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# ORGANISATION EUROPÉENNE POUR LA RECHERCHE NUCLÉAIRE CERN EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH

#### Voting procedure

For information	FINANCE COMMITTEE  328 <sup>th</sup> Meeting  16 December 2009	
For information	COUNCIL 153 <sup>rd</sup> Session 18 December 2009	

### **Budget**

of the Organization for the fifty-sixth financial year

### 2010

The Budget for 2010 is expressed in 2010 prices, i.e. it includes the 1.16% indexation of the regular Member States' contributions proposed in document CERN/FC/5345/Rev.2-CERN/2877, which the Finance Committee, at its November meeting, recommended the Council to approve at its December 2009 Session.

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# I. Executive Summary

### 1. Observations of the Director General

This document has been drawn up on the basis of the Draft 2010 Budget included in the Medium-Term Plan for the period 2010-2014<sup>1</sup> approved by the Council in June 2009.

The changes with respect to the Draft 2010 Budget and the Revised 2009 Budget are summarised below:

- Indexation of the expenses headings and indexation of the Member States' contributions at 1.16% as proposed in the Cost-Variation Index document<sup>2</sup>, subject to the Council's approval of the CVI proposals in line with the positive recommendation by the Finance Committee at its meeting on 11<sup>th</sup> November 2009.
- In line with the Financial Rules, carry-forward of unspent resources from 2009 to 2010 for multi-annual projects, EU projects and open commitments for operation headings.
  - As in previous years, revenues match expenses for the EU projects.
     For some Marie-Curie fellowships and other programmes, recruitments were slower than anticipated, thus creating a carryforward; this notably applies for SLHC-PP, EUCard, etc.
  - The repair of the sector 3-4 incident resulted in CERN fully focusing on restarting the LHC. Thus, as last year, some activities related to the LHC upgrade studies and projects are delayed.
  - As announced in the Revised 2009 Budget presented in June, the materials budget was increased in 2009 for the sector 3-4 repair and spares and the induced LHC consolidation, largely funded by the provision included in the 2008 annual accounts. Due to the recent LHC re-start being in late autumn 2009, some savings have made it possible to reduce the overall expenses in 2009 with respect to the Revised 2009 Budget.
  - As in previous years, extra revenues have been realised due to sales and other sources credited to the 2009 operation expenses, which thus contribute to increasing this year's budget balance.
  - Due to a continuation of cash in-flow on team accounts as well as a favourable interest environment, the costs of short-term loans are lower than foreseen.

The Council has approved the Draft 2010 Budget in 2009 prices, including the objectives and goals for 2010<sup>1</sup>.

In December 2009, the Council is invited to approve the 2010 Scale of Contributions<sup>3</sup> and the 2010 Cost-Variation Indexes<sup>2</sup> on the basis of the positive recommendations of the Finance Committee in November.

This document is therefore for information since the figures presented are a direct result of applying the cost-variation indexes to the Draft Budget figures and the carry-forwards in line with the new Financial Rules as detailed in Figure 1. The figures shown for 2009 are the estimated probable revenues and expenses, which will depend on the book closure and be presented in the 2009 Annual Progress Report in March 2010 and the 2009 Annual Accounts in June 2010.

# 2. Variations with respect to the Revised 2009 Budget and the Draft 2010 Budget

The variations are shown in Figure 1 and broken down as follows:

- Indexation of revenues and expenses by 1.16% pending Council approval of the CVI proposals;
- Multi-annual projects re-profiling and carry-forwards respecting the Cost-to-Completion estimates;
- Savings in the 2009 materials budget reallocated to 2010;
- Carry-forward of unpaid but committed operation budgets;
- Allocation of the provision in the 2008 accounts dedicated for the sector 3-4 costs;
- Additional revenues with corresponding expenses for EU, Openlab and TT projects in 2009 and 2010 with respect to the situation in June.

<sup>&</sup>lt;sup>1</sup> CERN/SPC/921-CERN/FC/5347-CERN/2847

<sup>&</sup>lt;sup>2</sup> CERN/FC/5345/Rev.2-CERN/2877

<sup>&</sup>lt;sup>3</sup> CERN/FC/5382-CERN/2875

Figure 1: Variations with respect to the Revised 2009 Budget and the Draft 2010 Budget (page 40, CERN/SPC/921-CERN/FC/5347- CERN/2847).

(in MCHF, rounded off)	2009 Probable Revenues and Expenses	2010 Budget	
	(2009 prices)	(2010 prices)	
Variations on REVENUES	5.0	14.7	
Indexation of total regular contributions (subject to the Council vote*)		12.8	
EU contributions	0.9	1.7	
Other revenues	4.1	0.3	
Personnel paid on team accounts	1.6	0.4	
Knowledge and technology transfer	0.2		
Sales and miscellaneous	2.9		
Openlab revenues		0.4	
Housing Fund	-0.5	-0.5	
Variations on OPERATING EXPENSES	-8.7	41.4	
Indexation to 2010 prices		9.7	
Projects (carry-forward and reprofiling)	-27.2	27.5	
CLIC	0.1	-1.6	
Linac 4	-3.0	3.4	
LHC machine and injectors	-13.8	-2.1	
LHC detectors	1.5	-1.3	
Non-LHC physics and scientific support	-0.9	0.2	
Low and medium accelerators	0.2	0.4	
Focus Quadrupoles (NbTi)		1.9	
R&D studies	-0.7	-2.0	
LHC upgrade (PS2, SPL studies, detectors)	-5.1	-0.3	
LHC reliability & consolidation	8.0	21.9	
Accelerator consolidation	-3.8	4.1	
General infrastructure and services	-1.0	3.0	
Savings reallocated to 2010	-8.8		
Operation (committed carry-forward)	-2.3	2.3	
Allocation of provision for the sector 3-4**	22.6		
Savings on short term loans	-2.8	-0.3	
Expenses related to external revenues	1.1	2.1	
From EU contributions	0.9	1.7	
From KTT and Openlab	0.2	0.4	
Variations on OTHER EXPENSES	-21.4	0.8	
Reversal of sector 3-4 provision	-22.6		
Personnel paid on team accounts	1.6	0.4	
Housing Fund	-0.4	0.4	
IMPACT ON BALANCE	35.1	-27.5	

