

Financial Statements 2021



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Audit opinion

1. Audit

We have audited the financial statements, comprising the statement of comprehensive income, the statement of financial position, statement of changes in equity, statement of cash flows and notes (Article 69 clause 1a of the Financial Regulations), together with the bookkeeping system of the European Patent Organisation (EPO) for the accounting period January 1 to December 31, 2021.

In our opinion, the financial statements give a true and fair view of the financial position of the EPO as at December 31, 2021, and its financial performance and its cash flows for the year then ended in accordance with the accounting principles of Article 50(g) of the European Patent Convention (EPC) and the Financial Regulations (FinRegs) based thereon.

2. Basis for Opinion

We conducted our audit in accordance with International Standards on Auditing (ISAs). 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 EPO in accordance with the ethical requirements under Article 50(g) of the European Patent Convention (EPC) and the Financial Regulations (FinRegs) that are relevant to our audit of the financial statements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

3. Responsibilities of the President of EPO for the Financial Statements

The President of the EPO is responsible for the preparation and fair presentation of the financial statements in accordance with Article 50(g) of the European Patent Convention (EPC) and the Financial Regulations (FinRegs). Under Article 1 clause 3 FinRegs, the generally accepted accounting principles of the EPO are the International Financial Reporting Standards (IFRS) as promulgated by the International Accounting Standards Board (IASB). Furthermore, the President of the EPO is responsible for such internal control as 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, the President of the EPO is responsible for assessing the organisation's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the organisation or to cease operations, or has no realistic alternative but to do so.

4. Auditor's Responsibilities 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 ISAs 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.

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

- a. 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.
- b. 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 EPO's internal control.
- c. evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the President of the EPO.
- d. 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 EPO'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 EPO to cease to continue as a going concern.
- e. 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.

Munich, 11 April 2022

Board of Auditors

H. Schuh

O. Hollum

F. Angermann

The audit opinion presented above is originally provided in the Report of the Board of Auditors of the European Patent Organisation available on the EPO's website.

Financial Statements

Statement of Comprehensive Income for the year ended 31 December 2021

in EUR '000

Revenue	Notes	2021	2020
Revenue from patent and procedural fees	(3)	1 926 184	1 970 164
Other revenue	(3)	9 766	10 157
Other operating income	(5)	6 327	6 011
Employee benefit expenses	(7)	(2 106 990)	(2 225 066)
Depreciation and amortisation expenses	(11)(12)	(69 911)	(65 938)
Other operating expenses	(8)	(263 169)	(231 711)
Operating result		(497 793)	(536 383)
Finance revenue	(9)	1 610 715	563 483
Finance costs	(10)	(298 687)	(342 958)
Financial result		1 312 028	220 525
Profit / (loss) for the year		814 235	(315 858)
Other comprehensive income:			
Items that will not be reclassified to profit or loss:			
Remeasurement defined benefit obligations	(21)	3 941 355	1 067 571
Items that may be reclassified subsequently to profit or loss:			
		—	—
Total comprehensive income/loss for the year		4 755 590	751 713

The notes are an integral part of the financial statements.
Regarding potential future national renewal fees, see Notes 2.5.3 and 4.

Statement of Financial Position as at 31 December 2021

in EUR '000

Assets	Notes	2021	2020
Non-current assets			
Property, plant and equipment	(11)	651 831	692 205
Intangible assets	(12)	31 603	31 290
<i>RFPSS financial assets</i>		11 533 913	10 014 752
<i>RFPSS other assets</i>		627	623
<i>RFPSS restricted cash</i>		335 146	328 243
<i>RFPSS financial liabilities</i>		(1 694)	(738)
<i>RFPSS other liabilities</i>		(112)	(102)
RFPSS net assets	(14)	11 867 880	10 342 778
Investments	(15)	3 620 531	3 137 883
Home loans to staff	(16)	89 921	91 891
Other assets	(17)	196 967	146 459
Total non-current assets		16 458 733	14 442 506
Current assets			
Trade and other receivables	(18)	170 479	153 928
Home loans to staff	(16)	8 426	8 375
Prepaid expenses	(19)	23 433	24 164
Cash and cash equivalents	(20)	60 155	100 017
Total current assets		262 493	286 484
Total assets		16 721 226	14 728 990

in EUR '000

Equity and liabilities	Notes	2021	2020
Equity			
Retained earnings		(1 129 155)	(1 943 390)
Other components of equity		(10 995 804)	(14 937 159)
Total equity		(12 124 959)	(16 880 549)
Non-current liabilities			
Defined benefit liability	(21)	27 077 093	29 984 949
Salary Savings Plan obligation	(22)	196 664	146 133
Other employee-related liabilities	(23)	63 083	31 120
Lease liabilities	(13)	29 218	47 133
Prepaid fees and refund liabilities	(3)	622 289	531 666
Total non-current liabilities		27 988 347	30 741 001
Current liabilities			
Other employee-related liabilities	(23)	223 127	247 544
Trade and other payables	(24)	198 235	190 074
Lease liabilities	(13)	15 708	16 092
Provisions	(25)	5 909	6 012
Prepaid fees and refund liabilities	(3)	414 859	408 816
Total current liabilities		857 838	868 538
Total liabilities		28 846 185	31 609 539
Total equity and liabilities		16 721 226	14 728 990

The notes are an integral part of the financial statements.
Regarding potential future national renewal fees, see Notes 2.5.3 and 4.

Statement of Changes in Equity for the year ended 31 December 2021

in EUR '000

	Issued capital	Reserves	Retained earnings	Total equity
		Cumulative changes in equity not recognised through profit or loss		
Balance at 1 January 2020	—	(16 004 730)	(1 627 532)	(17 632 262)
Changes in equity for 2020				
Remeasurement defined benefit obligations		1 067 571		1 067 571
Profit (loss) for the period			(315 858)	(315 858)
Balance at 31 December 2020	—	(14 937 159)	(1 943 390)	(16 880 549)
Changes in equity for 2021				
Remeasurement defined benefit obligations		3 941 355		3 941 355
Profit (loss) for the period			814 235	814 235
Balance at 31 December 2021	—	(10 995 804)	(1 129 155)	(12 124 959)

The notes are an integral part of the financial statements.
Regarding potential future national renewal fees, see Notes 2.5.3 and 4.

Statement of Cash Flows for the year ended 31 December 2021

in EUR '000

	Notes	2021	2020
Cash flows from operating activities			
Cash receipts from Patent Applicants	(3)	1 333 378	1 298 879
Cash receipts from Member States – patent related	(3)	691 179	675 763
Cash receipts from Member States – reimbursement of VAT and other taxes		30 631	57 100
Cash receipts from other users and other cash receipts		5 996	4 864
Cash receipts from transfers of pension rights	(21)	3 552	3 209
Total operating cash receipts		2 064 736	2 039 815
Cash flows from operating activities			
Payments to staff – salaries and allowances	(7)	(900 485)	(876 750)
Payments to pensioners and former staff	(21)	(302 868)	(291 797)
Payments to healthcare provider for staff and pensioners	(21)	(77 646)	(72 865)
Payments to the European School Munich		(26 409)	(25 914)
Payments to suppliers of goods and services		(298 084)	(295 489)
Net investments in Salary Savings Plan	(22)	(20 169)	(17 785)
Payment of fees to Extension and Validation States	(3)	(1 274)	(906)
Total operating cash payments		(1 626 935)	(1 581 506)
Cash Flow from operating activities		437 801	458 309
Cash flows from investing activities			
Acquisition of tangible and intangible assets	(11)(12)	(33 394)	(24 855)
Proceeds from sale of assets	(11)(12)	—	12
Net statutory investments in RFPSS	(14)	(30 325)	(40 436)
Net voluntary investments in RFPSS	(14)	(150 000)	(285 000)
Divestment in-house cash management		—	—
Net investments in EPOTIF	(15)	(250 000)	(50 000)
Home Loans granting	(16)	(12 297)	(16 538)
Home Loans repayment	(16)	14 536	14 135
Home Loans interest payment	(16)	751	923
Cash flow from Investing activities		(460 729)	(401 759)
Cash flows from financing activities			
Interest paid		(843)	(1 073)
Repayment of lease liabilities		(16 091)	(16 625)
Cash flow from Financing activities	(13)	(16 934)	(17 698)
Net increase/(decrease) in cash and cash equivalents		(39 862)	38 852
Cash and cash equivalents net of bank overdrafts at the beginning of the period		100 017	61 165
Effect of exchange rate changes on cash and cash equivalents		—	—
Cash and cash equivalents net of bank overdrafts at the end of the period		60 155	100 017

The notes are an integral part of the financial statements.
Regarding potential future national renewal fees, see Notes 2.5.3 and 4.

Notes

1. General information

The European Patent Organisation (the Organisation or the EPO) is an intergovernmental organisation set up pursuant to the European Patent Convention (EPC) which entered into force in 1977. It is the outcome of the European countries' collective political determination to establish a unitary patent system in Europe.

The Organisation comprises its legislative body, the Administrative Council, and its executive body, the European Patent Office (the Office). The Organisation is represented by the President of the Office. The task of the Organisation is to grant European patents, and is carried out by the Office supervised by the Administrative Council.

The Organisation is a legal entity and has its seat in Munich, a branch at The Hague/Rijswijk and sub-offices in Berlin and Vienna. The address of its head office is Bob-van-Bentham-Platz 1, 80469 Munich, Germany.

As laid down in the EPC and in the Organisation's Financial Regulations (FinRegs), the financial statements have been prepared in accordance with International Financial Reporting Standards (IFRS) as provided by the International Accounting Standards Board (IASB).

These financial statements were authorised for issue by the President on 14 April 2022.

With respect to the information provided in the Statement of Comprehensive Income and in the Statement of Financial Position, it should be noted that

- the EPO is an intergovernmental organisation, thus the Contracting States are obliged to finance any deficit;
- the value of future national renewal fees cannot be shown as an asset but is an essential factor for the Organisation's actual financial position.

For more details, see Notes 2.5.3 and 4 on future renewal fees for European patents.

2. Summary of significant accounting policies

The principal accounting policies applied in the preparation of these financial statements are set out below. These policies have been consistently applied to all the years presented, unless otherwise stated. As required by amended IAS 1, the EPO presents profit or loss and other comprehensive income in one statement – Statement of Comprehensive Income – with expenses analysed by nature. The cash flows from operating activities have been prepared in line with IAS 7.18a (direct method). The classes of gross cash receipts and gross cash payments have been obtained based on IAS 7.19b, i.e. by adjusting items in the Statement of Comprehensive Income for changes during the period in operating receivables and payables.

2.1 Basis of preparation

The financial statements of the EPO have been prepared in accordance with IFRS. The financial statements have been prepared on a historical cost basis, except for financial instruments measured at fair value and the defined benefit obligation measured in accordance with IAS 19. The financial statements are presented in euro (EUR) and all values are rounded to the nearest thousand (EUR '000) unless otherwise indicated.

In accordance with IFRS 8 – Operating Segments the Organisation has not prepared segment reporting, as IFRS 8 must be applied only by entities whose debt or equity securities are publicly traded and by those in the process of issuing such securities in public securities markets.

New, revised or early-adopted standards and interpretations affecting the Financial Statements in the current year (and/or prior years)

The EPO did not adopt any new standards or interpretations in 2021.

Standards, amendments and interpretations to existing standards that are new or revised but not yet effective and have not been adopted early by the Organisation

IFRS 17 – Insurance Contracts. This new standard introduces a new measurement model for insurance liabilities, based on the present value of future cash flows. The standard has an effective date of 1 January 2023. This standard will have no impact on the EPO's accounts.

Amendments to IFRS 17. These amendments address concerns and implementation challenges that were identified after the IFRS 17 Insurance Contracts was published in 2017. The amendment is applicable to reporting periods beginning on or after 1 January 2023. It will have no impact on the EPO accounts.

Applying IFRS 9 Financial Instruments with IFRS 4 Insurance Contracts (Amendments to IFRS 4).

The pronouncement amending IFRS 4 Insurance Contracts provide options for entities that issue insurance contracts within the scope of IFRS 4. It is to be applied at the time when IFRS 9 is first applied. The pronouncement has no implications for the EPO.

Classification of Liabilities as Current or Non-Current (Amendments to IAS 1)

The amendments aim to promote consistency in applying the requirements by helping companies determine whether, in the statement of financial position, debt and other liabilities with an uncertain settlement date should be classified as current (due or potentially due to be settled within one year) or non-current. It is applicable to reporting periods beginning on or after 1 January 2023. The EPO has not yet evaluated the impact of this pronouncement.

Reference to the Conceptual Framework (Amendments to IFRS 3)

The amendments update an outdated reference to the Conceptual Framework in IFRS 3 without significantly changing the requirements in the standard. It is applicable to reporting periods beginning on or after 1 January 2022. It will have no impact on the EPO accounts.

Property, Plant and Equipment — Proceeds before Intended Use (Amendments to IAS 16)

The amendments prohibit deducting from the cost of an item of property, plant and equipment any proceeds from selling items produced while bringing that asset to the location and condition necessary for it to be capable of operating in the manner intended by management. Instead, an entity recognises the proceeds from selling such items, and the cost of producing those items, in profit or loss. The pronouncement is applicable to reporting periods beginning on or after 1 January 2022. It is not expected to have material impact on the EPO accounts.

Onerous Contracts — Cost of Fulfilling a Contract (Amendments to IAS 37)

The amendments specify that the 'cost of fulfilling' a contract comprises the 'costs that relate directly to the contract'. Costs that relate directly to a contract can either be incremental costs of fulfilling that contract (examples would be direct labour, materials) or an allocation of other costs that relate directly to fulfilling contracts (an example would be the allocation of the depreciation charge for an item of property, plant and equipment used in fulfilling the contract). The pronouncement is applicable to reporting periods beginning on or after 1 January 2022. It is not expected to have material impact on the EPO accounts.

Annual Improvements to IFRS Standards 2018–2020

Makes amendments to the following standards:

IFRS 1 – The amendment permits a subsidiary that applies paragraph D16(a) of IFRS 1 to measure cumulative translation differences using the amounts reported by its parent, based on the parent's date of transition to IFRSs.

IFRS 9 – The amendment clarifies which fees an entity includes when it applies the '10 percent' test in paragraph B3.3.6 of IFRS 9 in assessing whether to derecognise a financial liability. An entity includes only fees paid or received between the entity (the borrower) and the lender, including fees paid or received by either the entity or the lender on the other's behalf. IFRS 16 – The amendment to Illustrative Example 13 accompanying IFRS 16 removes from the example the illustration of the reimbursement of leasehold improvements by the lessor in order to resolve any potential confusion regarding the treatment of lease incentives that might arise because of how lease incentives are illustrated in that example.

IAS 41 – The amendment removes the requirement in paragraph 22 of IAS 41 for entities to exclude taxation cash flows when measuring the fair value of a biological asset using a present value technique.

The pronouncement is applicable to reporting periods beginning on or after 1 January 2022. It is not expected to have material impact on the EPO accounts.

Disclosure of Accounting Policies (Amendments to IAS 1 and IFRS Practice Statement 2)

The amendments require that an entity discloses its material accounting policies, instead of its significant accounting policies. It is applicable to reporting periods beginning on or after 1 January 2023. The EPO has not yet evaluated the impact of this pronouncement.

Definition of Accounting Estimates (Amendments to IAS 8)

The amendments replace the definition of a change in accounting estimates with a definition of accounting estimates. Under the new definition, accounting estimates are "monetary amounts in financial statements that are subject to measurement uncertainty". Entities develop accounting estimates if accounting policies require items in financial statements to be measured in a way that involves measurement uncertainty. The amendments clarify that a change in accounting estimate that results from new information or new developments is not the correction of an error. It is applicable to reporting periods beginning on or after 1 January 2023. The EPO has not yet evaluated the impact of this pronouncement.

Deferred Tax related to Assets and Liabilities arising from a Single Transaction (Amendments to IAS 12)

The amendments clarify that the initial recognition exemption does not apply to transactions in which equal amounts of deductible and taxable temporary differences arise on initial recognition. The pronouncement is applicable to reporting periods beginning on or after 1 January 2023. It is not expected to have impact on the EPO accounts.

Interpretations and amendments to existing standards which became effective in 2021 but are not relevant for the Organisation's operations.

Covid-19-Related Rent Concessions beyond 30 June 2021 (Amendment to IFRS 16)

The amendment extends, by one year, the May 2020 amendment that provides lessees with an exemption from assessing whether a COVID-19-related rent concession is a lease modification. It is applicable to reporting periods beginning on or after 1 April 2021. It had no impact on the EPO accounts.

Interest Rate Benchmark Reform (Amendments to IFRS 9, IAS 39 and IFRS 7)

The amendments deal with issues affecting financial reporting in the period before the replacement of an existing interest rate benchmark with an alternative interest rate and address the implications for specific hedge accounting requirements. Interbank offered rates (IBORs) are interest reference rates, such as LIBOR or EURIBOR that represent the cost of obtaining unsecured funding. The amendments are effective for annual periods beginning on or after 1 January 2020 (Phase 1) and on or after 1 January 2021 (Phase 2). They have no impact on the EPO's financial statements.

2.2 Consolidation

Although the RFPSS have to be internally treated and reported as a special class of asset of the Organisation, the EPO does not prepare consolidated financial statements, because under IFRS the Organisation constitutes a single entity.

2.3 Foreign currency translation

The financial statements are presented in euro, the Organisation's functional currency. Foreign currency transactions are translated into euro using the exchange rates prevailing at the dates of the transactions. Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation at year-end exchange rates of monetary assets and liabilities denominated in foreign currencies are recognised in the Statement of Comprehensive Income.

