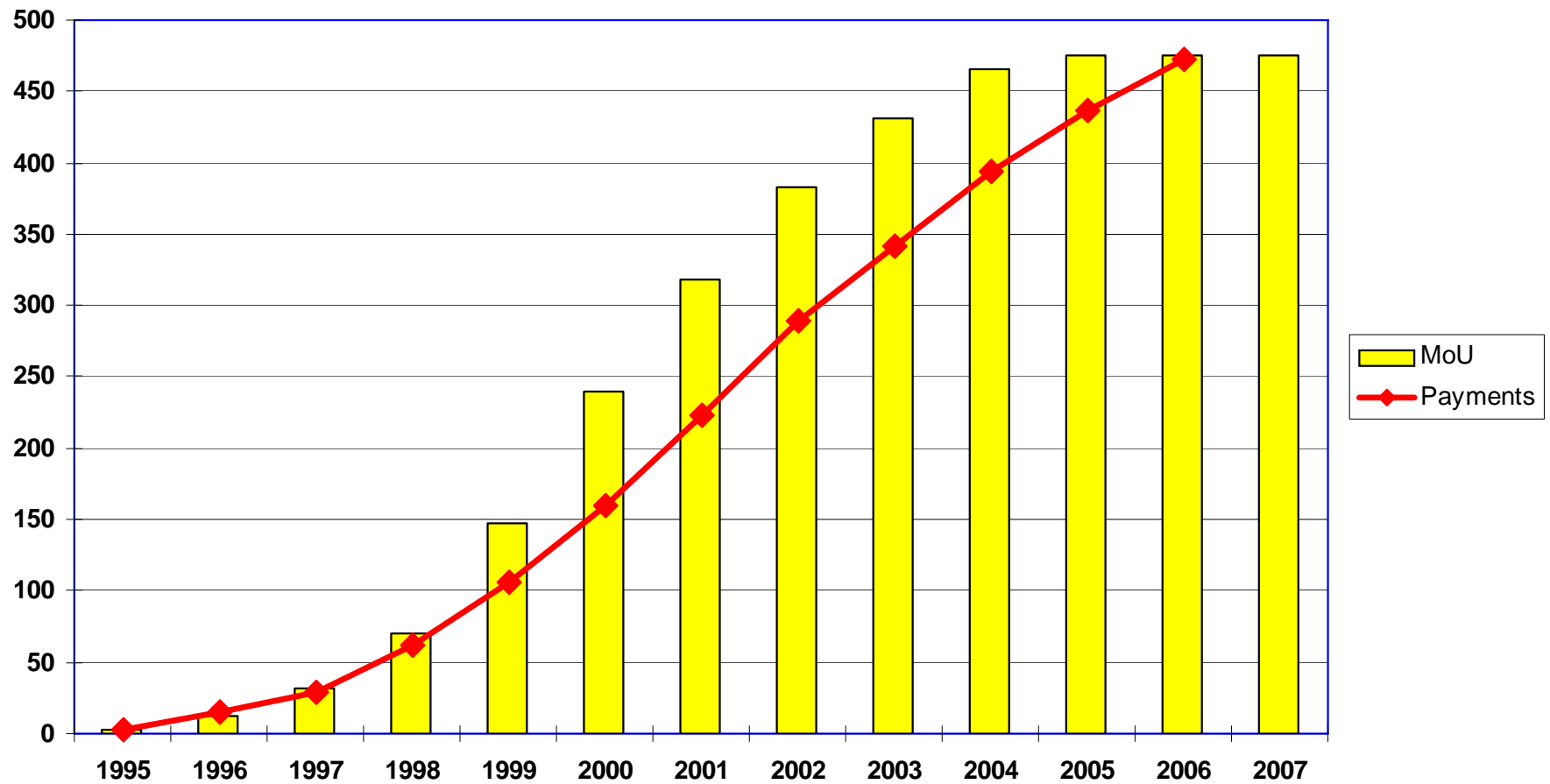
- To remind, the primary purpose of the Funding Agency (FA) tables is to show received or planned income
- The M&O, C&I and CC tables also show the total payments made by the Project
- Cost to Completion (CtC)= Commissioning & Integration (C&I) + Construction Completion (CC)
 - Category A = Common items
 - Category B = System-specific items
- To read the tables
 - Baseline and CC-A
 - ‘Contributions by Funding Agencies’ = income received from FAs
 - ‘Commitments’ by FAs = commitments requested from the FAs, also beyond the budget year
 - M&O, CtC (=C&I+CC)
 - ‘Contributions by Funding Agencies’ = income received from FAs
 - ‘Other income’ = contribution advancements for the future; deferral funds; contributions, transfers from baseline
 - ‘Total (actual) payments’ = payments made by the Project
 - ‘Balance’ = total contributions + other income – total payments
 - The Table numbering refers to those in Documents CERN-RRB-2006-071 and 072, respectively

