



## ALICE Resources Review Board 12 November 2008

- 2009 CORE construction budget
- MoU Addenda
- Maintenance & Operations



# 2009 CORE construction budget



# Preliminary 2009 construction budget (April 08)

Unit = kCHF

Sum of Pay	System				Grand Total
	TRD	PHOS	Forward	DAQ	
Funding Agency					
CERN				1,200	1,200
Denmark			30		30
Germany GSI	1,571				1,571
China		150			150
Japan		100			100
Russia Other		4,103			4,103
Grand Total	1,571	4,353	30	1,200	7,154

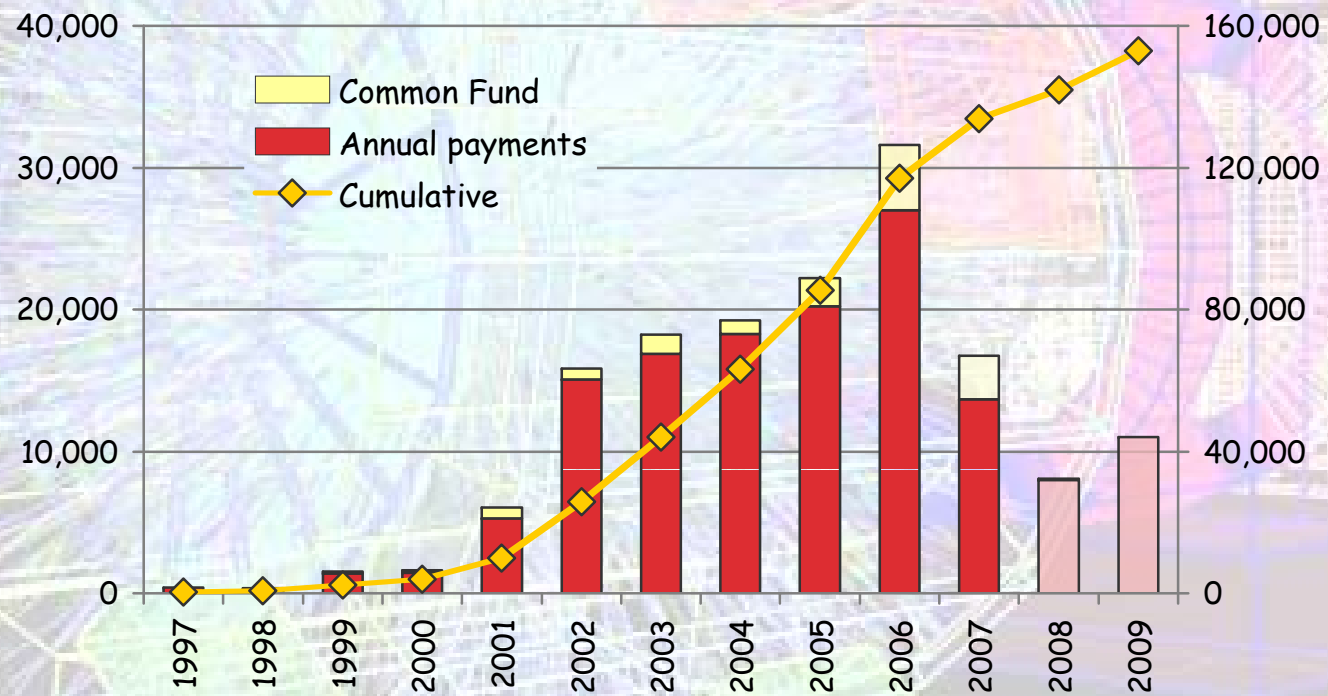


## Updated 2009 construction budget

Sum of Pay	System					Grand Total
	TRD	PHOS	Forward	DAQ	EMCal	
Funding Agency						
CERN				1,200		1,200
Denmark			30			30
France					638	638
Germany GSI	1,571					1,571
China		250				250
Japan		100				100
Russia Other		4,103				4,103
United States DOE					3,125	3,125
<b>Grand Total</b>	<b>1,571</b>	<b>4,453</b>	<b>30</b>	<b>1,200</b>	<b>3,763</b>	<b>11,017</b>



## CORE expenditure 1997 - 2009 (kCHF)





## MoU Addenda

November 12, 2008

RRB 12.11.08

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## MoU Addenda under preparation