2.4 Significant accounting judgements and estimates

The preparation of financial statements requires management to make estimates and assumptions that affect amounts reported in the financial statements in order to conform to IFRS. These estimates and assumptions affect the reported amounts of assets and liabilities, the disclosure of contingent liabilities on the balance sheet date and the reported amounts of revenue and expenses during the reporting period. The estimates and judgements are continually evaluated and are based on historical experience, third-party transactions and other factors, including expectations of current and future events that are believed to be reasonable under the circumstances. The following significant accounting judgements and estimates and related assumptions and uncertainties inherent in the accounting policies applied are essential to an understanding of the underlying financial reporting risks and the effects on the financial statements.

The liabilities relating to the defined benefit pension plans as defined in Note 2.15.2 and other post-employment benefits are determined using actuarial valuations. The actuarial valuation involves making assumptions about discount rates, future salary increases, career development, mortality rates, the duration of incapacity to work, future pension increases and other actuarial parameters. The mortality table in use at the EPO is regularly adjusted for both serving staff and pensioners. For active staff, it is adjusted every two years, to take into account probable future increases in life expectancy. The mortality table applied by the Office is the International Civil Servants Life Table (ICSLT) produced by the ISRP which is a table specific to international civil servants based in Europe. During 2021, EPO's Actuarial Advisory Group (AAG) re-adopted the assumption it had used two years ago when it recommended the use of an EPO specific mortality table based on the most actual 2018 ICSLT mortality table. In its 2021 study, the AAG reviewed the EPO specific mortality table, including the two EPO specific changes that the group had made in 2019 to the 30-year longevity improvements of the standard ICSLT 2018 table, i.e. recalibrating the longevity trend to that of the EPO pensioner population and limiting the longevity (upward) trend to 10 years. The group concluded that both changes are still valid. The next review of these assumptions will take place 2023. Calculation of the defined benefit plan also means making assumptions to determine the level of lump-sum payments as tax compensation for the national tax levied on pensions (disclosed as "tax adjustment"). Due to the long-term nature of these plans, such estimations are subject to significant legal and actuarial uncertainties (see also Note 27).

The Organisation exercises judgement in measuring and recognising provisions related to outstanding legal claims. Judgement is necessary in assessing the likelihood that an outstanding legal claim will succeed and to quantify the possible range of the final settlement.

Provisions are recorded for liabilities when losses are expected from executory contracts, or a loss is considered probable and can be reasonably estimated. Because of the inherent uncertainties, actual losses may be different from the originally estimated provision. These estimates are updated when new information becomes available.

Development costs are capitalised in accordance with the accounting policy in Note 2.10. Determining the amounts to be capitalised requires management to make assumptions about e.g. technological feasibility, expected benefits, allocation of costs to research or development phases, and the costs directly attributable to development of the assets.

National renewal fees for the fourth quarter of the reporting period not received before the closure of the accounts are accrued using estimates based on the average amount received in previous periods.

The Organisation exercises judgement in measuring the net present value of potential future national renewal fees disclosed in Note 4. Determining this amount requires management to make assumptions about discount rates, exchange rates and the life expectancy of patents in the different countries where they have been validated.

2.5 Revenue recognition

2.5.1 Revenue from patent and procedural fees

2.5.1.1 Patent granting, opposition and appeal procedures (EPC and EURO-PCT)

The EPO, as the patent granting authority for Europe, processes patent applications from filing up to grant (or refusal), opposition procedures against granted patents and appeals against EPO decisions.

A European patent can be obtained in one of two ways:

- (a) European route: direct European patent application (EPC application)
- (b) International route: European patent application derived from an international application filed under the Patent Cooperation Treaty (Euro-PCT application).

Principles of revenue recognition for fees from patent granting, opposition and appeal procedures

The EPO recognises its revenue in accordance with IFRS 15 Revenue from Contracts with Customers. When a patent application is filed, a contract is established between the EPO and the patent applicant, creating enforceable rights and obligations for both parties. However, the EPO does not usually have individual customer contracts in place but instead performs its patent examination services on the basis of the legal regulations (EPC and PCT) under which patent applicants file their applications.

Patent granting, opposition and appeal procedures are fully standardised at the EPO and consist of different steps.

The fees for each step and the corresponding due dates are regulated in the European Patent Convention of 5 October 1973 and its Implementing Regulations and the Rules relating to Fees of 20 October 1977.

The patent applicant can decide at any time to abandon the procedure by not paying a fee which is due; the EPO then deems the application to be withdrawn.

The fees related to each step are standardised and determine the transaction price related to the contract with customer.

In most cases, the EPO does not start performing the service related to each step until the applicant has paid the fees involved.

Revenue from patent and procedural fees is recognised in the Statement of Comprehensive Income when the EPO satisfies its performance obligation, i.e. when it transfers the service. Costs are expensed as incurred. Fees received as payment for services for which the performance obligation has not yet been fully satisfied or for which the patent applicant is entitled to a refund are presented at the closing date as a liability.

The prepaid fees, recognised in the Statement of Financial Position as liabilities (from contracts with customers), are carried forward and recognised as revenue upon full satisfaction of the related performance obligation as follows:

- **Filing and page fees:** the underlying performance obligation, namely examination of the patent application for compliance with the formal requirements, is satisfied completely by the EPO shortly after filing/entry into European phase. Payment is due within one month of the filing date.

- **Search fees and claims fees** included in the transaction price: the underlying performance obligation for the search service is fully satisfied once the search report has been dispatched to the patent applicant. According to Article 9.2 of the Rules relating to Fees, an applicant may be entitled to a full or partial refund of the search fees if the EPO was able to make use of a search report previously drawn up by it.

Furthermore, the applicant can decide at any time to cancel the search contract with the EPO either actively (withdrawal of the application) or passively (application deemed to be withdrawn). According to Article 9.1 of the Rules relating to Fees, the search fee paid for a European or supplementary European search is to be fully refunded if the European patent application is withdrawn, refused or deemed to be withdrawn at a time when the EPO has not yet begun to draw up the search report.

- **Examination fees and claims fees** included in the transaction price: the underlying performance obligation for the examination service is fully satisfied once the written communication of the intention to grant the patent or the decision to refuse the application has been sent to the patent applicant.

The patent applicant can decide at any time to cancel the examination contract with the EPO either actively (withdrawal of the application) or passively (application deemed to be withdrawn). Under Article 11(a) of the Rules relating to Fees (as in force from 1 July 2016), the examination fee provided for in Article 94(1) EPC is to be refunded in full if the European patent application is withdrawn, refused or deemed to be withdrawn before substantive examination has begun.

Under Article 11(b) of the Rules relating to Fees, as in force from 1 November 2016, the examination fee provided for in Article 94(1) EPC is to be refunded at a rate of 50% if the European patent application is withdrawn after substantive examination has begun but before either expiry of the time limit for replying to the first Article 94(3) communication issued by the examining division, even if the applicant has already replied, or, in the case of a direct grant (i.e. no previous Art. 94(3) communication), before the date on which the Rule 71(3) communication is dispatched.

Article 11(b) of the Rules relating to Fees applies to all applications for which substantive examination started on or after 1 November 2016 and applies only if they are withdrawn, not if they are refused or deemed to be withdrawn.

- **Grant and printing fees:** these fees are due four months after completion of the examination service by the EPO. The underlying performance obligation for the grant service is fully satisfied once the patent is published.
- **Opposition fees:** the underlying performance obligation is fully satisfied once the opposition proceedings have been closed, i.e. once a final decision by the opposition division has been communicated to the parties.
- **Appeal fees:** the underlying performance obligation is fully satisfied once the appeal proceedings have been closed, i.e. once a final decision by the board of appeal has been communicated to the parties.
- **Limitation fees:** the underlying performance obligation is fully satisfied once the examining division's decision as to whether or not the request for limitation is allowable has been communicated to the requester.

The following remaining fees are accounted for as current revenue upon receipt and are not adjusted for prepaid fees:

- **Designation, extension and validation fees:** there is no performance obligation related to these fees; they are one-off fees payable to ensure protection of the invention in the EPC contracting and extension/validation states of the applicant's choice. The underlying service has already been fully performed by the EPO at the date of filing, before payment of the fee is due.

As these fees are not refundable in any case, a liability for received payments for designation or extension and validation fees not yet due at the year-end closing date is not recognised in the Statement of Financial Position.

Due to the lack of a legal payment obligation by the patent applicant, a trade receivable for potentially receivable fees at the closing balance sheet date with a due date in the following period is not recognised in the Statement of Financial Position.

- **Renewal fees for patent applications:** payment of renewal fees for patent applications is not subject to the EPO's fulfilment of a performance obligation; they are due in advance on a yearly basis starting from the third year after the filing date. Therefore, a deferral of the amount for renewal fees for patent applications covering two financial periods is not recognised. The last renewal fee payable in respect of a European patent application covers the year in which mention of the grant of the patent is published. Renewal fees validly paid three months (six months for the third renewal fee) before the due date under Rule 51(1) EPC are refundable and therefore recognised as prepayments.

For information on renewal fees post-grant, see Note 2.5.1.3 below.

2.5.1.2 Searches and preliminary examinations on international applications (PCT procedure)

The EPO as an International Searching and Preliminary Examining Authority also performs international searches and preliminary examinations on international applications under the Patent Cooperation Treaty.

The due dates of the related fees are established by the World Intellectual Property Organization in the Patent Cooperation Treaty of 19 June 1970, as last amended on 3 October 2001, and the amounts are fixed in the Rules relating to Fees of 20 October 1977.

Principles of revenue recognition for searches and preliminary examinations for international applications

In most cases, the EPO does not start performing the service involved until the requisite fee has been paid.

As in the EPC and Euro-PCT procedure, revenue is recognised in the Statement of Comprehensive Income when the EPO satisfies its performance obligation, i.e. when it transfers the service.

Costs are expensed as incurred. Fees received as payment for services for which the performance obligation has not yet been fully satisfied or for which the patent applicant is entitled to a refund are presented at the closing date as prepaid.

The prepaid fees, recognised in the Statement of Financial Position as liabilities, are carried forward and released to current revenue as follows:

- **International and international-type search fees:** the underlying performance obligation is fully satisfied once the search report has been dispatched to the patent applicant. As prescribed by Rule 41.1 PCT, when establishing the international search report on an international application in its capacity as International Searching Authority, the EPO must, to the extent possible, use the results of any earlier search performed by it. It must then fully or partially refund the search fee, depending on the extent of use it was able to make of the results of that previous search.
- **PCT Chapter II examination fees:** the underlying performance obligation is fully satisfied once the international preliminary examination report has been dispatched to the patent applicant and the examining division has completed its work.

2.5.1.3 National renewal fees for granted European patents

After a European patent has been granted, renewal fees for subsequent years during its term are payable to the designated Contracting States. Under Article 39 EPC, each Contracting State pays to the Organisation, for each European patent maintained in that state, a proportion of its national renewal fee fixed by the Administrative Council and which may not exceed 75% and is the same for all Contracting States (this proportion has been 50% since 1984). If that proportion is less than a uniform minimum amount fixed by the Administrative Council, the Contracting State has to pay that minimum to the Organisation. The structure and level of national renewal fees are fixed by the Contracting States.

The national patent offices of the Contracting States make these payments to the EPO on a quarterly basis.

Principles of revenue recognition for national renewal fees for granted European patents

National renewal fees for granted patents for the first three quarters of the year (due dates 30 April, 31 July and 30 October) are recognised as revenue upon receipt of payment. National renewal fees for the fourth quarter (due date 31 January) are accrued on the basis of cash received before year-end closure. Amounts not received by that date are accrued using estimates based on the average amount received in the first three quarters of the year.

There is no EPO performance obligation associated with post-grant renewal fees.

2.5.1.4 Searches for National Offices and third parties

Revenue from **searches for national offices and third-party searches** are recognised upon satisfaction of the corresponding performance obligation, i.e. upon rendering of the service and issue of the invoice involved. To better reflect the nature of these revenues and to align them with the internal reporting on search products, they are classified as revenue from patent and procedural fees.

2.5.2 Other revenue

Other revenue includes revenue from **patent information services, sales of patent information products and administrative fees**, with the following principles of revenue recognition:

- Revenue from **patent information services** is recognised upon satisfaction of the corresponding performance obligation, i.e. upon rendering of the service and issue of the invoice involved.

- For **sales of patent information products**, the revenue is recognised once control over the goods is transferred to the buyer.
- Revenue from **administrative fees** is recognised upon satisfaction of the corresponding performance obligation i.e. upon rendering of the administrative service.

2.5.3 Potential future National Renewal Fees for European patents

The EPO's costs related to the patent granting process from filing up to grant are covered only partly by its own procedural fees, the remainder being financed from national renewal fees for granted European patents, payable for each year the patent is maintained in force (see also Note 2.5.1.3). Further information on the financing of the EPO is provided in Note 30.4 on capital management.

This is reflected in the Organisation's fee policy: when fixing its fees for the specific services delivered in the grant procedure, potential national renewal fees for granted patents are explicitly taken into account.

Since there is no legal obligation on the patentee to maintain the patent for the maximum term (20 years) by paying the renewal fees involved, and since the structure and level of the fees are defined by the contracting states, the net present value of expected future national renewal fees on granted patents is presented in the notes but not recognised in the Statement of Comprehensive Income and the Statement of Financial Position. It is also possible that EPO income from these fees, together with that from renewal fees for pending applications, will not cover its remaining costs in granting the patent. As such future operating losses do not meet the criteria of a liability, the EPO recognises no provision for onerous contracts.

The net present value of potential future national renewal fees for European patents is calculated on the basis of estimated cash flows per Contracting State and year. These cash flows are discounted in line with their expected timing using the discount rates from the zero-coupon yields curve extrapolated from the Euro iBoxx® indices for corporates with an AA rating.

The estimated cash flows are based on the actual number of granted patents until year-end, and their life expectancy in the different countries where they have been validated.

Life expectancy and national validations are estimated using historical statistics for each contracting state.

The current renewal-fee distribution key and the fee amounts laid down by the contracting states are taken as constant values over the expected term of the patents.

2.6 Finance revenue and finance costs

Gains or losses arising from changes in the fair value of financial assets through profit and loss are presented in the Statement of Comprehensive Income, in the financial result section, in the period in which they arise.

Interest from assets measured at amortised cost is calculated using the effective interest method and recognised in financial income on an accrual basis. Interest from assets measured at fair value is recognised on an accrual basis.

Dividend income is recognised when the right to receive the payment is established.

2.7 Leases

At inception of a contract, the EPO assesses whether a contract is, or contains, a lease. A contract is, or contains, a lease if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration.

As a lessee

The EPO recognises a right-of-use asset and a lease liability at the lease commencement date. The right-of-use asset is initially measured at cost, which comprises the initial amount of the lease liability adjusted for any lease payments made at or before the commencement date, plus any initial direct costs incurred and an estimate of costs to dismantle and remove the underlying asset.

The right-of-use asset is subsequently depreciated using the straight-line method from the commencement date to the end of the lease term, or over the useful life of the underlying asset. The right-of-use asset is periodically reduced by impairment losses, if any, and adjusted for certain remeasurements of the lease liability.

The lease liability is initially measured at the present value of the discounted lease payments at the commencement date.

The EPO uses its incremental borrowing rate as the discount rate, the incremental borrowing rate being the estimated rate that the EPO would have to pay to borrow the funds necessary to obtain an asset of similar value in a similar economic environment with similar terms and conditions.

Lease payments included in the measurement of the lease liability comprise fixed payments, in-substance fixed payments, variable lease payments that depend on an index or a rate and the exercise price of a purchase option that the EPO is reasonably certain to exercise, lease payments in an optional renewal period if the EPO is reasonably certain to exercise an extension option, and penalties for early termination of a lease unless the EPO is reasonably certain not to terminate the lease contract early.

The lease liability is measured at amortised cost using the effective interest method.

The EPO presents the right-of-use in 'property, plant and equipment' in the statement of financial position.

The EPO has elected not to recognise right-of-use assets and lease liabilities for leases of low-value assets below EUR 1m and short-term leases, including IT equipment. The EPO recognises the lease payments associated with these leases as an expense on a straight-line basis over the lease term.

2.8 Income taxes

In accordance with Article 4 of the EPO's Protocol on Privileges and Immunities (EPO-PPI), the EPO and its property and income are exempt from all direct taxes within the scope of its official activities.

2.9 Property, plant and equipment

Property, plant and equipment are stated at cost (including borrowing cost, if any) less accumulated depreciation and any impairment in value. Depreciation is calculated on a straight-line basis over the estimated useful life of the asset as follows:

Land	not depreciated
Building components	10-50 years
Office equipment	3-20 years

The expected useful life of property, plant and equipment is reviewed at each year-end and adjusted if necessary.

For its buildings, the EPO applies the component approach, and depreciates parts of buildings with different useful lives separately. The depreciation periods for the components are as follows:

Construction of buildings	50 years
Facade	30 years
Fitting out	20 years
Technical installations	20 years
Electrical installations	10 years

If a part of a component is replaced, the new investment is added to the existing component's value, subject to IFRS recognition criteria, and the useful life of the component is extended accordingly. The carrying amount of the replaced part is derecognised. Repairs and maintenance are charged to the Statement of Comprehensive Income during the financial period in which they were incurred.

Assets that are subject to depreciation are reviewed for impairment whenever events or changes in circumstances indicate that the carrying value may not be recoverable. If such an indication exists and the carrying value exceeds the estimated recoverable amount, assets are written down to their recoverable amount.

For the purpose of assessing impairment, assets are grouped at the lowest level for which there are separately identifiable cash flows (cash generating units).

Property, plant and equipment that have suffered impairment are reviewed for possible reversal of the impairment at each reporting date. Specific rules relating to the impairment of intangible assets are described in Note 2.10.

