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ORGANISATION EUROPEENNE POUR LA RECHERCHE NUCLEAIRE
CERN EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH

Action to be taken		Voting Procedure
For recommendation to Council	**FINANCE COMMITTEE** 364th Meeting 12 and 13 June 2018	Simple majority of Member States represented and voting and 51% of the contributions of all Member States
For approval	**OPEN COUNCIL** 189th Session 14 and 15 June 2018	Simple majority of Member States represented and voting

Financial Statements

for the year ended 31 December 2017

Audited by

SUPREME AUDIT OFFICE OF POLAND

NAJWYZSZA IZBA KONTROLI (NIK)

The Finance Committee is invited to recommend to the Council and the Council is invited to approve the 2017 Financial Statements and to grant discharge to the Director-General.

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EXECUTIVE SUMMARY

CERN, the European Organization for Nuclear Research, operates the world's leading laboratory for particle physics. Its mission is fundamental physics research, namely the study of the elementary constituents of the Universe and their interactions. Founded in 1954, CERN has become a prime example of international collaboration, with 22 Member States and 7 Associate Member States as of December 2017. Additional countries from around the world also contribute to, and participate in, the Laboratory's research programmes.

This document presents CERN's financial statements for the year ending 31 December 2017. The accounts have been prepared in compliance with the International Public Sector Accounting Standards (IPSAS), as they have been every year since 2007. Highlights from the 2017 financial statements include:

- an increase in the total annual contributions from Member States and Associate Member States to 1 142.2 MCHF, from 1 128.0 MCHF in 2016. The reasons for this increase include India's joining as an Associate Member State, Slovenia's joining as an Associate Member State in the pre-stage to Membership, and Romania's completing its first full year as a Member State. At 31 December 2017, 99.8% of the contributions due had been received compared to 98.3% at the end of the previous year.

- a positive net asset balance of 136.4 MCHF, compared to the balance at the end of 2016 of -329.7 MCHF. The increase in net assets of 466.0 MCHF is attributable to an increase in the valuation of the land under CERN's control of 309.9 MCHF, based on market transactions, and actuarial gains on post-employment benefits of 306.7 MCHF, offset by an accounting deficit in the year of -150.6 MCHF.

- a budget surplus at the end of the year of 39.2 MCHF compared to the original expected surplus of 27.6 MCHF, mainly due to the slightly higher revenues than budgeted. The Organization's budget position at the end of 2017 shows a slight improvement compared to expectations, with a cumulative budget deficit of -165.1 MCHF. Taking into account 25.9 MCHF in capital repayments and 60 MCHF for the recapitalisation of the Pension Fund, the final amount allocated to the cumulative budget deficit is -46.7 MCHF. More details are available in the Annual Progress Report for 2017[1];a reconciliation of the net financial deficit to the budget surplus is provided in section 6 (Accounting reconciliation of budget actual amounts to statement of financial performance), and a reconciliation of the net asset balance to the cumulative budget deficit is provided in the notes to the financial statements.

[1] CERN/FC/6206/RA-CERN/3345/RA

AUDIT OPINION

NAJWYŻSZA IZBA KONTROLI
SUPREME AUDIT OFFICE OF POLAND

Audit No. P/18/050-5/CERN FS

EXTERNAL AUDITORS' REPORT ON THE FINANCIAL STATEMENTS OF THE EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH (CERN) FOR THE YEAR ENDED 31 DECEMBER 2017

Warsaw, 18 May 2018

EXTERNAL AUDITOR'S REPORT

Addressed to:

COUNCIL OF THE EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH (CERN)
CH-1211, Geneva 23, Switzerland

We have audited the accompanying financial statements of the European Organization for Nuclear Research (CERN), which comprise the statement of financial position as at 31 December 2017, and statement of financial performance, statement of changes in net assets and statement of cash flow for the year then ended, statement of comparison of CERN budget and actual amounts, and notes to the financial statements, including a summary of significant accounting policies.

Audit Opinion on CERN financial statements

In our opinion, the CERN Financial Statements present fairly, in all material respects, the financial position of the European Organization for Nuclear Research as at December 31, 2017, its financial performance and its cash flows for the year then ended in accordance with the International Public Sector Accounting Standards (IPSAS).

We have also audited the CERN management compliance with CERN Financial Rules and Regulations for the Implementation of the CERN Financial Rules, including Procurement Rules and the CERN annual budget appropriations, as well as other rules and regulations and service agreements related to and affecting the use of CERN financial resources.

Audit Opinion on compliance of the CERN management with rules and regulations

In our opinion, the transactions carried out in the process of financial reporting and execution of the CERN budget have been, in all material respects, in compliance with IPSAS and the CERN Financial Rules, including Procurement Rules, and Regulations for the Implementation of the CERN Financial Rules, and the CERN budget appropriations. The CERN management also complied with other rules, regulations and service agreements related to and affecting the use of the CERN financial resources.

Basis for Opinions

We conducted our audit in accordance with International Standards of Supreme Audit Institutions (ISSAIs). Our responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Financial Statements* section of our report. We are independent of the audited Organisation in accordance with the ISSAI 10 – Mexico Declaration of SAI[1] Independence and ISSAI 30 – Code of Ethics, together with other requirements that are relevant to our audit of the financial statements of an international institution as stated in ISSAI 5000 – Audit of International Institutions – Guidance for SAIs as well as the Code of Conduct of the Supreme Audit Office of Poland, and we have fulfilled our ethical and other responsibilities in accordance with the said standards. **We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.**

Emphasis of Matter

We draw the Council's attention to decreased pension liability indicated in the CERN Statement of Financial Position, Note (MCHF 5,452 in 2017 as compared to MCHF 5,574 in 2016). It is,

[1] SAI – Supreme Audit Institution

however, worth mentioning that this liability has grown by MCHF 1,390 since 2013, i.e. the first year of our audit at CERN (from MCHF 4,062 in 2013 to MCHF 5,452 in 2017) and still remains a considerable item among liabilities in the CERN financial statements.

Our opinion is not modified in respect of the matter emphasized.

Key Audit Matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the financial statements of the current period and compliance with authorities. These matters were addressed in the context of our audit of the financial statements as a whole and compliance with authorities, and in forming our opinion thereon.

Key audit matters in the audit of the CERN Financial Statements for 2017 were as follows:

1) Impairment of Property, Plant and Equipment (PPE)

   An impairment is a loss in the future economic benefits or service potential of an asset, over and above the systematic recognition of the loss of the asset's future economic benefits or service potential through depreciation.[2]

   CERN Property, Plant and Equipment in use constitute the most significant asset in the CERN Financial Statements of a total value of MCHF 7,472, whose larger part is used to facilitate a number of scientific programs and projects of varying scope and duration. It is a CERN policy to use developed plant and equipment for a new project or in a new programme once a previous has been completed.

   The matter was addressed in the audit through analytical procedures, inspection of documents (Asset Register, CERN 2016 and 2107 Annual Progress Reports, and other available documents on current experiments at CERN) as well as inquiries with the Finance and Administrative Processes and CERN experiments engineering staff. The audit team recommended and then monitored an impairment test to have been carried out in reference to the CLIC Test Facility 3 (CTF3), whose operation had been stopped in December 2016 with part of CTF3 equipment to be used as a new user facility for the CERN Linear Electron Accelerator for Research and the remaining larger part to be stored as spare parts with the intention of future use. The impairment test has been completed in the course of audit and adequately accounted for and reported in the CERN 2017 Financial Statements.

2) Remuneration data flow

   Remuneration is the significant item in the CERN Statement of Financial Performance. The remuneration process at CERN is supported by an information system that includes transfers between several key databases through which personal and financial data are streamed and processed to result in the complete payroll list and consolidated financial information, which forms a material line-item in the financial statements.

   The matter was addressed in the audit by performing audit procedures to gain understanding and to check the adequacy of the design, implementation and operating effectiveness of controls in place to mitigate risks in the process. The said check included controls introduced by CERN management as a response to our recommendation given in the previous year to strengthen the control over the initial input electronic data for payroll.

   Procedures conducted during the audit allowed us to confirm completeness, accuracy and integrity of the data flow between databases employed in the remuneration process. The risk

[2] IPSAS 21, paragraph 14.

referring to payroll process was reassessed from medium at the planning stage of our audit to low when our work was done.

3) Physical inspection of Property, Plant, and Equipment

CERN Property, Plant and Equipment constitute the most significant asset in the CERN Financial Statements of a total value of MCHF 8,139 including PPE in progress of development. In 2015 CERN management introduced a revised accounting policy in reference to Property, Plant, Equipment (PPE) which has entailed a significant increase in value and quantity of recognized PPEs.

In reference to the said revised PPE policy and on the basis of our recommendation, CERN management designed and implemented a new physical control procedure over PPEs in 2017. In the context of that new procedure, a medium risk of misstatement in the financial reporting on PPE has been identified by the auditors.

The matter was addressed in the audit mainly through analytical procedures: analysis of controls designed and implemented by CERN, inquiry of the CERN management and staff, a field visit and monitoring of physical inspection, analysis of physical inspection documents, and treatment of inspection results.

NIK noted that an appropriate and sufficient procedure of physical control of PPEs were designed and introduced by the CERN management. The procedure and practices constitute all necessary elements such as: a population to be checked, sampling method, rules for engagement of a person or team composed of personnel independent of those charged with the custody of checked assets, the rules for the physical inspection results, and finally their accounting treatment. This control activity proved to be implemented and appeared effective in use. Consequently, our risk assessment was changed from medium to low.

4) Budget appropriations, including procurement

Budget appropriations represent the planned use of Member State financial contributions and the purpose for which CERN common funds have been planned. The budget allocated to expenditures on materials is significant, and appears as a material item in the Statement of Comparison between Budget and Actual Amounts (MCHF 550 planned; MCHF 537.8 actually spent[3]). Both budget appropriations and procurement activity checks illustrate mainly a compliance aspect of our audit.

Expenditures on materials which, besides the ones on personnel, constitute the main expenditure item, are incurred through a procurement process. The matter was addressed during the audit through a sample check of purchase orders, verification whether those orders conformed with the purpose stated under the indicated budget code, and whether the procurement process for particular items was in compliance with the CERN Procurement Rules.

Based on the work performed as outlined above and the evidence obtained, we were satisfied that the materials and services had been acquired in compliance with CERN budget appropriations as well as financial and procurement rules, and appropriately reported in the budget statements and accompanying notes.

5) Internal control system

We believe that well-designed internal control system supports the achievement of the Organisation's objectives and is an effective and efficient measure against risks to materialise in the form of misstatements in financial reporting and/or incidents of non-compliance with

[3] This difference was satisfactorily explained in the Notes to the Financial Statements

authorities, thus hampering the achievement of financial and compliance objectives. In 2017, we encouraged the CERN management to take into account fundamental principles of COSO Internal Control Integrated framework while upgrading the Organisation's internal control system.

The matter was addressed by us during interim and year-end audit by inquiries with the management and inspection of IT platform where a pilot system is being developed for the CERN Treasury service. Considerable progress was noted in building a consistent internal control system in line with COSO framework. The next step is intended to cover the CERN accounting service and then to disseminate the system to other CERN departments.

Responsibilities of CERN Management and Those Charged with Governance for the Financial Statements

CERN management is responsible for the preparation and fair presentation of these financial statements in accordance with the International Public Sector Accounting Standards, and for such internal control as the management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing CERN's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using going concern basis of accounting unless relevant authorities either intend to liquidate CERN or to cease its operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Organisation's financial reporting process.

CERN Management's Responsibility for Compliance

CERN management is also responsible for the use of CERN financial resources in compliance with the CERN Financial Rules, including Procurement Rules, Regulations for the Implementation of the CERN Financial Rules and all other applicable rules and regulations, professional standards, and good practices where standards have not been set.

Auditor's Responsibilities of the Supreme Audit Office of Poland (NIK) for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISSAIs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

Our objective is also to express an audit opinion on compliance of respective CERN authorities with the CERN all applicable policies, rules and regulations as regards gaining and making use of financial resources of the Organisation.

As part of an audit in accordance with ISSAIs, we exercise professional judgment and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one

resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the CERN's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the CERN's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Organisation to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

Signed by:

Ewa Polkowska

Vice-President of NIK
Chairman of CERN Audit
Steering Committee

Wieslaw Kurzyca

Primary Auditor
of CERN External Audit

18 May 2018

Supreme Audit Office
ul. Filtrowa 57
Warsaw, Poland

SIGNATURE OF CERN's OFFICIAL REPRESENTATIVES

The undersigned hereby certify that, to the best of their knowledge, the information contained in the financial statements for 2017 fairly presents the financial conditions and results of the Organization's operations.

Martin Steinacher

Director for Finance and Human Resources

Fabiola Gianotti

Director-General

1. STATEMENT OF FINANCIAL POSITION

kCHF	Note	As at 31.12.2017	As at 31.12.2016
ASSETS			
Non-current assets			
Scientific programmes			
LHC programme	7.3.1	5 106 334	5 372 441
Other programmes	7.3.1	1 355 172	1 324 816
Non-scientific programmes	7.3.1	1 010 180	691 575
Sub-total - Property, plant and equipment available for use		***7 471 686***	***7 388 832***
In progress			
Scientific programmes	7.3.2	640 035	502 997
Non-scientific programmes	7.3.2	27 478	30 466
Sub-total - Property, plant and equipment in progress		***667 513***	***533 463***
Intangible assets available for use	7.4.1	132 698	124 656
Intangible assets in progress	7.4.2	7 800	6 492
CHIS Fund financial assets	7.11	245 632	217 393
		8 525 329	**8 270 836**
Current assets			
Inventories	7.5	16 336	15 188
Receivables - Member States	7.6.1	33 890	38 296
Receivables - taxes	7.6.2	6 613	7 619
Receivables - teams and collaborations	7.6.3	4 762	5 258
Other receivables and prepayments	7.6.4	33 865	24 742
Other financial assets	7.7	60 000	60 000
Cash and cash equivalents	7.8	141 783	154 615
		297 249	**305 719**
	Total	**8 822 578**	**8 576 555**
LIABILITIES & NET ASSETS			
Net assets	7.9		
Accumulated surpluses and deficits		286 940	- 171 108
Net surplus/deficit (-) for the period		- 150 554	- 158 565
		136 385	**- 329 673**
Non-current liabilities			
Long-term debts	7.10	255 161	281 939
Long term liabilities - CHIS Fund	7.11	218 387	188 484
Post-employment benefits	7.12	7 605 989	7 858 110
Provisions - others	7.13.1	163 230	155 273
		8 242 767	**8 483 806**
Current liabilities			
Short-term debt and bank overdraft	7.14	26 778	25 929
Short term liabilities - CHIS Fund	7.11	27 245	28 909
Payables - trade accounts	7.15.1	84 809	70 992
Payables - teams and collaborations	7.15.2	200 376	197 355
Payables - employee benefits	7.15.3	67 322	68 006
Deferred revenue	7.16	32 617	26 856
Other liabilities - Member States	7.17	2 277	2 277
Other current liabilities	7.18	2 002	2 098
		443 426	**422 422**
	Total	**8 822 578**	**8 576 555**

2. STATEMENT OF CHANGES IN NET ASSETS

kCHF	Accumulated gains and losses from defined-benefits plans*	Revaluation surplus *	Accumulated surpluses and deficits	Total
Balance as at 31.12.2015	**-7 719 248**	**7 815**	**7 085 075**	**- 626 359**
Changes during the period 2016	**434 686**	**20 564**	**- 158 565**	**296 685**
Actuarial gains – health care	*416 603*			
Actuarial gains – pensions	*18 083*			
Balance as at 31.12.2016	**-7 284 562**	**28 379**	**6 926 510**	**- 329 673**
Changes during the period 2017	**306 698**	**309 915**	**- 150 554**	**466 058**
Actuarial gains – health care	*128 569*			
Actuarial gains – pensions	*178 129*			
Balance as at 31.12.2017	**-6 977 864**	**338 293**	**6 775 955**	**136 385**

** recognised directly in net assets*

The above statement includes the Organization's net deficit for the year as well as other valuation adjustments that, in line with IPSAS, are not recorded in the Statement of Financial Performance but directly in the Statement of Financial Position. In 2017, these included the actuarial gains on defined-benefit plans and the impact of the revaluation of the land.

For more information about the variation for the year, please refer to note 7.9.