<sup>\*</sup> CERN/FC/5345/Rev.2-CERN/2877

#### **Explanations on Figure 1:**

Figure 1 shows the variations for 2009 and 2010 with respect to the Revised 2009 Budget and Draft 2010 Budget as approved in June. The totals are given in Figure 2.

'Other Expenses' with several headings were introduced in 2009 due to the IPSAS implementation. This includes revenues and expenses for personnel paid on team accounts and staff detached without an impact on the budgetary balance. It also includes revenues and expenses relating to the housing activities: the positive balance of revenues and expenses are used to re-finance the housing investments and to build a capital stock for the purposes of covering future extensions or refurbishments.

<sup>\*\*</sup>The 2009 sector 3-4 repair and spares costs are less than in the Revised 2009 Budget

### 3. Overview of Revenues and Expenses

Figure 2: Overview of Revenues and Expenses

in MCHF, rounded off)	2009 Probable Revenues and Expenses (2009 prices)	2010 Budget (2010 prices)	Variations of 2010 Budget with respect to 2009 Probable Revenues and Expense
REVENUES	1,190.9	1,204.5	1.1%
Member States' contributions	1.098.6	1,112.2	1.29
Additional contribution from Host States	22.3	22.4	0.49
EU contributions	19.5	13.8	-29.39
Personnel paid on team accounts	11.6	10.4	-10.49
Personnel on detachment	0.7	0.7	-10.47
Internal taxation	24.0	24.0	
Knowledge and technology transfer	1.8	2.5	39.89
External revenues for new amphitheatre	1.0	10.0	37.0
•	12.5	8.6	-31.0
Other revenues (including financial revenues)		994.6	
OPERATING EXPENSES	925.2		7.5%
Running of scientific programmes and support	782.3	812.5	3.9%
Scientific programmes	427.2	443.9	3.9%
LHC (including s. 3-4 repair and new initiatives support to detectors)	258.8	286.3	10.69
Non-LHC physics and scientific support	66.3	64.6	-2.59
Accelerators and areas	102.0	93.0	-8.89
General infrastructure and services	355.2	368.6	3.89
Infrastructure & services	209.0	205.8	-1.59
Centralised personnel expenses	31.1	31.1	-0.19
Internal taxation	24.0	24.0	
Personnel on detachment	0.7	0.7	
Insurance & postal charges, energy & water	69.8	90.6	29.99
Interests and financial costs	20.6	16.4	-20.4%
Projects, R&D and consolidation	142.8	182.0	27.5%
CLIC	22.5	20.9	-7.19
Linear collider detector	0.6	2.1	266.75
LINAC 4	22.3	36.4	62.85
Focus quadrupoles (NbTi)	4.9	12.7	161.19
R&D studies	13.9	10.5	-24.3
LHC upgrade (PS2, SPL studies, detectors)	13.7	16.2	18.6
Construction PS2/SPL/S-LHC (machine and detectors)		1.0	
Consolidation and new buildings	65.0	82.2	26.59
OTHER EXPENSES	9.5	31.7	
Personnel paid on team accounts	11.6	10.4	
Various	-2.0	21.3	
Reversal of sector 3-4 provision	-22.6		
Housing fund	3.4	4.2	
Stores activity	0.2	0.2	
Budget amortization of staff benefits accruals	17.0	17.0	
BALANCE			
Annual balance	256.2	178.3	-30.4
Capital repayment allocated to the budget (Fortis, FIPOI 1 and 2)	-14.0	-15.1	7.5
Annual balance allocated to budget deficit	242.2	163.2	-32.6
Cumulative Balance - 781.1	-538.9	-375.7	-30.3%
For information:			
Capital repayment to EIB, FIPOI 3	200.0	0.2	
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## II. Revenues for the 2010 Financial Year

### 1. Total Revenues

Figure 3: Total Revenues

(in kCHF)	2009 Probable Revenues (2009 prices)	2010 Budget (2010 prices)	Variations of 2010 Budget with respect to 2009 Probable Revenues
Revenues	1,190,920	1,204,530	1.1%
Member States' contributions	1,098,565	1,112,155	1.2%
Additional contribution from Host States	22,275	22,375	0.4%
EU contributions	19,530	13,810	-29.3%
Personnel paid on team accounts	11,560	10,360	-10.4%
Personnel on detachment	700	700	
Internal taxation	24,015	24,015	
Knowledge and technology transfer	1,790	2,500	39.7%
External revenues for new amphitheatre		10,000	
Other revenues	12,485	8,615	-31.0%
Sales and miscellaneous	4,865	2,000	-58.9%
Openlab revenues	1,365	360	-73.6%
Financial revenues	200	200	
Housing fund	6,055	6,055	

#### **Explanations on Figure 3:**

In spite of the additional revenues since June, EU revenues will reduce in 2010 with respect to 2009, notably due to the ending EGEE 3 project. CERN has submitted new proposals aimed at obtaining additional support for new EU projects.