#071: Baseline Commitments Evolution (%)



Note: TDAQ re-baselined in accordance with CERN-RRB-2004-017 (initial detector)

Baseline Payments Evolution (MCHF), EoY 2006



2006 Baseline Report (Tables 1 - 3), MCHF



	Inner Det.	LAr Cal.	Tile Cal.	Muon Cham.	TDAQ/ DCS	Common Projects	total
commitments	0.1	1.2		4.1	7.2	9.0	21.5
total contributions	1.8	1.2		4.1	8.6	17.8	33.5
total payments	1.8	1.2		4.1	8.6	25.3	41.0
balance						-7.5	-7.5

Note: For global budget balance, see Table 7

Common Projects include CC-A

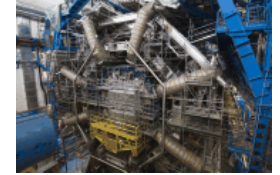
2006 C&I Income & Payments (Table 4)



(kCHF)	Cat. A	Pixel	SCT	TRT	ID	GenLAr	TileC	Muon	Cat. B	A+B
total contributions	2220	0	0	38	443	522	349	159	1511	3731
total payments	153	0	0	52	1175	128	455	589	2399	2552
balance										1179

Note: Balance achieved by using cash deferrals within global cash-flow management shown in Table 7.

2006 CC-B Income & Payments (Table 5)



(kCHF)	Pixel	SCT	TRT	IDGen	LAr	TileC	Muon	Cat. B
total contributions	242	73	67	125	757	74	345	1683
total payments	445	374	0	159	1087	687	275	3027
balance								-1344

Note: Balance achieved by using cash deferrals within global cash-flow management shown in Table 7.

2007 Baseline (Tables 8 - 10), MCHF



budget 2007, as estimated first in April 2006 (CERN-RRB-2006-018)

	Inner	LAr	Tile	Muon	TDAQ/	Common	total
	Det.	Cal.	Cal.	Cham.	DCS	Projects	
commitments					4.6	0.4	5.0
total contributions					4.9	0.4	5.3
total project payments					4.9	0.4	5.3
balance						0.0	0.0

Note: CP includes CC-A

budget 2007, for approval in October 2006 (CERN-RRB-2006-071)

	Inner	LAr	Tile	Muon	TDAQ/	Common	total
	Det.	Cal.	Cal.	Cham.	DCS	Projects	
commitments		0.5			4.6	7.8	12.9
total contributions		0.5			4.9	5.5	10.9
total payments		0.5			4.9	7.8	13.2
balance						-2.3	-2.3

Note: This assumes all due contributions from 2006 will be paid. In reality, a funding gap of up to 10 MCHF is projected at this point in time. The global cash-flow situation is summarized in Table 7.