3. STATEMENT OF FINANCIAL PERFORMANCE

kCHF	Note	2017	2016*	Variation	
REVENUE					
Member States' contributions	7.19	1 119 900	1 114 232	5 668	
Associate Member States in pre-stage to Membership contributions	7.19	3 436	4 774	- 1 338	
Associate Member States' contributions	7.19	18 844	8 439	10 405	
Special contribution from a Member State	7.19	-	602	- 602	
EU contributions	7.20	15 893	17 628	- 1 735	
Financial revenue	7.24	11 796	1 082	10 714	
Internal taxation		33 418	31 451	1 967	
Other revenue	7.21	93 416	70 101	23 315	*
	Total	**1 296 703**	**1 248 308**	**48 396**	
EXPENSES					
MATERIALS					
Goods, consumables and supplies		87 850	80 744	7 106	*
Electricity, heating gas and water		58 259	59 714	- 1 455	*
Industrial services		87 590	74 599	12 991	*
Associated members of personnel		35 752	28 691	7 061	
Other overheads		45 141	45 739	- 598	*
	7.22	**314 593**	**289 487**	**25 106**	
PERSONNEL					
Remuneration		294 656	285 382	9 274	
Social and family benefits		58 115	59 298	- 1 183	
Social insurance cover		102 052	102 671	- 619	
Annual variation - paid leave		- 2 652	- 823	- 1 829	
Post-employment benefits		84 319	166 778	- 82 459	
Internal taxation		33 418	31 451	1 967	
	7.23	**569 908**	**644 756**	**- 74 848**	
FINANCIAL EXPENSES	7.24	**10 869**	**13 857**	**- 2 988**	
DEPRECIATION AND AMORTISATION EXPENSES		**431 256**	**418 712**	**12 544**	*
CHANGE IN PROVISION FOR RADIOACTIVE WASTE	7.13.1	**8 827**	**- 36 344**	**45 171**	
WRITE-OFF NON-CURRENT ASSETS	7.3.1	**51 804**	**16 405**	**35 400**	
RECAPITALISATION PENSION FUND	7.27	**60 000**	**60 000**	**-**	
	Total	**1 447 257**	**1 406 872**	**40 385**	
NET SURPLUS/DEFICIT (-) FOR THE PERIOD		**- 150 554**	**- 158 565**	**8 011**	

* *2016 figures reclassified to follow same presentation as 2017, details appear in Note 7.1.1.*

4. CASH FLOW STATEMENT

kCHF	2017	2016
CASH FLOW FROM OPERATING ACTIVITIES		
Surplus/deficit (-) from the Statement of Financial Performance	**- 150 554**	**- 158 565**
Less recapitalisation Pension Fund*	**60 000**	**60 000**
Adjustments for non-cash movements		
Depreciation on non-current assets	431 256	418 712
Provision for post employment benefits	54 577	136 958
Provision for radioactive waste	8 827	- 36 344
Increase/decrease (-) in provision for doubtful debts	6	18
Increase/decrease (-) in provision for inventories	29	- 107
Increase/decrease (-) in other provisions	-	- 45
Losses/gains (-) on write-off of non-current assets	51 804	16 405
In-kind revenues	- 32 048	- 7 384
Net adjustments for non-cash movements	**514 451**	**528 213**
Decrease/increase (-) in inventories	- 1 176	- 754
Decrease/increase (-) in receivables - Member States	343	16 974
Decrease/increase (-) in receivables - taxation	1 006	6 596
Increase/decrease (-) in payables - personnel and CHIS	27 504	12 932
Increase/decrease (-) in deferred revenues for EU projects	8 938	- 12 250
Increase/decrease (-) in payables - suppliers	6 560	1 687
Increase/decrease (-) in other current assets	1 291	- 2 632
Net variation of teams and collaborations	2 139	13 462
Net cash flow - operating activities (A)	**470 501**	**465 663**
CASH FLOW FROM INVESTING ACTIVITIES		
Personnel expenses in PPE and intangible assets	- 139 148	- 122 073
Material expenses in PPE and intangible assets	- 230 018	- 207 701
Variance in other financial assets	-	- 60 000
CHIS Fund capitalisation	- 28 240	- 12 365
Net cash flow - investing activities (B)	**- 397 405**	**- 402 140**
CASH FLOW FROM FINANCING ACTIVITIES		
Proceeds from long-term borrowings	-	-
Repayments of long-term borrowings	- 25 928	- 25 108
Net variation of short-term borrowings	-	-
Recapitalisation of Pension Fund	- 60 000	- 60 000
Net cash flow - financing activities (C)	**- 85 928**	**- 85 108**
NET VARIATION IN CASH AND CASH EQUIVALENTS (A+B+C)	**- 12 832**	**- 21 585**
CASH AND CASH EQUIVALENTS AT BEGINNING OF PERIOD	**154 615**	**176 200**
CASH AND CASH EQUIVALENTS AT END OF PERIOD	**141 783**	**154 615**

** Recapitalisation of the Pension Fund is included in the deficit. Since it targets the post employment obligations, it is added back under the operating activities and shown in the financing activities.*

5. STATEMENT OF COMPARISON OF BUDGET AND ACTUAL AMOUNTS

MCHF	Note	Final 2017 Budget CERN/FC/6060 (2017 prices)	2017 Actual amounts	Variation of actual amounts with respect to Budget
Revenues				
Member States contributions		1 119.9	1 119.9	-
Associate Member States contributions		10.2	22.3	12.1
Contribution anticipated from new Associate Member States		10.0	-	- 10.0
EU contributions		16.0	15.9	- 0.1
Other revenues		74.0	113.8	39.8
	8.1	**1 230.1**	**1 271.9**	**41.8**
Expenses				
Materials	*8.2*	537.8	550.0	12.2
Personnel	*8.3*	652.7	671.8	19.1
Interest and financial costs	*8.4*	12.1	10.9	- 1.2
		1 202.5	**1 232.7**	**30.2**
A. BUDGET SURPLUS/DEFICIT (-) FOR THE PERIOD*		**27.6**	**39.2**	**11.6**
B. CAPITAL REPAYMENTS	*8.5*	**25.9**	**25.9**	**-**
C. RECAPITALISATION OF PENSION FUND	*7.27*	**60.0**	**60.0**	-
ALLOCATION TO BUDGET BALANCE (A-B-C)	*7.9*	**- 58.3**	**- 46.7**	**11.6**
CUMULATIVE BUDGET BALANCE	*7.9*	**- 176.7**	**- 165.1**	**11.6**

* *refer to note 8*

6. ACCOUNTING RECONCILIATION OF BUDGET ACTUAL AMOUNTS TO STATEMENT OF FINANCIAL PERFORMANCE

The budget is recorded under modified-accrual-basis accounting while the revenue and expenses shown in the Statement of Financial Performance are recorded under accrual-basis accounting.

The summary of differences between the budget actual amounts and the amounts recognised in the Statement of Financial Performance are shown in the following table. Note that the expenses transferred to PPE concern most categories of expenses, which should be taken into account if making a detailed comparison.

	Note	MCHF
BUDGET SURPLUS/DEFICIT (-) FOR THE PERIOD (A)		**39.2**
Property, plant and equipment (PPE) reconciliation (B)		**- 83.7**
Revenues In-Kind on detectors and HL-LHC	*7.21*	24.8
Expenses capitalised to PPE and intangible assets	*7.22, 7.23*	374.6
Depreciation and amortisation expenses	*7.3, 7.4*	- 431.3
Write-off of PPE and intangible assets	*7.3*	- 51.8
Items not included in the budget surplus/deficit (C)		**- 106.1**
Variation of provision for post-employment benefits	*7.13*	- 54.6
Recapitalisation of Pension Fund	*7.27*	- 60.0
Variation of provision for elimination of radioactive waste	*7.13*	- 8.8
Amortisation of personnel benefit accruals*		17.3
TOTAL ACCOUNTING RECONCILIATION (D) = (B)+(C)		**- 189.8**
NET ACCOUNTING SURPLUS/DEFICIT (-) FOR THE PERIOD = (A)+(D)		**- 150.6**

* *Amortisation of the accruals of personnel paid leave and similar allowances, introduced for the first time in the Financial Statements for the year 2007 (CERN/FC/5245 - CERN/2787).*

7. NOTES TO THE FINANCIAL STATEMENTS

Founded in 1954, CERN, the European Organization for Nuclear Research, is an intergovernmental organization located in Geneva, Switzerland.

CERN's mission is to foster collaboration between Member States and Associate Member States in the field of high-energy particle physics research, and, to this end, it designs, constructs and runs the necessary particle accelerators and the associated experimental areas. Accelerators boost beams of particles to high energies before they are made to collide with each other or with stationary targets. Detectors observe and record the results of these collisions.

CERN also hosts numerous international collaborations and visiting scientists.

7.1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

7.1.1. BASIS OF PREPARATION

The financial statements of CERN as at and for the year ending 31 December 2017 have been prepared in accordance with the International Public Sector Accounting Standards (IPSAS) and in conformity with CERN's Financial Rules and their implementing regulations approved by the Organization's governing bodies.

Although the Pension Fund is legally part of the Organization, its accounts are the subject of a separate report by the Administration of the Pension Fund. The report is endorsed by the Governing Board of the Pension Fund and submitted to the Council for approval through the Finance Committee.

While the accounts of CERN are maintained to the cent, these financial statements are expressed in thousands or millions of Swiss Francs. Some rounding differences therefore occur.

The financial statements are prepared on the basis of the historical cost principle, except for the revaluation of land and financial instruments.

The accounting policies applied to the financial statements of 31 December 2017 are consistent to those used in the financial statements of 31 December 2016.

Although the policies have not changed, some changes have been made to the current year presentation. The prior year figures have been reclassified accordingly to provide useful comparative figures. These changes in presentation are the result of implementation of revised procurement codes which are used to assess the nature of the materials expenses, and the presentation of the recharges to teams and collaborations as separate revenues and expenses rather than as a net figure within the expenses lines in order to improve transparency.

7.1.2. ADOPTION OF NEW AND REVISED STANDARDS

In 2017, the following accounting standards became applicable but did not have a significant impact on these financial statements: IPSAS 34 (Separate Financial Statements), IPSAS 35 (Consolidated Financial Statements), IPSAS 36 (Investments in Associates and Joint Ventures), IPSAS 37 (Joint Arrangements), and IPSAS 38 (Interests in Other Entities).

The IPSAS Board has published IPSAS 39 (Employee Benefits), which will replace IPSAS 25 (Employee Benefits) effective 1 January 2018. The Organisation has not adopted IPSAS 39 in these Financial Statements.

The IPSAS Board has published IPSAS 40 (Public Sector Combinations), which is effective 1 January 2019. The Organization has not adopted IPSAS 40 in these Financial Statements.

7.1.3. USE OF ESTIMATES AND ASSUMPTIONS

The financial statements necessarily include amounts based on estimates and assumptions made by the Management. Estimates include, but are not limited to: post-employment benefit obligations, provisions, financial risk relating to inventories and receivables, accrued charges, contingent liabilities, the useful life of property, plant and equipment, and the degree of impairment of property, plant and equipment. Actual results could differ from those estimates. Changes in estimates are reflected in the period in which they become known.

7.1.4. UNIT OF ACCOUNT AND FOREIGN CURRENCY TRANSLATION

The unit of account for all transactions is the Swiss franc, in compliance with Article 4 of the Financial Rules (CERN/FC/5305-CERN/2822).

Transactions denominated in other currencies (mainly EUR, USD, GBP and JPY) are converted into Swiss francs using the Swiss National Bank's daily exchange rate for all transactions or, if they are not available, those of the European Central Bank. The employee claims, however, are converted using a weekly reference exchange rate.

At the end of the year, all monetary items denominated in a foreign currency are converted at the exchange rates applicable on the last working day of the year. The resulting gains and losses, including those relating to foreign-currency transactions during the financial year, are recorded under the Financial Revenue and Expenses in the Statement of Financial Performance.

7.1.5. ASSETS

7.1.5.1. Property, plant and equipment (PPE)

A) General policy

According to IPSAS 17 (Property, Plant and Equipment), property, plant and equipment (PPE) are tangible items that are held for use in the production or supply of goods or services, or for administrative purposes, and that are expected to be used during more than one reporting period. These items shall be recognised as PPE if it is probable that future service potential or economic benefits associated with them will flow to CERN and if their cost can be measured reliably. Details of CERN's criteria for recognition as well as of the measurement policy are provided below.

The PPE items disclosed in CERN's financial statements are categorised under either "Scientific programmes" or "Non-scientific programmes", reflecting the Organization's main areas of activity and in line with how the budget is presented. As an international laboratory, CERN builds and operates particle accelerators, and builds or procures the apparatus and infrastructure necessary to conduct related scientific research programmes. It also builds or acquires the infrastructure needed to host non-scientific support, administration and logistics activities. Further disclosure of PPE is based on asset classes that equate to the sub programmes of activity. Complex items are divided into components, which are used in the depreciation calculations.

- Criteria for recognition:
  - General threshold:

    The cost threshold for any project – construction, consolidation or upgrade of any scientific or non-scientific installation or building – to be recognised as an asset is set at 100 kCHF. This threshold also applies to the acquisition or the construction of any individual item or group of similar items not included in a project, and to items acquired through non-exchange transactions. The aggregate value of large collective purchases of items is also recognised as an asset if the total value of the purchase exceeds 100 kCHF.

  - Timing for recognition:

    Costs relating to projects and items of PPE in progress are added to the in-progress assets category as they occur. Assets are moved to the completed category when the commissioning date has occurred and the assets are available for use.

- Measurement and depreciation policy:

  For all PPE except land, CERN applies the cost model in accounting, whereby assets are carried at historical cost, less any accumulated depreciation and any impairment losses. The cost of PPE acquired through a non-exchange transaction is determined to be the fair value at the date of acquisition as determined by the parties to the transaction.

  Depreciation charge for PPE is recognised in the Statement of Financial Performance on a straight-line basis over the estimated useful life of the items concerned. The estimated useful life and residual values are determined by the technical experts responsible for the PPE items concerned, and these estimates are reviewed regularly.

  Land is accounted for according to the revaluation model based on the market price in force on 31 December in Switzerland or France, as appropriate. No depreciation is therefore recorded for land.

- Impairment:

  Under IPSAS 21 (Impairment of Non-Cash-Generating Assets), PPE items are reviewed regularly for impairment to ensure the carrying amount is still considered to be recoverable. Recoverable service value corresponds to the higher of the value in use and the fair value. As there is no market for CERN's scientific assemblies, only the value in use is quoted for comparison with the carrying value. The value in use is usually arrived at using the depreciated replacement cost approach, but for some assets the restoration cost approach is used.

  The impairment reviews are performed each year for major equipment or installations by the technical experts in charge of the assets provided that the initial useful life of the asset(s) concerned is more than five years and its initial unit value is over 100 kCHF.

- Derecognition:

An item of PPE is derecognised if the stakeholder responsible for the asset informs the General Accounting section that the asset is no longer in use.

Items are derecognised in the following cases: on the disposal or sale of the item or when an item becomes obsolete and is out of service, even if it is not physically destroyed or sold.

B) Scientific programmes – LHC programme and other programmes

- Measurement:

The “Scientific programmes” category of PPE describes the scientific installations in use at CERN, which are classified as being either for the LHC programme or for other programmes, according to the CERN Technical Layout document.

All new scientific installations are monitored using a dedicated project code that captures both material and personnel costs relating to the project. The total cost of each project is broken down into components based on function, and a useful life is estimated for the component.

Componentisation of Scientific Installations	**Useful life - range (years)**
Civil engineering consisting of machine buildings and undergrounds depending on the componentisation of each construction	20 to 100
Magnets	17 to 90
Radio frequency	10 to 30
Beam instrumentation	10 to 50
Beam transfer primary	2 to 50
Cooling and ventilation	10 to 40
Cryogenics	15 to 50
Electrical installation and cabling	25
Accelerators back/front-end controls	5 to 15
Accelerators and beam physics	5
Machine protection and integrity	15 to 25
Vacuum	10 to 90
Shieldings	30 to 90
Power converters	15 to 30
Targets, dumps, collimators	2 to 40
Access control	15 to 20
Computer networking	5 to 15
LHC computing - servers and storage	3 to 15
LHC computing - others	30
Detectors: ATLAS, CMS, ALICE, LHCb	5 to 30 (depends on the detector)
Scientific support corresponding to personnel cost and miscellaneous	11 to 30
Scientific support corresponding to the remainder of the equipment and installations after their componentisation and that are individually non-significant	1

- Subsequent costs:

  CERN capitalises subsequent expenditure relating to an existing scientific installation only if it either:

  - extends the original useful life of the installation significantly (by more than one year);
  - improves the asset compared to its original condition;
  - increases or improves the quality of the original physical output; or
  - results in an increase in the service capacity of the installation.