An item of property, plant and equipment is derecognised upon disposal or when no future economic benefits are expected from its use and subsequent disposal. Any gain or loss arising on derecognition of the asset is included in the Statement of Comprehensive Income in the period in which the item is derecognised.

If an asset is kept with the intention to sell and is available for immediate sale in its present condition then it is reclassified to "assets held for sale". After reclassification the asset is no longer depreciated. Assets classified as held for sale are measured at the lower of their carrying amount and fair value less cost to sell.

2.10 Intangible assets

Intangible assets acquired separately are capitalised at cost. Following initial recognition, an intangible asset is carried at its cost less any accumulated amortisation. The depreciable amount of an intangible asset is allocated on a straight-line basis over its useful life. The acquired software is amortised over the period of 3-5 years. The amortisation period of acquired information systems is determined individually, depending on the expected useful life of the system. Some intangible assets are amortised over 20 years, including databases used by EPO examiners in the patent granting procedure. The amortisation period and method are reviewed at least at each financial year-end. If the expected useful life of the asset is significantly different from previous estimates, the amortisation period is changed accordingly.

Internal and external development costs of the intangible assets generated by the EPO are capitalised if they meet the recognition criteria:

- completion of the asset is technically feasible
- the EPO intends to complete the asset and use or sell it
- the EPO is able to use or sell the asset
- the asset is expected to generate future economic benefits
- the financial and technical resources necessary to complete the asset are available
- the costs attributable to the asset during its development can be measured reliably.

The costs incurred in the research phase of internal projects are expensed.

The costs of capitalised internally generated intangible assets comprise:

- the cost of services used in generating the asset
- the cost of internal employees involved in generating the asset
- other internal costs of materials, services and depreciation incurred in generating the asset
- programme management cost
- borrowing cost, if any.

EPO accounting policy is to capitalise the costs of internal development of intangible assets or significant, separately identifiable enhancement if the total internal and external costs over the whole project life exceed EUR 3m.

The internal costs for generating the asset include salaries allocated to the project based on the time used by internal staff for development activities (and recorded in an IT-based system) and any other directly attributable expenditure. External costs included in the capitalised projects mainly comprise fees for IT consultants, the purchase price of development software and hardware and the cost of developing and implementing specific system modules. When data concerning internal cost is not available, eligible projects are capitalised based on their external cost only.

Intangible assets are reviewed for impairment whenever events or changes in circumstances indicate that the carrying value may not be recoverable. The asset concerned is impaired only if it is no longer in use. This policy is applied for two reasons:

- the intangible assets owned by the EPO are not traded in an active market, which renders any reliable calculation of the recoverable amount impossible
- the smallest cash-generating unit to which these intangible assets belong is the EPO as a whole. No reliable estimate of the value in use by the EPO can be made because the EPO is a non-profit institution and its mission contains non-measurable goals (such as promoting a knowledge-based society in Europe).

Intangible assets not yet ready for use are reviewed for impairment at each reporting date.

Intangible assets that have suffered impairment are reviewed for possible reversal of the impairment at each reporting date.

An intangible asset is derecognised on disposal or when no future economic benefits are expected from its use and subsequent disposal. Gains or losses arising from the retirement or disposal of an intangible asset are determined as the difference between the net disposal proceeds and the carrying amount of the asset and should be recognised as income or expense in the Statement of Comprehensive Income.

2.11 Other assets

Since 2009, the Office has had a contract with FIL Investments International UK – Niederlassung Frankfurt, Kronberg im Taunus, Germany and FIL Pensions Services GmbH, Kronberg im Taunus, Germany, for asset management services and individual account administration services in connection with the implementation and administration of the Organisation's Salary Savings Plan (SSP). Since the introduction of the SSP, reimbursement rights due from the external service providers are capitalised as other assets measured at fair value determined by obtaining the market price at the balance sheet date. The term "reimbursement right", in this context, denotes the total contributions paid into each individual account plus the corresponding investment returns. SSP reimbursement rights are the Organisation's property within the meaning of Article 4 EPO-PPI. They are a special class of asset of the Organisation designed solely to settle the amounts owed. Fair value changes are recognised in the Statement of Comprehensive Income as finance revenue or finance costs. The main characteristics of the SSP are summarised in Note 22. A corresponding liability is recognised and presented separately in the Statement of Financial Position ("Salary Savings Plan obligation").

The repurchase value of insurance contracts agreed between the former Institut International des Brevets (ex-IIB) and several insurance companies is presented as a separate asset. The Organisation measures these assets at fair value determined by obtaining the repurchase values from the market makers.

2.12 Financial instruments

The EPO applies IFRS 9 (2014) to the reporting of financial instruments.

A financial instrument is any contract that gives rise to a financial asset of one entity and a financial liability or equity instrument of another entity.

Financial assets and liabilities are recognised in the Statement of Financial Position when the EPO becomes a party to the contractual provisions of the instrument. Regular purchases and sales of financial assets are recognised on the trade-date – the date on which the EPO commits to purchase or sell the asset. Financial assets are derecognised when the rights to receive cash flows from the investments have expired or have been transferred and the EPO has transferred substantially all risks and rewards of ownership. A financial liability is derecognised when the obligation specified in the contract is discharged or cancelled or expires.

Initially, financial instruments are recognised at fair value, unless it is a trade receivable without a significant financing component, in which case it is initially measured at the transaction price. For the purpose of measurement at subsequent reporting dates, the EPO classifies its financial assets according to IFRS 9 in the following categories: at fair value through profit or loss, and at amortised cost. The classification depends on the purpose for which the financial asset was acquired, and is defined at initial recognition. The business model for managing the financial assets and the contractual cash-flow characteristics of financial assets are also determined at initial recognition, and re-evaluated at each reporting date.

Financial assets are classified as current if expected to be settled within 12 months; otherwise, they are classified as non-current.

RFPSS assets are held with the aim of covering future pension payments. Estimates based on the actuarial studies have shown that the net payments to pensioners are not expected in the short term. Therefore all RFPSS assets are presented as non-current.

(a) Financial instruments at fair value through profit or loss

EPO Treasury Investment Fund (EPOTIF)

The EPOTIF portfolio is managed, evaluated and measured on a fair value basis and is not held to collect contractual cash flows. The portfolio comprises standard and other bonds, shares, funds, derivatives and other instruments. The performance of both assets and liabilities included in the EPOTIF portfolio is managed on a fair value basis. Consequently, the EPOTIF portfolio is measured at fair value through profit and loss.

After initial recognition, the fair value of EPOTIF investment units is measured on the basis of the Net Assets Value as published by the capital management company in charge of the fund administration (Master KVG).

RFPSS assets

The RFPSS portfolio is managed and evaluated on a fair value basis and is not held to collect contractual cash flows. The portfolio comprises standard and other bonds, shares, funds, derivatives and other instruments. The performance of both assets and liabilities included in the RFPSS portfolio is managed on the fair value basis. Consequently, the RFPSS portfolio is measured at fair value through profit and loss.

At initial recognition the instruments in this category are measured at fair value. Transaction costs are expensed in profit or loss for the period in which they were incurred. The instruments that are actively traded in the market are valued at the market auction price (also called close price) on the balance sheet date. If there is no active market for financial instruments, the last available price from the market maker is used. Gains or losses are recognised in the Statement of Comprehensive Income in the financial result section. The instruments held both by the EPOTIF and RFPSS are managed on a portfolio basis, so gains and losses on investments are presented net in the Statement of Comprehensive Income. A gross presentation is disclosed in Note 29.3.

(b) Financial instruments at amortised cost

Home loans

Home loans are granted to the EPO staff for the construction, purchase or conversion of residential property at an interest rate lower than the prevailing market one. Therefore, the fair value at initial recognition is estimated as the present value of all future cash receipts discounted using the prevailing market rate of interest for a similar instrument with a similar credit rating.

After initial recognition, home loans are measured at amortised cost using the effective interest method. They are split into non-current and current, based on the remaining term of the loan.

Trade and other receivables

After initial recognition, trade and other receivables are measured at amortised cost using the effective interest method, and discounted only if they are due in more than one year. Bad debts are written off when they become uncollectible, usually due to insolvency of the client. In such cases, the carrying amount of the trade receivables is reduced directly, rather than recognising the impairment on a separate account.

Cash and cash equivalents

Cash and cash equivalents in the Statement of Financial Position comprise cash at banks and in hand, as well as short-term deposits with an original maturity of three months or less, and are measured at amortised cost. For the purposes of the Statement of Cash Flows, cash and cash equivalents are presented as defined above, net of any outstanding bank overdrafts, which are shown as such in the Statement of Financial Position.

RFPSS restricted cash

RFPSS financial instruments include "restricted cash", i.e. cash used for purchase or received from sale of RFPSS investments. Cash and cash equivalents of the RFPSS comprise cash at bank, short-term deposits, i.e. with an original term to maturity of three months or less from the balance sheet date, and cash collateral relating to derivative transactions (margin account). According to the EPO regulations, this cash cannot be used for operational purposes, but only for post-employment benefit payments. Therefore, the cash of the RFPSS is presented separately as a part of non-current RFPSS net assets and is measured at amortised cost.

Trade and other payables

Trade and other liabilities are initially recognised at fair value. They are subsequently measured at amortised cost under the effective interest method, if applicable. Trade payables also include liabilities for goods received or services already performed but not yet invoiced.

RFPSS other assets

RFPSS other assets comprise mainly withheld dividends and amounts receivable from the sale of RFPSS assets.

RFPSS other liabilities

The amounts payable for the purchase of RFPSS assets, as well as other trade payables, are presented under this heading.

Lease liabilities

Reference is made to Note 2.7.

Impairment

The EPO recognises an expected credit loss allowance on financial assets that are measured at amortised cost. The loss allowance is measured at an amount equal to 12 months' expected credit losses unless the credit risk on the financial instrument has increased significantly since initial recognition, in which case the loss allowance is measured at an amount equal to the lifetime expected credit losses. The credit loss on the financial asset is measured as the present value of the difference between the cash flows that are due to the EPO under the contract and the cash flows that the EPO expects to receive.

Fair value measurements

The EPO uses the following techniques and inputs to determine the fair value measurements:

- The fair value of instruments that are actively traded in the market is measured at the market auction price (also called close price) on the balance sheet date.
- The fair value of instruments for which there is no active market is measured at the last available price from the market maker.
- The fair value of EPOTIF investment units is measured on the basis of the Net Assets Value as published by the capital management company in charge of the fund administration (Master KVG).

- The fair value of home loans is calculated as the present value of the future cash flows discounted using the prevailing market interest rates and applying the Moosmüller method. Interest rates used as input for the model are Euribor rates and the rates of AAA-rated Euro-area central-government bonds.

The EPO's policy is to recognise transfers into and out of fair value levels as of the date of the event or change in circumstances that caused the transfer.

2.13 Prepaid expenses

To ensure that the Statement of Comprehensive Income shows only expenses for services actually rendered or goods actually received within the accounting period, the initially posted cash-based expenses are adjusted for prepaid expenses at the closing date.

2.14 Equity

In compliance with the EPC, no issued capital is designated.

2.15 Employee benefits

Employee benefits comprise any benefits payable by the EPO to current or former employees and to those entitled under them (beneficiary) for services rendered.

2.15.1 Short-term employee benefits

Short-term employee benefits are those benefits (other than post-employment benefits) that are expected to be wholly settled within twelve months as of the end of the annual reporting period in which the services were rendered. Obligations resulting from short-term employee benefits are presented in the Statement of Financial Position as other employee-related liabilities (current). These liabilities mainly concern bonus payments and compensated absences such as regular annual leave and home leave which are determined by applying an average daily cost rate, based on year-end figures, on granted but untaken leave.

2.15.2 Post-employment benefits – defined benefit liability

Post-employment benefits are employee benefits (other than termination benefits) which are payable after the completion of employment. Defined contribution plans are post-employment benefit plans under which an entity pays fixed contributions into a separate entity and will have no legal obligation to pay further contributions if the separate entity does not hold sufficient assets to pay all employee benefits relating to employee service in the current and prior periods. A defined benefit plan is a pension plan that is not a defined contribution plan. At the EPO, defined benefit plans define an amount of pension benefit that a beneficiary will receive on retirement, usually dependent on one or more factors such as age, years of service and pay. Assets held to fund part of the pension obligations, lump-sum payments made in tax compensation for national taxation of pensions, long-term care (LTC) insurance, and sickness insurance for pensioners and those entitled under them are invested by the RFPSS but do not represent plan assets in terms of IAS 19.8.

The Organisation operates four plans treated as defined benefit obligations (DBOs) for its employees:

- a retirement pension plan including retirement for health reasons, any tax compensation thereon, and family allowances
- an LTC plan
- a sickness insurance for pensioners
- a death insurance involving lump-sum payments.

As of 1 April 2015, the EPO introduced new rules on incapacity (formerly known as invalidity). This reform affected the defined benefit plans for pensions and the death & invalidity insurance involving lump-sum payments.

a) Under the old scheme, employees of the EPO could be assigned to non-active status for reasons of invalidity. These employees were exempt from service and they received an invalidity allowance, a tax adjustment (if the allowance was taxed nationally) and a lump sum for permanent invalidity equivalent to 33 months of basic salary. In view of its obligation to pay invalidity allowances, tax adjustments and lump sums in case of invalidity, the EPO built up actuarially measured provisions for the potential risk for those payments, classified as DBOs.

b) Under the new scheme, if upon expiry of the extended sick leave period under the EPO Service Regulations as currently worded the employee is still unable to perform his duties or other similar duties the employee is declared to be on incapacity, on the basis of a medical opinion. During incapacity, the employee remains in active service. The employee is entitled to a proportion of his basic salary and salary-related allowances equal to the time worked, and 70% of the basic salary and salary-related allowances for the time the employee is discharged from duties for reasons of incapacity. Incapacity is always temporary, except for staff with severe health problems. If the medical condition is assumed to be permanent and the employee is not expected to recover, the employee is retired for health reasons if the employee has reached 55 years of age and has been totally discharged from his duties for reasons of incapacity for ten years.

The employee's state of health is periodically reviewed, to determine whether or not the employee still fulfils the conditions for incapacity and, if so, whether the proportion of incapacity and its duration should be adjusted. Incapacity ends on return to full-time work or on termination of service through retirement. Thus, the lump sum paid under the old scheme in case of invalidity has been abolished.

As a transitional measure, those in receipt of an invalidity allowance upon entry into force of the new regulations are not subject to the new incapacity scheme, but are entitled to a retirement pension.

The change in the invalidity scheme as per 1 April 2015 had the following consequences for EPO accounting purposes:

Those in receipt of invalidity allowances before the reform's entry into force went into final retirement before the reform. The provision for their invalidity allowances and tax adjustments remained unchanged but was treated as retirement pension.

For all employees declared to be on incapacity following a medical opinion, a provision is recognised on a case-by-case basis for 70% of their basic salary and salary-related allowances for that part of time for which they are discharged from duties for reasons of incapacity, during the entire expected period of incapacity. Since there is no vesting period, for all such employees vesting occurs immediately following the declaration that they are incapacitated. Therefore, no provisions are recognised for the potential risk of incapacity in the group of active employees.

Allowances to persons on non-active or retired status are considered as post-employment benefits accounted for under the rules of defined benefit plans, whereas the salary (or percentage thereof) and salary-related allowances payable during discharge from service for reasons of incapacity are considered as other long-term employee benefits.

The potential risk of retirement for health reasons is recognised under the normal pension scheme of the EPO.

2.15.3 Pension plan

The liability recognised in the Statement of Financial Position in respect of the defined benefit pension plan is the present value of the defined benefit obligation (DBO) at the balance sheet date, together with adjustments – if any – for past service costs.

The DBO is calculated annually by independent actuaries at the OECD's International Service for Remunerations and Pensions (ISRP) using the projected unit credit method, taking into account not only the pension obligations and vested pension rights known at the balance sheet date but also expected future salary increases, career development and demographic assumptions about mortality, employee turnover, retirement for health reasons and other actuarial parameters. The present value of the DBO is also determined by discounting the estimated future cash outflows using interest rates of high-quality corporate bonds that are denominated in the currency in which the benefits will be paid and that have terms to maturity approximating to the terms of the related pension liability. The increase in the present value of the DBO resulting from the employees' service in the current period is classified as service costs.

Actuarial gains and losses are recognised, in total, in other comprehensive income in the period in which they arise.

A beneficiary of the defined benefit pension plan as defined above who took up duty before 1 January 2009 can be entitled to tax compensation ("tax adjustment") applying to the contracting state of the Organisation in which the pension and adjustment relating thereto are chargeable to income tax under the tax legislation in force in that state. The adjustment is equal to 50% of the amount by which the recipient's pension would theoretically need to be increased, were the balance remaining after deduction of the amount of national income tax or taxes on the total to correspond to the amount of the pension calculated without income taxes. For such purpose, the Organisation uses tables of equivalence specifying, for each amount of pension and each country of residence, the amount of the adjustment to be added thereto.

When the EPO introduces a new defined benefit plan, or changes the benefits payable under an existing plan, the difference in DBO is recognised as past service cost.

EPO employees who have previously worked in national government departments, international organisations or industry may be able to arrange for inward transfer, into the EPO pension scheme, of retirement pension rights accrued under their previous schemes. In such cases, the EPO determines the number of years' reckonable service credited under its own pension scheme. Valuation differences resulting from inward transfers are taken into account as past service cost.

The interest component of the addition to provisions contained in pension expenses is classified as interest costs. Current service costs and past service costs are classified as employee benefit expenses.