- Participation of Brazil
  - Sao Paulo /Campinas, Universidade Estadual de Campinas
  - Sao Paulo, Universidade de Sao Paulo
  - Activity: EMCal, computing
  - Status: under discussion
- Adding an Electromagnetic Calorimeter (EMCal)
  - Brazil, France, Italy and US-DOE
  - Status: first draft under discussion



## Common Fund

November 12, 2008

RRB 12.11.08

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## Common Fund income 1998 - 2008

upd. to 30.10.08

\*) Commitment fixed or  
updated by MoU Addendum

	Total payments					Total	Funds due	Additional (agreed)		Balance
	Fee	Cash	C&I	InKind	MoU		funds	C&I		
CERN	30.0	2,566.0	5.0	346.9	2,947.9	2,700.0	242.9	5.0		
Czech Republic	80.0	40.0	46.0		166.0	120.0 *)	14.0	32.0		
Denmark	40.0	80.0	49.0		169.0	120.0		49.0		
Finland	40.0	79.3	22.8		142.0	100.0		42.0		
France CEA	40.0	110.0	71.0		221.0	150.0		71.0		
France IN2P3	125.0	1,024.7	347.0		1,496.7	900.0	249.7	347.0		
Germany BMBF	210.7	1,069.3	490.0		1,770.0	1,280.0		490.0		
Germany GSI	40.0	680.0	278.0		998.0	720.0		278.0		
Greece	47.5	77.5	5.0		130.0	125.0 *)		5.0		
Hungary	45.0	45.0	37.0		127.0	100.0		27.0		
Italy	445.0	1,155.0	649.7		2,249.7	1,600.0	0.7	649.0		
Netherlands	40.0	180.0	87.0		307.0	220.0		87.0		
Norway	85.0	55.0	66.0		206.0	140.0		66.0		
Poland	122.0	13.0			135.0	120.0		15.0		
Slovak Republic	90.0	-6.4	36.0	16.4	136.0	100.0		36.0		
Spain/Cuba		45.0			45.0	45.0 *)				
Sweden	45.0	255.0	124.0		424.0	300.0	5.0	119.0		
Switzerland	5.0				5.0	5.0				
United Kingdom	40.0	120.0	64.0		224.0	160.0		64.0		
<b>Subtotal MS</b>	<b>1,570.2</b>	<b>7,588.3</b>	<b>2,377.4</b>	<b>363.3</b>	<b>11,899.2</b>	<b>9,005.0</b>	<b>512.2</b>	<b>2,382.0</b>		
Armenia	38.0	8.3		4.8	51.0	40.0		11.0		
Brazil						45.0 *)			<b>-45.0</b>	
China	23.0				23.0	120.0 *)		15.0	<b>-112.0</b>	
Croatia	50.0	50.0	17.0		117.0	100.0 *)		17.0		
India	120.0	80.0		137.2	337.2	300.0	22.2	15.0		
Japan		150.0			150.0	150.0 *)				
JINR	40.0		5.0	199.6	244.6	240.0 *)		5.0	<b>-0.4</b>	
Korea, Rep. of		100.0			100.0	100.0 *)				
Korea, Yonsei		17.0			17.0	50.0			<b>-33.0</b>	
Mexico	70.0				70.0	100.0 *)		10.0	<b>-40.0</b>	
Romania ISS	40.0	5.0			45.0	40.0 *)		5.0		
Romania NIPNE	40.0	65.0			105.0	100.0		5.0		
Russia	85.0			1,117.4	1,202.4	1,300.0		10.0	<b>-107.6</b>	
Ukraine	70.0				70.0	100.0		47.0	<b>-77.0</b>	
South Africa	40.0		5.0		45.0	40.0 *)		5.0		
USA CalPoly		50.0			50.0	50.0				
USA Creighton	30.0				30.0	40.0		5.0	<b>-15.0</b>	
USA DOE		225.0			225.0	360.0 *)			<b>-135.0</b>	
USA (OSU)	40.0		9.0		49.0	40.0		9.0		
<b>Interest</b>	<b>455.5</b>		<b>10.5</b>		<b>466.0</b>					
<b>Totals</b>	<b>2,711.7</b>	<b>8,338.6</b>	<b>2,423.9</b>	<b>1,822.3</b>	<b>15,296.4</b>	<b>12,320.0</b>	<b>534.4</b>	<b>2,541.0</b>	<b>-565.0</b>	