  In the case of the scientific programmes, CERN considers only consolidation programmes and long shutdowns (LS) to be programmes that improve the performance of the accelerator complexes and therefore need to be recorded as items of PPE.

- Spares:

  Only spares connected with the scientific installations are recognised as PPE items. They follow the same recognition criteria and depreciation policy as described in subsection A, “General policy”.

  Provided that no new spares are acquired or created, the replacement of installed items with spares will not be recorded in the accounting system nor in the PPE register, and will not give rise to changes in asset values since the replaced items are refurbished when they are removed from the installations and thereafter kept as spares.

- Residual value:

  As a general rule, any item that has been in contact with radiation is considered to have no residual value. Consequently, all the PPE items recognised as part of the accelerators are deemed to have no residual value. Where a residual value is applicable, it is usually equal to the scrap value, as defined by the technical experts in charge of the asset concerned.

- Detectors:

  The detectors at CERN are operated by collaborations of which CERN is a member. Although CERN is not the legal owner of these installations, for accounting purposes they are deemed to be under the control of CERN since they are located at CERN and require the accelerators to run, and are therefore

included in the assets of CERN. Like the other scientific installations, the four main detectors are split into components.

Because all the costs of the detectors are shared by a large number of different entities, the basis for the historical value of the detectors and for the value of the upgrades during Long Shutdown 1 is the Memoranda of Understanding signed between the collaborating parties, which CERN signs as a member on the same footing as any other member. Revenues in kind are recorded to reflect the contributions of other collaboration members to the cost of the assets recorded. Please refer to note 7.21.

C) Non-scientific programmes

The non-scientific programmes are divided into subprogrammes and then components, whose useful lives vary depending on their function and nature. The following table displays the range of useful lives for each component.

Non-scientific sub-programmes	Equipment and installations	Useful life - range (years)
General facilities and logistics	Civil engineering consisting of tertiary buildings, undergrounds, roads and car parks depending on the componentisation of each construction	20 to 100
	Electrical equipment and distribution	20 to 50
	Heavy handling	10 to 50
	Non-scientific support that corresponds to the remainder of the equipment and installations after their componentisation and that are individually non-significant	1 to 20
	Vehicles	4 to 10
	Logistics	15
Manufacturing facilities	Workshops	10 to 50
Informatics	Audiovisual and conferencing services	5 to 10
	Computer networking	3 to 15
	Desktop service	5 to 25
Safety, health and environment	Access Control	20
	Environment	10 to 15
	Fire and gas detection	2 to 15
	Personnel safety	5 to 18
	Safety	10 to 15
	Radioactive waste	10 to 20
	Radioprotection instrumentation	5 to 17
Outreach	Visit points and exhibitions	5 to 10

D) Land

On 17 March 1954, Geneva was selected as the site for the CERN Laboratory. The government of the Swiss Confederation and the government of the French Republic signed a convention to put land at CERN's disposal in Switzerland and in France respectively.

- CERN and the French Republic signed an agreement on 13 September 1965 for the use of land located in Saint-Genis and Prévessin, and an addendum to this agreement was signed on 9 December 1972 for the use of land in Gex for the building of the Synchrotron.

- CERN and the Swiss Confederation signed an agreement on 27 February 1998 for the use of plots of land in Meyrin and Collex-Bossy.

For accounting purposes, CERN is considered to have control of the land and it is therefore included as an asset class in the PPE, even though CERN does not own the land.

Land is measured following the revaluation method, and is revalued at fair value on 31 December each year using the average market price in force on the Swiss and French territories as described below. No depreciation is therefore calculated on the land.

Official statistics are used to arrive at the estimated market prices for two main categories:

- One estimate for the unfenced plots where no buildings can be erected. This estimate is the average quoted price of agricultural land recorded over the last three years in France (Pays de Gex) and Switzerland (Canton de Genève).

- One estimate for the fenced plots where buildings can be erected. This estimate is the average quoted price of industrial land recorded over the last three years in France (Pays de Gex) and Switzerland (Canton de Genève).

Estimates for the land in France are made in euros and converted to Swiss francs using the rate of exchange applicable on the last working day of the year.

7.1.5.2. Intangible assets

Effective 1 January 2012, CERN adopted IPSAS 31 (Intangible Assets) on a prospective basis. According to IPSAS 31, intangible assets are defined as identifiable, non-monetary assets that do not have physical substance. The cost of these assets is recognised in the financial statements if it is probable that the future economic benefits or service potential from the asset will flow to CERN and the cost of the asset can be measured reliably. The intangible asset must also be under the control of CERN. Additional details of CERN's criteria for recognition as an intangible asset, as well as the measurement policy, are provided below.

The following are recorded as intangible assets at CERN:

- internally developed software, including development on software of external origin;
- software of external origin (purchased), including internal development costs;
- patents.

Software is used at CERN for many operations in both the scientific programmes and non-scientific programmes. For the scientific programmes, software is used for activities such as monitoring, control, simulation, configuration and data acquisition. For the non-scientific programmes, software is used for activities such as control, monitoring, data management and storage. The intangible assets disclosed in CERN's financial statements are therefore categorised as either scientific programmes or non-scientific programmes, reflecting the Organization's main areas of activity and in line with its PPE reporting. The patents relate to CERN's knowledge transfer activities and are recorded as assets under the "non-scientific programmes" heading.

- Criteria for recognition:
  - General threshold:

    A general threshold of 100 kCHF applies to internally developed software and to internal developments on software of external origin. For purchases of software of external origin, a threshold of 50 kCHF applies. These thresholds apply to the totality of the costs accumulated in relation to the in-progress asset at the time of the transfer to completed assets. For subsequent improvement costs, the threshold applies to the costs accumulated each year. Patents are not subject to a threshold.

  - Timing for recognition:

    Costs relating to software in-progress are added to the "in-progress" category in the year they occur. Assets are moved to the "completed" category in the year the software is put into production and the software is available for use, or the year the patent starts to generate income.

- Measurement and amortisation policy:

  For all intangible assets, CERN applies the cost model in accounting, whereby assets are carried at historical cost, less any accumulated depreciation and any impairment losses.

  The cost for internally developed software is generally the estimated cost of the time spent developing software by members of CERN personnel. Where software is acquired, the purchase price of the software is also included in the cost. Costs relating to the research phase and for time spent on maintenance are not

capitalised, but rather are recorded as expenses as they occur. IPSAS 31 requires that the aggregate amount of research and development expenditure recognised as expenses in the Statement of Financial Performance be disclosed. Given the prevalence of research and development activities throughout CERN's operations, it is difficult and costly to arrive at a reasonable estimate of this amount. For this reason, no estimate of aggregate research and development expenditure for intangible assets is disclosed in note 7.4.

The cost of patents includes the direct cost of acquiring patents, and the materials used and time spent to develop the ideas under patent, which can take a number of years. Research costs incurred as part of regular CERN operations, and prior to the identification of a potential/existing market, are not included in these costs.

The estimated useful life of software is determined by technical experts responsible for the intangible assets, and these estimates are reviewed annually. The useful life of an intangible asset can be assessed and classified as definite or indefinite. At the reporting date, CERN has no intangible assets with an indefinite useful life.

Amortisation of intangible assets is recognised in the Statement of Financial Performance on a straight-line basis over the estimated useful life of the items concerned. The amortisation of software is calculated from 1 July in the year the software is put into production.

The subsequent costs each year relating to software already in production will be assigned a useful life and amortised separately, calculated from 1 July. There is assumed to be no residual value for software, so the amortisation calculation will be applied to the full cost of the software.

For the patents, the estimated useful life is the lifetime until the patent expires (usually 20 years from when the patent is filed). Amortization is calculated from 1 July of the year the revenue flows commence.

	Useful life - range (years)
Non-scientific programmes	
Development of software of external origin	5 to 15
Internally developed software	1 to 20
Knowledge transfer patents	20
Purchased software of external origin	3 to 10
Scientific programmes	
Development of software of external origin	1 to 22
Internally developed software	1 to 50
Purchased software of external origin	5

- Impairment:

  Under IPSAS 21 and IPSAS 26 (Impairment of Cash-Generating Assets), intangible assets are reviewed regularly for impairment to ensure that the carrying amount is still considered to be recoverable. For non-cash-generating assets (software), the carrying value will be compared to its recoverable service amount (which is the value in use for CERN software as no fair market value exists). The value in use of a non-cash-generating asset is the present value of the asset's remaining service potential. CERN will apply the replacement-cost approach to assess the value in use.

  For cash-generating assets (patents), the carrying value will be compared to the expected recoverable amount.

  The impairment reviews are performed each year from 2016.

- Derecognition:

  An intangible asset is derecognised if the stakeholder responsible for the asset informs the General Accounting section that the asset is no longer in use.

  An item is derecognised when it becomes obsolete and is out of service.

7.1.5.3. Financial assets – CHIS fund

The CERN Health Insurance Scheme (CHIS) provides its members with health insurance. Contributions to the scheme are received from the Organization and the individual members.

This item represents investments in shares and bonds, plus deposits dedicated to the scheme and available in specific bank accounts. It is carried at fair value.

7.1.5.4. Inventories

Inventory is measured at the lower of cost and net realisable value.

The cost is assigned according to the weighted-average cost formula, whereby the average cost is calculated based on an average of the purchase price with a coefficient applied to represent the costs incurred in bringing the product to its present location and condition.

The estimate of the net realisable value of inventories is assessed for each item of inventory based on the stock turnover and the nature of the article.

7.1.5.5. Receivables and prepayments

Receivables mainly relate to amounts due from Member States, national institutes, laboratories and the European Union. The amounts due from private companies are shown under the subheading "Other receivables and prepayments".

The expenditure committed on behalf of collaborations or research institutes in order to facilitate their participation in the experiments conducted on the CERN site as well as internal recharging are not reported in the Statement of Financial Performance but are charged to the corresponding third-party account in the Statement of Financial Position.

7.1.5.6. Other financial assets

Fixed-term deposits with an initial term greater than three months are reported as “Other financial assets”. Other financial assets are carried at their fair value.

7.1.5.7. Cash and cash equivalents

Cash and cash equivalents comprise cash on hand, bank accounts and deposits held up to 90 days that are readily convertible to cash.

Cash and cash equivalents are subject to an insignificant risk of changes in value, and therefore their carrying value is assumed to be their fair value.

Bank overdrafts are shown under current liabilities in the Statement of Financial Position.

7.1.6. LIABILITIES

7.1.6.1. Debts

The amounts expected to be settled after more than 12 months from the reporting date are shown under the “Non-current liabilities” heading. The amounts expected to be settled within twelve months from the reporting date, including the accrued interest over the period, are shown under “Current liabilities”.

7.1.6.2. Liabilities - CHIS fund

In December 2007, the CERN Council approved the establishment of a fund for the CERN Health Insurance Scheme (CERN/FC/5209-CERN/2759).

The CHIS fund is used exclusively for the Organization’s health insurance liabilities and contributes to addressing the problem of an ageing population and to improving the financial balance of the Health Insurance Scheme. The value of the liability is affected by the capital return and by the difference between contributions and benefits and external overheads.

This item includes the accrued benefits to be paid from the CHIS fund at the reporting date.

7.1.6.3. Post-employment benefits

Post-employment benefits represent the estimated actuarial liability of defined-benefit plans for retirement benefits and post-employment health cover calculated in accordance with IPSAS 25.

The actuarial liability of the defined-benefit plans for retirement benefits and post-employment health cover is the present value of the defined-benefit obligations at the reporting date minus the fair value of the corresponding plan assets.

The defined-benefit obligation is calculated annually by independent actuaries using the projected credit method. The present value of the defined-benefit obligations is determined by estimating future cash outflows using the interest rate on long-term Swiss Confederation bonds as the discount rate. A review of the discount rate used in this calculation was performed in 2015 as a result of a recommendation from the External Auditors. Following this review, the interest rate on the long-term Swiss Confederation bonds continues to be the reference rate for the time value of money. However, in addition, the principle that the discount rate should never fall below the best estimate of future inflation has been adopted.

The actuarial gains or losses arising from experience adjustments and changes in actuarial assumptions are recognised immediately in net assets.

The Organization's post-employment benefits are partly funded by separately held assets: the Pension Fund and the CHIS fund.

As indicated in 7.2.1, the accounts of the Pension Fund are subject to separate Financial Statements reported by the management of the Pension Fund.

Since the CERN Pension Fund holds the retirement benefits for both CERN and ESO members, the scheme must be considered as multi-employer. Therefore, the fair value of plan assets to be considered by CERN is calculated by the independent pension fund actuary on a pro-rata basis according to the employers' obligations.

7.1.6.4. Provisions

Provisions are recognised when the Organization has a legal or constructive obligation as a result of a past event where it is probable that an outflow of resources will be required to settle the obligation, and where a reliable estimate of the amount of the obligation can be made.

The present value of special leaves for long service, of shift work compensation and of contract termination allowances is calculated using the projected credit method. The discount rate used for calculating the present value is the interest rate on the relevant Swiss Confederation bond. As from 2015, regarding the accounting estimate of the discount rate, the principle has been adopted that the relevant discount rate should never fall below the best estimate of future inflation over a similar period. This is consistent with the principle adopted for the post-employment benefits.

7.1.6.5. Current liabilities

Current liabilities are expected to be settled in the normal course of the operating cycle or are due to be settled within 12 months.

This heading includes mainly:

- the current liability of long-term debts as well as short-term borrowings from commercial banks;
- debts to suppliers and to the personnel;
- debts to third parties and advances from Teams and Collaborations working at CERN;
- deferred revenue from the European Union and third parties, which are accounted for as revenue up to the extent of the related projects' expenses;
- the accumulated remuneration estimated to be paid within 12 months to members of the personnel when they are absent as a result of using annual, saved or compensation leave.

7.1.7. REVENUE

Contributions and special contributions from Member States are non-exchange transactions which are recognised in the period in which the transfer arrangement becomes binding.

EU contributions are recognised as revenue according to the stage of completion of the various projects involved. The yearly amounts allocated to revenue are based on the related projects' expenses.

Other revenue mainly concerns:

- bank interest earned on short-term deposits in various currencies at certain times of the year. The amount of interest varies from year to year depending on the funds available, i.e. the receipt of contributions from the Member States and the timing of personnel and materials expenses and on the evolution of the market rates;
- revenue from the sale of scrap or obsolete equipment, income from rent and, overnight stays at CERN hostels, revenue from collaborations (including from recharges) and miscellaneous revenue. These are recorded at the time of the transactions;
- revenue from knowledge transfer activities and various projects are recognised as revenue according to the stage of completion of the various projects involved based on the related expenses
- in-kind contributions to property, plant and equipment are recognised as revenue and incorporated into the property, plant and equipment line item at the date of start-up;

- for all the in-kind contributions below, the amounts shown in revenue are offset by similar amounts shown in expenses:
  - in-kind contributions resulting from the advantage granted to the Organization for loans without interest. The estimate is based on the equivalent interest rates prevailing when the loans were granted;
  - in-kind contributions resulting from the advantage granted to the Organization for various supplies made available without charge.

7.1.8. INTERNAL TAXATION

In accordance with document CERN/FC/4914-CERN/2599, the system of internal taxation of remuneration, payments and other financial benefits was introduced with effect from 1 January 2005.

The amount shown in revenue is offset by a similar amount shown under “Personnel expenses”.

7.1.9. FINANCIAL INSTRUMENTS

Effective 1 January 2013, CERN adopted IPSAS 28 (Financial instruments: Presentation), IPSAS 29 (Financial instruments: Recognition and measurements) and IPSAS 30 (Financial instruments: Disclosures). A financial instrument is any contract that gives rise to both a financial asset of one entity and a financial liability or equity instrument of another entity.

Financial instruments are split into the categories of financial assets or financial liabilities as defined in IPSAS 29: financial assets and liabilities at fair value through surplus or deficit (designated upon initial recognition), held to maturity investments, loans and receivables, available-for-sale financial assets and financial liabilities measured at amortised cost. The classification of the financial assets and financial liabilities determines the measurement after initial recognition: either at fair value, or at amortised cost. Carrying value is the amount at which the financial instruments are recognised in the Statement of Financial Position. Fair value is the amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties in an arm’s-length transaction.