As presented in June, Management aims to obtain additional revenues to fund the expenses for the new amphitheatre. The Council and its Committees will be informed in due course on the results of this initiative.

The heading "Other revenues" for 2009 includes actual sales. The 2010 amount corresponds to a conservative assumption. The headings 'Personnel paid on team accounts', 'Housing fund' and 'Personnel on detachment' have corresponding headings under the headings "Other expenses" and "Operating expenses" as shown in Figure 2. The Openlab revenues in 2010 will be adjusted as a function of actual revenues.

### 2. Scale of Contributions of the Member States for 2010

The contributions for 2010 at 2010 prices amount to 1134.5 MCHF including the increase for all Member States to fund the new initiatives and a further 22.4 MCHF as a special contribution from the Host States. The percentage distribution is presented to Council in CERN/FC/5382-CERN/2875, the indexation in CERN/FC/5345/Rev.2-CERN/2877, both recommended for approval to the Council by the Finance Committee on 11<sup>th</sup> November.

Figure 4: Scale of Contributions of the Member States for the Financial Year 2010

	Weighted Average Net National Income at factor costs* Average 2006 to 2008 (in million national currency)	Exchange rates  100 units of national currencies in Swiss francs  Jul-09 Aug-09 Sep-09 Oct-09 AVERAGE					Weighted Average Net National Income at factor costs Average 2006 to 2008 (in MCHF) TOTAL	Contribution in %
	1	2	3	4	5	6= Av (25)	7 = (1 * 6)/100	8
Austria Belgium Bulgaria Czech Republic Denmark	221 435 277 292 61 520 2 739 099 1 291 023	152.0200 152.0200 **77.7266 5.8866 20.4130	152.4000 152.4000 **77.9209 5.9360 20.4686	151.4800 151.4800 **77.4505 5.9676 20.3486	151.4000 151.4000 **77.4096 5.8541 20.3355	151.8250 151.8250 77.6269 5.9111 20.3914	336 194 420 998 47 756 161 910 263 258	2.2508% 2.8185% 0.3197% 1.0840% 1.7625%
Finland	146 083	152.0200	152.4000	151.4800	151.4000	151.8250	221 790	1.4848%
France	1 537 332	152.0200	152.4000	151.4800	151.4000	151.8250	2 334 054	15.6261%
Germany	1 997 163	152.0200	152.4000	151.4800	151.4000	151.8250	3 032 193	20.3000%
Greece	190 097	152.0200	152.4000	151.4800	151.4000	151.8250	288 615	1.9322%
Hungary	18 229 239	0.5582	0.5646	0.5565	0.5636	0.5607	102 216	0.6843%
Italy	1 144 868	152.0200	152.4000	151.4800	151.4000	151.8250	1 738 195	11.6369%
Netherlands	447 512	152.0200	152.4000	151.4800	151.4000	151.8250	679 435	4.5487%
Norway	2 346 362	16.9548	17.5876	17.5814	18.0977	17.5554	411 913	2.7577%
Poland	1 099 905	35.3387	36.8848	36.3927	35.9282	36.1361	397 463	2.6609%
Portugal	116 009	152.0200	152.4000	151.4800	151.4000	151.8250	176 131	1.1792%
Slovak Republic	59 274	152.0200	152.4000	151.4800	151.4000	151.8250	89 993	0.6025%
Spain	874 950	152.0200	152.4000	151.4800	151.4000	151.8250	1 328 393	8.8934%
Sweden	2 455 536	14.0239	14.9124	14.8409	14.6809	14.6145	358 865	2.4025%
Switzerland	360 626	100.0000	100.0000	100.0000	100.0000	100.0000	360 626	2.4143%
United Kingdom	1 270 708	176.4900	176.7500	169.8700	165.3000	172.1025	2 186 920	14.6410%

<sup>\*</sup> Based on OECD.stat on 02.11.2009

<sup>\*\*</sup> Published by the Bulgarian National Bank.

	2010 Regular Contributions	2010 Annual Contributions including additional contribution	2010 Annual Contributions	Contribution in %
			Indexed by CVI (1.16%)	
	(2009 prices)	(2009 prices)	(2010 prices)	
	in CHF	in CHF	in CHF	%
	9	10	11	8
Austria	23 882 350	24 744 850	25 031 900	2.2508%
Belgium	29 906 600	30 986 700	31 346 150	2.8185%
Bulgaria	3 392 450	3 514 950	3 555 700	0.3197%
Czech Republic	11 501 650	11 917 050	12 055 300	1.0840%
Denmark	18 701 150	19 376 550	19 601 300	1.7625%
Finland	15 755 350	16 324 350	16 513 700	1.4848%
France	165 805 000	171 793 050	173 785 850	15.6261%
Germany	215 398 950	223 178 100	225 766 950	20.3000%
Greece	20 502 400	21 242 850	21 489 250	1.9322%
Hungary	7 261 150	7 523 400	7 610 650	0.6843%
Italy	123 476 800	127 936 150	129 420 200	11.6369%
Netherlands	48 265 250	50 008 350	50 588 450	4.5487%
Norway	29 261 200	30 317 950	30 669 650	2.7577%
Poland	28 234 700	29 254 400	29 593 750	2.6609%
Portugal	12 511 900	12 963 750	13 114 150	1.1792%
Slovak Republic	6 392 850	6 623 750	6 700 600	0.6025%
Spain	94 365 500	97 773 500	98 907 650	8.8934%
Sweden	25 492 800	26 413 500	26 719 900	2.4025%
Switzerland	25 617 900	26 543 100	26 851 000	2.4143%
United Kingdom	155 353 000	160 963 600	162 830 800	14.6410%
Total	1 061 078 950	1 099 399 900	1 112 152 900	100.0000%
Additional appoint contribution from the VI-4 C4-4-		16 675 000	16 675 000	<u> </u>
Additional special contribution from the Host States *				
Additional special in-kind contribution from France *		5 700 000	5 700 000	
Total including an additional special contribution from	d W (G)	1 121 774 900	1 134 527 900	1