2.15.4 Other post-employment benefit obligations

The Organisation provides health and LTC insurance for its pensioners and those entitled under them. There is also insurance cover for the risks of death and invalidity for former staff members who have not yet reached the age of 60. The expected costs of these benefits are accrued over the period of employment using the same accounting methodology as for defined benefit pension plans.

Actuarial gains and losses are recognised in the period in which they occur, in total, in retained earnings. The obligations are valued annually by independent qualified actuaries.

Post-employment health insurance is a defined benefit plan managed by the insurance broker Cigna International Health Services BVBA, Antwerp, Belgium (Cigna). The obligation for this insurance is calculated on the basis of the anticipated medical costs and the EPO's estimated future contributions to the insurance contracts given the medical cost for the current population of pensioners and those entitled under them. Payments to beneficiaries are made directly by Cigna on behalf of the EPO. Under the system in place until 2016, the EPO paid insurance premiums to Cigna; in 2017, this system was replaced by a self-insurance model administered by Cigna. As a result of this change, the EPO no longer pays a fixed insurance premium per insured family but pays plan participants' medical costs itself. The benefits paid are calculated taking into account the graph of refunds by age, based on the refunds made to the beneficiaries by Cigna.

Post-employment LTC insurance is also classified as a defined benefit plan. Insured on a compulsory basis are former employees and their dependent children, former employees in receipt of an invalidity or retirement pension and their dependent children, and dependent children in receipt of an orphan's pension following the death of the insured person. There are also persons who are insured on a voluntary basis. The LTC insurance benefits are calculated in proportion to salaries. Depending on the degree of reliance on LTC identified, the monthly benefit paid corresponds to defined percentages of the monthly basic salary.

A deferred pensioner can irrevocably opt for LTC insurance. The Office assesses the probability of deferred pensioners remaining in the LTC scheme. Any deviation between the estimation of the Office and the actual number of insured persons is recognised as an actuarial gain or loss in Other Comprehensive Income.

The death insurance is a defined benefit plan managed by the Organisation. Under this plan, beneficiaries receive a lump sum, based on the deceased's last salary, in the event of death. The benefits are calculated in proportion to salaries. Payments to beneficiaries are made directly by the Organisation and financed by the contributions of staff members and the Organisation. The actuarial present value of the death benefits is based on the benefits promised under the terms of the plan as described in Note 21.2.4 using the projected salary levels and the risk of death in service for each plan participant at the balance sheet date. The regular cash settlements after each three-year period, if any, do not affect the actuarial present value of the death obligation.

2.15.5 Other long-term employee benefits

2.15.5.1 Salary savings plan (SSP) obligation

The Organisation operates an SSP managed by external service providers. The amount of the SSP received by the beneficiaries is recognised as an obligation from other long-term employee benefits and is determined by the amount of contributions paid by the Office and the beneficiary to that plan, together with investment returns on the contributions. Contributions paid by the EPO are included in employee benefit expenses. In contrast to the accounting treatment of pension and other post-employment benefit obligations, any gains and losses are recognised immediately in the Statement of Comprehensive Income as finance revenue or finance costs. The Salary Savings Plan obligation is presented in the Statement of Financial Position as a separate line item. The main characteristics of the SSP are summarised in Note 22.

2.15.5.2 Incapacity

For any permanent employee declared to be on incapacity following a medical opinion, a provision is recognised on a case-by-case basis for 70% of their basic salary and salary-related allowances for that part of time for which they are discharged from duties for reasons of incapacity, during the entire expected period of incapacity. During 2018 the incapacity scheme was opened up to employees working on fixed-term contracts.

2.15.5.3 Other employee-related liabilities (non-current)

Non-SSP employee benefit obligations payable during employment but more than one year after the end of the period in which the employee service was rendered, are presented in the Statement of Financial Position as other employee-related liabilities (non-current).

2.15.6 Termination benefits

Termination benefits, if any, are payable when employment is terminated by the Organisation before the normal retirement date and the EPO is contractually committed to such payments. Benefits due more than 12 months after the balance sheet date are discounted to their present value. Termination benefit obligations are presented in the Statement of Financial Position as part of other employee-related liabilities (current/non-current).

2.16 Provisions

Provisions are recognised when the Organisation has a present legal or constructive obligation as a result of past events, it is more likely than not that an outflow of resources will be required to settle the obligation and the amount can be reliably estimated. Provisions are not recognised for future operating losses.

If the effect is material, a provision is determined by discounting the expected future cash outflow using a rate that reflects current market assessments of the time value of money and the risks specific to the obligation. This increase in the provision due to passage of time is recognised as finance costs.

2.17 Prepaid fees and refund liabilities

Prepaid fees and refund liabilities (contract liabilities) are recognised under IFRS 15 Revenue from Contracts with Customers to record fee payments received for services for which the performance obligation has not yet been fully satisfied or for which the payer is entitled to a refund, as well as prepayments for renewal fees for patent applications. See Note 2.5 above.

3. Revenue from contracts with customers

The following tables show the disaggregation of the EPO revenue by major products:

3.1 Revenue from patent and procedural fees and other revenue

The revenue breaks down into the following categories:

	in EUR '000	
Revenue from patent and procedural fees	2021	2020
Procedural fees related to the patent grant process (Note 3.2)	1 231 152	1 312 582
National renewal fees for granted patents	640 711	597 629
Searches for national offices and third parties	54 321	59 953
Total	1 926 184	1 970 164

Other revenue	2021	2020
Patent information services and products	7 383	7 472
Administrative fees	2 383	2 685
Total	9 766	10 157

3.2 Procedural fees related to the patent grant process

The different categories of patent grant-related services contributed to patent fee income as follows:

	in EUR '000	
Procedural fees related to the patent grant process	2021	2020
Filing – EPC and Euro-PCT	71 452	69 491
Searches – EP and Euro-PCT	159 764	158 434
International searches – PCT	120 011	124 787
Examination – EPC and Euro-PCT	212 015	271 665
International preliminary examination – PCT	9 623	10 202
Grant – EP and Euro-PCT	104 570	126 849
Opposition	4 023	2 141
Appeal	6 296	4 377
Designation, extension and validation fees	104 103	97 207
Renewal fees for patent applications	434 318	442 318
Others	4 977	5 111
Total	1 231 152	1 312 582

3.3 Contract balances

The following table provides information about receivables as well as prepaid fees and refund liabilities (contract liabilities) from contracts with customers:

	in EUR '000	
Contract balances	2021	2020
Receivables, which are included in "Trade and other receivables" (see Note 18)	143 088	134 109
Prepaid fees and refund liabilities	1 037 148	940 482
thereof prepaid fees	1 037 148	939 515
thereof refund liabilities	—	967

Prepaid fees are recognised to record fee payments received for services for which the EPO has not yet fully satisfied its performance obligations as well as prepayments on patent application renewal fees which are refundable on the date of the financial statements.

Refund liabilities include the amount of refunds due at the balance-sheet date which have not yet been paid out.

The following tables show the significant changes in the prepaid fees balances during the reporting period:

	in EUR '000				
Prepaid fees	Opening balance 01.01.2021	Revenue recognised that was included in the prepaid fees at the beginning of the period	Decreases of prepaid fees due to cancellation of the contract	Increases due to cash received excluding amounts recognised as revenue during the period	Ending balance 31.12.2021
Filing – EPC and Euro-PCT	17 209	(16 690)	(177)	19 015	19 357
Searches – EP and Euro-PCT	110 106	(96 471)	(125)	113 513	127 023
International searches – PCT	31 523	(25 716)	(28)	33 535	39 314
Examination – EPC and Euro-PCT	729 703	(172 471)	(29 337)	270 260	798 155
International preliminary examination – PCT	4 102	(4 018)	(13)	3 762	3 833
Grant – EP and Euro-PCT	12 808	(12 272)	(3)	9 419	9 952
Opposition	7 038	(3 449)	(323)	3 026	6 292
Appeal	21 390	(6 188)	(23)	5 111	20 290
Others	5 636	(5 553)	—	12 849	12 932
Total	939 515	(342 828)	(30 029)	470 490	1 037 148

in EUR '000

Prepaid fees	Opening balance 01.01.2020	Revenue recognised that was included in the prepaid fees at the beginning of the period	Decreases of prepaid fees due to cancellation of the contract	Increases due to cash received excluding amounts recognised as revenue during the period	Ending balance 31.12.2020
Filing – EPC and Euro-PCT	19 125	(18 664)	(209)	16 957	17 209
Searches – EP and Euro-PCT	103 563	(94 064)	(1 586)	102 193	110 106
International searches – PCT	33 647	(33 509)	(86)	31 471	31 523
Examination – EPC and Euro-PCT	746 804	(221 502)	(58 745)	263 146	729 703
International preliminary examination – PCT	4 636	(4 388)	(149)	4 003	4 102
Grant – EP and Euro-PCT	16 772	(16 187)	(324)	12 547	12 808
Opposition	5 668	(1 746)	(172)	3 288	7 038
Appeal	21 961	(5 007)	(358)	4 794	21 390
Others	5 360	(5 256)	(91)	5 623	5 636
Total	957 536	(400 323)	(61 720)	444 022	939 515

The prepaid fees balances correspond to the transaction price allocated to the remaining performance obligations from contracts with customers. Slight modifications to the transaction price are possible if the patent applicant amends the amount of claims or pages during the patent application process.

For European, Euro-PCT and international searches, the full amount of the transaction price will not be realised as revenue due to the fact that applicants may be entitled to a refund if the search performed was based on an earlier search drawn up by the EPO and the EPO was able to profit fully or partially from the results of that earlier search. For more details on the search fee refund rules, please refer to Note 2.5 "Revenue recognition".

As an indication, the amounts of refunds paid out per year due to the use of previous search reports are:

- For European and Euro-PCT searches: EUR 16.2m (2020: EUR 17.2m), which is 11% (2020: 12%) of the annual revenue for this product category.
- For international PCT searches: EUR 36.5m (2020: EUR 38.3m), which is 34% (2020: 34%) of the annual revenue for this product category.

Furthermore, examination, European and Euro-PCT search fees will not be fully or partly realised as revenue if applicants cancel the contract by withdrawing their application actively or passively or by closing the proceedings. In these cases the EPO will no longer have any performance obligation. Refunds may fall due depending on whether or not the examiner has started work when the cancellation takes effect. The amounts of cancelled contracts per product are shown separately in the first table above.

As an indication, the amounts of refunds paid out per year due to active or passive withdrawal by the applicant are:

- For examination: EUR 21.6m (2020: EUR 26,7m), which is 11% (2020: 10%) of the annual revenue for this product category.
- For European and Euro-PCT searches: EUR 1.9m (2020: EUR 2.0m), which is 1% (2020: 1%) of the annual revenue for this product category.

In line with its planned production schedule, the EPO expects to satisfy its remaining performance obligations as per balance sheet date for its two main products, search and examination, within:

– 4.4 months (2020: 3.8 months) for searches – EP and Euro-PCT
– 2.7 months (2020: 2.4 months) for international searches – PCT
– 30.8 months (2020: 22.3 months) for examination – EP and Euro-PCT
– 4.2 months (2020: 4.2 months) for international preliminary examinations – PCT

4. Potential future national renewal fees for European patents

As at the balance sheet date the net present value of these fees was EUR 5 712m (2020: EUR 5 560m).

Cash flows have been estimated individually per Contracting State and year over the term remaining after grant in each Contracting State. The renewal rates were derived from the behaviour of patent proprietors in the post-grant phase as currently observed.

The discount rates applied in 2021 to the expected cash flows range between -0.33% and 1.16% (2020: between -0.36% and 0.59%). A one percentage point increase in the discount rates applied would result in a decrease of EUR 320m (2020: EUR 318m) in the net present value of potential future national renewal fees.

For further information see Notes 2.4 and 2.5.3.

5. Other operating income

Other operating income	2021	2020
Fees for European Qualifying Examination	1 489	1 309
Rental income	852	835
Release accruals from prior years	1 025	858
Reimbursement additional site costs Berlin	717	740
Income from valuation of insurance funds	93	110
Other	2 151	2 159
Total	6 327	6 011

in EUR '000

Further information regarding the reversal of impairment is presented in Note 11.

6. Operating leases – the EPO as lessor

The EPO has entered into a number of minor agreements to lease out limited parts of office premises. All of these contracts are classified as operating leases with fixed payments subject to periodical adjustments for inflation. The income from these contracts in 2021, including rent and charges, was EUR 852k (2020: EUR 835k).

Maturity analysis of the non-cancellable lease payments to be received by the EPO (undiscounted):

	in EUR '000	
Maturity as from reporting date:	2021	2020
Year 1	526	779
Year 2	155	379
Year 3	154	198
Year 4	154	198
Year 5	154	187
Year 6	154	154
Total	1 297	1 895

7. Employee benefit expenses

	in EUR '000	
Employee benefit expenses	2021	2020
Current service cost (net of staff contributions)	1 004 738	1 071 490
Basic salaries permanent employees	755 163	755 052
Allowances and other benefits	261 081	315 134
Healthcare and other cost of social security	31 583	28 621
School and day-care centres	26 915	26 368
Past service costs	10 999	12 967
Remuneration of other employees	7 636	2 506
Training	4 487	4 199
Other	4 388	8 729
Total	2 106 990	2 225 066

Detailed information on current service cost is presented in Note 21.

8. Other operating expenses

	in EUR '000	
Other operating expenses	2021	2020
IT maintenance	134 619	107 767
Property and equipment maintenance	37 619	43 474
Consultancy and other external services	34 975	39 142
Patent information and public relations	15 572	12 155
Co-operation and meetings	13 827	9 298
Documentation	11 247	10 504
Damages	7 036	1 371
Postage and telecommunications	2 721	3 556
Travel	33	868
Other	5 520	3 576
Total	263 169	231 711

9. Finance revenue

	in EUR '000	
Finance revenue	2021	2020
Interest income from home loans	2 439	2 584
Valuation gains on investments	232 648	133 178
Valuation gains on RFPSS financial instruments	1 343 615	422 626
Valuation gains on assets Salary Savings Plan	32 013	5 095
Decrease obligation Salary Savings Plan	—	—
Total	1 610 715	563 483

Further information on gains from financial instruments is presented in Note 29.3.

10. Finance costs

	in EUR '000	
Finance costs	2021	2020
Interest costs on defined benefit obligations	265 831	336 789
Valuation losses on investments	—	—
Valuation losses on RFPSS financial instruments	—	—
Increase obligation Salary Savings Plan	—	—
Increase (decrease) obligation Salary Savings Plan	32 013	5 095
Interest costs lease	843	1 073
Other	—	1
Total	298 687	342 958

Further information on losses from financial instruments is presented in Note 29.3.

11. Property, plant and equipment

The reconciliation of the carrying amount of property, plant and equipment for the reporting period is as follows:

in EUR '000

	Land	Buildings	Office equipment	Total
Cost at 1 January 2021	174 732	1 095 857	161 294	1 431 883
Additions	—	9 752	8 777	18 529
Disposals/Retirements	—	(2 780)	(34 425)	(37 205)
Transfers	—	—	—	—
Cost at 31 December 2021	174 732	1 102 829	135 646	1 413 207
Accumulated depreciation 1 January 2021	—	(632 090)	(107 588)	(739 678)
Depreciation for the year	—	(33 126)	(22 974)	(56 100)
Disposals/Retirements	—	—	34 402	34 402
Transfers	—	—	—	—
Reversal of impairment loss	—	—	—	—
Accumulated depreciation 31 December 2021	—	(665 216)	(96 160)	(761 376)
Impairment loss for the year	—	—	—	—
Accumulated impairment 31 December 2021	—	—	—	—
Net carrying value 1 January 2021	174 732	463 767	53 706	692 205
Net carrying value 31 December 2021	174 732	437 613	39 486	651 831
Including construction in progress				
1 January 2021	—	5 853	—	5 853
31 December 2021	—	8 553	—	8 553

Additions to buildings in 2021 mainly refer to landscaping works and construction of a large pond for the New Main building for EUR 3 269k and the new Isar Daylight project for EUR 2 422k. Additions to office equipment in 2021 mainly refer to the purchase of connected tablets for EPO staff for EUR 4 883k.

The retirements of office equipment in 2021 include mainly the decommissioning of obsolete laptops and desktops workstations formerly capitalised according to *IAS 17 Leases*. Those assets were initially recognised with the amount of EUR 20 172k and were already fully depreciated. Furthermore, the retirements of office equipment in 2021 include the disposal of various office furniture initially recognised as low value assets for the amount of EUR 11 167k and already fully depreciated.

The EPO building at Bob-van-Benthem-Platz 1 in Munich was constructed under the hereditary building lease granted to the EPO by the German government in 1980 and ending on 8 August 2075. The Hinge building in The Hague was constructed on land leased from the Netherlands in 1988 for a period of 80 years ending on 30 May 2068, for the token amount of EUR 0.45 per year.

The comparative figures are presented in the table below:

in EUR '000

	Land	Buildings	Office equipment	Total
Cost at 1 January 2020	174 732	1 120 003	152 534	1 447 269
Additions	—	5 880	10 574	16 454
Disposals/Retirements	—	(30 026)	(1 814)	(31 840)
Transfers	—	—	—	—
Cost at 31 December 2020	174 732	1 095 857	161 294	1 431 883
Accumulated depreciation 1 January 2020	—	(624 818)	(88 945)	(713 763)
Depreciation for the year	—	(35 181)	(20 454)	(55 635)
Disposals/Retirements	—	27 909	1 811	29 720
Transfers	—	—	—	—
Reversal of impairment loss	—	—	—	—
Accumulated depreciation 31 December 2020	—	(632 090)	(107 588)	(739 678)
Impairment loss for the year	—	—	—	—
Accumulated impairment 31 December 2020	—	—	—	—
Net carrying value 1 January 2020	174 732	495 185	63 589	733 506
Net carrying value 31 December 2020	174 732	463 767	53 706	692 205
Including construction in progress				
1 January 2020	—	6 554	—	6 554
31 December 2020	—	5 853	—	5 853

The retirements in 2020 comprise the demolition of the old Main building in The Hague which was completed during the reporting period. The old Main building was already fully depreciated at the time of demolition. The old Main building was the former seat of the IIB, inaugurated in 1972. The New Main building inaugurated in 2018 replaced the old Main building.