The Organization’s financial assets include: cash and cash equivalents, trade and other receivables, other financial assets, derivative financial instruments and quoted financial instruments, most of which are held in the CERN Health Insurance Scheme (CHIS) Fund.

The Organization’s financial liabilities include: trade and other payables, short-term debt and bank overdrafts, and long-term debts.

CERN’s financial instruments measured at fair value through the surplus or deficit are designated at initial recognition. The instruments are revalued at the value quoted in an active market on the date on which the balance sheet is drawn up. The resulting gains and losses

are recorded in the Statement of Financial Performance. Typical examples are derivatives, specifically forward-rate agreements and foreign currency options. The Organization uses these types of financial instruments for the purpose of managing its exposure to currency fluctuations and interest rate risks (refer to note 7.25).

7.2. COMMITMENTS NOT SHOWN IN THE STATEMENT OF FINANCIAL POSITION

Some memoranda accounts that do not appear in the Statement of Financial Position are given below. They relate to the Pension Fund, guarantees received or given by the Organization and future commitments to suppliers.

7.2.1. PENSION FUND

As mentioned in section 7.1.1, although the Pension Fund is legally part of the Organization, its accounts are reported separately.

7.2.2. BANKER'S GUARANTEES IN OUR POSSESSION

The following amounts relate to banker's guarantees provided by various suppliers in connection with CERN contracts. The amounts corresponding to these guarantees are shown below, translated to CHF at the year-end rate:

	Banker's guarantees	
kCHF	As at 31.12.2017	As at 31.12.2016
Currency		
CHF	17 066	10 282
DKK	132	63
EUR	36 645	26 693
GBP	589	625
JPY	561	1 176
NOK	54	119
SEK	40	47
USD	7 103	6 391
Total	**62 190**	**45 396**

7.2.3. BANKER'S GUARANTEES GIVEN BY CERN

As at 31 December 2017, CERN has provided the following guarantees:

- 18 kUSD to the Internet Corporation for Assigned Names and Numbers (ICANN) (18 kUSD in 2016);
- 7.6 kCHF to agencies to guarantee rentals of apartments under the Housing activity (7.6 kCHF in 2016);

- 2.0 kCHF to Geneva's Chamber of Commerce to guarantee books of ATA tickets (2.0 kCHF in 2016)
- 38.8 kEUR to the *Ministre en charge de l'environment* to guarantee the transfer of waste.
- 34.3 kCHF to the *Prefecture de l'Ain* to guarantee the transfer of waste (34.3 kCHF in 2016).

7.2.4. FUTURE COMMITMENTS TO SUPPLIERS

	Future commitments			
	As at 31.12.2017		As at 31.12.2016	
kCHF	2018	2019 and beyond	2017	2018 and beyond
Currency				
CHF	42 063	8 897	32 646	2 261
EUR	130 348	18 787	93 768	18 680
USD	14 840	8 329	11 336	5 909
GBP	6 020	2 838	3 079	427
OTHERS	1 794	742	5 712	1 195
	195 065	**39 593**	**146 541**	**28 472**
Total	**234 658**		**175 013**	

7.3. PROPERTY, PLANT AND EQUIPMENT

7.3.1. PROPERTY, PLANT AND EQUIPMENT AVAILABLE FOR USE

The changes for the period in the net book value of the property, plant and equipment (PPE) available for use are detailed in the following table.

kCHF	Gross balance as at 31-12-16	Additions 2017	Disposals and transfers 2017	Gross balance as at 31-12-17
	a	b	c	d=a+b-c
Scientific programmes				
LHC programme	8 510 701	64 259	22 535	8 552 424
Other programmes	2 654 311	110 480	43 839	2 720 952
	11 165 012	174 739	66 374	11 273 376
Non-scientific programmes				
General facilities and logistics	966 193	24 720	13 110	977 803
Informatics	28 729	1 823	81	30 471
Manufacturing facilities	120 930	13 080	3 783	130 227
Safety, health and environment	87 604	5 788	4 917	88 475
Outreach	6 756			6 756
Land	180 997	309 915		490 912
	1 391 209	355 326	21 891	1 724 644
PPE - available for use	**12 556 221**	**530 065**	**88 265**	**12 998 021**
		441 800		

kCHF	Accumulated depreciation as at 31-12-16	Recognised in 2017	Disposals 2017	Accumulated depreciation as at 31-12-17	Net book value as at 31-12-16	Net book value as at 31-12-17
	e	f	g	h=e+f-g	i=a-e	j=d-h
Scientific programmes						
LHC programme	3 138 261	321 704	13 874	3 446 091	**5 372 441**	**5 106 334**
Other programmes	1 329 494	60 075	23 790	1 365 779	**1 324 816**	**1 355 172**
	4 467 755	381 779	37 664	4 811 870	**6 697 257**	**6 461 506**
Non-scientific programmes						
General facilities and logistics	583 371	19 822	11 066	592 127	**382 822**	**385 676**
Informatics	18 059	2 402	59	20 402	**10 670**	**10 069**
Manufacturing facilities	55 072	4 009	2 393	56 688	**65 858**	**73 539**
Safety, health and environment	39 738	4 838	3 319	41 257	**47 866**	**47 218**
Outreach	3 394	597		3 991	**3 362**	**2 765**
Land					**180 997**	**490 912**
	699 634	31 668	16 837	714 465	**691 575**	**1 010 180**
PPE - available for use	**5 167 389**	**413 447**	**54 501**	**5 526 335**	**7 388 832**	**7 471 686**
		358 946				

Details of the total addition of 174.7 MCHF to the “Scientific programmes” heading are the following:

- The additions in the LHC programme amount to 64.3 MCHF: LHC machine 14.2 MCHF, LHC computing 19.3 MCHF, LHC buildings 0.5 MCHF and LHC detectors 30.3 MCHF.
- The additions in the other scientific facilities amount to 110.5 MCHF and are mainly linked to the total or partial completion of the following: ELENA 12.6 MCHF, HIE-ISOLDE and MEDICIS 26.5 MCHF, infrastructure for technical activities (laboratories, magnet testing) 31.3 MCHF, infrastructure for Neutrino Platform activities 14.2 MCHF, and consolidation of injectors and accelerators 6.5 MCHF.

Details of the total additions of 355.3 MCHF to the “Non-scientific programmes” heading are the following:

- PPE falling under “General facilities and Logistics” has increased by 24.7 MCHF in 2017, mainly due to the completion, including the CERN Network Hub facility, or consolidation of tertiary buildings and road infrastructure 18.2 MCHF, and heavy handling equipment and vehicles 6.0 MCHF.
- Additional equipment or replacements amounting to 20.7 MCHF also occurred in other activities such as safety, informatics, and manufacturing facilities.
- Land value has increased by 309.9 MCHF as a result of a revaluation based on the regional registered sale transactions which are relatively volatile. This increase is recorded directly to net assets.

Details of the total disposals and transfers of 88.3 MCHF of PPE available for use are the following:

- All the above-mentioned consolidation and renovation works generated a disposal of 7.7 MCHF in machine or tertiary buildings corresponding to the value of replaced equipment or construction.
- Following the CTF3 dismantling, equipment considered to have no future service potential has been written off for a total amount of 32.7 MCHF.
- Other replacements of single pieces of equipment or pools of equipment generated an additional 32.8 MCHF disposal in the scientific facilities (LHC machine and its detectors 22.0 MCHF, other programmes 10.8 MCHF) and an additional 15.0 MCHF disposal in the non-scientific programmes (safety, health and environment activities 4.9 MCHF, manufacturing facilities 3.8 MCHF, vehicles and heavy handling 3.7 MCHF and other activities 2.6 MCHF).

The net value of write-off impacting the Statement of Financial Performance amounts to 51.8 MCHF. This amount includes net value of disposals for both Property, plant and Equipment and Intangible assets, as well as the net impact of movements related to updated information received in 2017.

7.3.2. PROPERTY, PLANT AND EQUIPMENT IN PROGRESS

The changes for the period in the gross balance of the PPE in progress are detailed in the following table. There is no depreciation as the assets in question are still under construction as at 31 December 2017.

kCHF	Gross balance as at 31-12-16 a	Additions 2017 b	Disposals and transfers 2017 c	Gross balance as at 31-12-17 d=a+b-c
PPE in progress				
Scientific programmes				
LHC programme				
LHC access systems upgrade	4 504	1 038	192	5 350
LHC machine and areas reliability and consolidation	64 579	38 398	19 820	83 157
LHC detectors upgrade	30 171	55 495	30 536	55 130
LHC luminosity upgrade (HL-LHC)	92 438	86 152	1 017	177 573
LHC spares	2 124	2 326	1 169	3 282
	193 815	**183 409**	**52 734**	**324 491**
Other programmes				
LHC injectors upgrade	109 632	49 380	1 179	157 832
18 kV loop+substations SPS consolidation	3 376	2 939		6 315
66/18 kV loop PS consolidation	2 365	166	2 531	
PS and SPS spares	1 556	863	65	2 355
Accelerators consolidation	20 307	21 093	2 842	38 558
AD consolidation	2 552	2 125	65	4 612
Proton plasma wakefield acceleration (AWAKE)	40 023	6 822	1 102	45 743
CLIC	19 184	4 050	17 383	5 851
East area consolidation	241	1 546		1 787
ELENA	23 332	4 115	12 614	14 833
FAIR	11 346	1 712	949	12 109
HIE ISOLDE	26 279	2 700	22 071	6 909
LINAC4	1 549	763	2 142	170
CERN neutrino platform	33 239	4 646	33 407	4 478
SM18 upgrade	10 098	2 862	2 972	9 988
Building 163 upgrade	305	795		1 100
MEDICIS	3 634	1 143	4 436	341
North area consolidation	163	2 235	81	2 318
PCB workshop machine		256	10	246
	309 182	**110 212**	**103 850**	**315 544**
Subtotal scientific programmes	**502 997**	**293 621**	**156 584**	**640 035**
Non-scientific programmes				
General infrastructure and services				
Building 90	133		133	
Building 107 (surface treatment)	13 637	17 300	25 542	5 395
Building 156 LHCb	290	866	395	762
Building 311 Renovation	3 402	4 610	6 467	1 544
Building 771 Polymer lab	111	1 718	198	1 630
Building 774 (Prevessin Main Building)		131	49	82
Building 947	153	2 932	28	3 057
Building 38 (hotel renovation)		108	108	
Cooling tower P18	10	558	3	565
Cooling tower reject systems		113		113
Surface and technical infrastructure consolidation	5 696	10 846	13 775	2 766
Miscellaneous	5 964	8 556	7 345	7 175
Informatics				
IT network HUB	570	2 289	2 775	83
IT Long shutdown works		109		109
Safety, health and environment				
RAMSES II light	78	3 014	425	2 668
Fire safety project		531		531
Outreach				
Place des particules	84	279		363
Workshop				
Investment in new mechanical technologies	339	646	350	636
Subtotal non-scientific programmes	**30 466**	**54 605**	**57 593**	**27 478**
Total PPE - in progress	**533 463**	**348 226**	**214 176**	**667 513**
		134 050		

7.4. INTANGIBLE ASSETS

7.4.1. INTANGIBLE ASSETS AVAILABLE FOR USE

The changes for the period in the net book value of the completed intangible assets (available for use) are detailed in the following table.

kCHF	Gross balance as at 31-12-16	Additions 2017	Disposals and transfers 2017	Gross balance as at 31-12-17
	a	b	c	d=a+b-c
Scientific programmes				
Internally developed software	123 070	21 110	797	143 383
Development of software of external origin	3 196	174		3 370
Purchased software of external origin	571		500	71
	126 837	21 284	1 297	146 824
Non-scientific programmes				
Internally developed software	26 083	3 682		29 765
Development on external origin software	6 348	1 006	344	7 010
Purchased software of external origin	4 632	177	20	4 789
Knowledge transfer patents	34	38		73
	37 098	4 903	364	41 638
Total internally developed software	**149 153**	**24 792**	**797**	**173 148**
Total development of software of external origin	**9 545**	**1 180**	344	**10 381**
Total purchased software of external origin	**5 204**	**177**	520	**4 861**
Total knowledge transfer patents	**34**	**38**		**73**
Total intangible assets - available for use	**163 936**	**26 187**	**1 661**	**188 462**
		24 526		

kCHF	Accumulated amortisation as at 31-12-16	Recognised in 2017	Disposals 2017	Accumulated amortisation as at 31-12-17	Net book value as at 31-12-16	Net book value as at 31-12-17
	e	f	g	h=e+f-g	i=a-e	j=d-h
Scientific programmes						
Internally developed software	23 421	11 485	797	34 109	99 649	109 274
Development of software of external origin	506	842		1 349	2 690	2 022
Purchased software of external origin	451	8	450	9	121	63
	24 378	12 335	1 247	35 466	102 459	111 358
Non-scientific programmes						
Internally developed software	9 838	3 798		13 636	16 245	16 129
Development on external origin software	2 198	801	77	2 922	4 150	4 088
Purchased software of external origin	2 864	871		3 735	1 769	1 055
Knowledge transfer patents	2	4		5	33	67
	14 901	5 474	77	20 298	22 197	21 340
Total internally developed software	**33 259**	**15 283**	**797**	**47 745**	**115 894**	**125 403**
Total development of software of external origin	**2 704**	**1 643**	**77**	**4 270**	**6 840**	**6 110**
Total purchased software of external origin	**3 315**	**879**	**450**	**3 744**	**1 889**	**1 118**
Total knowledge transfer patents	**2**	**4**		**5**	**33**	**67**
Total intangible assets - available for use	**39 280**	**17 809**	**1 324**	**55 764**	**124 656**	**132 698**
		16 485				

The amortisation is recognised under the heading “Depreciation and amortisation expenses” in the Statement of Financial Performance.

7.4.2. INTANGIBLE ASSETS IN PROGRESS

The changes for the period in the gross balance of the intangible assets in progress are detailed in the following table.

There is no amortisation as the assets in question are still under development as at 31 December 2017.

kCHF	Gross balance as at 31-12-16 a	Additions 2017 b	Disposals and transfers 2017 c	Gross balance as at 31-12-17 d=a+b-c
Intangible assets in progress				
Scientific programmes				
Internally developed software	5 622	1 919	1 224	6 318
Development of software of external origin				
	5 622	1 919	1 224	6 318
Non-scientific programmes				
Internally developed software	526	618	132	1 013
Development of software of external origin	27	212	127	112
Knowledge transfer patents	316	111	70	357
	869	941	329	1 482
Total internally developed software	**6 149**	**2 537**	**1 356**	**7 331**
Total development of software of external origin	**27**	**212**	**127**	**112**
Total knowledge transfer patents	**316**	**111**	**70**	**357**
Total intangible assets - in progress	**6 492**	**2 860**	**1 553**	**7 800**
		1 308		

7.5. INVENTORIES

Inventories consist of cables, standard parts, equipment, accessories, chemicals, raw materials and consumables used for CERN's engineering and research operations, as well as for activities relating to infrastructure and administration.

kCHF	As at 31.12.2017	As at 31.12.2016
Cables	8 644	8 141
Central Supplies	7 692	7 047
Total	**16 336**	**15 188**

7.6. RECEIVABLES

7.6.1. MEMBER STATES

The amount shown in the Statement of Financial Position under this subheading can be broken down as follows:

kCHF	As at 31.12.2017	As at 31.12.2016
Contributions - Greece	33 682	33 926
Contributions - Portugal	-	3 783
Contributions - Slovak Republic	208	-
Receivables from Member States	**33 890**	**37 709**
Contributions - Serbia	-	317
Contributions - Ukraine	-	270
Receivables from Associate Member States	**-**	**587**
TOTAL	**33 890**	**38 296**

7.6.2. TAXES

The receivable amount shown in the Statement of Financial Position under this subheading can be broken down as follows:

kCHF	As at 31.12.2017	As at 31.12.2016
French VAT	5 947	6 715
VAT in other Member States	457	687
Swiss taxes and levies	209	217
Total	**6 613**	**7 619**

7.6.3. TEAMS AND COLLABORATIONS

The various teams and collaborations owed CERN 4.8 MCHF at the end of 2017 (5.3 MCHF in 2016). CERN also has a liability to teams and collaborations, shown in the “Liabilities” section; the two balances are the result of the transactions arising from the participation of collaborations and research institutes in experiments at CERN. The liability to teams and collaborations at the end of 2017 was 200.4 MCHF (197.4 MCHF in 2016). For more details, refer to note 7.15.2.

