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ORGANISATION EUROPÉENNE POUR LA RECHERCHE NUCLÉAIRE

CERN EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH

Action to be taken		*Voting procedure*
For information	**FINANCE COMMITTEE** 362nd Meeting **13 December 2017**	—
For information	**RESTRICTED COUNCIL** 187th Session **14 December 2017**	—

Final Budget

Of the Organization

For the sixty-fourth financial year

2018

The Final 2018 Budget is expressed in 2018 prices, i.e. it implements the 0.27 % indexation of the regular contributions of the Member States and the Associate Member States in line with the "corridor principle" approved by the Council in June 2012 (CERN/FC/5644-CERN/3023), the cost-variation indices applying to expenses proposed in document CERN/FC/6170-CERN/3333, which the Finance Committee is invited to recommend and the Council is invited to approve under separate items of their respective December 2017 agendas, and the scale of contributions (document CERN/FC/6127-CERN/3312) approved by the Council in June 2017.

The Finance Committee and the Council are invited to take note of this document.

Geneva, December 2017

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I. EXECUTIVE SUMMARY

Introduction

Following the Council's approval in June 2017 of the proposed Medium-Term Plan (MTP) for the period 2018-2022, including an outlook until 2027, and of the 2018 Draft Budget[1], the Management presents the Final 2018 Budget in 2018 prices.

The Final 2018 Budget is based on the same objectives and targets for the scientific and non-scientific programmes as the 2018 Draft Budget. It takes account of Slovenia's accession to the status of Associate Member State in the pre-stage to Membership in July 2017.

The Final 2018 Budget also takes account of the 2017 Probable Revenues and Expenses, including the carry-forward, in line with CERN's Financial Rules.

The Final 2018 Budget is expressed in 2018 prices following application of the cost-variation indices[2] submitted to the Council and the Finance Committee for approval under separate agenda items in December 2017. The overall Cost Variation Index of 0.27% is applied to the Member States' contributions in line with the "corridor principle" approved by the Council in June 2012[3].

In line with the 2013 decision to introduce "rolling reporting and evaluation of the budgetary consequences, in particular the cumulative budget deficit, during the MTP discussions in the coming years"[4], the impact on the overall budget deficit for the years 2017 and 2018 is shown in Figure 3.

With respect to the 2018 Draft Budget, the estimated cumulative budget deficit at the end of 2018 has fallen from -333.7 MCHF to -297.9 MCHF. The reasons for this 35.8 MCHF reduction are explained below.

Variations with respect to the Revised 2017 Budget and the 2018 Draft Budget

The Final 2018 Budget incorporates minor variations in revenues and expenses without any change in the scientific objectives as set out in the 2018 Draft Budget. Variations are shown in Figure 1 and can be summarised as follows:

Changes in revenues:

- 0.27% indexation of contributions, corresponding to 3.0 MCHF for the Member States and 0.1 MCHF for the Associate Member States;
- For 2017: Slovenia's accession to the status of Associate Member State in the pre-stage to Membership in July 2017;
- For 2018: Serbia's full membership in 2019 instead of 2018;
- Updated information for EU-supported projects;
- Small delays in HIE-ISOLDE, resulting in the re-profiling of external revenues;
- Recalculation of revenues in respect of internal taxation;
- Minor changes in revenues for personnel paid from team accounts and personnel on detachment;
- Small changes in the other revenues heading.

[1] CERN/SPC/1090-CERN/FC/6124-CERN/3310
[2] CERN/FC/6170-CERN/3333
[3] CERN/FC/5644-CERN/3023
[4] CERN/FC/5760/RA, page 25

Changes in expenses:

- Indexation of expenses[2], i.e. 0.35% for the personnel budget and 0.19% for the materials budget, subject to the Council's approval of the CVI;
- Updated information for EU-supported projects;
- Re-profiling of the recruitment of some of the 80 LD posts mentioned in document CERN/FC/6065/RA;
- Material to personnel transfers, mainly for fellows (GET programme) and technical trainees;
- Recalculation of expenses in respect of internal taxation;
- Minor changes in expenses for personnel paid from team accounts and personnel on detachment;
- Multi-annual projects: creation, update, re-profiling and carry-forward:
  - Focus on LHC operation and priority given to LHC upgrades coupled with personnel shortages resulting in some delays for other projects;
  - Re-profiling of some consolidation activities between machines, taking into account contract adjudications and available personnel;

    Additional allocation for computing network consolidation and 2nd network hub;
  - Re-profiling in both directions of some building projects, such as building 311 (magnetic measurement lab), building 107 (surface treatment lab), polymer laboratory and flexible storage building in Prévessin, taking into account contract adjudications and contractual deliverables;

Figure 1 (1/2): Variations with respect to the Revised 2017 Budget and 2018 Draft Budget (CERN/SPC/1090-CERN/FC/6124-CERN/3310, p. 30 and 31)

(in MCHF, rounded off)	Variations between 2017 Probable Revenues and Expenses and Revised 2017 Budget (2017 prices)	Variations between Final 2018 Budget (2018 prices) and 2018 Draft Budget (2017 prices)
Variations on REVENUES	**5.7**	**6.6**
Indexation to 2018 prices		**3.1**
Member States' contributions		*3.0*
Associated Member States' contributions		*0.1*
Serbia as a Member State in 2019 instead of 2018		-0.6
New Associate Member States Contributions	0.5	
EU contributions	4.1	0.0
Additional contributions (HIE-ISOLDE)	-0.3	0.3
Personnel paid from team accounts	-1.1	1.4
Personnel on detachment	-0.1	-0.3
Internal taxation update	2.3	2.8
Sales and miscellaneous	*0.4*	
Variations on EXPENSES	**-20.5**	**-3.1**
Indexation to 2018 prices		**3.3**
Personnel		*2.1*
Energy		*2.0*
Materials		*-0.8*
Operation	**-11.1**	**0.8**
2016&2017 revenues allocated to future commitments	*-2.3*	*1.7*
Re-profiling of car-pool activity	*-1.9*	*-0.8*
Re-profiling of operations to cover existing commitments in future	*-1.7*	*2.7*
Operational savings (allocated to new and existing projects)	*-2.8*	*-0.6*
Operations variation	*-2.4*	*-2.2*
Projects (new, updates, carry-forward and re-profiling)	**-12.6**	**-10.7**
Reallocation of materials budget to fellows and technical trainees	**-1.3**	**0.6**
Materials	*-8.1*	*-11.3*
Fellows & technical trainees	*6.8*	*11.9*
Re-profiling of additional LD posts (FC/6065/RA)	**-0.6**	**-0.9**
Internal taxation update	**2.3**	**2.8**
Expenses corresponding to EU contributions	**4.1**	**0.0**
Personnel paid from team accounts	**-1.1**	**1.4**
Personnel on detachment	**-0.1**	**-0.3**
Variations on BALANCE	**26.2**	**9.6**
IMPACT ON CUMULATIVE BALANCE	**26.2**	**35.8**

Details for projects in the second table →

Figure 1 (2/2): Variations with respect to the Revised 2017 Budget and 2018 Draft Budget (CERN/SPC/1090-CERN/FC/6124-CERN/3310, p. 30 and 31)

	Variations between 2017 Probable Revenues and Expenses and Revised 2017 Budget (2017 prices)	Variations between Final 2018 Budget (2018 prices) and 2018 Draft Budget (2017 prices)
Details for Projects (new, updates, carry-forward and re-profiling)	**-12.6**	**-10.7**
LHC machine and areas: spares, reliability and consolidation	**-7.0**	**-1.6**
LHC computing	**-0.7**	**1.7**
Non-LHC physics & scientific support (NA62, ISOLDE, electronics investm.)	**0.0**	**0.6**
Knowledge Transfer	**0.5**	**-0.2**
PS complex, SPS complex, accelerator support and services	**-1.2**	**-0.6**
East Aera renovation	**-1.8**	**-2.3**
Infrastructure and services	**8.7**	**-2.6**
- of which infrastructure consolidation and buildings	*5.5*	*-3.0*
LHC upgrades	**-3.6**	**-7.3**
LINAC4	*-0.3*	*0.0*
LHC injectors upgrade	*-2.5*	*-3.6*
HL-LHC construction	*0.4*	*-0.6*
LHC detectors upgrade (phase 1) and consolidation	*-3.7*	*-2.7*
HL-LHC detectors, including R&D (phase 2)	*2.5*	*-0.5*
Preparation for the future	**-0.5**	**-0.8**
Linear collider studies (CLIC, ILC, detector R&D)	*0.2*	*-1.0*
Future circular collider study	*0.3*	*-0.3*
Proton-driven plasma wakefield acceleration (AWAKE)	*-1.2*	*0.4*
Physics Beyond Colliders study	*0.1*	*0.1*
Diversity activities	**-6.8**	**2.4**
ELENA	*-0.4*	*0.4*
HIE-ISOLDE	*-0.4*	*0.4*
CERN Neutrino Platform	*-3.5*	*2.8*
Superconducting RF studies	*-0.1*	*0.1*
Superconducting magnet R&D (SCM)	*-0.1*	*-3.9*
R&D for medical applications	*-0.3*	*0.3*
Other R&D (FAIR, ITER, ESS, EU, detectors, etc.)	*-2.0*	*2.3*

Comments on Figure 1:

Figure 1 shows the variations for 2017 and 2018 with respect to the Revised 2017 Budget and the 2018 Draft Budget approved in June 2017. Details of the carry-forward and re-profiling for projects are shown in the second table. The totals for the 2017 Probable Revenues and Expenses as well as the Final 2018 Budget in 2018 prices are given in Figures 2 and 3.