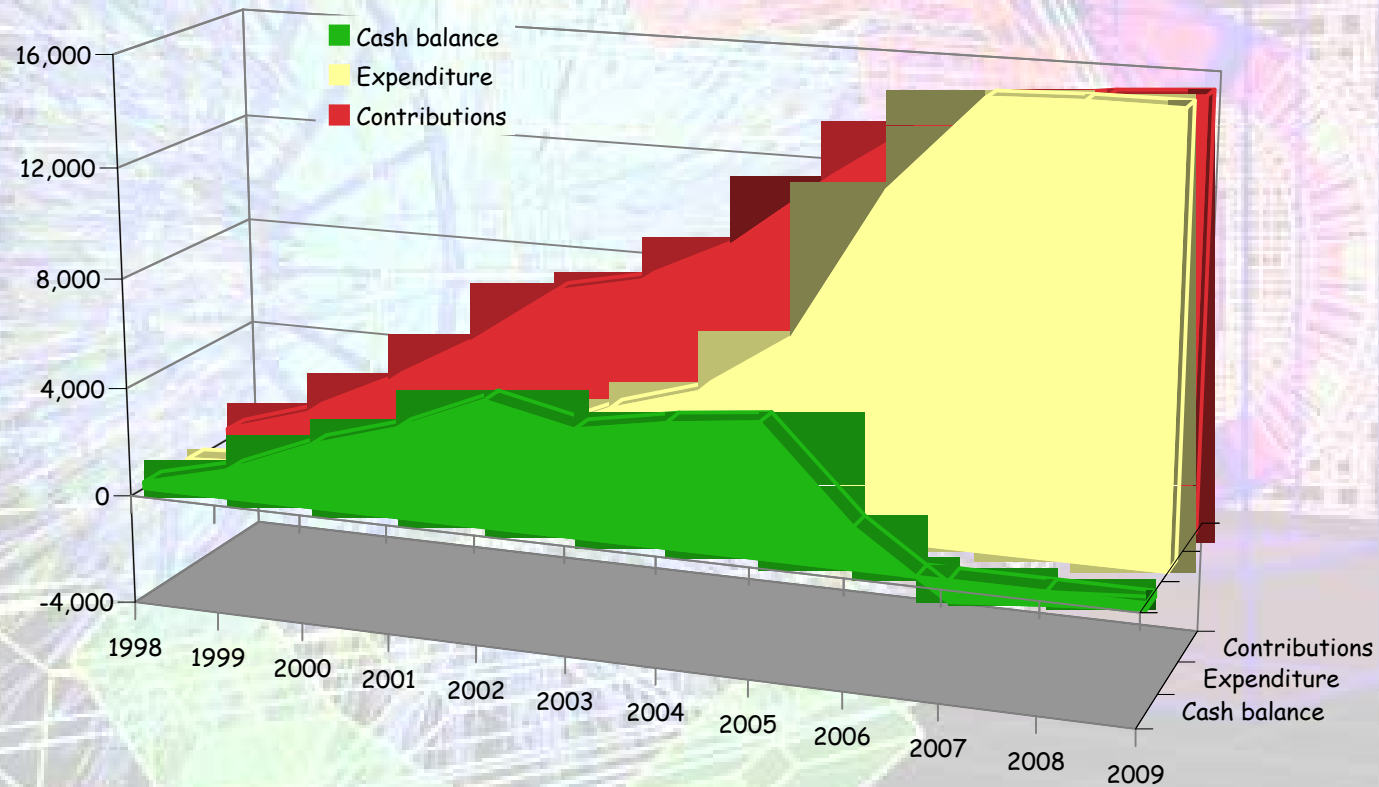
## Balance Common Fund

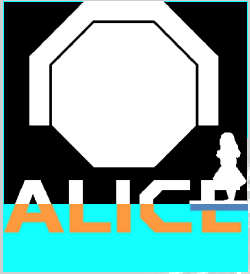
<b>Contributions:</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
Common Fund	330	892	1,405	1,624	1,990	341	795	1,796	410	679	370	231
In-kind contributions	65	54	64	75	118	13	40	202	906	271	13	
Interest CF		7	47	107	100	83	73	33			5	
C&I contributions					17	242	620	481	876	153	24	
Interest C&I						2	4	5				
<i>Total contributions, including interest and in-kind</i>	395	953	1,516	1,806	2,225	682	1,531	2,517	2,192	1,104	412	231
<i>Cumulative contributions (C/F and C&amp;I)</i>	395	1,348	2,864	4,670	6,895	7,577	9,108	11,625	13,817	14,921	15,333	15,564
<b>Expenditure:</b>												
Payments	85	127	171	782	769	1,372	923	1,960	4,601	3,085	91	
In-kind contributions	65	54	64	75	118	13	40	202	906	271	13	
Total spending	150	181	235	857	887	1,385	963	2,163	5,507	3,356	104	
<i>Cumulative spending</i>	150	331	566	1,423	2,310	3,696	4,659	6,822	12,328	15,685	15,789	15,789
<i>End year balance</i>	245	1,017	2,298	3,247	4,585	3,881	4,449	4,804	1,489	-764	-455	-224
FI Dept. to RRB	245	1,012	2,297	3,246	4,567	3,880	4,448	4,803	1,488	-765		
Difference:	0	5	1	1	18	1	1	1	1	1		

(kCHF, based on situation on 1.10.08)



## Common Fund, summary income/expenditure 1998 - 2009 (kCHF)





## Maintenance & Operations

- M&O A income, expenditure and outstanding contributions
- Scrutiny Group
- Draft M&O A budget 2009 & estimates 2010 - 2012
- M&O A budget sharing
- M&O B budget and sharing



# M&O A income 2002 - 2008

Unit: kCHF, closing date 30.10.08

Year	Country	2002 - 2007				2008				2002 - 2008			
		Invoiced	Received	In-kind	Due	Invoiced	Received	In-kind	Due	Invoiced	Received	In-kind	Due
MS	CERN	1,368.6	1,368.6			518.2	518.2			1,886.8	1,886.8		
	Czech Republic	203.7	203.7			97.2	97.2			300.9	300.9		