12. Intangible assets

The reconciliation of the balances of intangible assets for the reporting period is as follows:

in EUR '000

	Acquired software	Acquired information systems	Internally generated systems	Total
Cost at 1 January 2021	14 461	54 600	115 921	184 982
Additions	36	—	14 829	14 865
Disposals	(1 819)	(49 439)	(27 556)	(78 814)
Transfers	—	—	—	—
Cost at 31 December 2021	12 678	5 161	103 194	121 033
Accumulated amortisation 1 January 2021	(12 085)	(53 348)	(88 259)	(153 692)
Amortisation for the year	(1 862)	(825)	(11 124)	(13 811)
Amortisation disposals	1 819	49 067	27 187	78 073
Amortisation transfers	—	—	—	—
Accumulated amortisation 31 December 2021	(12 128)	(5 106)	(72 196)	(89 430)
Net carrying value 1 January 2021	2 376	1 252	27 662	31 290
Net carrying value 31 December 2021	550	55	30 998	31 603
Including construction in progress				
1 January 2021	—	—	7 167	7 167
31 December 2021	—	—	15 355	15 355

Additions to internally generated systems in 2021 relate mainly to IT developments as part of the Strategic Plan 2023.

Disposals of acquired information systems in 2021 include mainly the disposal of legacy prior-art databases in the context of the mainframe decommissioning. Those assets were initially recognised with the amount of EUR 49 439k and were almost fully amortised.

Disposals of internally generated systems in 2021 include mainly the disposal of the residual part of eDossier, as further usage of the asset has been considered as being limited. The asset was initially recognised with the amount of EUR 27 556k and was almost fully amortised.

The EPO invests in the development of information systems to support its operations. The figures for these internally generated systems include only external cost. All internally generated systems currently being developed (construction in progress) are part of the Strategic Plan 2023.

The comparative figures are as follows:

in EUR '000

	Acquired software	Acquired information systems	Internally generated systems	Total
Cost at 1 January 2020	14 109	54 600	107 872	176 581
Additions	352	—	8 049	8 401
Disposals	—	—	—	—
Transfers	—	—	—	—
Cost at 31 December 2020	14 461	54 600	115 921	184 982
Accumulated amortisation 1 January 2020	(10 177)	(52 842)	(80 370)	(143 389)
Amortisation for the year	(1 908)	(506)	(7 889)	(10 303)
Amortisation disposals	—	—	—	—
Amortisation transfers	—	—	—	—
Accumulated amortisation 31 December 2020	(12 085)	(53 348)	(88 259)	(153 692)
Net carrying value 1 January 2020	3 932	1 758	27 502	33 192
Net carrying value 31 December 2020	2 376	1 252	27 662	31 290
Including construction in progress				
1 January 2020	—	—	8 628	8 628
31 December 2020	—	—	7 167	7 167

Additions of acquired software in 2020 relate mainly to new software licences.

13. Right-of-use assets and liabilities from leases

The EPO entered into a number of leasing contracts as a lessee, to address specific needs concerning the office space and IT equipment. A substantial part of the right-of-use assets recognised by the EPO at 31 December 2021 is related to the dedicated facilities and IT hardware of a data centre, while another significant part is related to the leasing of office space in Haar (district of Munich). All right-of-use assets are presented in the balance sheet under property, plant and equipment (see Note 11).

The following amounts have been recognised during the reporting period in the statement of financial position for right-of-use assets:

in EUR '000

Right-of-use assets	Buildings	Office equipment	Total
Balance at 1 January 2021	31 145	31 844	62 989
Additions	—	—	—
Changes in assumptions	(2 207)	—	(2 207)
Depreciation	(3 189)	(13 258)	(16 447)
Balance at 31 December 2021	25 749	18 586	44 335

The change in assumptions reflects the fact that the Office is no longer likely to make use of the lease extension option for part of the premises in Haar. The main agreement in Haar started on 1 September 2017 for a fixed duration until 31 August 2032, while the amending agreement for additional space that started on 1 April 2019 can be terminated by the Office as of 31 August 2026 already. In prior year, both contracts were assumed to end both on 31 August 2032.

The amounts recognised during the reporting period in the statement of financial position statement of comprehensive income were as follows:

	in EUR '000	
Financial position statement of comprehensive income	2021	2020
Interest on lease liabilities	843	1 073
Expenses relating to short term leases	—	—
Expenses relating to leases of low-value assets	2 615	4 948
Total	3 458	6 021

The total amounts recognised during the reporting period in the statement of cash flows for finance and operating leases were as follows:

	in EUR '000	
Cash outflows for leases	2021	2020
Total	19 687	22 454

The maturity structure of undiscounted lease liabilities at 31 December 2021 was as follows:

	in EUR '000	
Undiscounted lease liabilities	2021	2020
Less than 1 year	16 246	16 935
Between 1 years and 5 years	19 760	36 160
Over 5 years	10 884	13 537
Total	46 890	66 632

The EPO does not have lease contracts that contain substantial variable lease payments. Substantial subleasing and sale-and-lease-back transactions did not take place during the reporting year. No leasing costs have been included in the carrying amount of other assets.

The leasing contracts related to buildings contain standard provisions according to which future lease payments are increased periodically to reflect changes of the relevant consumer price indexes. These potential increases of lease payments may lead to future cash outflows that are not reflected in the current measurement of lease liabilities. The increases will be reflected both in the right-of-use assets and lease liabilities at the time they become effective.

Substantial payments concerning extension or termination options, residual value guaranties, and leases committed not yet commenced are not present in the EPO leasing contracts. The contracts do not include any financial restrictions or covenants for the EPO.

14. RFPSS net assets

The value of RFPSS assets per post-employment benefit plan as at 31 December is as follows:

in EUR '000

2021	Pensions	LTC	Sickness insurance	Total
RFPSS financial assets	10 354 936	294 824	884 153	11 533 913
RFPSS other assets	563	16	48	627
RFPSS restricted cash	300 888	8 567	25 691	335 146
RFPSS financial liabilities	(1 520)	(43)	(131)	(1 694)
RFPSS other liabilities	(100)	(3)	(9)	(112)
Total	10 654 767	303 361	909 752	11 867 880

in EUR '000

2020	Pensions	LTC	Sickness insurance	Total
RFPSS financial assets	9 003 023	247 963	763 766	10 014 752
RFPSS other assets	559	15	49	623
RFPSS restricted cash	295 083	8 127	25 033	328 243
RFPSS financial liabilities	(664)	(18)	(56)	(738)
RFPSS other liabilities	(92)	(3)	(7)	(102)
Total	9 297 909	256 084	788 785	10 342 778

Major categories of RFPSS net assets are as follows:

in %

Asset class share	2021	2020
Domestic government bonds	15.3	14.8
Domestic corporate bonds	5.8	5.6
Foreign bonds	4.5	4.5
Emerging market bonds	4.9	4.9
Domestic equities	19.7	19.6
Foreign equities	24.7	24.2
Emerging markets	8.8	9.4
Real estate	9.9	10.2
Commodities	4.1	3.9
Cash holdings	2.3	2.9
Total	100	100

15. Investments

The EPO invests its excess liquidity through the EPO Treasury Investment Fund (EPOTIF). The fund is administered by an external capital management company (Master KVG – Kapitalverwaltungsgesellschaft). The EPO participates in the fund by purchasing investment units issued by the Master KVG. The fund invests, both directly and in the form of derivative instruments, in equities, fixed-income instruments, commodities and alternative investments. Management of the resources invested in the fund by the EPO has been outsourced to asset management companies.

The value of the EPO's investment portfolio at the year-end was as follows:

	in EUR '000	
Investments	2021	2020
EPO Treasury Investment Fund (EPOTIF)	3 620 531	3 137 883

The table below presents the EPOTIF asset allocation at the year-end.

	in %	
Percentage share in Net Assets Value	2021	2020
Equities	17.1	12.5
Profit Participation Certificates (Equities)	0.2	0.2
Dividend Claims	0.0	0.0
Equity-Index Futures	0.2	0.3
Equity Funds	17.9	15.0
Bonds	30.8	37.2
Bond Futures	0.0	0.0
Fixed-Income Funds	23.3	22.6
Commodity Funds	0.7	0.6
Currency Forwards	-0.1	0.7
Other Funds	6.3	8.2
Cash	3.6	2.7
Total	100.0	100.0

Net gains and losses on investments were as follows:

	in EUR '000	
Net gains and losses on investments	2021	2020
Financial assets at fair value through P&L		
Valuation gains or losses	232 648	133 178
Total	232 648	133 178

16. Home loans to staff

in EUR '000

Home loans to staff	2021	2020
Home loans non-current	89 921	91 891
Home loans current	8 426	8 375
Total	98 347	100 266

Home loans to staff are initially recognised at fair value, which is estimated at the present value of all future cash receipts discounted using the prevailing market rate for a similar financial instrument of a similar duration. In 2021 the net loss due to revaluation of new home loans to fair value amounted to EUR 1 367k (2020: EUR 1 904k). After initial recognition, home loans are measured at amortised cost using the effective interest method. They are split into non-current and current portions based on the remaining term of the loan.

17. Other assets

in EUR '000

Other assets	2021	2020
Assets Salary Savings Plan (SSP)	196 664	146 133
Repurchase value insurance funds ex-IIB	303	326
Total	196 967	146 459

The assets invested under the SSP are held by an external service provider on the EPO's behalf and are owned by the EPO. The main characteristics of the SSP are summarised in Note 22.

18. Trade and other receivables

in EUR '000

Trade receivables	2021	2020
Renewal fees	137 976	128 047
EPO products and services	5 112	6 062
Total	143 088	134 109
Other receivables		
Tax	23 402	16 537
Staff and related accounts	752	689
Others	3 237	2 593
Total	27 391	19 819
Total trade and other receivables	170 479	153 928

All trade and other receivables are expected to be recovered or settled within 12 months after the balance sheet date and are therefore classified as current assets. The analysis of trade receivables – EPO products and services that were past due but not impaired is as follows:

	in EUR '000	
	2021	2020
Net carrying amount, trade receivables – EPO products and services	5 112	6 062
Of which not impaired on the reporting date and past due in the following periods		
Less than 120 days	204	69
More than 120 days	5	4

"Trade receivables – renewal fees" include the renewal fees payable by the Contracting States under Article 39(1) EPC. These mainly relate to the last quarter of the reported year and are due on 31 January of the following year.

"Other receivables – tax" comprise VAT and income tax payable ("tax adjustment") to the EPO by the Contracting States.

"Other receivables – others" mainly consist of accrued income on bonds and fixed-term deposits as well as advances to suppliers.

19. Prepaid expenses

	in EUR '000	
Prepaid expenses	2021	2020
Prepaid employee-related expenses	13 165	14 126
Prepaid software expenses	10 268	10 038
Prepaid other expenses	—	—
Total	23 433	24 164

Prepaid expenses related to employees refer mainly to prepaid school fees, prepaid software expenses refer to prepaid multiyear software licences and software maintenance fees.

20. Cash and cash equivalents

The assets reported under this category have an initial maturity of three months or less and comprise the following:

	in EUR '000	
Cash and cash equivalents	2021	2020
Short-term bank deposits	25 000	70 000
Cash at bank and in hand	35 155	30 017
Total	60 155	100 017

21. Defined benefit liability

in EUR '000

Accounting for 2021	Pension obligation	Long-term care insurance	Sickness insurance	Death and invalidity	Total
Discount rate	1.33%	1.44%	1.39%	0.75%	
Future salaries increase	2.20%	2.20%		2.20%	
Future pensions increase	2.20%				
Medical costs inflation			2.51%		
Present value of obligation 01.01.2021	24 852 226	1 216 093	3 880 991	35 639	29 984 949
Interest cost	217 399	12 372	35 959	101	265 831
Current service cost	933 441	48 036	105 666	2 293	1 089 436
Past service costs	10 999	—	—	—	10 999
Transfer of pension rights	3 552	—	—	—	3 552
Benefits paid	(299 238)	(6 258)	(28 939)	(1 884)	(336 319)
Remeasurements on obligation	(2 941 141)	(207 518)	(789 237)	(3 459)	(3 941 355)
Present value of obligation 31.12.2021	22 777 238	1 062 725	3 204 440	32 690	27 077 093
Unrecognised past service costs	—	—	—	—	—
Liability recognised in the Statement of Financial Position	22 777 238	1 062 725	3 204 440	32 690	27 077 093
Amounts recognised in the Statement of Comprehensive Income					
Interest cost	217 399	12 372	35 959	101	265 831
Current service cost	933 441	48 036	105 666	2 293	1 089 436
Past service costs	10 999	—	—	—	10 999
Staff contributions	(77 055)	(6 910)	—	(733)	(84 698)
Recognised in the Statement of Comprehensive Income	1 084 784	53 498	141 625	1 661	1 281 568

in EUR '000

Accounting for 2020	Pension obligation	Long-term care insurance	Sickness insurance	Death and invalidity	Total
Discount rate	0.88%	1.02%	0.93%	0.29%	
Future salaries increase	2.20%	2.20%		2.20%	
Future pensions increase	2.20%				
Medical costs inflation			2.52%		
Present value of obligation 01.01.2020	25 075 784	1 229 831	3 536 629	26 636	29 868 880
Interest cost	281 728	14 722	40 165	174	336 789
Current service cost	999 887	50 897	105 055	1 855	1 157 694
Past service costs	12 967	—	—	—	12 967
Transfer of pension rights	3 209	—	—	—	3 209
Benefits paid	(291 461)	(5 945)	(26 741)	(2 872)	(327 019)
Remeasurements on obligation	(1 229 888)	(73 412)	225 884	9 845	(1 067 571)
Present value of obligation 31.12.2020	24 852 226	1 216 093	3 880 992	35 638	29 984 949
Unrecognised past service costs	—	—	—	—	—
Liability recognised in the Statement of Financial Position	24 852 226	1 216 093	3 880 992	35 638	29 984 949
Amounts recognised in the Statement of Comprehensive Income					
Interest cost	281 728	14 722	40 165	174	336 789
Current service cost	999 887	50 897	105 055	1 855	1 157 694
Past service costs	12 967	—	—	—	12 967
Staff contributions	(78 273)	(6 830)	—	(1 101)	(86 204)
Recognised in the Statement of Comprehensive Income	1 216 309	58 789	145 220	928	1 421 246

in EUR '000

Accounting for 2019	Pension obligation	Long-term care insurance	Sickness insurance	Death and invalidity	Total
Discount rate	1.13%	1.20%	1.14%	0.69%	
Future salaries increase	2.50%	2.50%		2.50%	
Future pensions increase	2.50%				
Medical costs inflation			2.54%		
Present value of obligation 01.01.2019	17 957 108	874 065	1 973 655	35 947	20 840 775
Interest cost	354 787	18 209	39 416	503	412 915
Current service cost	712 768	29 961	87 516	2 521	832 766
Past service costs	32 525	—	—	—	32 525
Transfer of pension rights	7 035	—	—	—	7 035
Benefits paid	(263 561)	(5 684)	(26 779)	(2 550)	(298 574)
Remeasurements on obligation	6 275 122	313 280	1 462 821	(9 785)	8 041 438
Present value of obligation 31.12.2019	25 075 784	1 229 831	3 536 629	26 636	29 868 880
Unrecognised past service costs	—	—	—	—	—
Liability recognised in the Statement of Financial Position	25 075 784	1 229 831	3 536 629	26 636	29 868 880
Amounts recognised in the Statement of Comprehensive Income					
Interest cost	354 787	18 209	39 416	503	412 915
Current service cost	712 768	29 961	87 516	2 521	832 766
Past service costs	32 525	—	—	—	32 525
Staff contributions	(70 569)	(5 461)	—	(957)	(76 987)
Recognised in the Statement of Comprehensive Income	1 029 511	42 709	126 932	2 067	1 201 219

in EUR '000

Accounting for 2018	Pension obligation	Long-term care insurance	Sickness insurance	Death and invalidity	Total
Discount rate	1.99%	2.09%	2.01%	1.45%	
Future salaries increase	2.50%	2.50%		2.50%	
Future pensions increase	2.50%				
Medical costs inflation			2.58%		
Present value of obligation 01.01.2018	18 130 696	899 389	2 021 699	35 851	21 087 635
Interest cost	307 998	16 049	34 374	431	358 852
Current service cost	768 378	41 922	99 172	2 651	912 123
Past service costs	36 234	—	—	—	36 234
Transfer of pension rights	8 726	—	—	—	8 726
Benefits paid	(246 939)	(5 579)	(23 052)	(1 564)	(277 134)
Remeasurements on obligation	(1 047 985)	(77 716)	(158 538)	(1 422)	(1 285 661)
Present value of obligation 31.12.2018	17 957 108	874 065	1 973 655	35 947	20 840 775
Unrecognised past service costs	—	—	—	—	—
Liability recognised in the Statement of Financial Position	17 957 108	874 065	1 973 655	35 947	20 840 775
Amounts recognised in the Statement of Comprehensive Income					
Interest cost	307 998	16 049	34 374	431	358 852
Current service cost	768 378	41 922	99 172	2 651	912 123
Past service costs	36 234	—	—	—	36 234
Staff contributions	(69 036)	(5 265)	—	(580)	(74 881)
Recognised in the Statement of Comprehensive Income	1 043 574	52 706	133 546	2 502	1 232 328

in EUR '000

Accounting for 2017	Pension obligation	Long-term care insurance	Sickness insurance	Death and invalidity	Total
Discount rate	1.71%	1.79%	1.71%	1.23%	
Future salaries increase	2.50%	2.50%		2.50%	
Future pensions increase	2.50%	2.50%			
Medical costs inflation			2.60%		
Present value of obligation 01.01.2017	17 222 264	804 889	1 652 532	36 787	19 716 472
Interest cost	318 336	16 409	30 749	481	365 975
Current service cost	762 912	36 483	89 791	2 768	891 954
Past service costs	9 127	—	—	—	9 127
Transfer of pension rights	4 957	—	—	—	4 957
Benefits paid	(225 450)	(5 332)	(15 798)	(1 255)	(247 835)
Remeasurements on obligation	38 550	46 940	264 425	(2 930)	346 985
Present value of obligation 31.12.2017	18 130 696	899 389	2 021 699	35 851	21 087 635
Unrecognised past service costs	—	—	—	—	—
Liability recognised in the Statement of Financial Position	18 130 696	899 389	2 021 699	35 851	21 087 635
Amounts recognised in the Statement of Comprehensive Income					
Interest cost	318 336	16 409	30 749	481	365 975
Current service cost	762 912	36 483	89 791	2 768	891 954
Past service costs	9 127	—	—	—	9 127
Staff contributions	(66 168)	(5 011)	—	(427)	(71 606)
Recognised in the Statement of Comprehensive Income	1 024 207	47 881	120 540	2 822	1 195 450

The contributions to the post-employment benefit plans are as follows:

in EUR '000

	2021	2020
Pension benefits		
Office contributions	154 113	156 279
Staff contributions	77 055	78 145
LTC benefits		
Office contributions	12 747	12 679
Staff and pensioners' contributions	6 910	6 831
Post-employment medical care		
Office contributions for pensioners	13 708	13 043
Pensioners' contributions	6 902	6 597
Death and invalidity		
Office contributions	1 151	1 770
Staff contributions	733	1 101
Total	273 319	276 445

The Office and staff contributions for the next annual reporting period are expected to be EUR 275m.