II. OVERVIEW OF REVENUES AND EXPENSES

1. OVERVIEW OF REVENUES

Figure 2: Overview of revenues

(in MCHF, rounded off)	2017 Probable Revenues (2017 prices)	Final 2018 Budget (2018 prices)	Variation of Final 2018 Budget with respect to 2017 Probable Revenues
REVENUES	**1,240.8**	**1,230.2**	**-0.85 %**
Member States' contributions	1,119.9	1,122.9	0.27 %
Associate Member States' contributions	22.3	24.3	9.11 %
Contributions anticipated from new Associate Member States		1.0	
EU contributions	18.2	11.9	-34.41 %
Additional contributions	7.7	1.5	-80.50 %
for LINAC4, HIE-ISOLDE, ELENA, AWAKE, CLIC, FAIR	*7.7*	*1.5*	*-80.50 %*
Personnel paid from team accounts	12.5	11.3	-9.57 %
Personnel on detachment	0.9	0.4	-52.20 %
Internal taxation	32.4	33.0	1.90 %
Knowledge transfer	2.2	1.7	-22.74 %
Other revenues	24.7	22.1	-10.58 %
Sales and miscellaneous	*7.4*	*6.5*	*-12.13 %*
SCOAP3 revenues	*4.9*	*4.7*	*-5.06 %*
OpenLab revenues	*2.3*	*0.8*	*-63.56 %*
Financial revenues	*2.0*	*2.0*	
In-kind [1]	*2.0*	*2.0*	
Housing fund	*6.0*	*6.0*	

[1] Theoretical interest on the FIPOI loan.

Comments on Figure 2:

The total **Member States' contributions** for 2018 is 1,122.9 MCHF, corresponding to the 2017 total indexed by 0.27%, in line with the "Cost-Variation Index for 2018"[5] submitted to the Council for approval in December 2017.

The **Associate Member States' contributions** include the contributions from the Associate Member States in the pre-stage to Membership, namely Cyprus, Serbia and Slovenia (which became an Associate Member State on 4 July 2017), and from the Associate Member States India, Pakistan, Turkey and Ukraine. It is assumed that Serbia will become a Member State in 2019 and pay 75% of its contribution in 2018.

In accordance with the Council's decision on Greece's contribution (CERN/3258/RA), in 2018 Greece will pay 85% of its contribution for 2018 plus an annual instalment of the 15-year plan for the repayment of its arrears for the years 2014-2016. The remaining 15% of the 2018 contribution will have to be compensated under conditions to be decided by the Council in 2019.

Conservative assumptions are made for additional contributions from **new Associate Member States**. In that spirit, only Lithuania, which is assumed to become an Associate Member State in the first quarter of 2018, has been included.

The external contributions to various projects, such as HIE-ISOLDE, ELENA, AWAKE and FAIR, will decrease in 2018 as these projects approach completion.

EU contributions might seem low in 2018 but are likely to increase thanks to ongoing efforts to obtain approval and financial support for new proposals. It should be noted that these possible additional contributions would also add expenses, and thus have no impact on the budget balance.

The heading **other revenues** corresponds to a conservative assumption based on the budget out-turn in the years 2012 to 2017.

The revenues and corresponding expenses for **OpenLab** for the years 2017-2018 – Figure 9 (2/3) - are based on the contracts signed at the time of publication of this document. OpenLab is in the process of signing the agreements for the next phase (phase 6), covering the 3-year period from 2018 to 2020. Once these agreements are signed, the revenues for 2018 are expected to be higher than the amount shown in Figure 2.

Several items (e.g. personnel paid from team accounts, personnel on detachment, housing fund, etc.) have corresponding expenses under various headings in the Infrastructure and Services programme, as shown in Figure 7.

[5] CERN/FC/6170-CERN/3333

2. OVERVIEW OF EXPENSES

Explanations are provided in Chapter III "Expenses for the 2018 Financial Year"

Figure 3: Overview of expenses and budget balances

(in MCHF, rounded off)	2017 Probable Expenses (2017 prices)	Final 2018 Budget (2018 prices)	Variation of Final 2018 Budget with respect to 2017 Probable Expenses
EXPENSES	**1,209.0**	**1,268.8**	**4.94 %**
Running of scientific programmes and support	**961.9**	**994.0**	**3.33 %**
Scientific programmes	**484.6**	**519.9**	**7.30 %**
LHC (machine, detectors, computing, including spares and consolidation)	*251.6*	*267.2*	*6.16 %*
Non-LHC physics and scientific support	*78.1*	*81.8*	*4.73 %*
Other accelerators and areas (including consolidation)	*154.8*	*170.9*	*10.43 %*
Infrastructure and services	**300.1**	**290.9**	**-3.07 %**
General infrastructure and services (incl. admin, international relations, safety)	*253.3*	*259.6*	*2.48 %*
Infrastructure consolidation, buildings and renovation	*46.8*	*31.3*	*-33.11 %*
Centralised expenses	**177.2**	**183.2**	**3.34 %**
Centralised personnel expenses	*36.3*	*36.3*	
Internal taxation	*32.4*	*33.0*	*1.90 %*
Internal mobility, personnel on detachment, paid from team accounts	*13.6*	*11.7*	*-14.01 %*
Budget amortisation of staff benefit accruals	*17.3*	*17.3*	
Energy and water, insurance and postal charges, miscellaneous	*65.4*	*73.4*	*12.32 %*
Interest, bank and financial expenses, in-kind [1]	*12.2*	*11.3*	*-6.95 %*
Projects and studies	**247.1**	**274.8**	**11.20 %**
LHC upgrades	**158.5**	**200.6**	**26.55 %**
LINAC4	*0.9*	*0.0*	*-97.14 %*
LHC injectors upgrade (LIU)	*49.4*	*55.6*	*12.57 %*
HL-LHC construction	*71.8*	*103.0*	*43.50 %*
LHC detectors upgrade (Phase 1) and consolidation	*21.7*	*24.7*	*13.78 %*
HL-LHC detectors, including R&D (Phase 2)	*14.8*	*17.3*	*17.10 %*
Preparation for the future	**44.1**	**35.8**	**-19.01 %**
Linear collider studies (CLIC, ILC, detector R&D)	*19.9*	*17.2*	*-13.92 %*
Future Circular Collider study	*16.0*	*13.8*	*-13.63 %*
Proton-driven plasma wakefield acceleration (AWAKE)	*7.3*	*3.0*	*-58.51 %*
Physics Beyond Colliders study	*0.9*	*1.7*	*87.63 %*
Scientific diversity activities	**44.4**	**38.4**	**-13.55 %**
ELENA	*4.7*	*0.9*	*-81.23 %*
HIE-ISOLDE	*3.5*	*1.6*	*-55.04 %*
CERN Neutrino Platform	*16.1*	*15.9*	*-1.27 %*
R&D (incl. EU support) for accelerators, medical applications	*20.1*	*20.0*	*-0.37 %*

BALANCE			
Annual balance	31.8	-38.6	
Capital repayment allocated to the budget (Fortis, FIPOI 1, 2 and 3)	-25.9	-26.8	
Recapitalisation Pension Fund	-60.0	-60.0	
Annual balance allocated to budget deficit	-54.2	-125.3	
-Cumulative balance [2] **-** **- 118.4**	**-172.5**	**-297.9**	

[1] Including theoretical interest on the FIPOI loan (compensated by a corresponding heading in the revenues).

[2] The cumulative balance of -118.4 MCHF is the accumulated budget deficit as stated in the Financial Statements for 2016 (CERN/FC/6117, page 19). It does not include 2016 open commitments and reprofiled expenses of 57.2 MCHF carried forward to 2017 and later years (of which 53.2 MCHF were announced in the Final 2017 Budget).