<sup>\*</sup> The Host States agreed to the following payment profile for the additional special contribution: Switzerland in-cash: 12.375 MCHF (2008), 5.175 MCHF (2009), 5.275 MCHF (2010), 4.775 MCH (2011). France in-cash: 11.8 MCHF (2008), 11.4 MCHF (2009), 11.4 MCHF (2010), 14.8 MCHF (2011) and 17.1 MCHF in-kind contribution for 2008-2011.

# III. Operating Expenses for the 2010 Financial Year

### **Expenses by Scientific and Non-Scientific Programmes including Projects** <sup>4</sup>

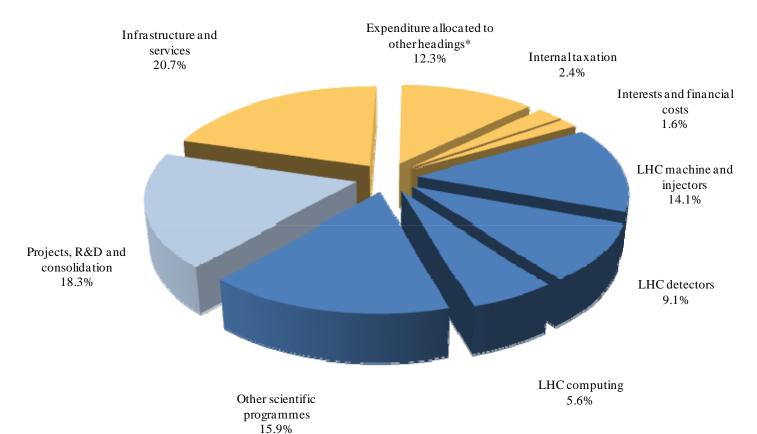


Figure 5: 2010 Budget (Personnel, Materials and Interests & Financial costs)

<sup>4</sup> Please note that this Section only details the operating expenses. Other expenses are summarized in Figure 2.

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<sup>\*</sup> Including Centralized personnel expenses and Personnel on detachment (3.2%), Energy and water (8.4%), Insurance and postal charges (0.7%)

Figure 6: Scientific Programme

	2009 Probable Expenses		2010 Budget				Variations of				
(2009 prices)		Fact Sheet as in	Activity	2010 goals		(2010 r	rices)		2010 Budget		
FTE	(2003)	kCHF		MTP 2009	Activity	2010 80813	FTE kCHF				with respect to
	Personnel		Total					Personnel	Materials	Total	2009 Prob. Exp.
904	155.160	103.675	258.835		LHC programme (incl. projects)		917	158.820	127.455	286.275	10.6%
425	69.905	59,440	129.345	1	LHC machine and injectors	Operation troughout 2010 with around 250pb^-1 delivery to	437	72.880	66.935	139.815	8.1%
417	68,535	43,870	112,405		LHC machine and experimental areas	experiments.	424	70,480	59,110	129,590	15.3%
	· ·	13,905	13,905		Sector 3-4 repair			· ·	,	,	-100.0%
		1,565	1,565		Spares		4	710	6,880	7,590	
8	1,370	100	1,470		LHC injectors (for heavy lons)	Commissioning of initial Pb82+ion beam	9	1,690	945	2,635	79.3%
387	68,525	24,900	93,425		LHC detectors		382	67,920	22,850	90,770	-2.8%
131	23,010	4,075	27,085	2	ATLAS detector	Data taking, first measurements of Std Model physics processes	124	21,880	4,445	26,325	-2.8%
118	20,625	3,805	24,430	3	CMS detector	Trigger & physics commissioning, measure Std model processes	120	21,270	3,470	24,740	1.3%
50	9,230	2,295	11,525	4	ALICE detector	PP data taking and first PB-PB data taking	48	8,885	2,265	11,150	-3.3%
54	9,805	2,615	12,420	5	LHCb detector	Data taking to Std Model expectation, improve on TEVATRON limits	51	9,410	1,985	11,395	-8.3%
33	5,855	3,345	9,200	6	Common items, other experiments (inc. Totem, LHCf)	Detector and global commisioning of Totem, physics analysis LHCf	38	6,270	2,930	9,200	
		8,765	8,765		Detectors re-scoping		1	205	7,755	7,960	-9.2%
92	16,730	19,335	36,065	7	LHC computing	Sustained transfer of LHC data, data export to Tier 1 centres up to 1 GB	97	18,020	37,670	55,690	54.4%
663	114,730	53,590	168,320		Other programmes		637	109,920	47,720	157,640	-6.3%
21	3,525	3,000	6,525	8	Non-LHC physics	Meet the goals set by the research board	19	3,010	3,975	6,985	7.0%
67	10,100	1,660	11,760	9.a	Theory	Support TH experiments and TH community	65	10,190	1,935	12,125	3.1%
25	4,525	1,600	6,125	9.b	Physics analysis centre	Starting works for creating the Physics Analysis Centre	19	3,800	2,070	5,870	-4.2%
175	32,115	9,755	41,870		Scientific support	Safe, efficient, reliable operation of the experiments, support to users	177	31,765	7,850	39,615	-5.4%
33	5,655	3,230	8,885	10	Low and medium accelerators	Delivery of beams to all users with maximum overall efficiency,	35	5,900	3,335	9,235	3.9%
188	31,835	19,135	50,970	10	PS and SPS complexes	enabling LHC injection and delivery to non-LHC experimental facilities	197	33,820	19,370	53,190	4.4%
154	26,975	15,210	42,185	10	Accelerator technical services	in parallel	126	21,435	9,185	30,620	-27.4%
1,567	269,890	157,265	427,155		Grand Total		1,554	268,740	175,175	443,915	3.9%
	22.66%	13.21%	35.87%		% of total revenues			22.31%	14.54%	36.85%	