	Denmark	93.5	93.9		-0.4	40.5			40.5	134.0	93.9		40.2
	Finland	113.3	113.3			48.6	48.6			161.9	161.9		
	France CEA	140.9	140.9			56.7	56.7			197.6	197.6		
	France IN2P3	979.7	979.7			453.4	453.4			1,433.1	1,433.1		
	Germany BMBF	625.3	625.3			259.1	259.1			884.4	884.4		
	Germany GSI	400.0	400.0			145.7	145.7			545.7	545.7		
	Greece	80.3	80.7		-0.4	56.7			56.7	137.0	80.7		56.3
	Hungary	59.2	59.2			24.3	24.3			83.5	83.5		
	Italy	2,338.6	2,338.6			955.4	957.4		-2.0	3,294.0	3,296.0		-2.0
	Netherlands	180.9	180.9			89.1	89.1			270.0	270.0		
	Norway	230.1	230.1			145.7			145.7	375.8	230.1		145.7
	Poland	345.7	345.7		0.0	113.4			113.4	459.1	345.7		113.4
	Slovak Republic	276.1	276.1			105.3	105.3			381.4	381.4		
	Spain/Cuba	41.6	41.6			56.7	56.7			98.3	98.3		
	Sweden	100.8	100.8			48.6	48.6			149.4	149.4		
United Kingdom	128.8	128.8			89.1	89.1			217.9	217.9			
NMS	Armenia	61.6	61.6			25.3	25.3			86.9	86.9		
	Brazil					50.7			50.7	50.7		50.7	
	China	117.5			117.5	101.3			101.3	218.8		218.8	
	Croatia	65.5	47.2		18.3	50.7	50.7			116.2	97.9	18.3	
	India	597.5	597.5			323.9	323.9			921.4	921.4		
	Japan	45.2	45.2			87.4	87.4			132.6	132.6		
	JINR	294.7	68.1	226.6		76.0		72.4	3.6	370.7	68.1	299.0	3.6
	Mexico	146.4	146.4			152.0	152.0			298.4	298.4		
	Republic of Korea	80.2	80.2			76.0	76.0			156.2	156.2		
	Romania	166.4	166.4			139.4	63.4		76.0	305.8	229.8		76.0
	Russia	1,004.6	1,004.6			502.9	278.0		224.9	1,507.5	1,282.6		224.9
	South Africa	70.4	70.4			38.0	38.0			108.4	108.4		
	Ukraine	95.9	59.6	28.0	8.3	38.0	26.0		12.0	133.9	85.6	28.0	20.3
	USA DOE	135.5	135.5		0.0	250.7			250.7	386.2	135.5		250.7
USA NSF	92.7	92.8		-0.1	50.1	50.1			142.8	142.9		-0.1	
<b>Grand Total</b>		<b>10,681.2</b>	<b>10,283.4</b>	<b>254.6</b>	<b>143.2</b>	<b>5,266.1</b>	<b>4,120.2</b>	<b>72.4</b>	<b>1,073.5</b>	<b>15,947.3</b>	<b>14,403.6</b>	<b>327.0</b>	<b>1,216.7</b>