7.6.4. OTHER RECEIVABLES AND PREPAYMENTS

The amount shown in the Statement of Financial Position under this subheading can be broken down as follows:

kCHF	As at 31.12.2017	As at 31.12.2016
Advances to suppliers	17 819	7 803
Revenues to be received	6 175	4 628
Expenses in advance	4 431	7 251
Sundry debtors	5 440	5 060
Total	**33 865**	**24 742**

The increase in the advances to suppliers is mainly due to a number of new supply contracts in 2017. An advance is paid to the supplier on signing the contract, and only recognised to expenses as the work on the contract advances.

7.7. OTHER FINANCIAL ASSETS

At 31 December 2017, CERN held short-term deposits of 60 MCHF (60 MCHF in 2016).

7.8. CASH AND CASH EQUIVALENTS

The variations of cash and cash equivalents between 31 December 2016 and 31 December 2017 are explained in the Cash-Flow Statement (section 4). This statement is prepared following the indirect method, whereby the deficit from the Statement of Financial Performance is adjusted for the effects of transactions of a non-cash nature, any deferrals or accruals of past or future operating cash receipts or payments, and items of revenue or expense associated with investing or financing cash-flows. The items appearing in the Cash-Flow Statement as adjustments for non-cash movements are based on transactions with a non-cash nature within the detailed accounts which underlie the Statement of Financial Performance. The items appearing in the cash-flows from operating activities are the variances from year to year of balances relating to ordinary operational activity in the detailed accounts which underlie the Statement in Financial Position. Finally, the items appearing in the cash-flows from investing and financing activities are the variances from year to year of balances in the detailed accounts which underlie the Statement of Financial Position.

7.9. NET ASSETS

In 2017, the net assets increased by 466.0 MCHF from the 2016 net asset balance of - 329.7 MCHF. This variation is due to the following:

- net deficit for 2017: 150.6 MCHF (net deficit for 2016: 158.6 MCHF);
- gain on revaluation of land: 309.9 MCHF (gain of 20.6 MCHF in 2016)
- actuarial gains on post-employment benefits 2017: 306.7 MCHF (434.7 MCHF in 2016).

The value of the Net Assets is highly sensitive to the variation of the discount rate used to calculate the obligation for post-employment benefits since the obligation is significant relative to the rest of the financial position. The discount rate used at 31 December 2017 is 1.38%, relatively consistent with the previous year's rate of 1.37%. Refer to note 7.12 on post-employment benefits for details of changes in the accounting estimates used.

The reconciliation with the cumulative budget deficit is summarised in the table below:

MCHF	as at 31.12.2015 restated	Var.* 2016	as at 31.12.2016	Var.* 2017	as at 31.12.2017
Cumulative budget balance	**- 133**	**- 0**	**- 134**	**- 47**	**- 181**
SIG debt - impact of the annual repayment	**28**	**-**	**28**		**28**
SIG debt - impact of interest	**- 14**	**-**	**- 14**		**- 14**
Cumulative budget balance after SIG adjustments	**- 118**	**- 0**	**- 118**	**- 47**	**- 165**
Accounting reconciliation					
PPE and intangible assets: gross value less depreciation	6 965	- 84	6 881	226	7 107
PPE: adjustments and changes in accounting methods	1 180	-	1 180		1 180
Capital repayments (loans)	- 346	25	- 321	26	- 295
Capital repayments (SIG)	- 12	-	- 12		- 12
Personnel: paid leave and CA22	- 50	17	- 33	17	- 16
Post employment benefits (actuarial gains and losses)	- 7 719	435	- 7 285	307	- 6 978
Post employment benefits (employer cost)	- 438	- 137	- 575	- 55	- 630
Provision: elimination of waste	- 112	36	- 76	- 9	- 85
Others	27	1	28		28
Net assets	**- 626**	**294**	**- 330**	**466**	**136**

* *Variation*

7.10. LONG-TERM DEBTS

This heading includes amounts not expected to be settled within 12 months of the reporting date:

kCHF	As at 31.12.2017	As at 31.12.2016
BNP FORTIS	222 687	248 359
FIPOI	32 474	33 580
Total	**255 161**	**281 939**

7.10.1. BNP FORTIS

As approved by the Council in June 2006[2], a loan of an initial amount of 462.9 MCHF was taken out with FORTIS Bank for the purpose of repaying the Organization's debt to the Pension Fund. As at 31 December 2017, the outstanding debt is 248.4 MCHF (273.2 MCHF in 2016). The loan is expected to be fully repaid by 2026.

kCHF	Less than 12 months	More than 12 months	Total
Capital	25 672	222 687	248 359
Total	**25 672**	**222 687**	**248 359**

7.10.2. FIPOI

FIPOI (Fondation des Immeubles pour les Organisations Internationales) has provided CERN with three loans for the construction of buildings. No interest is charged on the loans in line with the financial conditions announced by the Federal Department of Foreign Affairs in 1996. The initial loans amounted to a total of 53.2 MCHF. As at 31 December 2017, the outstanding debt is 33.6 MCHF (34.7 MCHF in 2016). The loans are expected to be fully repaid by 2035, 2047, and 2060 respectively.

kCHF	Less than 12 months	More than 12 months	Total
Capital FIPOI 1 - buildings 32 & 33	210	3 577	3 787
Capital FIPOI 2 - building 40	669	19 406	20 075
Capital FIPOI 3 - building 42	226	9 492	9 718
Total	**1 106**	**32 474**	**33 580**

[2] CERN/FC/5051-CERN/2676

7.11. CHIS FUND

In December 2007, the Council approved the establishment of a fund for the CERN Health Insurance Scheme (CERN/FC/5209-CERN/2759).

A) The amount shown in the assets of the Statement of Financial Position can be broken down as follows:

kCHF	As at 31.12.2017	As at 31.12.2016
Shares and bonds	199 728	176 590
Deposits and bank accounts	43 666	38 788
CHIS contractor	1 376	1 754
Withholding tax	862	261
Total	**245 632**	**217 393**

B) In order to provide more detail regarding the CHIS fund, the following table breaks the fund down into the health insurance scheme (HIS) and the long-term care (LTC) fund.

kCHF	As at 31.12.2017	As at 31.12.2016
CHIS Fund - HIS	134 726	111 938
CHIS Fund - LTC	50 071	44 374
Sub-total uncommitted Plan assets	**184 797**	**156 312**
Accrued benefits on LTC allowances - long-term	33 590	32 172
Subtotal Long-term liabilities	**218 387**	**188 484**
Accrued benefits on HIS repayments - short-term	19 374	20 395
Accrued benefits on LTC allowances - short-term	7 871	8 514
Subtotal Short-term liabilities	**27 245**	**28 909**
Total	**245 632**	**217 393**

The change in the CHIS fund's balance is the result of HIS and LTC movements throughout the year, a breakdown of which is shown in the following table.

HEALTH INSURANCE SCHEME (HIS)	kCHF
Position as at 31.12.2016	**132 333**
Ordinary contributions	95 240
Health benefits paid	- 79 345
Contractor fees and overheads	- 1 809
Financial gain on financial assets	7 681
Position as at 31.12.2017	**154 100**
LONG-TERM CARE (LTC) FUND	**kCHF**
Position as at 31.12.2016	**85 060**
Ordinary contributions	9 442
LTC benefits paid	- 7 474
Contractor fees and overheads	- 65
Financial gain on financial assets	4 569
Position as at 31.12.2017	**91 532**
Total	**245 632**

The financial performance in 2017 of the funds invested with UBS and J. SAFRA SARASIN banks amounted to 12.3 MCHF (-0.3 MCHF in 2016). This performance is based on a valuation of the portfolio at market prices as at 31 December 2017. The average yield is 6.06% in 2017 compared to -0.15% in 2016.

7.12. POST-EMPLOYMENT BENEFITS

The post-employment benefits correspond to the estimated actuarial liability of the defined-benefit pension scheme and the post-employment health care benefits for employed and retired members of the CERN personnel provided by the CERN Health Insurance Scheme (CHIS) as at the reporting date. By nature these net obligations are uncertain in both amount and timing.

kCHF	As at 31.12.2017	As at 31.12.2016
Pension benefits		
Future benefits obligation	9 321 323	9 280 200
Plan assets *	-3 869 307	-3 706 272
Net pension benefits liabilities	**5 452 016**	**5 573 928**
CHIS benefits		
Future benefits obligation	2 338 770	2 440 494
Plan assets	- 184 797	- 156 312
Net CHIS benefits liabilities	**2 153 973**	**2 284 182**
Total	**7 605 989**	**7 858 110**

** Based on the amount of the net assets provided by the Pension Fund on 1 March 2018*

The principle underlying the requirements of IPSAS 25 is to recognise the cost of providing employee benefits in the period in which the benefit is earned by the employee, rather than when it is paid or payable. The related liability recognised in the Statement of Financial Position is equal to the net total of:

- the present value of the defined-benefit obligation (the present value of expected future payments required to settle the obligation resulting from employee service in the current and prior periods);
- plus/minus any deferred actuarial gains/losses minus any deferred past service costs;
- minus the fair value of any plan assets at the reporting date.

The estimate of post-employment benefits according to IPSAS 25, and as accounted for in these financial statements, can be characterised as having a focus on the existing liability and the current period charges at the reporting date. The objective is not to assess the future funding of the liability, only to show that there is a liability to be funded. The calculation of the probable future cost of benefits already earned therefore includes a salary evolution assumption, but does not reflect expected future financing and contributions to the schemes.

By contrast, the approach used by CERN to assess the funding level has the objective of showing whether the long-term equilibrium of the scheme in question will be reached. Under this approach, the review is done on an open-fund basis, taking into account any remedial measures and all expected future contributions to each of the schemes.

The CERN Pension Fund holds the retirement benefits for both CERN and ESO members and beneficiaries, and the plan assets deducted from the pension benefit obligation have been calculated by the Pension Fund's independent actuary on a pro rata basis according to the

employers' obligations and based on the net asset amount reported by the Pension Fund on 1 March 2018.

The plan assets deducted from the CHIS benefit obligations consist of 184.8 MCHF (156.3 MCHF in 2016). Refer to note 7.11.B regarding the CHIS fund.

A) Changes in the present value of future post-employment benefit obligations for 2017

		As at 31.12.2017		
MCHF	Comment	Pension benefits	CHIS benefits	Total
Net liabilities as at 31.12.2016		**5 574**	**2 284**	**7 858**
Actuarial defined benefit costs	i			
Current service cost		207	36	243
Interest cost		125	33	158
Expected return on plan assets		- 176	- 8	- 185
Employer contributions	ii	- 99	- 62	- 162
Subtotal net post employment expenses		56	- 2	54
Actuarial variations	iii	- 178	- 129	- 307
Total of the annual variation		**- 66**	**- 131**	**- 198**
Net liabilities as at 31.12.2017		**5 508**	**2 153**	**7 660**

i) Defined-benefit costs are the estimated cost for the year calculated according to the actuarial assessment made at the end of the previous year. Current service cost is the increase in the present value of the defined-benefit obligation resulting from employee service in the current period. Interest cost is the increase during the period in the present value of the defined-benefit obligation that arises because the benefits are one period closer to settlement. Expected return on plan assets reflects changes in the fair value of plan assets held during the period, and is based on market expectations at the beginning of the period for returns over the entire life of the related obligation.

ii) Employer contributions are the regular contributions made by CERN for active members as part of the payroll calculations. This line does not include the exceptional Pension Fund recapitalisation payment of 60 MCHF.

iii) The actuarial variations are attributable to changes in the actuarial assumptions and to experience adjustments, which take account of what has actually occurred compared to the assumptions.

B) Actuarial assumptions

The actuarial assumptions that are used to calculate the net defined-benefit obligations reflect the best estimates of the Management, in consultation with the actuaries and other independent professional advisers. The main actuarial assumptions (expressed as weighted averages) used at 31 December 2017 were as follows:

	As at 31.12.2017		As at 31.12.2016	
	Pension benefits	**CHIS benefits**	**Pension benefits**	**CHIS benefits**
Discount rate	1.38%	1.38%	1.37%	1.37%
Future salary increase	2.88%	2.88%	2.87%	2.87%
Future pension increase	1.38%	1.38%	1.37%	1.37%
Future health cost increase		3.00%		3.00%
Future LTC cost increase		1.38%		1.37%
Return on plan assets	4.85%	3.50%	4.82%	3.50%
% of award of indefinite contracts	50%	50%	50%	50%
Demographic tables	83% VZ2010 GEN	83% VZ2010 GEN	83% VZ2010 GEN	83% VZ2010 GEN

According to IPSAS 25, financial assumptions shall be based on market expectations, at the reporting date, for the period over which the obligations are to be settled. The rate used to discount post-employment benefit obligations shall reflect the time value of money, and the currency and term of the rate shall be consistent with the currency and estimated term of the liabilities.

For CERN, the reference rate for the time value of money is the interest rate on the long-term Swiss Confederation bonds. However, to address the issue of volatility noted by the External Auditors in 2015 and to arrive at the best approximation of the time value of money, CERN applies the principle that the discount rate should never fall below the best estimate of future inflation. At 31 December 2017, the 30-year Swiss Confederation bond interest rate was 0.36%. Since this is below the Pension Fund's external risk adviser's best estimate of the average long-term inflation rate, compounded to be 1.38% per annum at 31 December 2017, the discount rate used is 1.38%.

Where relevant, other actuarial assumptions used in the calculation of the post-employment benefit obligations are aligned with the assumptions used in the periodic actuarial review performed by the Pension Fund every three years. However, since the actuarial calculation for the IPSAS-compliant financial statements has a different objective to those of the periodic actuarial review, it is not appropriate to adopt all the assumptions used in the latter.

C) Sensitivity of the discount rate

Given the sensitivity of post-employment benefit liabilities to the discount rate, and given that this parameter inevitably changes from one year to the next,, it can be difficult to compare the present value from year to year. As shown in the table below, an increase or decrease of half a percentage point in the assumed discount rate results in a significant change in the present values of pension benefits and health insurance obligations.

	As at 31.12.2017	
	Pension benefit obligations	**CHIS benefit obligations**
Present value of future benefits obligation (in MCHF)	9 321	2 339
Effect if increase of +0.5% point in discount rate (in MCHF)	- 854	- 263
Effect if increase of +0.5% point in discount rate (in %)	-9.2%	-11.2%

D) Evolution of the net liabilities over the past three years

MCHF	as at 31.12.2015	Var. 2016	as at 31.12.2016	Var. 2017	as at 31.12.2017
Net liabilities - Pension benefits	**5 537**	**37**	**5 574**	**- 122**	**5 452**
Discount rate used in the actuarial assumptions	1.35%		1.37%		1.38%
Various experience adjustments		- 18		- 178	
Total - Actuarial variations		**- 18**		**- 178**	
Employer cost		**55**		**56**	
Net liabilities - CHIS benefits	**2 619**	**- 335**	**2 284**	**- 130**	**2 154**
Discount rate used in the actuarial assumptions	1.35%		1.37%		1.38%
Impact of the change in the discount rate		- 15		- 6	
Impact of the change in LTC assumptions		- 348			
Various experience adjustments		- 54		- 122	
Total - Actuarial variations		**- 417**		**- 128**	
Employer cost		**82**		**- 2**	

In summary, for 2017:

- for the pension benefits, the net defined-benefit obligation has decreased slightly compared to 2016. This is mainly due to experience gains on the actuarial calculations.
- for CHIS benefits, the net defined-benefit obligation has decreased slightly compared to 2016. This is also mainly due to experience gains on the actuarial calculations.

Note that the actuarial gains for the CHIS benefits include a small impact for the change in the discount rate, whereas there is no such impact in the actuarial gains for the pension benefits. This is simply due to a difference in treatment of the discount rate by the actuaries: the actuary for the CHIS benefits uses the weighted average inflation assumption of 1.38% p.a. whereas the actuary for the pension benefits uses the underlying detail of the weighted average, i.e. 1.0% p.a. from 2017 to 2024 and 1.5%p.a. from 2025 onwards.

E) Pension Fund

Since 2008, the Pension Fund Governing Board has used a set of assumptions in line with the requirements of IAS 26 (Accounting and Reporting for Retirement Benefit Plans) for the financial statements of the Fund. The funding ratio under a second set of "best estimate" assumptions is included in an annex to the Pension Fund's financial statements for information purposes.