The present value of the pension obligation is made up of the following components:

	in EUR '000	
	2021	2020
Retirement pension / Retirement pensions for health reasons	18 358 923	20 030 827
Tax adjustment/partial compensation	3 632 246	3 975 418
Family allowances	786 069	845 981
Total	22 777 238	24 852 226

The present value of defined benefit obligations is allocated to the following populations:

	in EUR '000	
	2021	2020
Pension obligation		
Active staff	15 072 992	16 821 756
Deferred pensioners	125 065	160 226
Pensioners	7 579 181	7 870 244
LTC insurance		
Active staff	616 519	754 471
Deferred pensioners	892	1 212
Pensioners	445 314	460 410
Sickness insurance		
Active staff	2 326 835	2 869 227
Deferred pensioners	2 756	4 309
Pensioners	874 849	1 007 456
Death insurance		
Active staff	32 690	35 638
Deferred pensioners	—	—
Pensioners	—	—
Total	27 077 093	29 984 949

21.1 Actuarial assumptions and sensitivities

The price inflation hypothesis reflects expected price inflation in the Euro zone, in accordance with the European Central Bank's inflation target of 2%. The assumed future annual benefit and salary increase is 0.2% (2020: 0.2%) above price inflation.

The mortality table in use at the EPO is regularly adjusted for both serving staff and pensioners. For active staff, it is adjusted every two years, to take into account probable future increases in life expectancy. The mortality table applied by the Office is an EPO specific one based on the International Civil Servants Life Table (ICSLT 2018 with 2021 projection) produced by the ISRP which is a table specific to international civil servants based in Europe.

The medical cost inflation applied is 2.51% (2020: 2.52%).

Experience adjustments and the effects of changes in actuarial assumptions result in actuarial gains and losses that can be categorised as follows:

	in EUR '000	
	2021	2020
Pension obligation		
Actuarial (gain) loss from changes in financial assumptions	(2 514 553)	(239 613)
Actuarial (gain) loss from changes in experience and demographic assumptions	(426 588)	(990 275)
LTC insurance		
Actuarial (gain) loss from changes in financial assumptions	(145 743)	(45 718)
Actuarial (gain) loss from changes in experience and demographic assumptions	(61 775)	(27 694)
Sickness insurance		
Actuarial (gain) loss from changes in financial assumptions	(416 704)	194 988
Actuarial (gain) loss from changes in experience and demographic assumptions	(372 533)	30 896
Death		
Actuarial (gain) loss from changes in financial assumptions	(1 160)	301
Actuarial (gain) loss from changes in experience and demographic assumptions	(2 299)	9 544
Total	(3 941 355)	(1 067 571)

A change in the discount rates on defined benefit obligations by 0.1 percentage point would result in the following present value of each plan:

	in EUR '000	
At 31 December 2021	0.1 percentage point increase	0.1 percentage point decrease
Present value pension obligation	22 265 111	23 305 598
Present value LTC insurance	1 031 279	1 095 367
Present value sickness insurance	3 120 813	3 290 955
Present value death and invalidity	32 447	32 936

	in EUR '000	
At 31 December 2020	0.1 percentage point increase	0.1 percentage point decrease
Present value pension obligation	24 261 196	25 462 769
Present value LTC insurance	1 178 359	1 255 315
Present value sickness insurance	3 775 313	4 001 658
Present value death and invalidity	35 354	35 929

An increase of one year in life expectancy at the age of 63 would result in the following present value of each plan:

At 31 December 2021	in EUR '000 One year increase in life expectancy
Present value pension obligation	23 634 268
Present value LTC insurance	1 156 597
Present value sickness insurance	3 329 121
Present value death and invalidity	29 276

At 31 December 2020	in EUR '000 One year increase in life expectancy
Present value pension obligation	25 841 009
Present value LTC insurance	1 326 551
Present value sickness insurance	4 053 437
Present value death insurance	31 926

The above sensitivity analyses are based on one assumption changing while all others remain constant. In practice, this is unlikely to occur, and changes in some assumptions may be correlated. When calculating the sensitivity of the defined benefit obligation to significant actuarial assumptions the same method (present value of the defined benefit obligation calculated using the projected unit credit method at the end of the reporting period) has been applied as when calculating the defined benefit obligations recognised within the statement of financial position. The methods and types of assumptions used in preparing the sensitivity analysis have not changed compared to the previous accounting period.

The expected maturity analysis of undiscounted defined benefit payments is as follows:

At 31 December 2021	in EUR '000		
	Less than 1 year	Between 1-5 years	Over 5 years
Pension obligation, net of tax adjustment	270 074	964 705	25 199 924
LTC insurance	6 654	32 720	1 638 378
Sickness insurance	25 929	131 600	4 785 216
Death and Invalidity	3 227	10 626	20 765
Total	305 884	1 139 651	31 644 283

At 31 December 2020	in EUR '000		
	Less than 1 year	Between 1-5 years	Over 5 years
Pension obligation, net of tax adjustment	257 470	1 222 403	24 574 270
LTC insurance	6 617	32 040	1 660 072
Sickness insurance	26 158	130 335	4 747 999
Death and Invalidity	3 171	10 638	22 682
Total	293 416	1 395 416	31 005 023

The expected maturity analysis of undiscounted defined benefit payments is calculated using the salary/pension/cost increase assumptions presented in Note 21.

The undiscounted values of the pension DBO from the above table are net of tax adjustment. Including the tax adjustment would result in a total undiscounted amount of the pension DBO of EUR 38 057m (2020: EUR 37 626m).

The weighted average duration of the defined benefit obligations is as follows:

Duration	in years	
	2021	2020
Pension obligation	23	24
LTC insurance	31	32
Sickness insurance	27	28
Death and invalidity	8	8

The average duration for each defined benefit obligation is calculated using the salary/pension/cost increase assumptions presented in Note 21.

21.2 Main characteristics of the organisation's defined benefit plans

As an intergovernmental organisation the EPO is not subject to national law and regulations. For all its defined benefit plans the EPO has developed its own regulations that have been approved by the Administrative Council.

Since 1984, the EPO has been setting aside reserves in the RFPSS so that it can fund its pension obligations. Since 2001, it has also been building up a reserve fund for LTC insurance. Since 2008, it has been doing the same for sickness insurance. A breakdown of the reserves per funded plan is disclosed in Note 14.

In 1992 the President established the AAG, consisting of three independent actuaries, to advise the Office on the conditions to be met in order to ensure the long-term equilibrium of its pension scheme. The AAG regularly analyses the demographic and financial assumptions and recommends modifications where necessary in view of general trends and specific developments at the Office. The AAG also examines the assumptions specific to LTC and sickness insurance. Neither the scope of the examined plans nor the valuation methods used by the AAG are congruent with IFRS provisions.

Through its defined benefit plans the EPO is exposed to a number of risks, the most significant of which are as follows:

- (a) Changes in bond yields: changes in bond yields have a direct impact on the applied discount rates thus a decrease in corporate bond yields will increase plan liabilities.
- (b) Inflation risk: all plans' benefit obligations are linked to inflation, either directly (medical cost inflation) or indirectly (all plans linked to basic salaries). Higher inflation will lead to higher liabilities.
- (c) Life expectancy: three out of four plans provide benefits for the beneficiary's life time, so higher life expectancy will increase those plans' liabilities.

Although the RFPSS assets do not constitute plan assets in terms of IAS 19.8, the EPO monitors their volatility risk. The plan liabilities are calculated using a discount rate set with reference to corporate bond yields. If the RFPSS assets underperform this yield, this will increase the funding deficit. The RFPSS have significant equity holdings, which are expected to outperform corporate bonds in the long term but create volatility and risk in the short term.

21.2.1 Pension obligation

Type of benefit	Beneficiary	Calculation of the benefit
Retirement pension, old scheme	Staff member who took up duty before 1 January 2009 from age of 60 with at least 10 years (5 years for some key managers) total service; reduced pension possible from the age of 50	2% of last monthly basic salary per reckonable year of service, subject to a maximum of 70% (80% for some key managers)
Retirement pension, new scheme	Staff member who took up duty on or after 1 January 2009 from age of 60 with at least 10 years total service; reduced pension possible from the age of 50	2% of last monthly basic salary per reckonable year of service, subject to a maximum of 70% (80% for some key managers), capped at twice the salary for Grade C1, step 3
Reversion of retirement pension	Surviving spouse/husband	60% of the retirement pension
Survivor's pension	Surviving spouse/husband	60% of the retirement pension to which the staff member would have been entitled at the time of his death, without the need for a minimum of ten years of service
Orphan's pension	Dependent child, subject to age and education status	40% of the survivor's /reversionary pension (80% if there is no survivor's/reversionary beneficiary)
Retirement for health reasons	Staff members aged between 55 and 65 that have been totally discharged of duties for reasons of incapacity during 10 years and beneficiaries of the former invalidity allowance	Same as for Retirement pension. For employees who have not reached the age of 60, the number of reckonable years is determined as if the employee had remained in service until the age of 60, and the reference salary is 70% of the employee's last salary as defined under the Pension Scheme Regulations.
Family allowances	Beneficiary of the pension plan (Note 2.15.2)	Same as for active staff
Tax compensation, old scheme	Beneficiary of the pension plan (Note 2.15.2)	50% of income taxes on retirement pensions and allowances calculated by use of standardised tables of equivalence specifying the amount of the adjustment to be added to the pension

The Reserve Fund for Pensions is allocated payments equivalent to the Office's and the staff's pension contributions – 21.8% and 10.9% respectively of basic salaries paid – after deduction of pensions actually paid. For the reporting period, the total pension contribution rate recommended by the AAG was 32.7% (2020: 32.7%).

The EPO Member States jointly guarantee the payment of these benefits. In the event of a merger, reconstitution or other transformation or in the event of dissolution of the Organisation, the Administrative Council or any ad hoc body set up in one of the afore-mentioned cases takes the necessary measures to ensure uninterrupted payment of pension scheme benefits until the cessation of entitlement of the last beneficiary. Should an EPO Member or ex-Member State fail to comply with its obligations, the other States meet the cost thereof in proportion to their contribution to the budget of the Organisation as fixed annually from and after the said state's default.

21.2.2 Sickness insurance

An employee who has remained in EPO service until retirement or retirement for health reasons, his spouse, his children and other dependants are insured against expenditure incurred in case of sickness, accident, pregnancy and confinement. One third of the contribution involved, calculated as a percentage of the pension (2021: 2.95% and 2020: 2.95%) is charged to the employee. A spouse in employment outside the EPO and whose salary exceeds a certain level has to pay an additional contribution.

Benefits also apply to a person entitled to a survivor's pension following the death of an employee who was in active employment or who remained in EPO service until retirement, or following the death of a person entitled to an invalidity pension. The contribution is calculated as a percentage of the survivor's pension. A person entitled to an orphan's or dependant's pension may also be covered, but only on request. The contribution is calculated as a percentage of the orphan's or dependant's pension.

Where the total medical expenditure not reimbursed for any period of twelve months exceeds half the pension paid, special reimbursement is allowed by the President. In addition, in the case of medical expenditure which exceeds one fifth but is less than one half of the pension, an additional reimbursement is allowed.

21.2.3 Long-term care insurance

A permanent employee, a former employee in receipt of a retirement pension or a retirement pension for health reasons, his spouse, his former spouse, his dependent children and other dependants are insured on either a compulsory or a voluntary basis against expenditure arising from reliance on long-term care. This insurance is intended to provide a fixed amount of financial support to defray some of the expenses incurred if an insured person's autonomy becomes seriously impaired on a long-term basis and the person therefore requires help to carry out everyday activities; it does not include any expenditure on medical fees associated with the treatment of an illness or resulting from pregnancy or an accident.

The following contributions are paid:

- (a) a contribution by the Office proportional to the basis formed by the sum of the basic salaries and basic pensions paid to the insured persons plus 6% for those insured persons who have opted for voluntary insurance of their spouse, and the sum of the survivor's pensions. The rate of this contribution is equal to two thirds of a reference rate determined on the basis of an actuarial study carried out by independent experts and was for the reporting period defined to be 1.8% (2020: 1.8%).
- (b) a contribution by the insured persons. The rate of this contribution is equal to one third of the reference rate. However, during periods in which a person insured is not in active employment, it is equal to the reference rate.

For employees joining the EPO after the age of 55, the Office and staff contributions are reduced to one third of those defined above.

21.2.4 Death insurance

The benefits payable is a fixed amount for funeral expenses incurred for the permanent employee himself, his spouse and, where appropriate, his dependants. In the event of death of the permanent employee, the benefits payable are a lump sum equal to 2.75 times his annual basic salary.

The contribution for the insurance for funeral expenses is included in the contribution for sickness insurance. One third of the contribution, calculated by reference to the basic salary of the permanent employee, which is required to insure him against the risk of death, is charged to the employee.

A permanent employee who has been in the service of the Office for at least two years may on request continue to be insured, after termination of service, against the risk of death. However, the employee must then bear the total contribution, and the benefits payable are calculated on the basic salary received at the moment of termination of service. The insurance ends at the end of the month during which the employee reaches the age of 65 years.

22. Salary Savings Plan obligation

Since 1 January 2009, the EPO has been operating an SSP which is compulsory for employees who took up duty on or after that date (participants).

The rate for compulsory contributions is equal to the difference between the contribution to the pension scheme for staff in post on 31 December 2008 and that payable under the new rules, i.e. applying the cap described in Note 21.2.1. One third of the compulsory contribution is charged to the employee, two thirds to the Office.

An individual salary savings account (individual account) is opened for each participant. The sums credited to the individual account are invested by the Office, in accordance with a predefined strategy. The Office offers participants a maximum of three investment strategies. A default investment strategy applies during the first six months of participation; thereafter, each participant may choose a different investment strategy from among those offered by the Office, and may change it once per calendar year. The Office bears no responsibility for the outcome of application of the default strategy or the strategies chosen by participants.

On termination of service, participants are entitled to payment of the balance of their individual account as a lump sum corresponding to the contributions paid into the account, plus or minus investment returns. In the event of the participant's death, his entitlement passes to his estate. The lump sum is paid out as final salary. Concerning the assets invested under the SSP, see Note 17.

23. Other employee-related liabilities

	in EUR '000	
Other employee-related liabilities	2021	2020
Regular vacation	104 852	105 365
Home leave	52 704	59 759
Other compensated absences	38 841	41 896
Outstanding healthcare claims from staff	12 119	11 405
Bonus payments	9 800	9 800
Transitional measures CA/D 4/20	—	13 087
Other	4 811	6 232
Total	223 127	247 544

An amount of EUR 63 083k (2020: EUR 31 120k) is presented as non-current liabilities and includes mainly obligations for long-term employee benefits as a result of deferred salaries, long-service leave, gratuities, severance grants, obligations due to former non-active staff and similar long-term obligations.

24. Trade and other payables

	in EUR '000	
Trade and other payables	2021	2020
Current deposit accounts by patent applicants	125 735	123 593
Payables to suppliers and trade creditors	70 041	65 024
Other	2 459	1 457
Total	198 235	190 074

Applicants can debit their deposit accounts kept by the Organisation for fee payments relating to their applications. A liability is recognised for payments received from applicants to replenish these accounts.

25. Provisions

	in EUR '000			
	Litigation risks	Dismantling obligation	Other	Total
1 January 2021	5 655	—	357	6 012
Use	5 655	—	357	6 012
Reversal	—	—	—	—
Addition	5 552	—	357	5 909
Interest effect	—	—	—	—
Other	—	—	—	—
31 December 2021	5 552	—	357	5 909
Current	5 552	—	357	5 909
Non-current	—	—	—	—
Total	5 552	—	357	5 909

The provisions for litigation risks include mainly provisions for staff appeals pending at the Administrative Tribunal of the International Labour Organization. The EPO expects a settlement within twelve months after the balance sheet date.