2007 C&I Income & Payments (Table 11)

(kCHF)	Cat. A	Pixel	SCT	TRT	DGe	LAr	TileC	Muon	Cat. B	A+B
total contributions	0	0	0	0	0	0	0	0	0	0
total payments	0	0	0	0	200	250	0	200	650	650
balance										-650

Note: Balance achieved by using cash deferrals within global cash-flow management shown in Table 7.

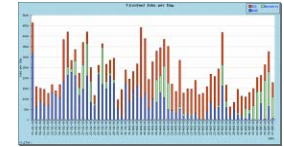
2007 CC-B Income & Payments (Table 12)



(kCHF)	Pixel	SCT	TRT	IDGen	LAr	TileC	Muon	Cat. B
total contributions	64	0	0	23	80	0	0	167
total payments	0	238	0	40	700	100	500	1578
balance								-1411

Note: Balance achieved by using cash deferrals within global cash-flow management shown in Table 7.

Status of Remaining Contributions (Annex 2, August 31, 2006)



Construction MoU obligations (kCHF)					CC + C&I accepted (kCHF)			Total
	detectors		CF					
total paid	remaining deliverables	remaining deferrals	remaining contrib.	total CMoU	total paid	remaining contrib.	total committed	
434,039	15,954	9,070	9,477	468,540	54,044	8,722	62,766	531,305
		of which for CtC		(5,405)			5,405	
Available for payments				463,135	RRB accepted CC+C&I		68,170	531,305

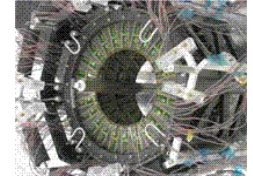
Note: The above contributions do not include + 4.4 MCHF CtC(2)



Projected Budget Balance (Table 7)

PAYMENTS	95-01	2002	2003	2004	2005	2006	2007	2008	2009	2010	Total
Baseline + CC(A)	231	71	56	52	43	41	13	2			509
<i>of which deferrals</i>					-3	-2	-4	-2			-11
C&I (A+B)	0	1	3	4	9	3	1				21
CC (B)		1	1	1	4	3	1				12
TOTAL	231	73	61	57	54	45	11	0	0	0	531
INCOME	95-01	2002	2003	2004	2005	2006	2007	2008	2009	2010	Total
Baseline + CC(A)	252	65	55	54	33	28	9				495
C&I (A+B)		1	9	3	4	4	0				21
CC (B)		2	4	2	1	1	0				11
TOTAL	252	68	68	59	38	33	10	0	0	0	526
BUDGET BALANCE	21	-5	7	2	-15	-13	-1	0	0	0	-4
CUMULATIVE	21	15	23	25	9	-3	-4	-4	-4	-4	

Why These Cashflow Problems?



– Baseline & Common Fund

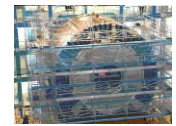
- Some requested baseline & CF contributions will not come in 2006

– Russia + JINR	5 MCHF
– Canada	1.5 MCHF
– US	1.0 MCHF (in progress of being paid)
– China	0.3 MCHF
– Due MS fees	0.2 MCHF
– Deferral funds	1.0 MCHF

– Today also an integral problem

- CtC (2) cost of 4.4 MCHF
- Mechanism to fund it not yet approved
- Need to find a solution for April 2007 RRB

Item & Cost Driver (by RRB SG Headings)	Cat. A M&O
Detector related costs Cryogenics operations Detector operations	5,183
Secretariat 1.5 FTE charged to ATLAS Publications, consumables	245
Communications GSM phones Computer network connections Collaborative tools	120
Core computing (infrastr. & services) Software process service Central production & operation	1,475
On-line computing Detector controls Software licences	1,405
Test beams, facilities Magnet Cryo Op. in B180 On-line computing support TDAQ common electronics	180
Laboratory operations Assembly areas, workshops TDAQ laboratory equipment	75
General services Heavy handling Technical support, storage Survey Outreach Energy	3,039
TOTAL	11,722
Hired manpower at CERN (in kCHF) Institute manpower (in FTE)	incl. above 0
TOTAL M&O FOR A	11,722