3. SCALE OF CONTRIBUTIONS OF THE MEMBER STATES FOR 2018

The percentage distribution of the scale of contributions for 2018 (document CERN/FC/6127-CERN/3312) was approved by the Council in June 2017, and the cost-variation index proposals are submitted to the Council for approval in document CERN/FC/6170-CERN/3333 in December 2017.

Figure 4 (1/2): Scale of Contributions of the Member States for the Financial Year 2018

			Net National Income at factor costs			Exchange rates			Net National Income at factor costs	2018 Theoretical Contribution	2018 Due Contribution
			in millions in national currency			national currencies in Swiss francs			in MCHF		
	Country	Currency	2013	2014	2015	2013	2014	2015	Average 2013 to 2015	in %	in %
Member States	Austria	EUR	223 134	228 224	231 982	1.2308	1.2146	1.0681	266 534	2.14546%	2.14546%
	Belgium	EUR	283 244	286 521	292 199	1.2308	1.2146	1.0681	336 235	2.70652%	2.70652%
	Bulgaria	BGN	59 028	59 945	63 565	0.6293	0.6210	0.5461	36 362	0.29270%	0.29270%
	Czech Republic	CZK	2 521 246	2 672 082	2 816 697	0.0474	0.0441	0.0392	115 894	0.93289%	0.93289%
	Denmark	DKK	1 381 224	1 433 321	1 467 822	0.1650	0.1629	0.1433	223 914	1.80239%	1.80239%
	Finland	EUR	138 361	141 032	144 631	1.2308	1.2146	1.0681	165 355	1.33102%	1.33102%
	France	EUR	1 470 792	1 491 994	1 535 228	1.2308	1.2146	1.0681	1 754 039	14.11914%	14.11914%
	Germany	EUR	2 107 767	2 179 538	2 263 202	1.2308	1.2146	1.0681	2 552 903	20.54959%	20.54959%
	Greece	EUR	121 948	118 422	115 328	1.2308	1.2146	1.0681	139 035	1.11916%	1.11916%
	Hungary	HUF	18 831 382	19 989 982	20 654 406	0.0041	0.0039	0.0034	75 983	0.61163%	0.61163%
	Israel	ILS	754 213	789 437	831 805	0.2567	0.2560	0.2477	200 569	1.61448%	1.61448%
	Italy	EUR	1 094 320	1 107 403	1 118 641	1.2308	1.2146	1.0681	1 295 566	10.42866%	10.42866%
	Netherlands	EUR	489 298	483 933	493 980	1.2308	1.2146	1.0681	572 535	4.60862%	4.60862%
	Norway	NOK	2 330 554	2 434 341	2 410 385	0.1579	0.1454	0.1195	336 699	2.71026%	2.71026%
	Poland	PLN	1 210 713	1 249 754	1 303 339	0.2933	0.2902	0.2554	350 197	2.81891%	2.81891%
	Portugal	EUR	115 802	116 462	118 424	1.2308	1.2146	1.0681	136 822	1.10135%	1.10135%
	Romania	RON	457 951	478 893	510 339	0.2785	0.2733	0.2404	127 035	1.02257%	1.02257%
	Slovakia	EUR	51 105	51 183	53 256	1.2308	1.2146	1.0681	60 649	0.48819%	0.48819%
	Spain	EUR	733 202	740 703	769 944	1.2308	1.2146	1.0681	874 806	7.04175%	7.04175%
	Sweden	SEK	2 452 759	2 572 490	2 710 358	0.1423	0.1336	0.1142	334 100	2.68934%	2.68934%
	Switzerland	CHF	498 626	496 209	505 113	1.0000	1.0000	1.0000	499 983	4.02461%	4.02461%
	United Kingdom	GBP	1 288 833	1 337 921	1 373 700	1.4496	1.5065	1.4705	1 967 918	15.84076%	15.84076%
Total Member States									**12 423 130**	**100.0000%**	**100.0000%**
Associate Member States in pre-stage	Cyprus [1]	EUR	13 016	12 591	12 658	1.2308	1.2146	1.0681	14 944	0.12029%	0.01203%
	Serbia [2]	RSD	2 784 822	2 801 400	2 901 887	0.0109	0.0104	0.0088	28 323	0.22799%	0.17099%
	Slovenia [3]	EUR	22 953	24 237	24 280	1.2308	1.2146	1.0681	27 873	0.22437%	0.08526%
Total Associate Member States in the pre-stage to Membership									**71 141**	**0.5727%**	**0.2683%**
Associate Member States	India [4]	INR	80 724 387	89 119 051	98 144 140	0.0152	0.0157	0.0148	1 357 679	10.92864%	1.09286%
	Pakistan [5]	PKR	16 081 936	18 039 772	19 731 056	0.0097	0.0088	0.0093	166 214	1.33794%	0.13379%
	Turkey [6]	TRY	1 308 099	1 495 197	1 693 711	0.4881	0.4181	0.3550	621 644	5.00392%	0.50039%
	Ukraine [7]	UAH	1 093 882	1 137 423	1 427 124	0.1159	0.0774	0.0441	92 615	0.74551%	0.07455%
Total Associate Member States									**2 238 152**	**18.0160%**	**1.8016%**

[1] Cyprus became an Associate Member State in the pre-stage to Membership on 1 April 2016 and will pay the statutory minimum contibution of 1 MCHF in 2018 as provided for in Council Resolution CERN/3034/RA.

[2] Serbia became an Associate Member State in the pre-stage to Membership on 15 March 2012 as provided for in Council Resolution CERN/2999/RA. It is assumed that Serbia will become a Member State in 2019 and will pay 75% of its theoretical Member State contribution in 2018.

[3] Slovenia became an Associate Member State in the pre-stage to Membership on 4 July 2017 and will pay the statutory minimum of 1 MCHF in 2018 as provided for in Council Resolution CERN/3288/RA.

[4] India became an Associate Member State on 16 January 2017 and will pay 10% of its theoretical contribution in 2018, as provided for in Council Resolution CERN/3274/RA.

[5] Pakistan became an Associate Member State on 31 July 2015 and will pay 10% of its theoretical contribution in 2018 as provided for in Council Resolution CERN/3142/RA.

[6] Turkey became an Associate Member State on 6 May 2015 and will pay 10% of its theoretical contribution in 2018 as provided for in Council Resolution CERN/3106/RA.

[7] Ukraine became an Associate Member State on 5 October 2016 and will pay the statutory minimum contribution of 1 MCHF in 2018 as provided for in Council Resolution CERN/3082/RA.

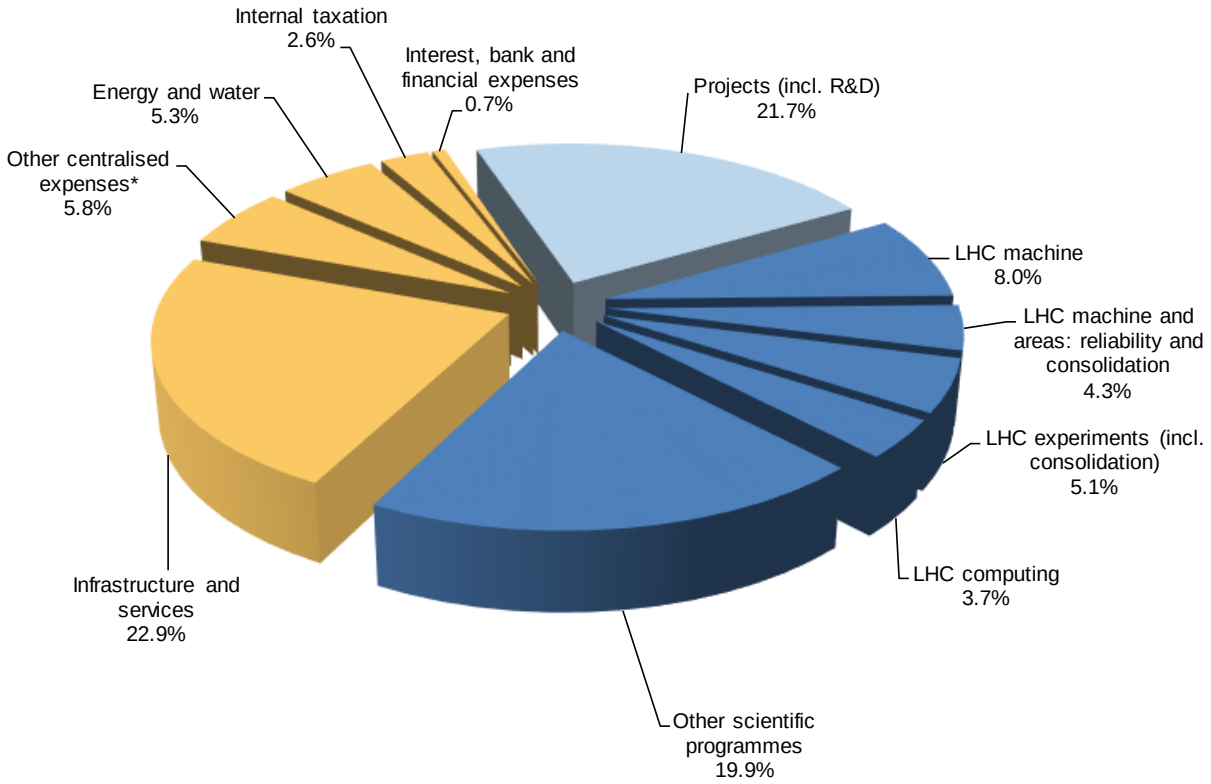
Figure 4 (2/2): Scale of Contributions of the Member States for the Financial Year 2018