Other provisions include mainly obligations for legal support in administrative and judicial procedures as well as obligations to fulfil requirements of the EPC – mainly due to external audit of financial statements, adherence to budgetary regulations and internal controls. It is expected that these obligations will be settled within the next 12 months.

26. Commitments

	in EUR '000	
Purchase commitments	2021	2020
Fixed assets	31 216	5 606
Intangible assets	7 450	10 248

The commitments for purchases of intangible assets are mainly for development of internally generated systems in the context of the Strategic Plan 2023.

27. Contingencies and risks

Contingencies and risks are disclosed as of the balance sheet date. Any material changes after the balance sheet date are disclosed in Note 31.

Introduction of a Salary Savings Plan

An SSP has been set up; participation is compulsory for all staff joining the Office on or after 1 January 2009. It allows them to build up individual savings accounts through monthly contributions deducted from salary (see Note 2.15.5.1). Throughout their EPO employment, the money thus invested remains the property of the Organisation. Consequently, the resulting income is regarded as exempt from direct taxes, under Article 4 EPO-PPI. On termination of service, the employee is entitled to payment of the capital built up under the SSP. As deferred salary, this is subject to internal tax under Article 16(1) EPO-PPI and therefore, in the Office's view, exempt from national tax.

This view might not be shared by all national tax authorities. It is not clear whether a negative outcome of possible court decisions would result in an EPO obligation to compensate staff who relied on tax exemption. For the reporting period, the EPO does not regard the tax risk as material, due to the relatively small amount of SSP contributions so far collected (see Note 17). The Office will decide on further action, which might involve recognising further liabilities.

Introduction of "partial compensation", replacing the former tax adjustment

Since 1 January 2009, the national tax adjustment borne by each Contracting State had been replaced by a compensatory amount ("partial compensation") borne by the Organisation and intended to mitigate the additional national tax burden to which beneficiaries are subject in some Contracting States. The Office considered this partial compensation to be not a pension or annuity within the meaning of Article 16(2) EPO-PPI but an emolument within the meaning of Article 16(1) EPO-PPI, which therefore should not be subject to national tax. After more than five years, this system has however proven to entail significant administrative, legal and financial uncertainties and risks for the Office. It has therefore been decided to revert to the former tax adjustment system as of 1 January 2015 for pensioners who began active service before 1 January 2009.

No account is taken of risks that might arise from claims for compensation from third parties relying on tax treatment under Article 16(1) EPO-PPI for the period 2009-2015.

Other contingencies and risks

In addition, the Organisation has contingencies arising in the ordinary course of business, mainly due to disputed invoices, pending legal disputes and arbitration procedures or appeals by staff members including those in front of the Administrative Tribunal of the International Labour Organization. It is not anticipated that these will give rise to any material liabilities other than those for which provision has been made (Note 25).

28. Related party disclosures

The Organisation has entered into transactions with members of the EPO's key management personnel, their close family members and the Contracting States. The EPO has not applied partial exemptions, if any, for government-related entities provided by *IAS 24 – Related Party Disclosures*.

28.1 Related parties to the Organisation

28.1.1 Members of key management

Key management personnel are those persons having authority and responsibility for planning, directing and controlling the activities of an entity, directly or indirectly. This applies to the executive body of the Office and the Fund Administrator of the RFPSS:

At the balance sheet date, the EPO had three directorates-general, each headed by a Vice-President. The Directorate-General 1 in charge of the patent granting process is divided into three sectors, each headed by a Chief Operating Officer.

The President, the Vice-Presidents and specific functional Principal Directors and Directors appointed by the President, constitute the Management Committee (MAC). For the purpose of this note to the financial statements, the MAC members are considered to be related parties.

Besides the MAC members, the RFPSS Fund Administrator is also considered to be a related party. The importance and the size of the funds, combined with his functions, put him on a par with the members of the MAC.

28.1.2 Close family members of key managers

Close family members of a key manager are those family members who may be expected to influence, or be influenced by, that individual in their dealings with an entity. For the purpose of this note to the financial statements, the partner, children and dependants of the MAC members and the Fund Administrator are considered to be related parties.

28.1.3 Contracting states

The Administrative Council of the Organisation is made up of representatives of the Contracting States to the EPC. As the EPO's supervisory body, it exercises legislative powers, decides policy issues and oversees the Office's activities. Furthermore, Article 37(c) EPC provides that the budget of the Organisation is financed, where necessary, by financial contributions from the Contracting States. If the Organisation is unable to balance its budget in accordance with Article 40(1) EPC, then under Article 40(2) to (7) EPC the Contracting States must remit special financial contributions to the Organisation, the amount of which is determined by the Administrative Council for the accounting period concerned. In Article 40(2) to (4) Pension Scheme Regulations, the Contracting States jointly guarantee payment of the benefits to be paid under the pension scheme. As they appoint their representatives on the Administrative Council and can determine how they vote, the Contracting States themselves are also considered to be related parties to the EPO.

28.2 Transactions and outstanding balances with related parties

Compensation of key managers (MAC members and Fund Administrator) and close family members of key managers

	in EUR '000	
	2021	2020
Short-term employee benefits*	12 533	11 265
Post-employment benefits, service costs	4 642	5 419
Total	17 175	16 684

* The salaries included in the short-term employee benefits are reported before deduction of internal tax.

The Organisation recognised a defined benefit obligation for post-employment benefits amounting to EUR 78 055k (2020: EUR 85 409k) for 33 (2020: 31) key managers and their close family members.

Expenses with related parties other than compensation of key managers and their close family members

	in EUR '000	
	2021	2020
MAC members and Fund Administrator	—	—
Close family members of key managers	—	—
Contracting States		
Co-operation with national offices	16 295	7 022
Rent office building Berlin	2 575	2 575
Total	18 870	9 597

Loans, receivables and other assets due from related parties

	in EUR '000	
	2021	2020
MAC members and Fund Administrator	172	191
Close family members of key managers	43	48
Contracting States		
Renewal fees	137 976	128 047
VAT and other taxes	23 358	16 492
Contracting States using EPO services and products	4 225	5 381
Tax adjustments	44	44
Total	165 818	150 203

The amounts due from key management personnel and their close family members result from home loans granted by the Organisation. The terms for granting home loans are the same as for other EPO employees.

Payables and other liabilities

	in EUR '000	
	2021	2020
MAC members and Fund Administrator	—	—
Close family members of key managers	—	—
Contracting States	718	114
Total	718	114

Revenues from patent and procedural fees and other revenues from related parties

	in EUR '000	
	2021	2020
MAC members and Fund Administrator	1	1
Close family members of key managers	—	—
Contracting States		
Renewal fees for granted patents (incl. interest)	640 711	597 629
Searches on behalf of ex-IB member states	31 761	35 228
Searches on behalf of other Contracting States	26 741	24 725
Reimbursement rent office building Berlin	717	740
Rental income Netherlands patent office	—	—
Other revenue	8 439	8 994
Total	708 370	667 317

Renewal fees for granted patents (incl. interest)

The split of renewal fees for granted patents (incl. interest) per Contracting State was as follows:

		in EUR '000	
		2021	2020
AL	Albania	171	162
AT	Austria	25 142	24 450
BE	Belgium	10 810	10 456
BG	Bulgaria	2 272	2 073
CH/LI	Switzerland/Liechtenstein	21 756	20 569
CY	Cyprus	1 113	1 085
CZ	Czech Republic	6 206	5 329
DE	Germany	218 360	203 472
DK	Denmark	10 657	10 352
EE	Estonia	1 533	1 423
ES	Spain	22 618	21 607
FI	Finland	10 520	10 170
FR	France	77 771	73 493
GB	United Kingdom	71 471	63 888
GR	Greece	4 236	4 243
HR	Croatia	740	591
HU	Hungary	6 396	5 832
IE	Ireland	7 513	7 034
IS	Iceland	774	608
IT	Italy	45 653	41 758
LT	Lithuania	1 287	1 153
LU	Luxembourg	1 661	1 610
LV	Latvia	1 210	1 106
MK	Monaco	129	115
MC	North Macedonia	1 201	1 195
MT	Malta	370	369
NL	Netherlands	44 168	41 359
NO	Norway	5 195	4 113
PL	Poland	5 272	5 291
PT	Portugal	6 098	5 976
RO	Romania	3 573	3 298
RS	Serbia	665	509
SE	Sweden	16 474	15 302
SI	Slovenia	1 737	1 470
SK	Slovakia	2 584	2 351
SM	San Marino	219	163
TR	Turkey	3 156	3 654
Total		640 711	597 629

29. Additional disclosures on financial instruments

29.1 Financial instruments by category

A comparison of the carrying amounts and fair values of all of the EPO's financial instruments carried in the financial statements is presented below:

RFPSS Financial instruments	Carrying value		Fair value	
	2021	2020	2021	2020
in EUR '000				
Financial assets at fair value through profit and loss				
Standard bonds	1 761 050	1 530 730	1 761 050	1 530 730
Other bonds	1 054 106	876 126	1 054 106	876 126
Shares	3 820 941	3 304 409	3 820 941	3 304 409
Funds	4 828 413	4 224 100	4 828 413	4 224 100
Derivatives used for trading	24 431	32 882	24 431	32 882
Other instruments	44 972	46 505	44 972	46 505
Total	11 533 913	10 014 752	11 533 913	10 014 752
Financial assets at amortised cost				
RFPSS other assets	627	623	627	623
RFPSS restricted cash	335 146	328 243	335 146	328 243
Financial liabilities at fair value through profit and loss				
Derivatives used for trading	(1 694)	(738)	(1 694)	(738)
Financial liabilities at amortised cost				
RFPSS other liabilities	(112)	(102)	(112)	(102)
Total net RFPSS financial instruments	11 867 880	10 342 778	11 867 880	10 342 778
Office financial instruments	2021	2020	2021	2020
Financial assets at fair value through profit and loss				
EPO Treasury Investment Fund	3 620 531	3 137 883	3 620 531	3 137 883
Financial assets measured at amortised cost				
Home loans	98 347	100 266	108 728	115 355
Trade and other receivables	170 479	153 928	170 479	153 928
Total	268 826	254 194	279 207	269 283
Cash and cash equivalents	60 155	100 017	60 155	100 017
Total Office financial assets	3 949 512	3 492 094	3 959 893	3 507 183
Financial liabilities measured at amortised cost				
Trade and other payables	(198 235)	(190 074)	(198 235)	(190 074)
Lease liabilities	(44 926)	(63 225)	(44 926)	(63 225)
Total Office financial liabilities	(243 161)	(253 299)	(243 161)	(253 299)

* Approximation of fair value

Cash, cash equivalents, trade and other receivables and trade and other payables have mainly short terms to maturity. Their carrying amounts at the reporting date represent a reasonable approximation of their fair values.

Home loans are not traded in an active market. Their fair value at the balance sheet date is calculated as the present value of the future cash flows discounted using the prevailing market interest rates and applying the Moosmüller method.

The changes in liabilities arising from financing activities are classified as follows:

in EUR '000

	Lease liabilities	Total
At 1 January 2021	63 225	63 225
Cash flows:		
Repayment	(16 091)	(16 091)
Non-cash:		
Acquisition	—	—
Change in lease assumptions	(2 208)	(2 208)
At 31 December 2021	44 926	44 926

	Lease liabilities	Total
At 1 January 2020	81 269	81 269
Cash flows:		
Repayment	(16 624)	(16 624)
Non-cash:		
Acquisition	—	—
Change in lease assumptions	(1 420)	(1 420)
At 31 December 2020	63 225	63 225

29.2 Fair value hierarchy

Depending on the techniques and inputs used to measure fair value, financial instruments are categorised in three levels:

- Level 1 – measurement based on quoted prices in active markets for identical assets or liabilities;
- Level 2 – measurement based on inputs other than quoted prices included within level 1 that are observable for the asset or liability, either directly or indirectly;
- Level 3 – measurement based on unobservable inputs for the asset or liability.

Financial instruments measured at fair value and those for which the fair value is disclosed in the notes to the Financial Statements are presented in the table below:

	in EUR '000			
31 December 2021	Level 1	Level 2	Level 3	Total
RFPSS financial assets				
Standard bonds	1 749 816	11 234	—	1 761 050
Other bonds	1 040 794	13 312	—	1 054 106
Shares	3 820 941	—	—	3 820 941
Funds	—	4 828 413	—	4 828 413
Derivatives used for trading	—	24 431	—	24 431
Other instruments	—	44 972	—	44 972
Office financial assets				
EPO Treasury Investment Fund	—	3 620 531	—	3 620 531
Home Loans	—	108 728	—	108 728
Total financial assets	6 611 551	8 651 621	—	15 263 172
RFPSS financial liabilities				
Derivatives used for trading	—	1 694	—	1 694
Total financial liabilities	—	1 694	—	1 694
	in EUR '000			
31 December 2020	Level 1	Level 2	Level 3	Total
RFPSS financial assets				
Standard bonds	1 504 990	25 740	—	1 530 730
Other bonds	863 791	12 335	—	876 126
Shares	3 304 409	—	—	3 304 409
Funds	—	4 224 100	—	4 224 100
Derivatives used for trading	—	32 882	—	32 882
Other instruments	—	46 505	—	46 505
Office financial assets				
EPO Treasury Investment Fund	—	3 137 883	—	3 137 883
Home Loans	—	115 355	—	115 355
Total financial assets	5 673 190	7 594 800	—	13 267 990
RFPSS financial liabilities				
Derivatives used for trading	—	738	—	738
Total financial liabilities	—	738	—	738

Level 1 includes exchange-traded instruments for which quoted prices are readily available and highly liquid instruments with quoted prices in active markets.

Level 2 measurements were determined using the following techniques:

- The fair value of RFPSS financial instruments was determined based on the published net asset values of investment fund companies and quoted prices for identical assets in markets that are not active.
- The fair value of EPOTIF investment units was derived from the Net Asset Value as published by the capital management company in charge of the fund administration (Master KVG).
- The fair value of home loans was calculated as the present value of the future cash flows discounted using the prevailing market interest rates and applying the Moosmüller method. Interest rates used as input for the model were Euribor rates and the rates of AAA-rated Euro-area central-government bonds.

29.3 Gains and losses on financial instruments

Gains and losses on financial instruments are summarised in the table below:

	in EUR '000	
Financial instruments at fair value	2021	2020
Valuation gains (losses) on financial assets	1 439 246	428 338
Income from coupons, dividends and interest	140 656	130 104
Custodian fees and other costs	(1 107)	(955)
Sundry	(838)	(945)
Valuation gains (losses) on liabilities	(1 694)	(738)
Total	1 576 263	555 804

	in EUR '000	
Financial assets at amortised cost	2021	2021
Interest income from home loans	2 439	2 584
Interest income from bank accounts and deposits	—	—
Total	2 439	2 584

	in EUR '000	
Financial liabilities at amortised cost	2021	2021
Interest costs lease	(843)	(1 073)
Total	(843)	(1 073)

30. Financial risk management

Risk management policies at the EPO depend on the type of assets concerned. RFPSS portfolio risk management is distinct from that for Office-held financial instruments and for EPOTIF. The following discussion of the policies and processes for managing and measuring the risk reflects the split of management responsibility for these three portfolios.

The main risks arising from the financial instruments are market risk, liquidity risk and credit risk. The Budget and Finance Committee, the Administrative Council and the Supervisory Board of RFPSS approve the investment policies and strategy for managing the risks summarised in Notes 30.1 to 30.3.

(a) Financial instruments held by the Office

Financial instruments held by the Office comprise trade receivables and payables and cash which arise directly from the EPO's operational activities as well as lease obligations that are used to finance the EPO's operations.

Additionally, home loans are granted to staff at an interest rate below the prevailing market rate.

(b) EPO Treasury Investment Fund

EPOTIF invests in the following asset classes:

Equities	– up to 40% of the total portfolio,
Fixed income	– up to 60% of the total portfolio,
Cash	– up to 10% of the total portfolio,
Commodities	– up to 5% of the total portfolio,
Real estate	– up to 15% of the total portfolio,
Alternatives / multi-asset investments	– up to 15% of the total portfolio.

To execute the investments in the above asset classes the EPOTIF may use all available financial instruments, including physical, derivative and structured financial products. The instruments held by the EPOTIF are subject mainly to market risk. The risk profile of the portfolio is derived from the EPO's strategic asset allocation, as proposed by the President and approved by the Budget and Finance Committee. For tactical reasons, asset managers may depart from this strategic asset allocation, as long as they observe the asset class limits set out above.

Asset managers are bound by a maximum net portfolio exposure of 100%.

EPOTIF cash may be held only with the depositary or other credit institution with a seat or branch registered in Germany and only up to the protection ceiling provided by the German Deposit Protection Fund (Einlagensicherungsfond).

Securities lending of EPOTIF assets is entirely prohibited. Repurchase agreements are not permitted. Derivative short positions may be held only for hedging purposes. Over-the-counter (OTC) derivative contracts for hedging purpose or to gain exposure can only be entered with six selected counterparties approved jointly by the EPO and Master KVG.

(c) Financial instruments held by the RFPSS

The RFPSS allocates assets in accordance with the investment strategy and tactical ranges defined by its Supervisory Board. The lower and the upper bandwidths set the maximum admissible deviations from the strategic asset allocation. In case of a passive bandwidth breach, the Fund Administrator shall take appropriate corrective action. The following asset classes are defined: domestic equities, foreign equities, domestic government bonds incl. Danish mortgage bonds, foreign bonds, domestic corporate bonds, emerging market bonds, emerging market equities, real estate, commodities and cash. The assets are managed actively and/or passively.