### **Explanations to Figure 6:**

The 2010 operation heading increases due to the long-run in 2010 throughout the winter. The sector 3-4 repair and spares costs are lower in 2009 with respect to the Revised 2009 Budget since some spares will be purchased in 2010. Please note that the sector 3-4 induced consolidation is included in Figure 8 under LHC consolidation. Some 22.6 MCHF of the total 43 MCHF sector 3-4 incident costs are covered by a provision included in the 2008 annual accounts.

The ongoing support activities such as scientific support, low and medium energy accelerators and PS and SPS complexes show a small increase related to the long run.

Following the non-LHC diversification workshops, the earmarked amounts for the non-LHC physics programme are increased to allow for implementing the outcome in 2010. The allocation for manpower for the Physics Analysis

Centre includes the former White Paper funding for additional manpower for physics data analysis and some seed funding.

The Management aims to avoid allocating resources to generic headings to enhance transparency. Thus, there are some reallocations in 2010 with respect to 2009 without changing the agreed objectives. This results in a reduction in accelerator technical services and increases in the allocations for the operation of the PS and SPS complexes and the LHC machine.

Figure 7: Infrastructure and services

	2009 Probab	le Expenses		Fact Sheet			2010 Budget				Variations of
	(2009)	orices)		as in	Activity	2010 goals		(2010 p	orices)		2010 Budget
FTE		kCHF		MTP 2009			FTE		kCHF		with respect to 2009 Prob. Exp.
Personnel	Personnel	Materials	Total				Personnel	Personnel	Materials	Total	2009 F10D. Exp.
770	181,040	174,135	355,175		Infrastructure and services		749	179,035	189,595	368,630	3.8%
109	17,375	3,790	21,165	11.a	Manufacturing facilities	Avoid delays in projects where design/production is on critical path	85	14,085	2,065	16,150	-23.7%
151	23,515	34,475	57,990	11.b	General facilities and logistics		139	22,355	38,370	60,725	4.7%
151	25,170	16,510	41,680	11.c	Informatics		148	25,465	16,455	41,920	0.6%
128	19,730	10,630	30,360	12	Safety, health and environment	Safe operation of LHC and other facilities (radioprotection, cryogenics)	137	20,635	7,895	28,530	-6.0%
186	30,730	8,060	38,790	13	Administration	Balance cent/non-centr. admin., impl. KPI's, review inhouse-outsourcing	197	32,185	8,245	40,430	4.2%
41	8,690	10,305	18,995	14	Outreach and KTT		40	8,485	9,570	18,055	-4.9%
3	55,830	69,790	125,620	15	Centralised expenses		4	55,825	90,625	146,450	16.6%
	31,115		31,115		Centralised personnel expenses			31,095		31,095	-0.1%
	24,015		24,015		Internal taxation			24,015		24,015	
3	700		700		Personnel on detachment		4	715		715	2.1%
		62,795	62,795		Energy and water				83,350	83,350	32.7%
		6,995	6,995		Insurances and postal charges				7,275	7,275	4.0%
		20,575	20,575	15	Interests and financial costs	Reducing short-term loans			16,370	16,370	-20.4%
	15.20%	14.62%	29.82%		% of total revenues			14.86%	15.74%	30.60%	

### **Explanations on Figure 7:**

The baseload of the ongoing infrastructure and services results in similar budget allocations in 2009 and 2010.

The reduction in manufacturing and general facilities is related to the ongoing reduction of personnel as planned since 2006. The 2009 amount is higher, essentially due to activities related to the LHC re-start. Additional resources are allocated to the general infrastructure for improvements during the LHC running.

Allocations for informatics remain constant, including revenues from Openlab for 2010, which will be adjusted as a function of actual revenues.

The higher allocation for safety in 2009 is due to the carry-forward from 2008 for radioactive waste management. It is likely that in 2010 a part of this multi-annual project will once again be carried forward after book closure.

The heading administration includes also the central funding for scientific exchanges (student subsistences, symposiums, etc). The amount for 2010 will be distributed by activity in due course. Furthermore, the higher allocation is also due to an increase in HR management for personnel, the five-yearly review and the training budget for CERN personnel.

Allocations for outreach and KTT activities are at a similar level as in 2009 and will be adjusted as a function of KTT-related actual revenues in 2010.

Internal taxation, with an identical heading in revenues, is kept constant but will depend on the actual positions of the staff in the salary grid.

The luminosity run over the winter of 2009/2010 requires an increase of the amount earmarked for energy, which determines the overall increase of centralised expenses.