- The first set of assumptions follows the principles of IPSAS and IAS 26 (i.e. using the discount rate of 1.38%). At the end of 2017, the IPSAS-compliant funding ratio of the Pension Fund calculated according to this set of assumptions was 41.5%, compared to 39.9% at the end of 2016;

- The second set of assumptions reflects the "best estimate" actuarial assumptions. At the end of 2017, the funding ratio of the Pension Fund calculated according to this set of assumptions was 75.9%, compared to 72.5% at the end of 2016.

7.13. OTHER PROVISIONS

7.13.1. PROVISIONS RECOGNISED IN 2017

These provisions cover obligations whose amount and timing are uncertain.

kCHF	Comments	As at 31.12.2017	As at 31.12.2016
Radioactive waste management	A	84 520	75 693
Paid leave - long-term portion	B	78 710	79 206
Obligations under special contributions	C	-	374
Total		**163 230**	**155 273**

A) Radioactive waste management

The disposal costs for radioactive waste from CERN's facilities are assessed annually in the framework of the evaluation of CERN's financial commitments.

The tripartite agreement on radiation safety and radiation protection (hereinafter "tripartite agreement"), signed on 15th November 2010[3] by CERN and its Host States France and Switzerland, stipulates that CERN's radioactive waste is disposed of via the different elimination pathways available in the two Host States in accordance with their applicable legislation. The tripartite agreement further stipulates that CERN's radioactive waste should be equally divided between the two Host States, taking into account quantity, toxicity and total activity of the waste, as well as the disposal cost.

The cost estimate for the disposal of radioactive waste from CERN's facilities is based on an inventory indicating the amount and radiotoxicity of the waste already temporarily stored at CERN and the future waste, that is forecasted to be produced by preventive and corrective maintenance or by the upgrade of CERN's facilities or experiments. As from 2013, the estimate of future waste is based on declarations by the different CERN groups concerned, which provide estimates to the best of their knowledge, and a forecast of waste production over the next 20 years. The inventory of stored waste, the waste classification and the waste forecast are regularly updated taking into account lessons learned.

It has to be noted that the inventory on future waste does not include an estimate of waste produced in the event of the decommissioning of CERN's facilities and experiments. The estimated costs for disposal do not include the cost of the tools and human resources needed for determining the radiological characterisation of the waste or for the handling and conditioning of the waste at CERN. A discount rate of 1% until 2024 and 1.5% thereafter has been applied to the estimated future waste elimination costs to arrive at the present value of the provision.

The method for calculating the estimated disposal cost was modified in 2016, to include a reviewed waste classification between "Clearance from regulatory control" (CL), "Very low level waste" (TFA) and "Low and intermediate level waste" (FMA), and a first global elimination planning for the stored and forecast radioactive waste to be produced over the next 20 years. This method is still valid.

The disposal repositories define the acceptance criteria per waste classification and the associated costs. The disposal cost per cubic meter of very low level waste (TFA) and low and intermediate level waste (FMA) in Switzerland increased as from 1st January 2018 from 103 kCHF to 118 kCHF due to the revised Swiss Ordinance on Radiation Protection (ORaP[4]) coming into force and the corresponding revised Swiss fees ordinance (OERaP[5]).

[3] Agreement between France, Switzerland and CERN relating to the protection against ionising radiation and the radiation safety of the Organization's facilities

[4] Swiss Ordinance on Radiation Protection

[5] Swiss fees ordinance

The planning is based on the experience gathered in the waste disposal campaigns performed in the last years (between 2011 and 2017). The essential factors are the ramping-up of elimination pathways (in particular development and validation of agreements with the host state repositories) and the commissioning and operation of the radioactive waste treatment centre.

The disposal costs for radioactive waste on 31 December 2017 are estimated to be 84.5 MCHF (75.7 MCHF in 2016). This represents an increase in the provision to the previous year of 8.8 MCHF (decrease of 36.3 MCHF in 2016).

B) Paid leave – long-term portion

At 31 December 2017, the total provision for paid leave amounts to 123.3 MCHF (123.7 MCHF in 2016). The current portion of the provision is recorded under the heading "Employee benefits" (refer to note 7.15.3), and the long-term portion of the provision at 31 December 2017 amounts to 78.7 MCHF (79.2 MCHF in 2016).

C) Obligations under special contributions

No obligations exist at the end of 2017 relating to special contributions from Member States. The obligation of 0.4 MCHF from 2016 for Hungary's special contribution to CERN was extinguished in the year through allocations to collaborations for upgrades.

7.13.2. ITEMS NOT RECOGNISED IN FINANCIAL STATEMENTS

A) Dismantling

The applicable texts (in particular CERN's founding Convention and the pertinent agreements with Switzerland and France) do not stipulate an obligation for CERN to dismantle its installations at the end of their operating periods.

In the absence of an obligation to dismantle and given that the fate and state of the installations at the end of their operating periods are not foreseeable at present, no provisions for dismantling are included in the financial statements.

If CERN were to dismantle its installations, such operations would have to be carried out in accordance with the applicable legal framework and would involve costs that cannot be determined today.

B) Litigations and claims

There were no new claims relating to procurement in 2017. In the financial statements of 2016, the following open claims were mentioned, the first one having been resolved in 2017.

- Following the discovery by CERN, within the defects liability period, of a number of non-conformities in waterproofing, drainage and intumescent painting in the

construction work in Building 107, CERN has notified the contractor of its obligation to remedy the non-conformities. The current estimate of the cost of remedial works is 1.44 MEUR and CERN has commissioned remedial works with various local contractors. A settlement agreement has been concluded in 2017, pursuant to which Renco has agreed to pay to CERN an amount of 0.8 MEUR. CERN has received such payment on 16 January 2018. This concludes the matter.

- The report on litigation and claims relating to procurement in 2015 mentioned a technical dispute with a contractor who had installed capacitors at CERN. During the warranty period, CERN alleged a non-conformity in the design of the capacitors. Subsequently, in April 2016, a short circuit in a capacitor led to the loss of an entire capacitor bank. The non-conformity reported to the contractor was confirmed by a third-party expert in November 2016. CERN has submitted a claim to the contractor in an amount of 2.7 MEUR. However, the contractor maintains that the short-circuit is the result, not of the non-conformity invoked by CERN on the basis of the third-party expertise, but of another non-conformity, which had not been identified by CERN during the warranty period. Further technical investigation is required in order to reassess CERN's position.

- In May 2016, CERN, alongside a number of other defendants, received a summons to appear before the Tribunal de grande instance of Paris concerning a claim in the amount of 0.7 MEUR. The claimant is a French firm that has contributed to the preparation of an application for an EU grant for a cultural event on the theme of particle physics. CERN has informed the court of its particular international legal status, on the basis of which it enjoys immunity from court jurisdiction in France and its disputes are decided through arbitration. As far as substantive aspects of the case are concerned, CERN disposes of a number of solid arguments in defence of its position that the claim should be held unfounded, and it will invoke these should the claimant decide to initiate arbitration proceedings. The court proceedings are ongoing. CERN anticipates that the court's decisions will reflect CERN's immunity from jurisdiction.

A number of claims related to human resources are on-going, both internal and before the ILOAT (International Labour Organisation Administrative Tribunal). Nothing is recognised in the financial accounts as in the opinion of the Organization it is not clear it has a present obligation in any of the cases. The following issue is included in these on-going claims.

- At the date of signing the financial statements, fourteen internal appeals (from an initial eighteen, four having been withdrawn) exist against the decision taken by the Council to modify the career structure and salary grid as a result of the 2015 five-yearly review of financial and social conditions, and the corresponding individual notifications to staff members regarding their positions under the new structure. The outcome of these appeals is expected during the second quarter of 2018. The Organization's position is well substantiated. Should CERN prevail internally, it can be anticipated that at least

some of the litigants will pursue their claims before the ILOAT. In view of the time required to complete all pleadings, no decision of the Tribunal can be anticipated before 2019 at the earliest.

7.14. SHORT-TERM DEBT AND BANK OVERDRAFT

As mentioned under “Long-term debts”, the amounts due next year are included under this heading, along with short-term borrowing from banks.

kCHF	As at 31.12.2017	As at 31.12.2016
BNP FORTIS - to be reimbursed within 1 year	25 672	24 823
FIPOI - to be reimbursed within 1 year	1 106	1 106
Total	**26 778**	**25 929**

CERN has credit lines with various financial establishments. These do not generate any financial cost on top of the interest incurred when used. No credit lines were being used by CERN at the end of 2017.

7.15. PAYABLES

7.15.1. TRADE ACCOUNTS

This subheading represents outstanding invoices and accrued material expenses payable to suppliers. At 31 December 2017, the balance of trade payables is 84.8 MCHF (71.0 MCHF in 2016).

7.15.2. TEAMS AND COLLABORATIONS

This represents the advances received from teams and collaborations and other funds. The majority concern collaborations, most notably the LHC experiments:

- ATLAS (A Toroidal LHC Apparatus);
- CMS (Compact Muon Solenoid);
- ALICE (A Large Ion Collider Experiment);
- LHCb (LHC beauty).

The balances as at 31 December 2017 are shown in the table below:

kCHF	As at 31.12.2017	As at 31.12.2016
ATLAS	69 112	64 340
CMS	40 899	37 880
ALICE	17 620	15 978
LHCb	19 659	18 302
Other collaborations	10 357	8 922
Teams and special funds	42 729	51 933
Total	**200 376**	**197 355**

7.15.3. EMPLOYEE BENEFITS

7.15.3.1. Employee benefits recognised in the financial statements

A) The amount shown in the Statement of Financial Position under this subheading can be broken down as follows:

kCHF	As at 31.12.2017	As at 31.12.2016
Accruals		
Paid leave	44 616	44 496
Shift work compensation	8 027	9 054
Paid leave for long service	9 393	9 557
Termination allowances	5 213	4 893
Other payables	73	6
Total	**67 322**	**68 006**

At 31 December 2017, the total provision for paid leave amounts to 123.3 MCHF (123.7 MCHF in 2016). The figure in the table above is the current portion of the provision, expected to be used within 12 months. The remaining long-term portion of paid leave is given under the heading “Provisions – others” (refer to note 7.13B).

B) The principal assumptions used for calculating the present value of special leave for long service, shift work compensation and termination allowances were as follows:

	As at 31.12.2017			As at 31.12.2016		
	Long service	Shift work compensation	Termination allowance	Long service	Shift work compensation	Termination allowance
Discount rate	1.15% * 10 years	1.00% * 5 years	1.00% * 2 years	1.10 % * 10 years	1.00 % * 5 years	1.00 % * 2 years
Future salary increase	2.88%	2.88%	2.88%	2.87%	2.87%	2.87%
% of award of indefinite contracts	50.00%	NA	50.00%	50.00%	NA	50.00%

* From 2015, for the accounting estimate of the discount rate on employee benefits, CERN has adopted the principle that the relevant discount rate should never fall below the best estimate of future inflation over the similar period, consistent with the principle adopted for the post-employment benefits. The relevant Swiss Confederation bond interest rates are -0.76% for two years, -0.52% for five years, and -0.10% for ten years, and therefore the best estimate of future inflation has been used as the discount rate.

7.15.3.2. Other employee benefits not recognised in the financial statements

Reinstallation indemnities

As provided for in the Staff Rules and Regulations, reinstallation indemnities may be paid under certain conditions to non-resident staff within the 30 months following the termination of their contract. At the reporting date, the corresponding contingent liability towards the members of personnel amounted to 6.8 MCHF (7.6 MCHF in 2016).

7.16. DEFERRED REVENUE

The amount shown in the Statement of Financial Position under this heading can be broken down as follows:

kCHF	Comments	As at 31.12.2017	As at 31.12.2016
2018 contributions paid in advance - within 1 year	**A**	10 533	14 221
EU projects	**B**	14 710	5 772
Other revenues in advance	**C**	7 374	6 863
Total		**32 617**	**26 856**

A) The detail of the 2018 contributions paid in advance is shown in the following table:

kCHF	As at 31.12.2017
Bulgaria	655
Germany*	1
Greece*	60
Hungary	4 744
Israel	5 065
Portugal*	7
Total 2018 contributions paid in advance	**10 533**

** Advance is the result of a foreign exchange gain on 2017 payments.*

B) Following an agreement concluded with the EU in the context of the European Commission's Seventh Framework Programme in 2008 and Horizon 2020, CERN received advances for a large number of projects. These advances are either redistributed to other parties when CERN is project coordinator or retained to cover CERN's expenditure. In 2017, 15.9 MCHF was used (compared to 17.6 MCHF in

2016) and was transferred to revenue. A balance of 14.7 MCHF (5.8 MCHF) remains as a liability until the projects advance.

C) The subheading “Other revenue in advance” mainly concerns amounts received of various projects awaiting recognition as revenue according to the stage of completion of contracts.

7.17. OTHER LIABILITIES - MEMBER STATES

The amount shown in the Statement of Financial Position under this subheading corresponds to contributions from Member States to the ppbar improvement project, which was presented to, and approved by, the Council in December 1983.The financing procedures for the project were in part based on loans received from Member States.

As recommended by the previous External Auditors, the Management sent a letter to the Member States concerned in March 2013 in order to find a mutually acceptable solution to settle the outstanding amounts. At the end of 2017, the outstanding balance of 2.3 MCHF relates to Switzerland (2.3 MCHF in 2016).

7.18. OTHER CURRENT LIABILITIES

This heading amounts to 2.0 MCHF as at 31 December 2017 (2.1 MCHF in 2016) and includes the balance of advance payments from various companies, CERN schools and social activities.

7.19. MEMBER STATES CONTRIBUTIONS

The details of the annual contributions from Member States and Associate Member States for the current financial year are shown in the following table:

kCHF	2017	2016
Member States' contributions		
Austria	24 250	24 381
Belgium	30 964	30 416
Bulgaria	3 284	3 238
Czech Republic	10 495	10 881
Denmark	19 845	19 434
Finland	15 085	15 134
France	160 369	162 001
Germany	228 895	227 507
Greece	13 454	14 612
Hungary	6 747	6 741
Israel	16 699	15 729
Italy	118 976	122 445
Netherlands	53 437	52 603
Norway	32 441	32 209
Poland	31 593	31 110
Portugal	12 474	12 681
Romania	11 125	5 456
Slovakia	5 416	5 412
Spain	80 812	84 421
Sweden	30 620	30 798
Switzerland	43 859	44 646
United Kingdom	169 061	162 376
Subtotal Member States' contributions	**1 119 900**	**1 114 232**
Associate Member States in pre-stage to Membership contributions		
Cyprus	1 000	-
Romania	-	4 774
Serbia	1 936	-
Slovenia	500	-
Subtotal Associate Member States in pre-stage to Membership contributions	**3 436**	**4 774**
Associate Member States' contributions		
Cyprus	-	750
India	11 589	-
Pakistan	1 478	1 350
Serbia	-	1 317
Turkey	4 770	4 752
Ukraine	1 007	270
Subtotal Associate Member States' contributions	**18 844**	**8 439**
Czech Republic	-	602
Subtotal Special Contributions from Member States	**-**	**602**
Total	**1 142 179**	**1 128 047**

7.20. EU CONTRIBUTIONS

Following the agreement between the EU and CERN in the context of the European Commission's Seventh Framework Programme and Horizon 2020, an amount of 15.9 MCHF (compared to 17.6 MCHF in 2016) was used to cover expenses in 2017. The corresponding EU projects were:

	kCHF	
Project Name	**2017**	**2016**
MARIE CURIE Actions	8 634	10 276
HNSciCloud	999	297
QUACO	943	75
Tical	493	530
HICCUP	441	325
THOR	428	288
AIDA2020	392	383
MATHAM	314	31
BetaDropMNR	310	305
EUDAT 2020	300	207
BRIGHTNESS	259	188
NEONAT	258	216
Others	2 123	4 506
Total	**15 893**	**17 628**

7.21. OTHER REVENUE

The amount shown under this heading can be broken down as follows.