The risk characteristics of the financial instruments managed by the RFPSS are essentially derived from the risk profile of the strategic asset allocation as defined by the Supervisory Board of the RFPSS. For details about policies and risk measures applied, see Notes 30.1 to 30.3.

30.1 Market risk

(a) Financial instruments held by the Office

Financial instruments held by the Office do not have exposure to changes in market value. As these instruments are not market listed and the fair value changes would have no impact on the EPO's profit or loss and equity, a sensitivity analysis has not been performed.

At the reporting date, the Office had no material exposure to foreign-exchange risks.

(b) EPO Treasury Investment Fund

Market risks are managed by portfolio diversification, the asset class restrictions imposed by the EPO investment guidelines and absolute limits on the total risk exposure of the portfolio measured with VaR (Value at Risk), a statistically based estimate of the potential loss on the portfolio resulting from adverse market movements. The EPO investment guidelines stipulate that the VaR of the investment portfolio (one-year holding period, 95% level of confidence) must not exceed 20% of the EPOTIF Net Asset Value at any time.

The VaR figures are based on the historical simulation method performed by RiskMetrics® RiskManager (MSCI Inc.). The premise behind historical simulation is that potential changes in the underlying risk factors are identical to those observed over a defined historical period of six years. The empirical distributions of returns for all relevant risk factors (exchange rates, interest rates, equity prices, credit spreads, commodity prices, inflation rates, volatilities) are applied to obtain risk statistics on the basis of mark-to-model valuation. The risk factor price scenarios are calculated at a given holding period of 250 business days, on the assumption that the current fund portfolios are to be held over this same horizon. Lastly, the risk factors' P&Ls are finally used to obtain P&L scenarios for both the fund assets and higher aggregation levels (asset classes, fund portfolios, total fund level). The confidence level (expected probability of loss) of 0.95 is obtained as an interpolated order statistic from the simulated P&L distributions.

VaR figures are monitored by fund and by each fund segment against an absolute VaR guideline.

As at 31 December 2021 the EPOTIF portfolio's VaR was EUR 262m (2020: EUR 213m), which represented 7.2% (2020: 6.8%) of the Net Assets Value.

(c) Financial instruments held by the RFPSS

Market risks are mitigated by diversification and limiting provisions laid down in the investment guidelines and code of procedure set up by the Fund Administrator by use of risk policies. Market risks are quantified using Value at Risk (VaR), a statistically based estimate of the potential loss on the portfolio resulting from adverse market movements. This metric makes it possible to estimate the maximum expected loss with a degree of confidence, chosen to be 95%, over a one-month horizon.

At the end of 2021 the VaR of RFPSS assets was estimated at EUR 639m (2020: EUR 691m). The decrease of VaR by EUR 52m stems mainly from lower market risk (Total Risk fell from 14.06% to 11.34%). The increase of assets under management from EUR 10.3bn at the end of 2020 to EUR 11.9bn at the end of 2021 has partially offset the market volatility effect.

The VaR figures are based on the assumptions of normal portfolio return distributions and persistence of the statistical characteristics of the distributions of returns in the horizon period. VaR figures are monitored by asset class and relative VaR guidelines are used to

monitor aspects of deviations from the benchmarks, which are based on MSCI/FTSE for equity/real estate, S&P/Bloomberg for commodities and Merrill Lynch/JP Morgan/Nykredit for fixed income. A risk-factor-based model, MSCI Barra's BarraOne, is used to break risk down and enable management to analyse aggregations and contributions.

Foreign exchange risks are mitigated by maintaining a minimum of 60% of assets in core currencies and maintaining a currency overlay programme at a strategic 50% hedge ratio on US dollar, pound sterling and Japanese yen exposures.

30.2 Liquidity risk

(a) Financial instruments held by the Office

Liquidity risk management implies maintaining sufficient cash position and cash flows to be able to face the entity's short- and long-term liabilities.

The EPO's treasury department monitors the risk of a shortage of funds using a daily cash management tool. This tool considers the maturity of financial assets and takes into consideration the expected cash in- and outflows from daily operations.

The EPO has no significant liquidity risk. The cash generated by its operations more than covers its liquidity needs for both operational and capital expenditure.

Surplus liquidity not needed in the short term is invested in EPOTIF units in line with estimated cash outflows according to the 5 year budget plan and the 6 month cash flow plan, which is subject to the President's approval.

The expected cash outflows resulting from financial instruments of the Office include payments of liabilities to trade creditors and lease liabilities. As at the balance sheet date, the maturity structure of future payments resulting from financial liabilities was as follows:

	in EUR '000	
	2021	2020
Within 1 year	86 287	81 959
More than 1 year	30 644	49 697
Total	116 931	131 656

(b) EPO Treasury Investment Fund

The Office transfers the cash surplus generated from operational activities to the EPOTIF. A financial study performed by the EPO in 2019 forecasted that it will continue to generate an operational cash surplus until at least 2038. It is therefore not expected to redeem any EPOTIF units in the coming years. Nevertheless, the EPO is legally entitled to liquidate a part or the whole of the EPOTIF fund at any time. In such a case, proceeds from liquidation of fund units would be available at short notice.

As at the year-end, the margin account relating to future positions held as collateral for derivative transactions of EPOTIF amounted to EUR 20.4m (2020: EUR 23.5m).

(c) Financial instruments held by the RFPSS

The Office transfers to the RFPSS the surplus of pension contributions over pension payments. The reserves managed by the RFPSS are created to assist the Office in covering its social security schemes under its budget. Estimates based on the actuarial studies have shown that net payments to pensioners should not be necessary in the short term. Owing to the reserve nature of the funds, liquidity risk – defined as the risk of not being able to cover short- or long-term liabilities – is insignificant.

In relation to investment management activities, daily operational cash requirements are covered by cash management tools that forecast and allow matching of cash flows generated by investment operations. The margin account relating to bund future positions as collateral for derivative transactions amounted to EUR 6.0m (2020: EUR 4.0m).

The maturity analysis of the RFPSS financial liabilities as at 31 December is as follows:

	in EUR '000	
Financial liabilities	2021	2020
Less than 3 months	1 806	840
Between 3 months and 1 year	—	—
More than 1 year	—	—
Total	1 806	840

30.3 Credit risk

Financial instruments used in the EPO's operational activities are subject to limited credit risk. The EPO has policies in place to ensure that sales of patent information services and products are made to customers with an appropriate credit history. Outstanding trade receivables are monitored continually.

Financial assets are considered to have a low credit risk if they have received the investment grade issuer rating BBB-/Baa3 from either S&P or Moody's rating agency or have comparable credit risk characteristics. This applies in particular to home loans and bank deposits reported under other financial instruments.

As at the reporting date the gross carrying amount of financial assets subject to credit risk exposure was as follows:

	in EUR '000			
	Low Credit Risk		High Credit Risk	
	2021	2020	2021	2020
Home loans	98 347	100 266	—	—
Trade and other receivables	170 479	153 928	—	—
Cash and cash equivalents	60 155	100 017	—	—
RFPSS restricted cash	335 146	328 243	—	—
RFPSS other assets	627	623	—	—
Total	664 754	683 077	—	—

A financial asset is considered to be credit-impaired once one or more events having a detrimental impact on the estimated future cash flows have occurred. Examples of such events are: information about serious financial difficulty of the borrower or a high probability it will enter bankruptcy proceeding. The expected credit losses for credit-impaired assets are measured as the difference between the gross carrying amount and the present value of estimated future cash flows.

A default is considered to have occurred if the delay in payment of interest or principal by the borrower exceeds 30 days, which is the best industry practice used by major rating agencies. In this case, the borrower's debt is written off in full unless any external information is available that allows for a reliable estimate of the recoverable amount, in which case only the amount that cannot be recovered is written off.

(a) Financial instruments held by the Office

Home loans

Home loans granted to the staff are not subject to significant credit risk. They are granted only to permanent staff, and repayment is guaranteed by the mortgage or other land charge entered in the land register or other appropriate public record. Interest and capital repayments are withheld from a salary or pension. No home-loan borrower has ever defaulted. As this is equivalent to the quality of an AAA instrument, the home loans portfolio is considered to have low credit risk. For these instruments, the EPO calculates a loss allowance amounting to 12-month expected credit losses.

The EPO incorporates the forward-looking information in three economic scenarios: one assuming the current economic conditions will remain unchanged, one assuming deterioration and one assuming improvement of the economic conditions. The probability that the current conditions will remain unchanged has been estimated at 68%, which represents a 1-standard deviation in the normal distribution. The remaining 32% has been equally split between the two other scenarios. The expected credit losses are calculated using S&P Mortgage Default Index. The lifetime default probability represented by the index is adjusted to a 12-month probability

by reference to the German Sovereign Credit Default Swap curve. For current conditions, the default probability as at the reporting date is used. For the scenarios with improved/deteriorated economic conditions, the lowest/highest default probability within the last three years is used. The expected loss has been calculated under assumption of a 58% recovery rate, this being the statistic for the German mortgage market. The default probability is adjusted to the 12 month rate. For home loans with a remaining duration of less than one year, the expected loss has been calculated on the basis of a one-year duration, as the effect is immaterial.

As at the reporting date there were no material expected credit losses from the portfolio of home loans.

Trade and other receivables

Trade receivables – renewal fees: these include the renewal fees payable by the contracting states under Article 39(1) EPC. These mainly relate to the last quarter of the reported year and are due on 31 January of the following year.

Other receivables – tax: these include VAT and income tax payable ("tax adjustment") to the EPO by the contracting states.

Other receivables – others: these consist mainly of accrued income on bonds and fixed-term deposits as well as advances to suppliers

All trade and other receivables are expected to be recovered or settled within 12 months of the balance sheet date and are therefore classified as current assets.

Outstanding balances are constantly monitored and assessed for recoverability. Both internal collection procedures and procedures using an external debt collection agency have been set up, and a list of blacklisted customers is kept.

Bad debts are written off when:

- they become uncollectible due to insolvency of the customer, or
- all internal collection and external debt-collector measures to collect the outstanding amounts have failed, or
- all internal collection measures have failed and, due to the small amount of the outstanding receivable, it is not considered cost-effective to pursue further collection measures.

In the case of a write-off, the carrying amount of trade receivables is reduced directly, rather than recognising the impairment on a separate account.

The EPO estimates the expected credit losses from trade receivables on the basis of the default probability of the member states, as quoted by Bloomberg. The customers are grouped into low risk (below 1% default probability) and high risk (above 1% default probability) portfolios. For both groups the expected credit losses are calculated using a provision matrix. As at the balance sheet date, the expected credit losses on trade receivables were immaterial.

To calculate the expected credit losses for the portfolio, the EPO uses a provision matrix. The provision matrix is based on its historically observed default rates over the expected lifetime of the trade receivables and is adjusted for forward-looking estimates. At every reporting date the historically observed default rates are updated and changes in the forward-looking estimates are analysed.

As at the reporting date, no material credit losses were expected from trade and other receivables.

(b) EPO Treasury Investment Fund

The EPO investment guidelines impose a limit on the fund's exposure to credit-risk-bearing instruments of 60% of the total portfolio value. The risk of the credit instruments is managed by a limit on the total risk exposure (Value at Risk, one year, 95% level of confidence) of 20% of the Net Assets Value. The EPOTIF Strategic Asset Allocation defines the diversification of the credit-risk-bearing instruments and is used as a benchmark for evaluating the asset manager's performance. The target allocation of funds to asset classes subject to credit risk is as follows:

Asset Class	Weight in portfolio	in %
Domestic Government Bonds (Aggregate)	5	5
Domestic Corporate Bonds	13	13
Global Bonds (hedged)	14	14
Emerging Markets Bonds Local Currency	8	8
Emerging Markets Bonds Hard Currency (hedged)	8	8

All EPOTIF debt instruments are managed on the fair value basis.

(c) Financial instruments held by the RFPSS

The limitations and provisions relating to credit exposures are defined in the investment guidelines approved by the RFPSS Supervisory Board and are monitored on a daily basis. The salient features of the policies are indicated below.

Investments in fixed income asset classes must be made in securities within the admissible investment universe and with due consideration to rating criteria specified for the relevant portfolio. At least 85% of direct bond investments of the relevant portfolio shall be rated investment grade. The relevant rating agencies are Standard and Poor's / Moody's / Fitch. Investment grade is defined by a credit rating of BBB- (or equivalent) or higher by one of the above mentioned rating agencies. In the event of a split rating, the best rating is applied. No more than 5% of Fund assets may be invested in the fixed-interest securities of any one issuer except in the case of AAA non-corporate securities. In this case the limit is 8% except for AAA government debt of a member state of the European Union in which case the limit is 25%. A 2% limit of RFPSS assets applies to convertible bonds converting to MSCI listed companies. A Prime-2 or equivalent rating for short-term deposits is required whereby cash and fixed-term deposits must normally be deposited with at least 3 such institutions, with the further restriction of a 5% limit with any one such institution.

The table below presents RFPSS-held financial instruments according to the asset classes used by the RFPSS for risk-management purposes:

				in EUR '000
31 December 2021	Rating below "A"	Not rated	Rating "A" and higher	Total
Domestic government bonds	453 283	—	1 332 789	1 786 072
Domestic corporate bonds	232 578	—	450 738	683 316
Foreign bonds	—	—	345 768	345 768
Cash and currency forwards	—	—	359 577	359 577
Total financial assets	685 861	—	2 488 872	3 174 733

in EUR '000

31 December 2020	Rating below "A"	Not rated	Rating "A" and higher	Total
Domestic government bonds	363 185	—	1 165 843	1 529 028
Domestic corporate bonds	157 415	—	413 715	571 130
Foreign bonds	—	—	306 698	306 698
Cash and currency forwards	—	—	361 125	361 125
Total financial assets	520 600	—	2 247 381	2 767 981

For the use of derivatives, limitations and provisions are foreseen in the investment guidelines. Options and futures must be traded on a regulated market or with a regulated counterparty. In the case of non-standardised trades (OTC contracts) with a time to maturity of more than 12 months, the counterparty must have at least an A-rating (Standard & Poor's / Moody's / Fitch). If the contract expires within the next 12 months, a short-term rating of at least A-2 or equivalent is required.

Derivative transactions of the RFPSS are either executed on an exchange, or entered into under German master agreements (DRV). In general, under such agreements the amounts owned by each counterparty on a single day in respect of all transactions outstanding in the same currency are aggregated into a single net amount that is payable by one party to the other. In certain circumstances – e.g. when a credit event such as a default occurs – all outstanding transactions under the agreement are terminated, the termination values are assessed and only a single net amount is due or payable in settlement of all transactions.

The DRV agreements do not meet the criteria for offsetting in the statement of financial position. This is because the RFPSS does not have any currently legally enforceable right to offset recognised amounts, due to the fact that the right to offset is enforceable only on the occurrence of future events such as default.

For the derivative transactions open at year's end, Credit or Debit Value Adjustments are calculated. The counterparty risk assessments are established by the calculation of a Credit Valuation Adjustment ("CVA") for OTC derivative assets and, for symmetrical treatment, the Debit Valuation Adjustment ("DVA"), i.e. the own credit risk assessment for derivative liabilities. The adjustment amount is determined by assessing the potential credit exposure to a given counterparty and, taking into account any collateral held, the effect of any relevant netting arrangements as well as the expected loss given default and the credit risk, based on available market information, including the probability of default.

The table below presents a summary of master netting and similar agreements:

in EUR '000

31 December 2021	Gross and net amounts of financial instruments in the statement of financial position	Related financial instruments that are not offset	Net amount
Financial Assets			
Derivatives used for trading	18 400	(1 694)	16 706
Total financial assets	18 400	(1 694)	16 706
Financial Liabilities			
Derivatives used for trading	1 694	(1 694)	—
Total financial liabilities	1 694	(1 694)	—

31 December 2020	Gross and net amounts of financial instruments in the statement of financial position	Related financial instruments that are not offset	Net amount
Financial Assets			
Derivatives used for trading	28 191	(738)	27 453
Total financial assets	28 191	(738)	27 453
Financial Liabilities			
Derivatives used for trading	738	(738)	—
Total financial liabilities	738	(738)	—

30.4 Capital management

The EPO is a non-profit organisation and the main objectives of its capital management are to ensure the continuity of its tasks as defined in the EPC – in particular the grant of European patents – and to meet its obligations to its stakeholders.

The stakeholders are the Contracting States, patent applicants and their representatives, serving and former EPO staff, and its product- and/or service-providers.

The Organisation is financed from its own resources, from its share of national renewal fees and, if need be, from special contributions by the Contracting States. Any liquidity deficits would be financed by its Contracting States, so the Organisation has no risk of insolvency.

According to Article 38 EPC, the Organisation's own resources comprise

- (a) all income from fees and other sources, and the Organisation's reserves
- (b) the resources of the RFPSS which are a special class of assets to support the Organisation's pensions and social security scheme by providing the appropriate reserves.

EPO capital management is based on financial planning for a period of five years, including a forecast of IFRS statements for each of these years. Both are based on a five-year business plan for all EPO services. Analyses of possible developments in demand for European patents and in applicant behaviour are conducted in consultation with the relevant stakeholders.

Actual developments during the year are monitored, in the form of monthly financial management reports to EPO management and quarterly reports to the Budget and Finance Committee and the Administrative Council.

The policy and measures described above are part of EPO management's strategy to ensure that the Organisation can continue as a going concern without any risk of needing to draw on special contributions from the Contracting States.

31. Events after the reporting period

No material favourable or unfavourable events occurred between the end of the reporting period and the date when the financial statements were authorised for issue.