The reduction for interests and financial costs is linked to the repayment of LHC loans, notably to the full repayment of the EIB loan in April 2009 as well as the reduced amount of short-term loans and the favourable interest rates obtained.

Figure 8: Projects

2009 Probable Expenses		le Expenses Fact Sheet		2010 Budget				Variations of				
			as in	Activity	2010 goals	(2010 prices)				2010 Budget		
FTE		kCHF		MTP 2009	·	-	FTE	FTE kCHF			with respect to 2009 Prob. Exp.	
Personn	Personnel	Materials	Total				Personnel	Personnel	Materials	Total	2003110b. Exp.	
298	46,660	96,160	142,820		Projects		321	52,685	129,340	182,025	27.5%	
77	12,430	10,020	22,450	16.a	CLIC	Complete CLIC Test Facility installation	74	11,970	8,890	20,860	-7.1%	
2	330	240	570	16.b	Linear collider detector	Simaluation studies, setting up targeted hardware R&D program	9	1,540	550	2,090	266.7%	
43	5,725	16,620	22,345	17	Linac 4	Complete CE, launch constr of acc. struct. and main comp. RFQ comm.	51	8,415	27,960	36,375	62.8%	
6	1,035	3,845	4,880	18	Focus quadrupoles (NbTi)	Completion TDR, start construction model magnets	18	2,990	9,750	12,740	161.1%	
71	11,560	2,345	13,905	19	R&D		39	6,045	4,485	10,530	-24.3%	
25	4,010	1,165	5,175	19.a	R&D accelerators	Constr. & test prototypes, detailed design subsystems	20	2,820	2,450	5,270	1.8%	
47	7,550	1,180	8,730	19.b, c, d	Other R&D		19	3,225	2,035	5,260	-39.7%	
52	7,715	5,955	13,670		LHC upgrade (PS2, SPS, SPL studies, detectors)		58	9,475	6,740	16,215	18.6%	
				20	Construction PS2/SPL/S-LHC (machine and detectors)	Preparation of infrastructure works			995	995		
19	3,295	7,705	11,000	21.a	Accelerator consolidation	Add. cons. of notably PS control access system, SPS 18 kV substations	17	2,980	8,745	11,725	6.6%	
20	3,405	33,020	36,425	21.a	LHC reliability and consolidation		38	6,505	32,355	38,860	6.7%	
7	1,165	16,410	17,575	21.b	General infrastructure consolidation	Refurbishment of buildings, Rest. 1 extension, Rest. 3 renewal	17	2,765	28,870	31,635	80.0%	
	3.92%	8.07%	11.99%		% of total revenues			4.37%	10.74%	15.11%		

#### **Explanations on Figure 8:**

All projects experienced a delay in terms of meeting scheduled objectives due to substantial amounts of manpower still being focused on LHC following the sector 3-4 incident in 2008. The new heading "Linear collider detector R&D" was introduced in June 2009 to essentially start in 2010.

The allocations for 2009 and 2010 for the Linac 4 and Focus quadrupoles replacements have been reprofiled in line with the baseline planning in the EVM tools. Both projects remain within the Cost-to-Completion estimates in the MTP in June.

Accelerator R&D increases as a consequence of the EUCARD project, whereas other R&D reduces, mainly due to the ending of EU-supported IT R&D programmes such as EGEE 3. The activities 'LHC upgrade' with specific R&D studies for the LHC injector upgrade and detectors (including the EU project SLHC-PP) and the infrastructure consulting studies for LHC injectors continue.

Whereas the Draft Budget in June foresaw a reduction for the accelerator and LHC consolidation headings linked to the long run over the winter of 2009/2010, delays have resulted in a carry-forward with stable allocations. The LHC reliability and consolidation heading includes the cost of increased helium storage capacity at the surface during a shutdown and the other items of the sector 3-4 induced consolidation.

The general consolidation heading increase is due to the start of construction of the new auditorium and office space for user facilities pending the securing of external funding for this project of 10 MCHF in 2010. It should be noted that the Management aims to obtain additional revenues for this project as shown in Figure 3 and will report to the Council and its Committees in due course.

### **Energy and water**

Figure 9: Expenses – Energy and water

	2009	2010 Budget	Variations of 2010 Budget
Activity	Probable Expenses		with respect to
	(2009 prices)	(2010 prices)	2009 Probable Expenses
Energy and water (baseload)	22.3	24.4	9.5%
Electricity	9.6	10.5	9.1%
Heating oil and gas	4.7	5.9	26.4%
Water and miscellaneous	8.0	8.0	-0.1%
Energy for basic programmes	40.5	59.0	45.5%
Particle physics	1.9	2.2	13.7%
Data handling	1.2	1.3	
Accelerators:	11.9	13.5	13.1%
AD	0.5	0.5	8.0%
PS	2.1	2.3	
SPS	9.4	10.7	
LHC	25.1	41.6	65.7%
CNGS	0.4	0.4	8.0%
Grand Total Energy programme in MCHF	62.8	83.4	32.7%

### **Explanations on Figure 9:**

An amount of 24.4 MCHF is earmarked for the baseload of the CERN sites (administration, workshops, laboratories, component testing, and lighting), fuel (heating) and water (cooling and drinking water). In addition, 59.0 MCHF for power consumption is included in the budgets for the basic programmes.

With respect to a normal year, some 15 MCHF are allocated for the electricity supply over the winter of 2009/2010 to allow for a significant integrated luminosity to be delivered to the detectors.