The subtotal “Other in-kind contributions” represents the estimate of advantages granted to the Organization. These in-kind revenues have their counterpart within “Material Expenses”, with the exception of in-kind revenues relating to PPE.

kCHF	2017	2016
Revenues in-kind on PPE relating to detectors	23 041	-
Revenues in-kind on PPE other than detectors	7 192	5 233
Interest benefit from interest-free loan	1 803	1 863
Computing: material and training	13	288
Subtotal of other in-kind contributions	**32 049**	**7 384**
Activities recharged to team accounts*	18 423	15 878
Personnel paid through team accounts	12 023	11 783
Revenue from the housing activity	6 051	5 956
Revenue for HIE-ISOLDE, IdeaLab, FAIR, SH.NEUTRINOS	3 191	7 504
OpenLab revenues	2 190	2 302
Knowledge transfer	1 660	1 940
Personnel on detachment	945	921
Sales and miscellaneous	16 885	16 434
Subtotal of others	**61 367**	**62 717**
Total	**93 416**	**70 101**

* *New presentation in 2017 to show revenues and material expenses separately. Details appear in note 7.1.1.*

7.22. MATERIAL EXPENSES

Details of materials expenses and the reconciliation to the budget expenses are shown in the following tables:

kCHF	2017	2016*
Goods, consumables, equipment and supplies	**87 850**	**80 744**
Civil engineering and buildings	7 476	9 231
Electronics and electrical engineering	15 042	15 233
Gases and chemicals	5 376	5 284
Health, safety and environment	2 115	4 360
Information technology	18 921	14 769
Low temperature	3 770	813
Magnets	812	1 406
Measure instruments	2 343	1 732
Mechanical engineering and raw materials	17 679	15 411
Office supply and equipment	1 281	3 581
Optics and photonics	756	1 234
Other supplies	3 385	54
Particle and photon detectors	695	1 056
Radiation equipment	158	674
Transport, handling and vehicles	1 605	2 202
Vacuum and particle detection equipment / supplies	7 109	3 684
Stock variations	- 674	20
Electricity, heating gas and water	**58 259**	**59 714**
Industrial services	**87 590**	**74 599**
Service contracts	60 559	51 963
Repair and maintenance	21 574	17 783
Temporary labour	5 457	4 852
Associated members of personnel	**35 752**	**28 691**
Other overheads	**45 141**	**45 739**
CERN Contributions	4 910	7 550
Communication	1 535	826
Consultants	4 422	4 707
Duty and hospitality	11 010	9 127
Insurance	4 732	5 104
Library	7 041	8 492
Other overheads	1 311	670
Rental	1 545	2 142
Training	3 565	3 740
Transport	2 605	1 807
Visits and conferences	2 465	1 575
Total	**314 593**	**289 487**

* *2016 figures reclassified to follow same presentation as 2017. Details appear in note 7.1.1.*

The materials expenses charged to the budget for 2017 and shown in note 8.2 amounted to 550.0 MCHF (486.5 MCHF in 2016). They can be reconciled with the above as follows:

MCHF	2017	2016
Materials budget expenses	**550.0**	**486.5**
Expenses on materials transfered to PPE and Intangible assets*	-235.4	-212.9
Materials expenses	**314.6**	**273.6**

** includes 5.4 MCHF in kinds included in the materials budget*

7.23. PERSONNEL EXPENSES

The details of personnel expenses and the reconciliation to the budget expenses are shown in the following table:

kCHF	2017	2016
Remuneration	**294 656**	**285 382**
Staff members	250 750	245 923
Fellows	43 686	39 196
Apprentices	220	263
Social and family benefits	**58 115**	**59 298**
Staff members	55 120	56 292
Fellows	2 995	3 006
Social insurance cover	**102 052**	**102 671**
Pension	**80 368**	**80 348**
Staff members	69 722	70 882
Fellows	10 646	9 465
Health Insurance	**21 684**	**22 323**
Staff members	20 535	20 742
Fellows	1 036	1 422
Apprentices	113	159
Annual variation - paid leave	**- 2 652**	**- 823**
Staff members	- 2 678	- 896
Fellows	26	73
Post-employment benefits	**84 319**	**166 778**
Contribution to health insurance for pensioners	26 946	27 016
Contribution to long-term care for pensioners	2 796	2 803
Changes in provision for the Pension Fund	56 217	55 052
Changes in provision for the Health Insurance Scheme	- 1 640	81 906
Internal taxation	**33 418**	**31 451**
Total	**569 908**	**644 756**

The Personnel expenses charged to the budget for 2017 and shown in note 8.3 amounted to 671.8 MCHF (647.2 MCHF in 2016). They can be reconciled with the above as follows:

MCHF	2017	2016
Personnel budget expenses	**671.8**	**647.2**
Personnel expenses transfered to PPE and intangible assets	-139.2	-122.1
Net employer costs - pension benefits *	56.2	55.1
Net employer costs - HIS benefits *	-1.6	81.9
Amortisation of staff benefits accruals	-17.3	-17.3
Personnel expenses	**569.9**	**644.8**

* refer to note 7.12 d

7.24. FINANCIAL REVENUE AND EXPENSES

The details of financial revenue and expenses are shown in the following table:

kCHF	2017	2016
Financial revenue		
Interest	665	1 082
Exchange gain (net)	11 131	-
Total	**11 796**	**1 082**
Financial expenses		
Interest on FORTIS loan	9 052	9 873
Imputed interest for interest-free loans	1 803	1 863
Financial expenses on establishment of investments	14	77
Exchange loss (net)	-	2 044
Total	**10 869**	**13 857**

Exchange gains and losses are the result of the revaluation of all monetary items denominated in a foreign currency at the rates of exchange applicable on the last working day of the year, and at the end of each month during the year. The resulting net gains and losses, including those relating to foreign-currency transactions during the financial year, are recorded as financial revenue or charges in the year.

The interest and financial costs charged to the budget for 2017 and shown in note 8.4 amounted to 10.9 MCHF (13.9 MCHF in 2016).

7.25. MANAGEMENT OF FINANCIAL RISKS

Risk management policies depend on the type of financial instruments concerned. Risk management relating to CERN's operating financial assets and financial liabilities is distinct from that for the CHIS portfolio. The following description of the policies and processes for managing and measuring the financial risks reflects the split of management responsibility for these two groups of assets and liabilities. A more general description of CERN's accounting policies on financial instruments, including a definition of financial instruments, is provided in note 7.1.

Financial instruments held by CERN

As disclosed in note 7.26, CERN holds a variety of financial instruments. The main risks arising from CERN's financial instruments are liquidity risk, interest rate risk, currency risk and credit risk. The senior management approves the investment instruments, policies and strategy for managing these assets and their associated risks.

Financial instruments held by the CHIS

Details of financial instruments of the CHIS also appear in note 7.26. The main risks arising from the financial instruments of the CHIS are market risk, interest rate risk and credit risk. Two banks have been appointed to manage the portfolio of the CHIS. They actively manage the assets following a predefined strategic allocation with maximum assets at risk to preserve the value of assets of the CHIS.

7.25.1. LIQUIDITY RISK

Liquidity risk is the risk of not being able to meet obligations that are settled by delivering cash (or another financial asset) as they fall due.

CERN's activities are mainly financed by the annual contributions of the Member States. The annual budget is approved by Member States and the amounts of the contributions for the year are determined based on the corresponding budget. Therefore liquidity risk is increased if the cash inflows and cash outflows are mismatched, namely if Member State contributions are not received in a timely manner.

CERN's Treasury section addresses liquidity risk by monitoring bank balances and estimating expected cash outflows based on open commitments and due dates for financial liabilities. They also monitor Member State contributions, the most significant source of cash inflows to CERN. The Resource Planning and Control section monitors commitments and expenditures in order to ensure the budget is correctly executed and is not exceeded.

In the event that the contributions received are not sufficient to cover CERN's cash flow needs, CERN may, if necessary, take recourse to short-term loans with financial institutions to cover its exposure to liquidity risks. In the event of a cash surplus not needed to cover operational short-term expenses, CERN may invest the amounts concerned with the primary objective of preserving capital, and the secondary objectives of maximising returns and ensuring liquidity needs are met.

For a maturity analysis of the long-term debts held by CERN, please refer to note 7.10.

7.25.2. MARKET RISK

Market risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market prices. Market risk comprises three types of risk: currency risk, interest rate risk and other price risk.

For CERN's financial instruments, the Treasurer may have recourse to financial products to cover financial market risks such as variations in interest and exchange rates. The Organization uses hedging tools to manage its exposure to currency and interest rate risks incurred in the normal course of business. The goal of financial risk management is to minimise the impact of the unpredictable nature of financial market trends on CERN's financial position.

The financial assets held by the CHIS are exposed to market price risk. It is the responsibility of the two banks which manage the portfolio of CHIS to manage this risk through diversification and any other means they deem prudent in line with the mandate they have.

7.25.3. CREDIT RISK

Credit risk is the risk that one party to a financial instrument will cause a financial loss of the other party by failing to discharge an obligation.

For CERN's financial instruments, credit risk arises principally from the following financial instruments: all receivables, other financial assets and cash and cash equivalents. The carrying amount of these financial assets represents the maximum credit exposure. The maximum exposure to credit risk as at 31 December 2017 is therefore 276.5 MCHF (283.3 MCHF in 2016).

No other collateral is held as security by CERN.

Credit quality is the assessed risk of default attached to the counterparties with which CERN invests and deposits and to which CERN extends credit. CERN invests with only financial institutions that are top rated for holding cash and making investments in order to mitigate this risk.

CERN takes the following steps to protect itself from the risk of counterparty default:

- having recourse to top-rated financial institutions and setting a ceiling on the level of operations authorised with each counterparty;
- applying rules and procedures that define the conditions for opening and managing third-party accounts and limiting the amounts managed and the transactions authorised.

The financial assets of the CHIS exposed to credit risk are cash and investments held at banks. The carrying amount of these financial assets represents the maximum credit exposure. The maximum exposure to credit risk as at 31 December 2017 is therefore 245.6 MCHF (217.4 MCHF in 2016).

No collateral is held as security in the form of margin calls at 31 December 2017 by the CHIS (0 kCHF for 2016).

7.25.4. INTEREST RATE RISK

Interest rate risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market interest rates.

CERN's exposure to interest risk is limited to the interest-bearing financial instruments that it holds. This includes cash, other financial assets and long-term debts. CERN uses forward exchange contracts and options to hedge its variable interest risk. At 31 December 2017, CERN has no interest swaps in progress (0 in 2016).

The impact of a 10% increase/decrease in the average interest rates received/paid on the closing balances would result in a net loss/gain of 1.0 MCHF and a corresponding increase/decrease in the net asset value. Note that the calculation of this figure i includes interest-bearing long-term debts, but given that these have fixed interest rates, the associated interest risk is low.

The CHIS fund is exposed to interest risk on the cash and bonds that it holds. It is the responsibility of the two banks that manage the portfolio of the CHIS fund to manage this risk.

The impact of a 10% increase/decrease in the average interest rates received/paid on the closing balances would result in a net gain/loss of 0.3 MCHF and a corresponding increase/decrease in the net asset value.

7.25.5. CURRENCY RISK

Currency risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in exchange rates.

CERN is exposed to currency risk through its normal foreign-currency transactions and the translation of financial instruments denominated in currencies other than the Swiss franc. Exposure to the currency risk on transactions is due to the fact that the Member State contributions are received in CHF, while a significant percentage of CERN's expenditure is committed in EUR, and to a lesser extent in other currencies.

At 31 December 2017, the principal financial instruments denominated in foreign currencies held by CERN and translated into CHF were cash, receivables, other receivables and payables. The impact of a +/- 10% change in the exchange rates of the four significant foreign

currencies used at CERN on the closing balances would result in a gain/loss of 1.7 MCHF and a corresponding increase/decrease in the net asset value.

CERN uses natural hedges where possible, or, if these are not available, forward exchange contracts and options to hedge its foreign exchange risk. At 31 December 2017, CERN had no foreign exchange hedging instruments in progress.

The CHIS fund is exposed to currency risk through the translation of financial assets denominated in a foreign currency. At 31 December 2017, the financial assets denominated in foreign currencies were cash, bonds and shares. The impact of a +/- 10% change in the exchange rates on the closing balances would result in a gain/loss of 5.7 MCHF and a corresponding increase/decrease in the asset value.

7.26. FINANCIAL INSTRUMENTS

7.26.1. FINANCIAL INSTRUMENTS BY CATEGORY

The following table is a comparison by category of the carrying amounts and fair values of all of CERN's financial instruments carried in the financial statements.

	Carrying Value		Fair Value	
kCHF	As at 31.12.2017	As at 31.12.2016	As at 31.12.2017	As at 31.12.2016
CERN's financial instruments				
Cash and cash equivalents	141 783	154 615	141 783	154 615
Other financial assets	60 000	60 000	60 000	60 000
Financial assets measured at amortised cost				-
Receivables - Member States, taxes and teams	45 265	51 173	45 265	51 173
Other receivables	29 434	17 491	29 434	17 491
Total CERN financial assets	**276 483**	**283 279**	**276 483**	**283 279**
Short-term debt and bank overdraft	26 778	25 929	26 778	25 929
Financial liabilities measured at amortised cost				
Payables	285 185	269 213	285 185	269 213
Long-term debts	255 161	281 939	238 906	257 467
Member States	2 277	2 277	2 277	2 277
Total CERN financial liabilities	**569 401**	**579 358**	**553 146**	**554 886**

CHIS financial instruments				
Financial assets fair value through profit and loss				
Bonds	80 863	90 410	80 863	90 410
Shares	47 613	47 594	47 613	47 594
Funds	71 251	38 586	71 251	38 586
Derivatives used for trading	3 337	2 873	3 337	2 873
Subtotal financial assets fair value through profit and loss	203 065	179 463	203 065	179 463
Cash and cash equivalents	40 330	35 915	40 330	35 915
Other	2 238	2 015	2 238	2 015
Total CHIS financial assets	**245 632**	**217 393**	**245 632**	**217 393**
Financial liabilities measured at amortised cost				
Long-term liabilities - CHIS fund	218 387	188 484	206 655	178 669
Short-term liabilities - CHIS fund	27 245	28 909	27 245	28 909
Total CHIS financial liabilities	**245 632**	**217 393**	**233 900**	**207 578**

The fair value of the financial assets and liabilities are included at the amount at which the instrument could be exchanged in a current transaction between willing parties, other than in a forced sale or liquidation.

At 31 December 2017, no financial instruments at fair value through surplus or deficit were held directly by CERN. The fair values of the CHIS Fund's financial assets at fair value through surplus or deficit are measured based on quoted prices at the balance sheet date or at the last available price available to market participants. The carrying amounts and the fair value amounts do not differ.

For cash and cash equivalents, receivables, other financial assets, payables, short-term debt and bank overdrafts, the carrying amounts are not deemed to differ significantly from the fair value amounts, largely due to the expected short-term maturities of these instruments.

The long-term loans carried at amortised cost from Fortis and FIPOI are not traded on an active market. Their fair value as shown on the above table at the balance sheet date is calculated as the present value of the future cash flows discounted using the prevailing government interest rates for the approximate remaining period of each loan.

7.26.2. FAIR VALUE LEVELS

For valuation purposes, the financial assets at fair value through the surplus and deficit are classified under the following fair value levels:

- Level 1 – quoted prices (unadjusted) in active markets for identical assets or liabilities;
- Level 2 – inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly;
- Level 3 – inputs that are not based on observable market data.

At 31 December 2017, CERN did not hold any financial assets classified as fair value through surplus and deficit.

Based on the above fair value hierarchy, at 31 December 2017 all financial assets classified as fair value through surplus and deficit held by the CHIS were classified as Level 1.

7.26.3. GAINS AND LOSSES ON FINANCIAL INSTRUMENTS

The table below details gains and losses on financial instruments recorded in the year.

kCHF	For the year ended 31.12.2017	For the year ended 31.12.2016
CERN's financial instruments		
Financial assets fair value through profit and loss		
Net gains (losses) on assets at fair value through surplus or deficit	-	- 3
Interest income	665	1 082
Interest expense on long term debt	- 10 855	- 11 736
Net exchange gains/losses*	11 131	- 2 041
Fees and other costs	-	- 62
Sundry	- 14	- 15
Total	**927**	**- 12 775**

** Exchange gains/losses related to financial assets at fair value through surplus or deficit are netted against net gains (losses) on these assets in the table above.*

kCHF	For the year ended 31.12.2017	For the year ended 31.12.2016
CHIS financial instruments*		
Financial assets fair value through profit and loss		
Net gains (losses) on assets at fair value through surplus or deficit	12 920	310
Interest expense	- 92	- 56
Fees and other costs	- 578	- 597
Total	**12 250**	**- 343**

** do not appear in Statement of financial performance*

7.27. RECAPITALISATION OF THE PENSION FUND

As a result of the 2010 five-yearly review of employment conditions and the approval by the Council in December 2010[6] a package of measures designed to contribute to restoring full funding of the Pension Fund, CERN contributed an amount of 60 MCHF to the recapitalisation of the Pension Fund in 2017 (same amount as in 2016).