		2018 Annual contribution	2018 Annual contribution	2018 Annual contribution
	Country	in CHF 2017 prices	in CHF 2018 prices	in %
Member States	Austria	24 027 000	24 091 850	2.14546%
	Belgium	30 310 300	30 392 150	2.70652%
	Bulgaria	3 277 950	3 286 800	0.29270%
	Czech Republic	10 447 450	10 475 650	0.93289%
	Denmark	20 184 950	20 239 450	1.80239%
	Finland	14 906 100	14 946 350	1.33102%
	France	158 120 300	158 547 200	14.11914%
	Germany	230 134 900	230 756 250	20.54959%
	Greece	12 533 450	12 567 300	1.11916%
	Hungary	6 849 650	6 868 150	0.61163%
	Israel	18 080 550	18 129 350	1.61448%
	Italy	116 790 550	117 105 900	10.42866%
	Netherlands	51 611 950	51 751 300	4.60862%
	Norway	30 352 200	30 434 150	2.71026%
	Poland	31 568 950	31 654 200	2.81891%
	Portugal	12 334 000	12 367 300	1.10135%
	Romania	11 451 750	11 482 650	1.02257%
	Slovakia	5 467 250	5 482 000	0.48819%
	Spain	78 860 550	79 073 450	7.04175%
	Sweden	30 117 900	30 199 200	2.68934%
	Switzerland	45 071 600	45 193 300	4.02461%
	United Kingdom	177 400 750	177 879 750	15.84076%
Total Member States		**1 119 900 050**	**1 122 923 700**	**100.0000%**
Associate Member States in pre-stage	Cyprus	1 000 000	1 000 000	
	Serbia	1 914 950	1 920 100	
	Slovenia	1 000 000	1 000 000	
Total Associate Member States in the pre-stage to Membership		**3 914 950**	**3 920 100**	
Associate Member States	India	12 239 000	12 272 050	
	Pakistan	1 498 350	1 502 400	
	Turkey	5 603 900	5 619 000	
	Ukraine	1 000 000	1 000 000	
Total Associate Member States		**20 341 250**	**20 393 450**	
Grand TOTAL		**1 144 156 250**	**1 147 237 250**	

III. EXPENSES FOR THE 2018 FINANCIAL YEAR

1. EXPENSES BY SCIENTIFIC AND NON-SCIENTIFIC PROGRAMMES

Figure 5: Final 2018 Budget (Personnel, Materials and Interest & financial costs)



* Including centralised personnel expenses, internal mobility and personnel on detachment (2.8%),
Personnel paid from team accounts (0.9%),
Budget amortisation of staff benefit accruals (1.4%),
Insurance, postal charges, miscellaneous (0.5%),
In-kind (theoretical interest on the FIPOI loan) (0.2%)

2. SCIENTIFIC PROGRAMME

Figure 6: Scientific programme

2017 Probable Expenses (2017 prices) (a)				Fact sheet	Activity	Final 2018 Budget (2018 prices) (b)				Variation of Final 2018 Budget with respect to 2017 Probable Expenses
FTE	kCHF					FTE	kCHF			
Personnel	Personnel	Materials	Total			Personnel	Personnel	Materials	Total	
807.6	**146,090**	**105,555**	**251,645**		**LHC programme**	**789.6**	**146,870**	**120,280**	**267,150**	**6.2 %**
330.1	**56,655**	**45,450**	**102,105**	**1**	**LHC machine**	**308.4**	**55,770**	**45,215**	**100,985**	**-1.1 %**
330.1	56,655	41,685	98,340		LHC machine and experimental areas	308.4	55,770	42,580	98,350	0.0 %
		3,765	3,765		Spares			2,635	2,635	-30.0 %
94.4	**14,510**	**27,460**	**41,970**	**1**	**LHC machine and areas: reliability and consolidation**	**95.6**	**15,285**	**39,430**	**54,715**	**30.4 %**
280.9	**53,005**	**12,530**	**65,535**		**LHC experiments**	**276.2**	**52,320**	**12,775**	**65,095**	**-0.7 %**
81.3	15,760	3,270	19,030	**2**	ATLAS detector	81.9	16,075	3,435	19,510	2.5 %
82.4	15,135	3,520	18,655	**3**	CMS detector	78.6	14,760	3,350	18,110	-2.9 %
45.3	8,780	1,660	10,440	**4**	ALICE detector	44.0	8,265	1,955	10,220	-2.1 %
42.9	8,320	740	9,060	**5**	LHCb detector	44.0	8,420	1,645	10,065	11.1 %
29.0	5,010	3,340	8,350	**6**	Common items, other experiments (incl. Totem, LHCf, MoEDAL)	27.6	4,800	2,390	7,190	-13.9 %
102.2	**21,920**	**20,115**	**42,035**	**8**	**LHC computing**	**109.5**	**23,495**	**22,860**	**46,355**	**10.3 %**
810.7	**147,960**	**84,960**	**232,920**		**Other programmes**	**843.9**	**153,710**	**99,055**	**252,765**	**8.5 %**
30.2	**5,635**	**1,885**	**7,520**	**9**	**Non-LHC physics (experimental programme)**	**30.7**	**5,205**	**2,920**	**8,125**	**8.0 %**
61.4	**9,880**	**1,645**	**11,525**	**10**	**Theory**	**65.9**	**10,370**	**1,490**	**11,860**	**2.9 %**
16.6	**2,735**	**3,045**	**5,780**	**11**	**Knowledge transfer**	**15.1**	**2,535**	**1,990**	**4,525**	**-21.7 %**
174.5	**34,090**	**19,215**	**53,305**	**12**	**Scientific support (associates, computing, R&D detectors, tech. support)**	**185.5**	**34,995**	**22,320**	**57,315**	**7.5 %**
210.0	**36,535**	**24,740**	**61,275**	**13.a**	**PS complex**	**217.6**	**38,660**	**27,425**	**66,085**	**7.8 %**
119.7	**20,370**	**19,380**	**39,750**	**13.b**	**SPS complex**	**122.4**	**21,450**	**22,800**	**44,250**	**11.3 %**
193.8	**37,925**	**14,165**	**52,090**	**13.c**	**Accelerator support and services**	**197.4**	**38,790**	**15,035**	**53,825**	**3.3 %**
4.6	**790**	**885**	**1,675**	**14**	**East Area renovation**	**9.4**	**1,705**	**5,075**	**6,780**	**304.8 %**
1,618.3	**294,050**	**190,515**	**484,565**		**Grand Total**	**1,633.5**	**300,580**	**219,335**	**519,915**	**7.3 %**
	23.70%	15.35%	39.05%		% of total revenues		24.42%	17.82%	42.24%	

Comments on Figure 6:

Overall, the budget for the operation of the scientific programme is fairly stable over 2017 and 2018, since 2018 will be an operation year like 2017.

The **spares** heading is slightly higher in 2017 due to the carry-forward of some items from 2016.

Under **LHC machine and areas: reliability and consolidation**, the electrical network consolidation is ramping-up in 2018, after a cost and schedule review in March 2017. A higher level of expenses is also planned in 2018 for the Radiation to Electronics (R2E) project and for the spares and consolidation in the framework of HL-LHC. Furthermore, the expenses related to the consolidation of the LHC access system will be reaching their peak in 2018.

The materials expenses for **LHC computing** consist mainly of CERN's share of the required CPU and storage costs. These expenses are essentially linked to the amount of data expected to be recorded by the LHC experiments.