### **Fixed assets projects**

Figure 10: Expenses – Details on projects including in the activity headings<sup>5</sup>

2009 Probable Expenses *			Activity	Project	2010 Budget *			
(2009 prices)		Activity	Project	(2				
Personnel	Materials	Total			Personnel	Materials	Total	
34 935	147 020	181 955	Programme	Projects	44 045	179 490	223 535	
820	14 775	15 595		LHC machine and injectors	835	7 825	8 660	
	13 905	13 905		Sector 3-4 repair				
	770	770		Liquid helium additional storage tanks		6 880	6 880	
820	100	920		LHC injectors	835	945	1 780	
	9 705	9 705	I IIC	LHC detectors		5 460	5 460	
	185	185	LHC programme Included in figure 6	Alice detector				
	755	755	meladed in figure o	LHCb detector				
	8 765	8 765		WP LHC Experiment final implementation		5 460	5 460	
1 185	14 735	15 920		LHC computing		32 850	32 850	
1 185	14 735	15 920		LHC Computing Grid				
				Green Computing Centre		32 850	32 850	
	885	885	041	NA62 construction		895	895	
1 000	510	1 510	Other programmes Included in figure 6	Electronics pool				
1 105	5 010	6 115	included in figure o	Magnet rescue facility	635		635	
180	4 950	5 130	Infrastructure and	Extension building 40	170	6 410	6 580	
	360	360	services	Radio Infrastructure upgrade for firefighters				
295	4 360	4 655	Included in figure 7	Radioactive waste management	440	1 955	2 395	
11 420	9 950	21 370		CLIC	11 370	8 820	20 190	
60		60		Linear collider detector R&D	1 540	390	1 930	
5 315	16 620	21 935		Linac 4	7 765	27 960	35 725	
700	3 205	3 905		Focus quadrupoles (NbTi)	2 670	9 440	12 110	
				High radiation material test facility		1 985	1 985	
	490	490		SLHC	1 290		1 290	
1 960	790	2 750		High field magnets (HFM)	1 825	1 490	3 315	
400	380	780	Projects	Fast cycled magnets (FCM)	440	425	865	
595	780	1 375	Included in figure 8	PS2 studies	525	80	605	
2 105	2 500	4 605		LHC upgrade	2 390	3 700	6 090	
195	30	225		RF 200 MHz system	185	1 055	1 240	
1 910	2 470	4 380		LHC detectors upgrade	2 205	2 645	4 850	
3 295	7 705	11 000		Accelerator consolidation	2 980	8 745	11 725	
2 870	17 890	20 760		LHC reliability and consolidation	6 235	29 985	36 220	
465	15 010	15 475		Induced consolidation following 3-4 incident	170	2 205	2 375	
1 165	16 410	17 575		General infrastructure consolidation	2 765	28 870	31 635	

<sup>\*</sup> Excluding EU projects.

The radioactive waste management figure is higher in 2009 due to a carry-forward from 2008 to 2009. The start of the new computing centre is still under discussion, as is the construction of a new amphitheatre under the heading "General infrastructure consolidation". The Management will report the progress on both projects and their funding to Council and its Committees.

<sup>&</sup>lt;sup>5</sup> Upon completion the amounts of these projects will be activated as fixed assets in the financial position.

# IV. Summary of Expenses by Nature

Figure 11: Materials expenses by nature (including interests and financial costs).

Nature	2009 Probable Expenses	2010 Budget	Variations of 2010 Budget with respect to
Nature	(2009 prices)	(2010 prices)	2009 Probable Expenses
	(200) prices)	(2010 prees)	2009 Trobuble Expenses
Operating expenses	406,985	477,740	17.4%
Supplies and consumables	295,815	373,910	26.4%
Goods, consumables and supplies	175,120	236,310	34.9%
Electricity, heating gas and water	62,795	83,350	32.7%
Industrial services (service contracts)*	57,900	54,250	-6.3%
Other operating expenses	111,170	103,830	-6.6%
Repair and maintenance (other indus. services contracts)*	42,140	35,480	-15.8%
Third party payments and consultants	31,955	30,995	-3.0%
Other overheads **	37,075	37,355	0.8%
Non-operating expenses	20,575	16,370	-20.4%
Interests and financial costs	20,575	16,370	-20.4%
Fortis bank	14,570	14,120	-3.1%
EIB	1,255		
Short-term interests	4,500	2,000	-55.6%
Bank charges	250	250	
TOTAL MATERIALS in kCHF	427,560	494,110	15.6%

<sup>\*</sup> Variation for total of industrial services: -10.3%

<sup>\*\*</sup> Including insurance and postal charges, CERN contributions to collaborations

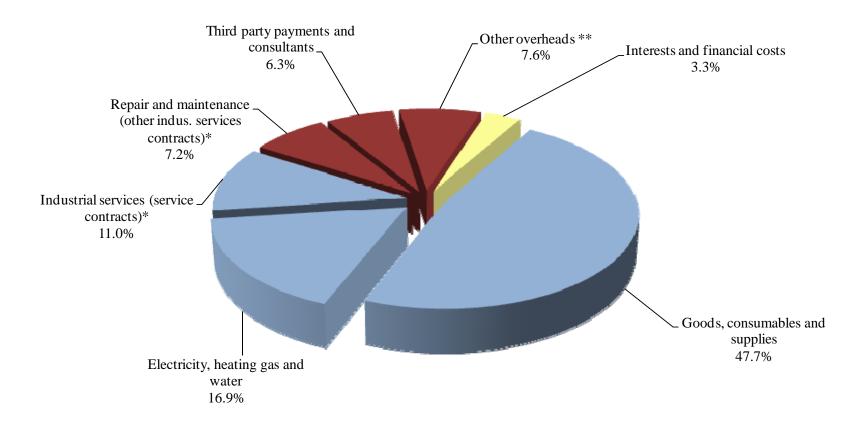
Figure 12: Breakdown of materials expenses by nature