[6] CERN/FC/5498-CERN/2947

7.28. RELATED PARTY DISCLOSURES

Requirements of IPSAS 20 (Related Party Disclosures)

The standard requires the following disclosures:

The total amount of all other remuneration and compensation provided to key management personnel, and to close family members of key management personnel, by the reporting entity during the reporting period, showing separately the aggregate amounts provided to:

(i) key management personnel; and
(ii) close family members of key management personnel.

The standard defines close family members of key management personnel as close relatives of the individual or members of the individual's immediate family who can be expected to influence, or be influenced by, that individual in their dealings with the entity.

Key management personnel

The Organization is governed by the CERN Council, which is composed of delegates of all Member States. The latter do not receive remuneration from the Organization. The CERN Council is the highest authority of the Organization and, as such, appoints the Director-General to manage the Laboratory.

The Director-General is assisted by directors and key advisors, and runs the Laboratory through a structure of departments, each managed by a head of department. Together they represent CERN's key management personnel, and they are remunerated by the Organization.

The aggregate remuneration related to key management personnel and their close family members includes salaries, allowances, employer social contributions, benefits and other entitlements paid directly or indirectly in accordance with the Staff Rules and Regulations. Included in aggregate remuneration is therefore the average variation in unpaid leave that decreases when holidays are taken and increases when they are not, and is revalued each year based on current base salary.

	31.12.2017		31.12.2016	
	FTE	**Total (kCHF)**	**FTE**	**Total (kCHF)**
Directorate (Director-General and directors)	5	2 129	5	2 240
Head of departments	10	3 750	10	3 764
Key advisors	2	665	2	673
Total key management personnel	**17**	**6 544**	**17**	**6 677**

In addition, the Director-General receives the benefit of the use of a car and a driver. These represent an amount of 0.2 MCHF in 2017 (0.2 MCHF in 2016).

The key management personnel are ordinary members of the CERN Pension Fund and the CERN Health Insurance Scheme. Their total post-employment benefits (service costs) represent an amount of 2.6 MCHF in 2017 (2.5 MCHF in 2016).

Other related parties

Parties are considered to be related if one party has the ability to control the other party or exercise significant influence over the other party in making financial and operating decisions, or if an entity is deemed a related party and is subject to common control with another entity.

CERN contributes to a significant portion of the CERN Pension Fund's financing. While the CERN Pension Fund is an autonomous operating entity, for the purposes of IPSAS 20 disclosure requirements, it is considered to be a related party. CERN provided administrative support and office accommodations to the Pension Fund free of charge in 2017.

The Foundation for the Globe of Science and Innovation and the CERN & Society Foundation can also be considered to be related parties of CERN given that they share some key management personnel with CERN and CERN has significant influence on their financial and operating decisions. In 2017, CERN provided personnel, administrative support and office accommodations to these two foundations free of charge.

8. NOTES TO THE BUDGET ACTUAL AMOUNTS

As required by IPSAS 24 (Presentation of Budget Information in Financial Statements), section 8 of these notes compares the budgeted amounts and the actual amounts arising from the execution of the budget. Explanations of the reasons for material differences between the budget and the actual amounts are also provided.

The Finance Committee took note of the Final Budget for 2017[7], amounting to expenses of 1 203 MCHF at 2017 prices in December 2016. In this section of the Financial Statements, the variations of the out-turn with respect to this Final 2017 Budget are explained.

Over the course of the annual planning exercise, in the early part of 2017,the Management reviewed the spending profile for 2017 and, as a result, submitted a Revised Budget as part of the Medium-Term Plan[8] in June 2017. For this reason, the financial tables and figures in the Annual Progress Report[9] show both the Final Budget published at the end of 2016 and the Revised Budget.

Probable revenues and expenses for 2017 were then presented to the Finance Committee in December 2017 in the framework of the Final Budget for 2018[10].

The Organization's financial position at the end of 2017 shows a slight improvement compared to expectations, with a cumulative budget deficit of -165.1 MCHF, 11.6 MCHF lower than anticipated in the Final 2017 Budget. This is the result of the 2017 Budget out-turn balance of 11.6 MCHF higher than expected in the Final 2017 Budget, mainly due to slightly higher revenues.

The main reasons for the variation in revenues and expenses are explained below:

- The 2017 out-turn figure for the "Other revenues" line includes revenue received from teams and collaborations covering recharged materials expenses from the heading "Energy and water, insurance and postal charges, miscellaneous". This is shown separately for the first time in 2017, as agreed with the External Auditors.

- The "Other revenues" line includes financial revenues corresponding to the net gains resulting from currency exchange-rate fluctuations. These gains are mainly due to unrealised differences of the exchange rate of foreign exchange holdings (mainly EUR) in between the 31/12/2016 and 31/12/2017.

- The priority given to the LHC upgrades resulted in a slightly higher level of expenses than planned for the LHC luminosity upgrade (HL-LHC) and the HL-LHC detector upgrades.

[7] CERN/FC/6060-CERN/3277
[8] CERN/FC/6124-CERN/3310
[9] CERN/FC/6206/Rev.-CERN/3345/Rev.
[10] CERN/FC/6171-CERN/3334

- The focus on the LHC upgrades resulted in a shortage of personnel in other areas and consequent underspending in spares procurement, electrical network consolidation, accelerator maintenance and consolidation.
- The expenses for some projects , including AWAKE, ELENA, HIE-ISOLDE, MEDICIS and FAIR, were re-profiled.
- The expenses for certain building projects, such as the construction of Building 311 (magnetic measurement laboratory) were re-profiled, taking into account contract adjudications and contractual deliverables; these were offset by higher expenses than planned for Building 107 (surface treatment), the flexible storage building in Prévessin (for LS2) and building consolidation activities.

8.1. SUMMARY OF REVENUE AND EXPENSES BY ACTIVITY

The table below shows a comparison between the Final 2017 Budget and the actual amounts:

Reference to Annual Progress Report 2017 CERN/FC/6206/Rev.	(in MCHF, rounded off)	Final 2017 Budget CERN/FC/6060 (2017 prices) (a)	2017 Out-Turn CERN/FC/6206/Rev. (2017 prices) (b)	Variation MCHF (c)=(b)-(a)	Variation % (c)/(a)
	REVENUES	**1 230.1**	**1 271.9**	**41.7**	**3.4%**
Page 16, Figure 2 "Total Revenues"	Member States' contributions	1 119.9	1 119.9	0.0	0.0%
	Associate Member States' contributions	10.2	22.3	12.1	118.6%
	Contributions anticipated from new Associate Member States	10.0	-	- 10.0	-100.0%
	EU contributions	16.0	15.9	- 0.1	-0.5%
	Additional contributions	4.8	8.6	3.8	79.4%
	Personnel paid from team accounts	13.7	12.0	- 1.6	-11.9%
	Personnel on detachment	1.0	0.9	- 0.1	-7.8%
	Internal taxation	30.1	33.4	3.3	11.0%
	Knowledge transfer	1.1	1.7	0.5	45.0%
	Other revenues	23.4	57.1	33.8	144.7%
Fact sheet (MTP 20	**EXPENSES**	**1 202.5**	**1 232.7**	**30.1**	**2.5%**
	Running of scientific programmes and support	**969.0**	**965.1**	**- 3.9**	**-0.4%**
	Scientific programmes	**503.0**	**476.1**	**- 26.9**	**-5.4%**
1, 2, 3, 4, 5, 6, 8	*LHC (machine, detectors and computing, including spares and consolidation)*	*267.7*	*252.2*	*- 15.5*	*-5.8%*
9, 10, 11, 12	*Non-LHC physics and scientific support*	*82.0*	*71.0*	*- 11.0*	*-13.4%*
13, 14	*Other accelerators and areas (including consolidation)*	*153.3*	*152.9*	*- 0.4*	*-0.2%*
	Infrastructure and services	**287.6**	**292.2**	**4.6**	**1.6%**
15, 16, 17, 18, 19	*General infrastructure and services (incl. admin, international relations, safety)*	*242.0*	*248.5*	*6.4*	*2.7%*
20	*Infrastructure consolidation, buildings and renovation*	*45.6*	*43.8*	*- 1.8*	*-4.0%*
	Centralised expenses	**178.4**	**196.7**	**18.4**	**10.3%**
21	*Centralised personnel expenses*	*36.3*	*35.2*	*- 1.1*	*-3.0%*
21	*Internal taxation*	*30.1*	*33.4*	*3.3*	*11.0%*
21	*Internal mobility, personnel on detachment, paid from team accounts*	*15.0*	*16.5*	*1.4*	*9.6%*
21	*Budget amortisation of staff benefit accruals*	*17.3*	*17.3*	*- 0.0*	*0.0%*
21	*Energy and water, insurance and postal charges, miscellaneous*	*67.4*	*83.3*	*15.9*	*23.6%*
21	*Interest, bank and financial expenses, in-kind*	*12.2*	*11.0*	*- 1.2*	*-9.6%*
	Projects and studies	**233.6**	**267.6**	**34.1**	**14.6%**
	LHC upgrades	**148.8**	**177.8**	**29.1**	**19.5%**
22	*LINAC4*	*1.0*	*0.7*	*- 0.2*	*-24.9%*
23	*LHC injectors upgrade*	*52.4*	*49.4*	*- 3.0*	*-5.7%*
24	*HL-LHC construction*	*71.8*	*84.9*	*13.1*	*18.3%*
25	*LHC detectors upgrade (Phase 1) and consolidation*	*16.1*	*24.1*	*8.0*	*49.9%*
25	*HL-LHC detectors, including R&D (Phase 2)*	*7.6*	*18.7*	*11.1*	*147.3%*
	Preparation for the future	**41.2**	**44.1**	**2.9**	**7.1%**
26, 27	*Linear collider studies (CLIC, ILC, detector R&D)*	*22.0*	*19.0*	*- 3.0*	*-13.8%*
28	*Future Circular Collider study*	*12.8*	*16.9*	*4.1*	*32.1%*
32	*Proton-driven plasma wakefield acceleration (AWAKE)*	*6.4*	*7.0*	*0.6*	*9.1%*
37	*Physics Beyond Colliders study*	-	*1.2*	*1.2*	
	Scientific diversity activities	**43.6**	**45.7**	**2.1**	**4.8%**
29	*ELENA*	*2.5*	*4.2*	*1.8*	*72.3%*
30	*HIE-ISOLDE*	*4.2*	*2.9*	*- 1.3*	*-31.0%*
31	*CERN Neutrino Platform*	*17.9*	*20.9*	*3.0*	*16.7%*
33, 34, 35, 36	*R&D (incl. EU support) for accelerators, medical applications*	*19.1*	*17.7*	*- 1.4*	*-7.2%*
	BALANCE				
Page 18, Figure 3 "Total Expenses by Activity and Balance"	Annual balance	27.6	39.2	11.6	
	Capital repayment allocated to the budget (Fortis, FIPOI 1, 2 and	- 25.9	- 25.9	0.0	
	Recapitalisation pension fund	- 60.0	- 60.0	-	
	Annual balance allocated to budget deficit	- 58.3	- 46.7	11.6	
	-Cumulative balance- - 118.4	**- 176.7**	**- 165.1**	**11.6**	

8.2. MATERIAL EXPENSES

The following table shows the break down of the materials budget expenses by nature as additional information to the table above, where expenses are listed by activity:

		2017		
MCHF	Comment	Budget	Actual	Difference
Goods, consumables and supplies	A	257.6	247.8	- 9.8
Electricity, heating gas and water	B	61.2	58.3	- 2.9
Industrial services	C	123.6	139.4	15.8
Associated members of personnel	D	39.6	48.2	8.6
Other overheads		55.9	56.4	0.5
	Total	**537.8**	**550.0**	**12.2**

Comments

A) The difference is mainly explained by the rescheduling of multi-annual projects and consolidation work to present more realistic execution times for various projects and activities.

B) The difference results from slightly lower electricity costs owing to the relatively warm winter and a consequent reduction in the use of heating oil and gas, together with lower than planned costs of water and waste water.

C) Expenditure on industrial services is higher due to the inclusion of new contracts, including those for civil-engineering consultancy and electrical installation as well as an increase in temporary labour.

D) Expenditure for Associated Members of the Personnel is higher due to increased human resources needs for the major projects.

8.3. PERSONNEL EXPENSES

8.3.1. EXPENSES BY NATURE

The initial allocation to the Personnel Budget in 2017 was 652.6 MCHF. The final expenses charged to this heading amounted to 671.8 MCHF.

The following table shows the break down of personnel expenses:

		As at 31.12.2017		
MCHF	**Comment**	**Budget**	**Actual**	**Difference**
Staff members*	A	500.3	503.6	3.3
Fellows & apprentices**	B	68.6	82.2	13.6
Centralised personnel expenses	C	36.3	35.3	-1.0
Internal taxation		30.1	33.4	3.3
Amortisation of staff benefits accruals		17.3	17.3	-
	Total	**652.6**	**671.8**	**19.2**

** Including staff paid from team accounts (8.6 MCHF)*
***Including fellow paid from team accounts (3.4 MCHF)*

Comments

A) With respect to the Final Budget, the actual expenses for staff members were 0.7% higher than budgeted, which is explained by the corresponding increase in FTEs due to the filling of some of the additional posts presented to the Council in December 2016 (CERN/FC/6065/RA).

B) Expenses on the fellowship programme were higher than budgeted. This is due to the fact that more FTEs were paid using transfers from the materials budget to GET fellowships and the Technical Training Experience (TTE).

C) The centralised personnel expenses mainly consist of reinstallation indemnities and unemployment benefits, which are by definition difficult to predict, as well as CERN's contributions to the Health Insurance Scheme for pensioners.

8.3.2. DISTRIBUTION OF FTE BY ACTIVITY

8.3.2.1. Staff

CERN's total staff complement in 2017 was 2 556.4 FTEs (compared to 2 549.9 in the Final Budget for 2017 and 2 513.4 in 2016).

Activity	2017		
	Budget	**Actual**	**Difference**
LHC programme	668.0	622.7	- 45.3
Other programmes	680.8	633.9	- 46.9
Infrastructure and services and centralised expenses, in which:	811.9	836.8	24.9
Personnel paid but not available		*22.1*	*22.1*
Personnel paid from Team accounts (including Pension Fund)	*66.0*	*53.1*	*- 12.9*
Projects	389.2	463.0	73.8
Total	**2 549.9**	**2 556.4**	**6.5**

8.3.2.2. Fellows and apprentices

The total complement of fellows and apprentices in 2017 was 799.8 FTEs (compared to 699.3 in 2016).

Activity	2017		
	Budget	**Actual**	**Difference**
LHC programme	175.7	213.2	37.5
Other programmes	130.1	164.6	34.5
Infrastructure and services and centralised expenses, in which:	127.2	160.7	33.5
Personnel paid from Team accounts (including Pension Fund)	*27.2*	*31.5*	*4.3*
Projects	173.8	261.3	87.5
Total	**606.8**	**799.8**	**193.0**

The increase in the number of fellows stems from the growth of the GET fellowship programme (i.e. fellowships funded using a budget transferred from materials) and the TTE programme.

Further detailed explanations regarding the differences between actual personnel expenses and budgeted expenses are given in the Annual Progress Report for 2017 (see CERN/FC/6206/Rev-CERN/3345/Rev).

8.4. INTEREST AND FINANCIAL COSTS

MCHF	As at 31.12.2017		
	Budget	Expenses	Difference
BNP FORTIS Bank	9.1	9.1	-
In-kind (FIPOI interests 0%)	2.0	1.8	- 0.2
Financial expenses	1.0	0.0	- 1.0
Total	**12.1**	**10.9**	**- 1.2**

8.5. CAPITAL REPAYMENTS

In line with IPSAS, the capital repayment of long-term loans is not shown as budget expenditure but is rather deducted from the liabilities in the Statement of Financial Position. However, in order to reflect the Organizations' cash requirements, it is still allocated to the budget balance.

MCHF	As at 31.12.2017		
	Budget	Repayment	Difference
FORTIS loan	24.8	24.8	-
FIPOI loans	1.1	1.1	-
Total	**25.9**	**25.9**	**-**

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