• #072: Table 1 2007 M&O-A Budget Estimates

– Category A (11.7 MCHF)

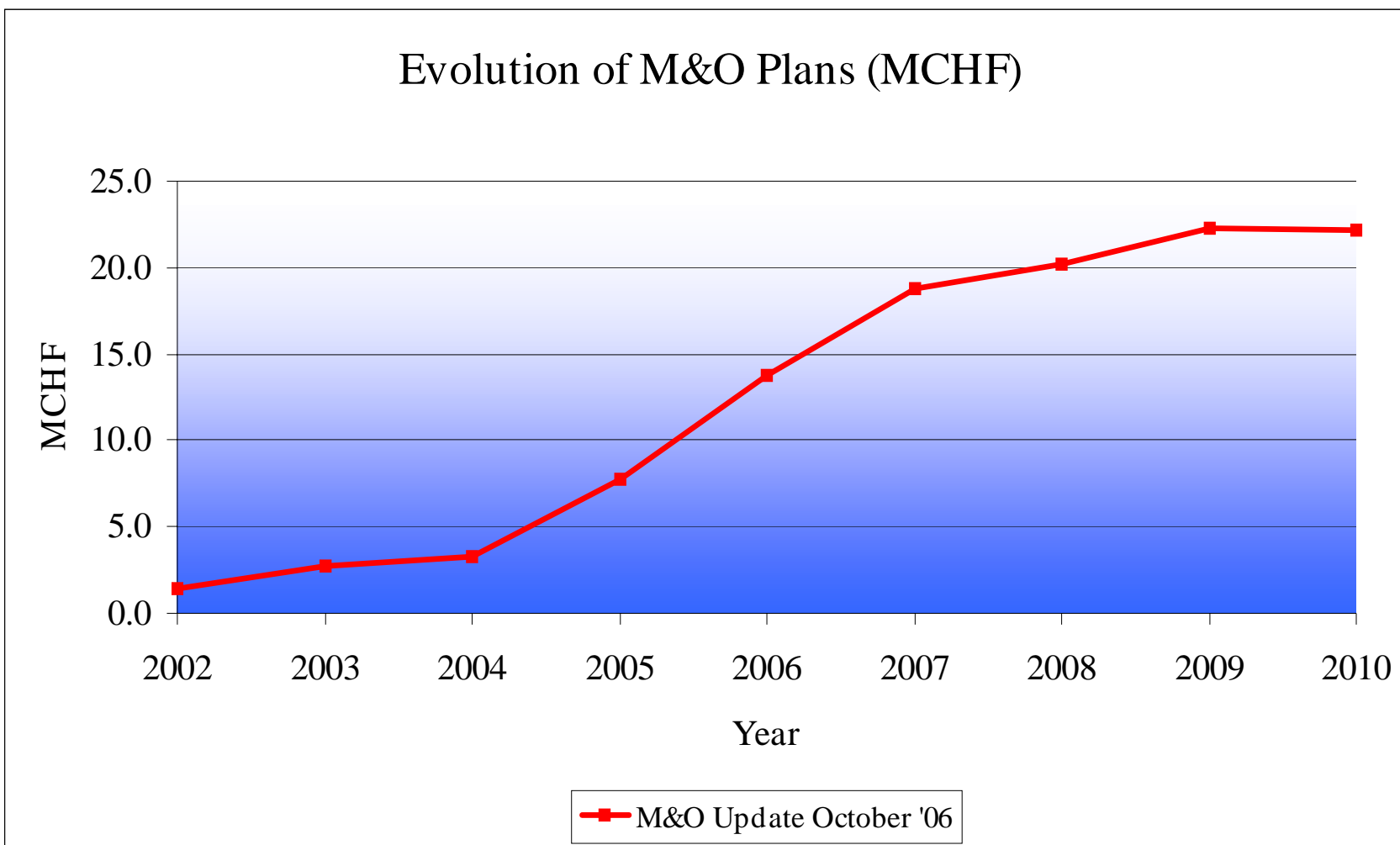
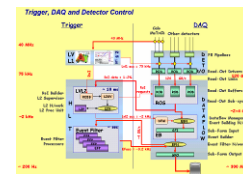
- Cost drivers
 - Technical services (4.2 MCHF)
 - Magnet operation (2.1 MCHF)
 - Core computing I&S (1.5 MCHF)
 - On-line comp. (1.6 MCHF)
 - Energy (1.5 MCHF)