The **non-LHC physics** heading includes the funding for non-LHC experiments (AD, ISOLDE, COMPASS, CAST, NA62, etc.). This heading contains additional provisions as of 2018 for the gas consumables for operation and maintenance activities of the fixed target experiments, as CERN's host laboratory responsibility.

The **theory** allocation maintains a stable staff complement and constant materials funding to allow the TH department to continue to host a constant annual number of visitors, fellows and scientific associates.

The decrease in the **knowledge transfer** heading is explained by new KT projects being attached to the programme of the specific activity, as well as higher expenses in 2017, which are due to some additional KT activities funded by revenues and the carry-forward from 2016.

The 2017 heading **scientific support** is lower than in 2018 due to the streamlining of part of the funds for the maintenance and operation of the cryogenics installations and their re-profiling to other headings of the LHC programme in 2017. In addition, some funds were re-profiled from 2017 to 2018 for the PCB workshop, due to delays with the construction of Building 107.

The budget for the **PS and SPS complexes** increases in 2018, mainly due to the electrical network consolidation work, PS and SPS access systems, replacement of AD electron cooler, capacitor discharge power converters for the AD machine, TT2 & n_TOF SIRIUS power converters etc.

The **East Area renovation** project started in 2016 with a peak of expenses in 2019, for completion during LS2.

3. INFRASTRUCTURE AND SERVICES

Figure 7: Infrastructure, services and centralised expenses

2017 Probable Expenses (2017 prices) (a)				Fact sheet	Activity	Final 2018 Budget (2018 prices) (b)				Variation of Final 2018 Budget with respect to 2017 Probable Expenses
FTE	kCHF					FTE	kCHF			
Personnel	Personnel	Materials	Total			Personnel	Personnel	Materials	Total	
983.7	**255,655**	**221,710**	**477,365**		**Infrastructure, services and centralised expenses**	**976.1**	**257,425**	**216,640**	**474,065**	**-0.7 %**
209.6	**36,795**	**43,255**	**80,050**	**15**	**General facilities & logistics (site maintenance, transport)**	**217.0**	**38,435**	**42,070**	**80,505**	**0.6 %**
219.5	39,245	26,035	65,280	**16**	**Informatics**	**213.0**	**38,805**	**23,420**	**62,225**	-4.7 %
174.0	27,285	14,335	41,620	**17**	**Safety, health and environment**	**177.8**	**28,185**	**21,050**	**49,235**	18.3 %
203.2	**38,370**	**8,985**	**47,355**	**18**	**Administration**	**205.6**	**38,990**	**9,960**	**48,950**	**3.4 %**
67.0	**11,680**	**7,330**	**19,010**	**19**	**International relations**	**69.1**	**12,410**	**6,275**	**18,685**	**-1.7 %**
18.0	**2,565**	**44,250**	**46,815**	**20**	**Infrastructure consolidation, buildings and renovation**	**15.6**	**2,180**	**29,135**	**31,315**	**-33.1 %**
92.4	**99,715**	**77,520**	**177,235**	**21**	**Centralised expenses**	**77.9**	**98,420**	**84,730**	**183,150**	**3.3 %**
	36,335		36,335		Centralised personnel expenses		36,335		36,335	
	32,420		32,420		Internal taxation		33,035		33,035	1.9 %
3.2	1,085		1,085		Internal mobility and personnel on detachment	1.8	380		380	-65.0 %
89.2	12,545		12,545		Personnel paid from team accounts	76.2	11,340		11,340	-9.6 %
	17,330		17,330		Budget amortisation of staff benefit accruals		17,330		17,330	
		59,870	59,870		Energy and water			67,165	67,165	12.2 %
		5,490	5,490		Insurance, postal charges, miscellaneous			6,250	6,250	13.8 %
		10,115	10,115		Interest, bank and financial expenses			9,270	9,270	-8.4 %
		2,045	2,045		In-kind			2,045	2,045	
	20.60%	17.87%	38.47%		% of total revenues		20.91%	17.60%	38.52%	

Comments on Figure 7:

The overall budget allocation to Infrastructure, services and centralised expenses in 2018 is similar to that of 2017.

The budget for the **general facilities & logistics** heading increases in 2018 mainly due to the additional resources allocated to enhance site security measures.

The increase in the materials heading for **safety, health and environment** from 2017 to 2018 is mainly due to the start-up of the project to bring the SPS into conformity with fire safety regulations during LS2 and the additional budget allocation in the MTP 2018-2022 for electrical safety inspections, safety training, etc.

The outreach event at the Geneva *Automnales* exhibition (budget line in 2017 only) explains the decrease in the **international relations** heading.

The decrease of the materials heading for **infrastructure consolidation, buildings and renovation** is due to the completion of some projects: building 107 (surface treatment, ending in 2018), building 311 (magnetic measurements, ending in 2017), the extension of building 156 (mechanical workshop, ending in 2017). The surface and technical infrastructure consolidation is also stabilising at a lower level.

The **centralised expenses** are expected to remain constant except for energy consumption, which is higher in 2018 due to a longer year of operation (an extended year-end technical stop took place in 2017).

4. PROJECTS (CONSTRUCTION, R&D)

Figure 8: Projects

2017 Probable Expenses (2017 prices) (a)				Activity		Final 2018 Budget (2018 prices) (b)				Variation of Final 2018 Budget with respect to 2017 Probable Expenses
FTE	kCHF			Fact sheet		FTE	kCHF			
Personnel	Personnel	Materials	Total			Personnel	Personnel	Materials	Total	
715.7	**121,500**	**125,600**	**247,100**		**Projects**	**656.5**	**115,070**	**159,715**	**274,785**	**11.2 %**
475.9	**83,095**	**75,445**	**158,540**		**LHC upgrades**	**467.5**	**83,965**	**116,670**	**200,635**	**26.6 %**
5.2	545	330	875	**22**	LINAC4	0.3	25		25	-97.1 %
146.1	22,440	26,940	49,380	**23**	LHC injectors upgrade (LIU)	134.6	22,215	33,370	55,585	12.6 %
198.9	32,910	38,850	71,760	**24**	HL-LHC construction	211.4	35,155	67,820	102,975	43.5 %
73.7	16,785	4,945	21,730	**25**	LHC detectors upgrade (phase 1) and consolidation	76.0	16,910	7,815	24,725	13.8 %
52.1	10,415	4,380	14,795	**25**	HL-LHC detectors, including R&D (phase 2)	45.2	9,660	7,665	17,325	17.1 %
145.7	**23,315**	**20,830**	**44,145**		**Preparation for the future**	**122.5**	**20,325**	**15,430**	**35,755**	**-19.0 %**
61.2	10,385	9,550	19,935	**26,27**	Linear collider studies (CLIC, ILC, detector R&D)	54.1	9,485	7,675	17,160	-13.9 %
64.8	10,060	5,965	16,025	**28**	Future Circular Collider study	54.5	8,690	5,150	13,840	-13.6 %
14.2	2,190	5,065	7,255	**32**	Proton-driven plasma wakefield acceleration (AWAKE)	7.0	1,360	1,650	3,010	-58.5 %
5.5	680	250	930	**37**	Physics Beyond Colliders study	7.0	790	955	1,745	87.6 %
94.1	**15,090**	**29,325**	**44,415**		**Scientific diversity activities**	**66.5**	**10,780**	**27,615**	**38,395**	**-13.6 %**
8.7	1,655	3,060	4,715	**29**	ELENA	0.6	105	780	885	-81.2 %
10.4	1,855	1,615	3,470	**30**	HIE-ISOLDE	0.0	5	1,555	1,560	-55.0 %
20.6	3,380	12,750	16,130	**31**	CERN Neutrino Platform	18.8	3,005	12,920	15,925	-1.3 %
9.9	1,480	3,345	4,825	**33**	Superconducting RF studies	7.3	1,165	4,590	5,755	19.3 %
2.3	285	1,235	1,520	**34**	Superconducting magnet R&D (SCM)	3.0	410	1,895	2,305	51.6 %
18.7	2,625	1,925	4,550	**35**	R&D for medical applications	17.3	2,885	1,375	4,260	-6.4 %
23.7	3,810	5,395	9,205	**36**	Other R&D (FAIR, ITER, ESS, EU, etc.)	19.5	3,205	4,500	7,705	-16.3 %
	9.79%	10.12%	19.91%		% of total revenues		9.35%	12.98%	22.32%	

Comments on Figure 8:

LINAC4 switched from construction to operation in 2017. The connection to the PS Booster is scheduled for LS2 under the LIU heading.

LIU is now reaching its peak of expenses between 2017 and 2019.