Percentage collected:

98.7 %

79.6 %

92.4 %



## Outstanding M&O A contributions

### Procedure \*):

If on 1 September the **outstanding amount is less than, or equal to, the current year's contribution:**

- CERN Finance Department sends a standard reminder to the F/A requesting payment within one month.

If on 1 September the **outstanding amount is larger than the current year's contribution:**

- ALICE Management sends a letter to the F/A announcing that, unless payment is made before the end of the year, the right to sign papers will be withdrawn as of December 31.

Outstanding contributions > 2008 invoice:

- China



## M&O A accounts, situation on 1 October 2008 (kCHF)

Budget M&O Category	Total Budget	Expenditure			Spent + committed	Ratio
		Spent	Comm (1)	Comm (2)		
Detector related costs	1,959.2	980.7	151.5	363.0	1,495.3	0.76
Secretariat	269.1	121.4	21.5		142.8	0.53
Communications	10.0	0.7			0.7	0.07
On-line computing	797.3	389.7	7.3	100.0	497.1	0.62
Off-line computing	427.2	463.1	1.1		464.2	1.09
Test beams & calibration facilities	147.2	51.6			51.6	0.35
Laboratory operations	360.0	235.7	151.2		387.0	1.07
General services	516.2	89.5	6.5	108.0	204.0	0.40
Consultancy	40.0	25.9			25.9	0.65
Outreach	65.0	52.0	26.2		78.2	1.20
<b>Grand Total</b>	<b>4,591.2</b>	<b>2,410.3</b>	<b>365.4</b>	<b>571.0</b>	<b>3,346.7</b>	<b>0.73</b>

### Notes:

- Electrical power cost is not included (budget nor expenditure)
- Comm (1): signed commitments
- Comm (2): known payments before end 2008



## Cost of unforeseen activities during shutdown

- Concerns re-arrangement of services on 'mini Frame', TPC support frame and a few other items
- Cost will be shared between 2008 and 2009 M&O A budgets
- Benefits from modest (333 kCHF) cash surplus from 2002 - 2007
- Present estimate is that sufficient funds will be available