Pixe	SCT	TRT	IDGen	LAr	TileC	MuonComp.	Cat. B M&O	Item & Cost Driver (by RRB SG Headings)
0	10	305	285	65	65	530	1,260	Mechanics & Gas & Cooling & Cryogenics Gases (ID, Tiles, Muons)
315	165	180	45	360	220	310	1,595	Standard electronics Crates, electronics pool rentals
10	20	10	5	30	75	0	150	Detector controls
30	245	50	643	30	110	0	1,108	Areas SR1-operations (ID), system tests, lab oper.
0	0	0	5	5	5	5	20	Communications
40	40	30	50	50	55	0	265	Store items
100	137	270	0	245	25	0	777	Sub-detector spares (incl. b-layer replacement)
495	617	845	1,033	785	555	845	0	5,175 (Excluding hired manpower for Category B)
100	108	80	657	280	250	330	1,805	
0	0	0	0	2	6	10	86	104
595	725	925	1,690	1,065	805	1,175	0	6,980 TOTAL M&O FOR B



- Table 2
- 2007 M&O-B
Budget Estimates in
kCHF (Table 1)
 - Category B (7.0 MCHF)
 - Cost drivers
 - Technical services, manpower (1.8 MCHF)
 - Electronics replacements, rental (1.6 MCHF)
 - Operation of SR1 (1.0 MCHF)
 - 86 FTE core computing effort as in-kind

Evolution of M&O 2002 – 2010, MCHF

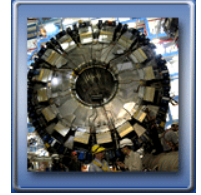


#072: M&O in-kind Contributions 2007



- The following two new in-kind contributions were endorsed by the CB last July:
 - Surveyors (160 kCHF, JINR)
 - Core computing (I&S); 870 kCHF, multiple Funding Agencies (see next slide)

Core Computing (I&S) in-kind 2007

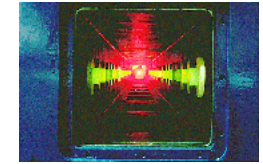


- The following in-kind contributions are planned for 2007

- Czech Rep: $0.4 \text{ FTE} \times 88 \text{ kCHF/FTE} = 35 \text{ kCHF}$
- IN2P3: $1.0 \text{ FTE} \times 88 \text{ kCHF/FTE} = 88 \text{ kCHF}$
- BMBF: $0.9 \text{ FTE} \times 88 \text{ kCHF/FTE} = 79 \text{ kCHF}$
- MPI: $0.3 \text{ FTE} \times 88 \text{ kCHF/FTE} = 22 \text{ kCHF}$
- Israel: $0.2 \text{ FTE} \times 88 \text{ kCHF/FTE} = 18 \text{ kCHF}$
- INFN: $1.8 \text{ FTE} \times 88 \text{ kCHF/FTE} = 158 \text{ kCHF}$
- Poland: $0.10 \text{ FTE} \times 88 \text{ kCHF/FTE} = 9 \text{ kCHF}$
- Russia: $0.3 \text{ FTE} \times 88 \text{ kCHF/FTE} = 22 \text{ kCHF}$
- JINR: $0.4 \text{ FTE} \times 88 \text{ kCHF/FTE} = 35 \text{ kCHF}$
- Taipei: $0.1 \text{ FTE} \times 88 \text{ kCHF/FTE} = 9 \text{ kCHF}$
- UK: $1.5 \text{ FTE} \times 88 \text{ kCHF/FTE} = 132 \text{ kCHF}$
- US: $3.0 \text{ FTE} \times 88 \text{ kCHF/FTE} = 264 \text{ kCHF}$