Part of the increase in the budget for 2018 for the **LHC detectors Phase 1 upgrade** could be explained by the re-profiling of funds from the 2017 budget to the 2018 – 2020 period. This re-profiling was mainly due to delays in the tendering of new contracts and delays in deliveries of existing contracts for the LHCb, ALICE and ATLAS experiments.

An additional increase in the 2018 Materials figure for the LHC detectors Phase 1 upgrade is related to the allocation of the LHCb data centre budget during the 2017 MTP.

The budgets for **HL-LHC** construction and the **LHC detectors Phase 2 upgrade** are ramping up.

The budget for **Linear collider studies** starts to ramp down in 2017 (with a major reduction anticipated in 2019) as the R&D work (e.g. CTF3) and design studies for the ESPP update near completion. The budget for the **Future Circular Collider** studies is also decreasing, reflecting the approaching completion of the work (Conceptual Design Report) for the update of the European Strategy for Particle Physics. Part of the 2018 materials budget will be converted into personnel budget (for fellows).

After a peak in 2015 and 2016, the budget of **AWAKE** is ramping down as construction is essentially completed and commissioning is well advanced.

ELENA and **HIE-ISOLDE** are nearing completion.

The **CERN Neutrino Platform** started in 2015 with the peak expenses in 2016 and 2017. The refurbishment of the ICARUS detector ended at the beginning of 2017. The construction of the cryostats for two liquid-argon prototypes and of the cryostat for the first module of the DUNE experiment continues in 2018 and beyond.

The budget increase for **Superconducting RF studies** in 2018 is for the SM18 extension for superconducting RF. The budget for the **Superconducting magnet R&D** in 2018 will be used mainly to upgrade the test facilities.

R&D for medical applications: this heading covers studies and projects related to medical applications of CERN technologies. The budget decreases in 2018 as the MEDICIS project starts production after the YETS (commissioning completed by the end of 2017).

The heading for **Other R&D** covers projected expenses for 2018 for EU projects (with corresponding revenues), tests of the FAIR magnets (externally funded), as well as some other R&D activities mainly in support to other research institutions.

5. MULTI-ANNUAL PROJECTS

Figure 9 (1/3): Expenses – Details of projects included in the activity headings

It details the amounts of non-recurrent expenses for 2017 and 2018 split by program and project.

(in kCHF, rounded off)

2017 Probable Expenses (2017 prices)			Programme	Project	Final 2018 Budget (2018 prices)		
Personnel	**Materials**	**Total**			**Personnel**	**Materials**	**Total**
22,045	**50,075**	**72,120**		**Sub-total LHC programme**	**21,820**	**60,495**	**82,315**
	2,765	**2,765**	**LHC programme** Included in Figure 6	**LHC machine and experimental areas**		**1,680**	**1,680**
	2,225	2,225		LHC spares		1,245	1,245
	540	540		LHC magnet repair		435	435
14,460	**27,520**	**41,980**		**LHC machine and areas reliability and consolidation**	**15,230**	**39,430**	**54,660**
995	905	1,900		Collimation system enhancements	780	325	1,105
550	2,940	3,490		Electrical network 2025	915	15,045	15,960
690	250	940		Experimental areas consolidation	960	310	1,270
8,425	14,860	23,285		LHC consolidation	9,695	13,285	22,980
3,775	4,685	8,460		Radiation to electronics (R2E)	2,810	5,980	8,790
25	840	865		POPS repair, spare and consolidation	70	5	75
	2,940	2,940		Spare and consolidation in the framework of HL-LHC		4,480	4,480
	40	40		CERN control centre consolidation			
	60	60		IT Long shutdown works			
	65	**65**		**LHC detectors**		**15**	**15**
4,955	**16,560**	**21,515**		**LHC Computing Grid**	**5,010**	**19,100**	**24,110**
2,630	**3,135**	**5,765**		**EU projects**	**1,580**	**270**	**1,850**
	30	**30**		**KT projects**			
22,525	**28,495**	**51,020**		**Sub-total Other programmes**	**23,190**	**37,075**	**60,265**
355	**100**	**455**	**Other programmes** Included in Figure 6	**AEGIS**	**360**	**50**	**410**
785	**70**	**855**		**NA62**	**620**	**225**	**845**
	200	**200**		**PCB Workshop Machine**		**740**	**740**
70		**70**		**ISOLDE robots**			
				ISOLDE nano laboratory		**495**	**495**
1,550	**995**	**2,545**		**SM18 infrastructure Upgrade**	**1,515**	**820**	**2,335**
175	**1,825**	**2,000**		**TE Infrastructure Consolidation**	**135**	**1,305**	**1,440**
1,885		**1,885**		**Cryogenic infrastructure upgrade**	**355**		**355**
110		**110**		**Magnet infrastructure upgrade**	**55**		**55**
	265	**265**		**EP Safety and Consolidation**		**400**	**400**
110	**215**	**325**		**Timing development**		**70**	**70**
650	**1,665**	**2,315**		**AD consolidation**	**650**	**2,960**	**3,610**
790	**885**	**1,675**		**East area renovation**	**1,705**	**5,075**	**6,780**
1,010	**1,320**	**2,330**		**North area consolidation**	**1,010**	**1,230**	**2,240**
20	**150**	**170**		**66/18 kV loop PS consolidation**		**25**	**25**
870	**2,310**	**3,180**		**18 kV loop + substations SPS consolidation**	**1,035**	**4,285**	**5,320**
8,900	**12,880**	**21,780**		**Accelerator consolidation**	**10,680**	**16,530**	**27,210**
255	**1,325**	**1,580**		**PS and SPS spares**	**215**	**1,095**	**1,310**
180	**150**	**330**		**Computer Security Hardening**	**250**	**50**	**300**
4,225	**1,640**	**5,865**		**EU projects**	**4,140**	**1,435**	**5,575**
585	**2,500**	**3,085**		**KT projects**	**465**	**285**	**750**

Figure 9 (2/3): Expenses – Details of projects included in the activity headings

(in kCHF, rounded off)

2017 Probable Expenses (2017 prices)			Programme	Project	Final 2018 Budget (2018 prices)		
Personnel	**Materials**	**Total**			**Personnel**	**Materials**	**Total**
9,755	**71,335**	**81,090**		**Sub-total Infrastructure, services and centralised expenses**	**7,870**	**52,225**	**60,095**
	1,660	**1,660**		**Manufacturing facilities**		**745**	**745**
	1,480	1,480		Investment in new mechanical technologies		250	250
	180	180		CAD upgrade		495	495
15	**750**	**765**		**General facilities & logistics (site maintenance, transport)**	**15**	**1,555**	**1,570**
15	450	465		Globe car park and "Esplanade des Particules"	15	1,060	1,075
	300	300		Building 38 (hotel renovation)		495	495
2,130	**12,615**	**14,745**		**Informatics**	**1,120**	**7,520**	**8,640**
	2,620	2,620		Computing network consolidation		1,620	1,620
	2,380	2,380		2nd Network Hub			
	6,580	6,580		SCOAP3		5,360	5,360
1,925	315	2,240		Openlab	835	370	1,205
205	-55	150		AIS re-engineering	285	145	430
	775	775		IT HPC clusters		25	25
10	**320**	**330**		**Administration**		**410**	**410**
	30	30		HR projects			
10	205	215		FAP projects		320	320
	85	85		Risk management		90	90
3,165	**7,660**	**10,825**		**Safety, health and environment**	**2,925**	**11,295**	**14,220**
100		100		Radio infrastructure upgrade for firefighters	55		55
1,210	1,360	2,570		Ramses II light	925	1,630	2,555
	685	685		Emergency		670	670
1,630	5,300	6,930		Radioactive waste management	1,555	6,085	7,640
200	235	435	**Infrastructure, services and centralised expenses**	Fire safety projects	365	2,760	3,125
25	80	105	Included in Figure 7	HLD Instrumentation upgrade	25	150	175
275	**1,670**	**1,945**		**International relations**	**155**	**1,210**	**1,365**
	135	135		New microcosm exhibition		35	35
75	350	425		IdeaSquare building	95	340	435
	150	150		Visitpoint		20	20
65	85	150		Alumni		185	185
30	190	220		High School Students Internship Programme	60	215	275
	625	625		Outreach 2017			
105	135	240		Other outreach projects		415	415
2,565	**45,930**	**48,495**		**Infrastructure consolidation, buildings and renovation**	**2,180**	**29,135**	**31,315**
255	17,545	17,800		Building 107 (surface treatment)	130	5,375	5,505
380	4,970	5,350		Building 311 (magnetic measurements)	110	295	405
	80	80		Building 774 (Prévessin main building)		120	120
100	245	345		Building 90 (new main building)	50		50
	640	640		Building 156 (extension)			
	50	50		Renovation Globe of Science and Innovation		10	10
	5	5		LHCb building			
	140	140		Workshop and assembly hall in LHC point 8			
15	535	550		Polymer laboratory consolidation		1,550	1,550
	500	500		Replacement of Water-Cooled Cables		50	50
1,815	16,920	18,735		Surface and technical infrastructure consolidation (roofs, facades, heating, etc.)	1,890	13,355	15,245
	300	300		Cooling tower Point 18		3,270	3,270
	4,000	4,000		Flexible storage building Prevessin		5,085	5,085
				Library reading room		25	**25**
1,525	**690**	**2,215**		**EU projects**	**1,355**	**355**	**1,710**
70	**40**	**110**		**KT projects**	**120**		**120**