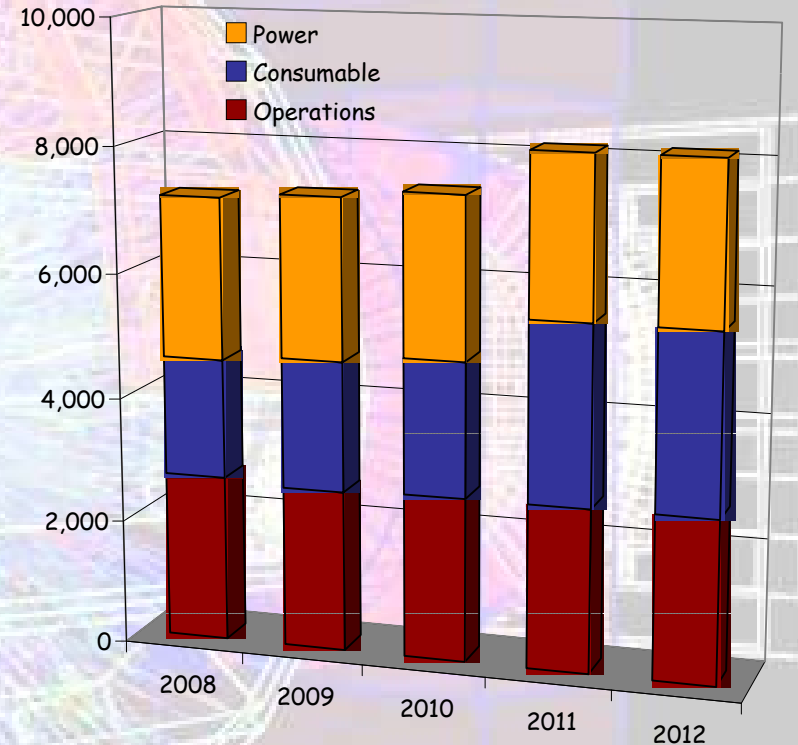




## M&O A budget evolution, 2008 - 2012

	2008	2009	2010	2011	2012
Operations	2,680	2,594	2,647	2,647	2,647
Consumable	1,910	2,093	2,171	2,894	2,894
Power	2,592	2,592	2,592	2,592	2,592
<b>Total</b>	<b>7,182</b>	<b>7,279</b>	<b>7,410</b>	<b>8,133</b>	<b>8,133</b>

(kCHF)



### Comments:

- budget estimates have not varied much from previous ones
- next year is (yet again) an important 'learning year': first full running year



## Sharing of M&O A Budget

Agreed procedure:

- Establish effective 1 September the list of ALICE members by institute
- This list will be valid for the next calendar year, and is the basis for sharing of the M&O A budget, but also:
  - authorship of ALICE scientific publications
  - voting rights in the CB
  - shift obligations

The number of 'scientists' determines the sharing of the M&O A budget



result  
of the survey

Country	Status							Grand Total
	Physicist	Senior engineer	Graduate student	Engineer	Technician	Undergraduate student	Other	
CERN	37	21	11	1	3	1	4	78
Czech Republic	12		7	3				22
Denmark	6		3	4				13
Finland	5		4			1		10
France CEA	6			1	8			15
France IN2P3	41	6	13	27	1			88
Germany BMBF	34	1	35	3	3	16		92
Germany GSI	20	1	6		1			28
Greece	5		2			6		13
Hungary	3		5	3		1	3	15
Italy	107		33	26	32		14	212
Netherlands	10		6	3				19
Norway	13	2	15					30
Poland	13	1	3		1	9		27
Slovak Republic	11	2	2				5	20
Spain/Cuba	4	3	7	3				17
Sweden	4		2					6
United Kingdom	9	1	6					16
Armenia	1		2				5	8
Brazil	7		3					10
China	7		12	5			8	32
Croatia	1	3	2					6
India	30	2	16	1			1	50
Japan	9		12				1	22
JINR	6		3	18		1	16	44
Mexico	13		24	1				38
Republic of Korea KICOS	6		18	2	1		1	28
Republic of Korea Yonsei	2							2
Romania	9	1	6	4	5			25
Russia	37	2	35			5	55	134
South Africa	6		1					7
Ukraine	3	2	1	4			5	15
United States DOE	28		9		1		2	40
United States NSF	4		3					7
Grand Total	509	48	307	109	56	40	120	1189

In red: two small corrections  
w.r.t. CERN-RRB-2008-117



## comparison 2007- 2008

Country	2009	2008	Difference
CERN	58	64	-6
Czech Republic	12	12	
Denmark	6	5	1
Finland	5	6	-1
France CEA	6	7	-1
France IN2P3	47	56	-9
Germany BMBF	35	32	3
Germany GSI	21	18	3
Greece	5	7	-2
Hungary	3	3	
Italy	107	118	-11
Netherlands	10	11	-1
Norway	15	18	-3
Poland	14	14	
Slovak Republic	13	13	
Spain/Cuba	7	7	
Sweden	4	6	-2
United Kingdom	10	11	-1
Armenia	1	2	-1
Brazil	7	4	3
China	7	8	-1
Croatia	4	4	
India	32	26	6
Japan	9	6	3
JINR	6	6	
Mexico	13	12	1
Republic of Korea KICOS	6	6	
Republic of Korea Yonsei	2		2
Romania	10	11	-1
Russia	39	44	-5
South Africa	6	3	3
Ukraine	5	3	2
United States DOE	28	20	8
United States NSF	4	4	
Grand Total	557	567	-10