Supplies and consumables: 75.6%

Other operating expenses: 21.1%

Interests and financial costs: 3.3%

<sup>\*\*</sup> Including insurance and postal charges, CERN contributions to collaborations



<sup>\*</sup> Total of industrial services: 11% + 7.2% = 18.2%

Figure 13: Personnel Expenses by Nature

Nature	2009 Probable Expenses (2009 prices)	2010 Budget (2010 prices)	Variations of 2010 Budget with respect to 2009 Probable Expenses
Staff members	455,320	455,915	0.1%
Basic salaries*	258,465	259,610	0.4%
Allowances	57,280	55,355	-3.4%
Non-residence	18,945	18,935	
Family allowances	21,350	20,690	
Special allowances	3,625	3,190	
Overtime	2,015	1,845	
Various allowances	10,230	9,835	
Termination indemnities	1,115	860	
Social contributions	84,445	85,840	1.7%
Pension Fund	66,050	65,585	
Health insurance	18,395	20,255	
Centralised personnel budget	31,115	31,095	-0.1%
Installation, recruitment and termination of contracts	6,350	6,295	
Additional periods of membership in the Pension Fund for shift work	4,155	4,050	
Contribution to health insurance for pensioners	20,610	20,750	
Internal taxation	24,015	24,015	
Fellows & Associates (including overhead for students)	41,850	44,095	5.4%
<u>Apprentices</u>	420	450	7.1%
TOTAL PERSONNEL in kCHF	497,590	500,460	0.6%

<sup>\*</sup> Including the withheld salary for short-term SLS participations.

**Overall complement**: The 2010 budget will cover 2260 FTEs staff (2236 FTEs on CERN's core budget, 22 FTEs on EU projects, 1 FTE on Openlab and 1 FTE on TT related activities) and 364 FTEs fellows and paid associates (299 FTEs on CERN's core budget, 59 FTEs on EU projects and 6 FTEs on Openlab activities).

#### **Explanations on Figure 13:**

The total CERN Personnel Budget for 2010 amounts to 500.5 MCHF.

The budget (including centralized expenses) for staff members totals 455.9 MCHF.

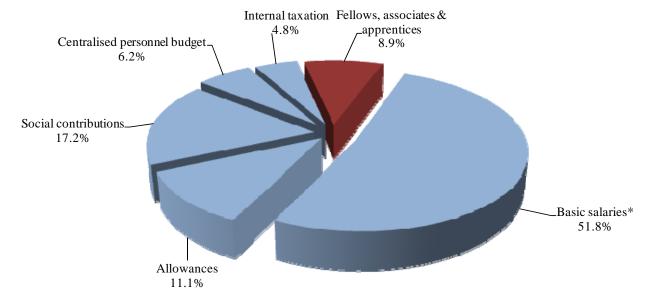
The Centralized Personnel Budget totals 31.1 MCHF excluding compensation to former firemen for shift work (this is included in the budget for total man-year costs). Removal and installation expenses, contract terminations and unemployment indemnities are expected to amount to about 6.3 MCHF. Additional periods of membership in the Pension Fund for shift work should amount to some 4.1 MCHF and contributions to pensioners' health insurance should amount to 20.8 MCHF.

Internal taxation is expected to amount to 24.0 MCHF and is also shown as revenues for the Organization, the amount depending on the staff positions in the salary grid.

Figure 14: Personnel expenses breakdown by nature



\* Including the withheld salary for short-term SLS participation.



# V. Financial Position of the Organization

### **Statement of Cash Flow**

Figure 15: Statement of Cash Flow for Financial Years 2009 and 2010

(' NCHE   1   CC   c'   1   20/11/2000)	2009	2010
(in MCHF, rounded off, estimated as at 30/11/2009)	(2009 prices)	(2010 prices)
(A) START OF THE YEAR		
Liquid assets brought forward	62	
Outstanding short-term loans	409	* 290
(1) CASH INFLOW	1,252	1,282
Contributions	1,068	1,112
Special cash contributions	17	17
Teams and Collaborations	145	120
Other income, EU,TT, sales	22	33
(2) CASH OUTFLOW	1,195	1,116
Expenses	846	965
Repayment EIB loan	200	
Teams, Collaborations and other	114	120
Interests and financial costs	21	16
Capital repayment Fortis + FIPOI	14	15
(3) VARIATION OF CASH POSITION	57	165
(B) END OF THE YEAR		
Estimated outstanding short-term loans	290	125

<sup>\*</sup> For 2010, it is an estimated amount.

The Cash Flow statement is an estimate, the balance of short-term loans will depend on the actual carry-forward, the in- and outflows on team accounts and the inflow of the Member States' contributions.

### **Loan from FORTIS bank**

The outstanding amount to Fortis Bank amounted to 420.0 MCHF at the end of 2009 and will reduce to 405.8 MCHF by the end of 2010. The loan will be fully reimbursed by the end of June 2026.

### Short-term bank loans and overdrafts

As mentioned in Figure 15, short-term loans and bank overdrafts are estimated to amount to 290 MCHF at the end of 2009. The estimated interest and bank charges will amount to some 2.3 MCHF as shown in Figure 11.