Figure 9 (3/3): Expenses – Details of projects included in the activity headings

(in kCHF, rounded off)

2017 Probable Expenses (2017 prices)			Programme	Project	Final 2018 Budget (2018 prices)		
Personnel	**Materials**	**Total**			**Personnel**	**Materials**	**Total**
115,665	**120,565**	**236,230**		**Sub-total Projects**	**109,385**	**155,625**	**265,010**
82,295	**73,975**	**156,270**	**Projects** Included in Figure 8	**LHC upgrades**	**83,225**	**114,200**	**197,425**
545	330	875		LINAC4	25		25
22,390	26,940	49,330		LHC Injectors Upgrade	22,175	33,370	55,545
32,160	37,880	70,040		LHC luminosity upgrade project (HL-LHC)	34,455	65,350	99,805
22,085	4,380	26,465		LHC detectors upgrade	22,280	11,500	33,780
5,115	4,445	9,560		R&D for HL-LHC detectors	4,290	3,980	8,270
22,405	**20,465**	**42,870**		**Preparation for the future**	**19,640**	**15,055**	**34,695**
7,025	8,780	15,805		CLIC	6,265	6,915	13,180
2,775	420	3,195		Linear collider detector R&D	2,855	385	3,240
9,880	5,965	15,845		Future Circular Collider study	8,485	5,150	13,635
2,045	5,050	7,095		Proton Plasma wakefield acceleration (AWAKE)	1,245	1,650	2,895
680	250	930		Physics Beyond Colliders study	790	955	1,745
7,425	**21,860**	**29,285**		**Scientific diversity activities**	**3,720**	**21,460**	**25,180**
1,605	3,060	4,665		ELENA	100	780	880
1,855	1,490	3,345		HIE-ISOLDE	5	1,545	1,550
3,050	12,610	15,660		CERN Neutrino Platform	2,705	12,675	15,380
	140	140		SM18 extension for superconducting RF		2,655	2,655
215	1,155	1,370		Superconducting magnets R&D	375	1,895	2,270
140	1,165	1,305		MEDICIS	235	295	530
525	2,030	2,555		Upgrade Building 180 test facility (FAIR)	190	1,335	1,525
35	40	75		Shape Memory Alloy Rings as UHV Connectors	110	275	385
	170	170		Linac4 laser-based profile and emittance meter		5	5
3,540	**4,055**	**7,595**		**EU projects**	**2,800**	**4,745**	**7,545**
	210	**210**		**KT projects**		**165**	**165**
169,990	**270,470**	**440,460**		**Grand Total**	**162,265**	**305,420**	**467,685**

IV. SUMMARY OF EXPENSES BY NATURE

1. MATERIALS EXPENSES BY NATURE (INCLUDING INTEREST AND FINANCIAL COSTS)

Figure 10: Materials expenses by nature (including interest and financial costs)

(in kCHF, rounded off)

Nature	2017 Probable Expenses (2017 prices)	Final 2018 Budget (2018 prices)	Variation of Final 2018 Budget with respect to 2017 Probable Expenses
	(a)	(b)	(b)-(a)/(a)
Materials expenses	**525,765**	**584,475**	**11.2%**
Goods, consumables and supplies	233,670	289,710	24.0%
Electricity, heating gas and water	59,870	67,165	12.2%
Industrial services	135,520	130,895	-3.4%
Service contracts	*97,440*	*99,330*	*1.9%*
Repair and maintenance	*32,480*	*25,945*	*-20.1%*
Temporary labour	*5,600*	*5,620*	*0.4%*
Associated Members of the Personnel	47,190	47,190	
Other overheads	49,515	49,515	
Consultancy	*9,005*	*9,005*	
Contributions to Collaborations	*7,495*	*7,495*	
Miscellaneous [1]	*33,015*	*33,015*	
Interest and financial costs	**12,060**	**11,215**	**-7.0%**
Fortis bank	9,050	8,205	-9.3%
In-kind (FIPOI interest 0%)[2]	2,045	2,045	
Other financial expenses	965	965	
TOTAL MATERIALS	**537,825**	**595,690**	**10.8%**

[1] Including insurance and postal charges, handling and transport, bank charges, depreciation of current assets.

[2] Theoretical interest at market rate for FIPOI 1, 2 and 3 loans at 0%. This heading is compensated by the corresponding revenue line "Other revenues / In-kind".

Comments on Figure 10:

The electricity consumption allocation in 2018 is larger than in 2017 because of the shorter year-end technical stop. The Final 2018 Budget includes 3% indexation of the energy and water expenses, which takes into account the combined effect of the contractual price increases and the EUR-CHF exchange rate changes between 2016 and 2015.

The heading for Associated Members of the Personnel is higher than in previous years, mainly due to greater human resources needs for the HL-LHC and FCC projects. Also, in 2017 a special adjustment for previous years was made with respect to EU-funded associates.

The heading for other overheads remains stable.

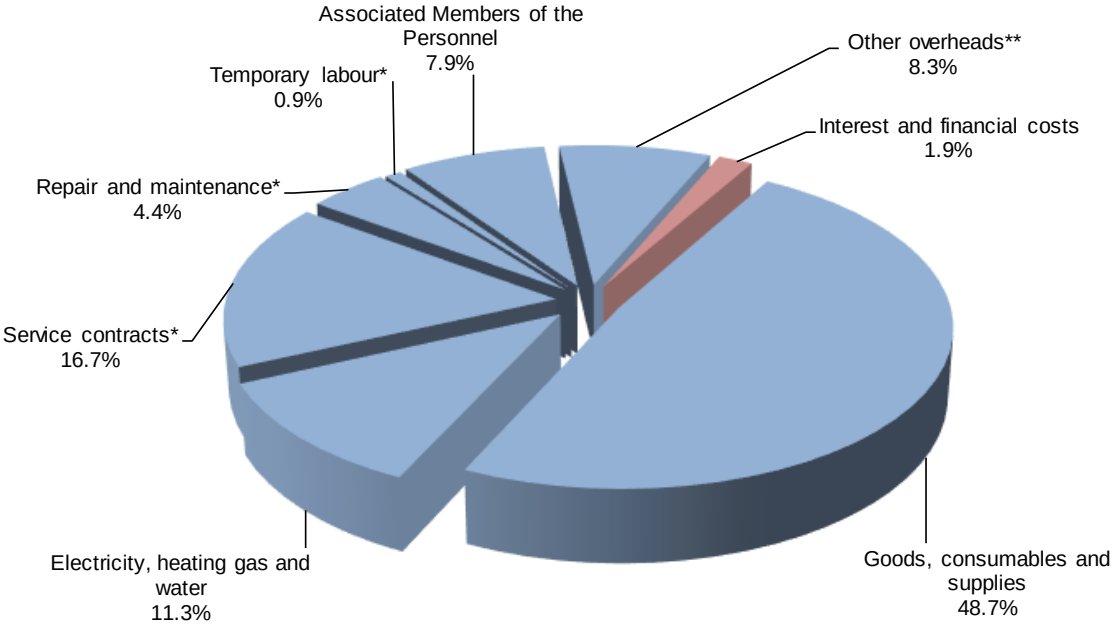
Figure 11: Breakdown of materials expenses by nature

Materials expenses: 98.2%

Interest and financial costs: 1.9%

* Total for industrial services: 16.7% + 4.4% + 0.9% = 22%.

** Including insurance and postal charges, consultancy, CERN contributions to collaborations, handling and transport, bank charges, depreciation of current assets.