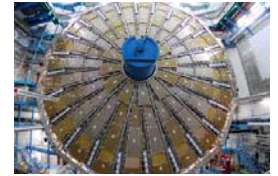
TOTAL: $9.9 \text{ FTE} \times 88 \text{ kCHF/FTE} = 870 \text{ kCHF}$

Funding Agency	Signed Date	Signed by
Argentina		
Armenia	02.09.2002	H. Asatryan
Australia	17.10.2003	A. Williams
Austria	02.10.2002	R. Kneucker
Azerbaijan	20.03.2003	N.A.K. Guliyev
Belarus	25.03.2005	Y. Pleskachevsky
Brazil		
Canada	09.09.2002	I. Blain
China NSFC+MSTC	02.08.2002	Wang Naiyan
Czech Republic	20.01.2003	J. Niederle
Denmark	18.08.2004	J.R. Hansen
France CEA	04.09.2002	F. Gounand
France IN2P3	25.09.2002	J.J. Aubert
Georgia	22.08.2002	A.N. Tavkhelidze
Germany BMBF	12.09.2002	R. Koepke
Germany DESY		
Germany MPI	28.06.2002	S. Bethke
Greece	20.09.2005	I. Tsoukalas
Israel	23.08.2002	D. Horn
Italy	25.11.2002	E. Iarocci
Japan	31.03.2003	H. Sugawara
Morocco	04.02.2004	S. Belcadi
Netherlands	14.11.2002	J. Engelen
Norway	04.09.2002	O.H. Ellestad
Poland	18.10.2004	JK Frackowiak
Portugal	26.06.2002	A. Trigo de Abreu
Romania	21.04.2004	G. Popa
Russia	26.03.2006	A. Fursenko
JINR	07.08.2002	A.N. Sissakian
Serbia	12.08.2005	A. Popovic
Slovak Republic	26.11.2002	M. Fronc
Slovenia	22.04.2003	Ž. Stan ič
Spain	19.02.2003	P. Morenés
Sweden	25.11.2002	K. Bremer
Switzerland		
Taipei	12.07.2002	C.J. Chen
Turkey	12.03.2003	N.K. Pak
United Kingdom	24.09.2002	J.F. Down
US DOE + NSF	18.10.2002	T.B.W. Kirk
CERN	04.12.2002	D. Schlatter



- Status of M&O Signatures (Table 3) Sept 20, 2006

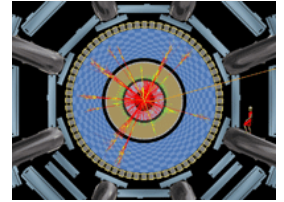
- 36 of 38 Funding Agencies have signed
- New Funding Agencies: Argentina, DESY
- Waiting for: Brazil, Switzerland



Status of Due M&O Contributions (<2006)

- The following contributions are due for 2005 (or earlier) by August 31, 2006:
 - Poland 114kCHF
 - Armenia 13 kCHF
 - Azerbaijan 49 kCHF
 - Belarus 79 kCHF
 - Brazil 2 kCHF
 - Morocco 33 kCHF
 - Russia 331 kCHF
 - TOTAL: 508 kCHF
- Negotiations on-going with the Funding Authorities, recovery plans to be reported in February CB

RRB Invited to



- Take note of the 2006 budget status (baseline & CtC)
- Approve the 2007 construction and M&O budgets