# sharing of 2009 M&O A budget

In red: two small corrections  
w.r.t. CERN-RRB-2008-117

Country	Scientists	M&O Cat A without energy	Energy	Energy billed to FA	Bill in kCHF
CERN	58	488.1	269.9		488.1
Czech Republic	12	101.0	55.8		101.0
Denmark	6	50.5	27.9		50.5
Finland	5	42.1	23.3		42.1
France CEA	6	50.5	27.9		50.5
France IN2P3	47	395.5	218.7		395.5
Germany BMBF	35	294.5	162.9		294.5
Germany GSI	21	176.7	97.7		176.7
Greece	5	42.1	23.3		42.1
Hungary	3	25.2	14.0		25.2
Italy	107	900.4	497.9		900.4
Netherlands	10	84.1	46.5		84.1
Norway	15	126.2	69.8		126.2
Poland	14	117.8	65.1		117.8
Slovak Republic	13	109.4	60.5		109.4
Spain/Cuba	7	58.9	32.6		58.9
Sweden	4	33.7	18.6		33.7
United Kingdom	10	84.1	46.5		84.1
Armenia	1	8.4	4.7	4.7	13.1
Brazil	7	58.9	32.6	32.6	91.5
China	7	58.9	32.6	32.6	91.5
Croatia	4	33.7	18.6	18.6	52.3
India	32	269.3	148.9	142.0	411.3
Japan	9	75.7	41.9	40.2	115.9
JINR	6	50.5	27.9	27.9	78.4
Mexico	13	109.4	60.5	60.5	169.9
Republic of Korea KICOS	6	50.5	27.9	27.9	78.4
Republic of Korea Yonsei	2	16.8	9.3	9.3	26.1
Romania	10	84.1	46.5	46.5	130.7
Russia	39	328.2	181.5	132.3	460.4
South Africa	6	50.5	27.9	27.9	78.4
Ukraine	5	42.1	23.3	23.3	65.3
USA DOE	28	235.6	130.3	126.5	362.1
USA NSF	4	33.7	18.6	18.1	51.7
Total	557	4,687.0	2,592.0	770.9	5,457.9



## M&O B

- M&O MoU:

*"For Category B, the cost shall be shared by the Funding Agencies and Institutes concerned in a manner that the Collaboration shall propose to the RRB"*

- so:

- sharing is left to the projects
- sharing proportional to investments is the most obvious solution



## M&O B, estimates 2009 -2012 (kCHF)

System	Data			
	2009	2010	2011	2012
Pixel	150	155	104	104
Drift	156	200	200	200
Strip	179	194	194	194
ITS-CMA	48	63	63	63
TPC	65	65	65	65
TRD	67	67	67	67
TOF	131	158	158	158
HMPID	124	150	150	150
PHOS	130	100	100	100
FMD	20	20	20	20
PMD	70	70	70	70
TO	30	30	30	30
VO	20	20	20	20
ZDC	30	40	54	40
Muons	164	175	175	175
Trigger	30	30	30	30
ACORDE	20	20	20	20
<i>Grand Tota</i>	1,434	1,557	1,520	1,506



## 2009 M&O B sharing (kCHF)

Sum of 2009	System																	
F/A	Pixel	Drift	Strip	ITS-CMA	TPC	TRD	TOF	HMPID	PHOS	FMD	PMD	TO	VO	ZDC	Muons	Trigger	ACORDE	Grand Total
CERN	85.9		22.7		10.4			45.0										164.0
Czech Republic		11.4							9.1									20.5
Denmark					2.1					20.0								22.1
Finland			18.1									30.0						48.1
France CEA															15.0			15.0
France IN2P3			37.9										10.0		85.0			132.9
Germany BMBF						56.8												56.8
Germany GSI					37.4													37.4
Italy	64.4	130.8	45.6	42.2			82.5	78.8						30.0	33.8			508.1
Netherlands			40.7															40.7
Norway									18.2									18.2
Poland					1.9				9.1									11.0
Slovak Republic					1.2													1.2
Sweden					11.6													11.6
United Kingdom																30.0		30.0
China									18.2									18.2
Croatia					0.4													0.4
India											70.0				15.0			85.0
Japan									9.1									9.1
JINR						7.1			9.1									16.2
Mexico													10.0				20.0	30.0
Republic of Korea							48.0											48.0
Romania NIPNE						3.3												3.3
Russia		2.2	1.6	3.4					57.3						15.0			79.5
Ukraine		11.4	12.1															23.5
United States OSU		0.6		2.8														3.4
<i>Grand Total</i>	150.3	156.4	178.8	48.4	65.0	67.2	130.5	123.8	130.0	20.0	70.0	30.0	20.0	30.0	163.8	30.0	20.0	1,434.1