2. PERSONNEL EXPENSES BY NATURE

Figure 12: Personnel expenses by nature

(in kCHF, rounded off)

Nature	2017 Probable Expenses (2017 prices)	Final 2018 Budget (2018 prices)	Variation of Final 2018 Budget with respect to 2017 Probable Expenses
	(a)	(b)	(b)-(a)/(a)
Staff members [1]	**502,510**	**514,970**	**2.5%**
Basic salaries (incl saved leave)	***322,225***	***330,220***	***2.5%***
Basic salaries	323,693	331,710	
Performance payment (non-pensionable)	4,142	4,260	
Contribution to saved leave schemes	-5,610	-5,750	2.5%
Allowances	***67,710***	***69,385***	***2.5%***
Non-resident allowances / international indemnities	19,410	19,890	
Family and child allowances	24,965	25,585	
Special allowances	2,800	2,870	
Overtime	2,645	2,705	
Various allowances	17,890	18,335	
Social contributions	***112,575***	***115,365***	***2.5%***
Pension Fund	86,945	89,100	
Health insurance	25,630	26,265	
Fellows [2]	**82,310**	**71,265**	**-13.4%**
Apprentices	**300**	**140**	**-53.3%**
Centralised personnel budget	**68,755**	**69,370**	**0.9%**
Centralised personnel expenses	***36,335***	***36,335***	
Installation, recruitment and termination of contracts	6,570	6,100	
Installation and removal costs	*2,355*	*2,500*	
Termination allowances	*4,215*	*3,600*	
Additional periods of membership of the Pension Fund for shift work		135	
Contribution to health insurance for pensioners incl. long-term care	29,765	30,100	
Contribution to health insurance for pensioners	*26,965*	*27,200*	
Contribution to long-term care for pensioners	*2,800*	*2,900*	
Internal taxation	***32,420***	***33,035***	***1.9%***
TOTAL PERSONNEL	**653,875**	**655,745**	**0.3%**
Budget Amortisation of staff benefit accruals	17,330	17,330	
TOTAL PERSONNEL incl bud. amort. of staff benefit accruals	**671,205**	**673,075**	

[1] Including staff paid from team accounts (9.1 MCHF in 2017 and 9.2 MCHF in 2018).

[2] Including fellows paid from team accounts (3.4 MCHF in 2017 and 2.1 MCHF in 2018).

Comments on Figure 12:

The total CERN personnel budget for 2018 amounts to 655.7 MCHF. This includes 11.3 MCHF for staff and fellows paid from team accounts.

The 2018 budget for staff members totals 515.0 MCHF. This amount has increased by 2.5% compared to the 2017 Probable Expenses, partly due to the completion of the recruitment process for the additional LD posts the Management decided to create in December 2016 (FC/6065/RA), and partly due to the net impact of advancement costs with respect to staff arrivals and departures.

The increase in allowances and social contributions is directly linked to the number of staff members. The percentage of the Organization's contribution to the CERN Health Insurance Scheme is stable with respect to 2016, after yearly increases since 2011.

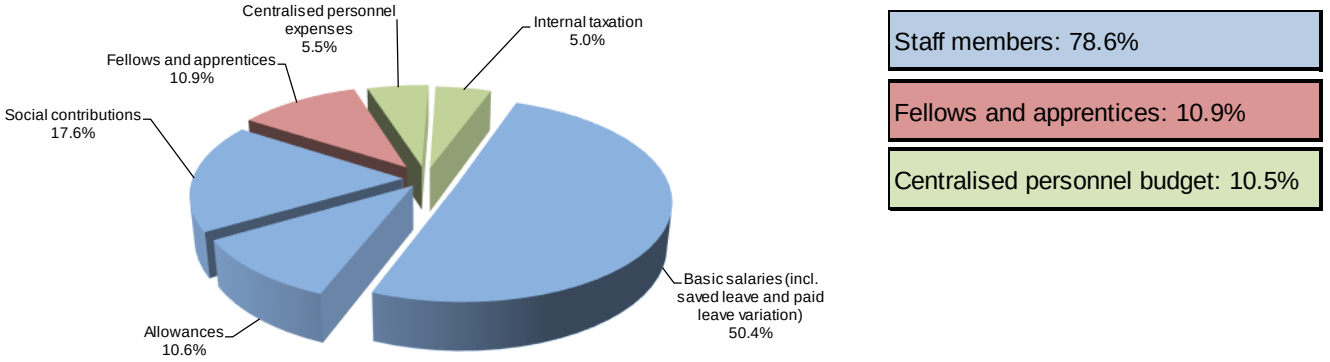
Additional fellowship funding will be made available during 2018, through materials-to-personnel transfers for the GET fellows programme and the Technical Trainees programme, which will be executed once the arrivals are confirmed.

As of August 2016, apprentices are now classed as Associate Members of the Personnel (materials expenses). However, the apprentices who currently hold a contract will remain employed members of the personnel for the duration of their internships and the personnel component of this heading will gradually decrease until 2019.

The centralised personnel expenses total 36.3 MCHF. The heading installation, recruitment and termination of contracts, which relates to beneficiaries taking up appointment and leaving the Organization, is expected to decrease, mainly as a result of the possibility of extending limited-duration contracts beyond 5 years up to a maximum of 8. The contribution to pensioners' health insurance and long-term care amounts to 30.1 MCHF, which represents an increase linked to more beneficiaries. The Organization's contribution to the CERN Health Insurance Scheme for staff members has now been stabilised.

Internal taxation is expected to amount to 33.0 MCHF and is also shown as revenues for the Organization. The exact amount will depend on the staff positions in the salary structure.

Figure 13: Breakdown of personnel expenses by nature



3. ENERGY AND WATER

Figure 14: Expenses – Energy and water

(in MCHF, rounded off)

Nature	2017 Probable Expenses (2017 prices)	Final 2018 Budget (2018 prices)	Variation of Final 2018 Budget with respect to 2017 Probable Expenses
	(a)	(b)	(b)-(a)/(a)
Energy and water (baseload)	**13.47**	**14.62**	**8.5%**
Electricity	6.12	6.62	8.1%
Heating oil and gas	4.15	4.40	6.0%
Water and waste water	3.20	3.60	12.5%
Energy for basic programmes	**46.40**	**52.54**	**13.2%**
Experimental areas[1]	11.55	13.23	14.6%
Data handling	1.63	1.68	2.8%
Accelerators:	12.91	15.45	19.8%
AD	*0.52*	*0.55*	*5.8%*
PS	*2.66*	*3.19*	*19.9%*
SPS	*9.72*	*11.71*	*20.5%*
LHC	20.31	22.18	9.2%
TOTAL ENERGY	**59.87**	**67.16**	**12.2%**

[1] This covers most of the experiments: LHC experiments including test beam into East, West and North Area, PS and SPS fixed target, ISOLDE.

Comments on Figure 14:

The electricity consumption in 2018 reflects a normal operation year. It is higher than in 2017, because of the shorter year-end technical stop. The Final 2018 Budget includes 3% indexation of energy and water costs, which takes into account the combined effect of the contractual price increases and the EUR-CHF exchange rate changes between 2016 and 2015.

V. FINANCIAL POSITION OF THE ORGANIZATION

Statement of cash flow

Figure 15: Estimated statement of Cash Flow for Financial Years 2017 and 2018

(in MCHF, rounded off, estimated as at 21/11/2017)	**2017** (2017 prices)	**2018** (2018 prices)
(A) START OF THE YEAR		
Liquid assets brought forward	155	* 118
Outstanding short-term loans	0	* 0
(1) CASH INFLOW	**1,304**	**1,281**
Contributions	1,130	1,130
Teams and collaborations	116	116
EU, KT, other revenues	58	35
(2) CASH OUTFLOW	**1,341**	**1,399**
Payments	1,123	1,181
Teams and collaborations	122	122
Interest, bank and financial expenses	10	9
Capital repayment Fortis and FIPOI	26	27
Recapitalisation of the Pension Fund	60	60
(3) VARIATION OF CASH POSITION	**-37**	**-118**
(B) END OF THE YEAR		
Estimated liquid assets	**118**	**0**
Estimated outstanding short-term loans	**0**	**0**

* For 2018, it is an estimated amount.

Comments on Figure 15:

No short term loans are required in 2017. The statement of Cash Flow is an estimate based on the assumption that Member States' and Associate Member States' contributions will be paid by the scheduled instalment dates. Under these assumptions, no short-term loans are expected to be required in 2018.

Short-term bank loans and overdrafts

No short-term bank loans and overdrafts are expected in 2017 and most likely not in 2018, provided that Member States' contributions are settled on the scheduled instalment dates and by the end of the year at the latest.

Loan from BNP Paribas Fortis bank

The outstanding amount to BNP Paribas Fortis Bank amounts to 248.4 MCHF at the end of 2017 and will reduce to 222.7 MCHF by the end of 2018. The loan will be fully reimbursed by the end of June 2026.

Loan from FIPOI

The FIPOI loans are interest free. The capital repayment for the existing three FIPOI loans amounts to 1.1 MCHF per year; the financial benefit is accounted for as an in-kind contribution.