Underwriters Laboratories Inc.

Reports on Federal Awards in Accordance with the Uniform Guidance

December 31, 2021

EIN: 36-1892375

Underwriters Laboratories Inc.
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Part I
Consolidated Financial Statements and Supplemental Information

Report of Independent Auditors

To the Board of Trustees of Underwriters Laboratories Inc.

Report on the Audit of the Consolidated Financial Statements

Opinion

We have audited the accompanying consolidated financial statements of Underwriters Laboratories Inc. and its subsidiaries (the "Company"), which comprise the consolidated balance sheets as of December 31, 2021 and December 31, 2020, and the related consolidated statements of operations and changes in net assets and of cash flows for the years then ended, including the related notes (collectively referred to as the "consolidated financial statements").

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Company as of December 31, 2021 and December 31, 2020, and the changes in net assets and its cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Basis for Opinion

We conducted our audit in accordance with auditing standards generally accepted in the United States of America (US GAAS) and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Our responsibilities under those standards are further described in the Auditors' Responsibilities for the Audit of the Consolidated Financial Statements section of our report. We are required to be independent of the Company and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Responsibilities of Management for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with accounting principles generally accepted in the United States of America, and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the Company's ability to continue as a going concern for one year after the date the financial statements are available to be issued.

Auditors' Responsibilities for the Audit of the Consolidated 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 auditors' report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with US GAAS and *Government Auditing Standards*, will always detect a material misstatement when it exists. 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. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

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In performing an audit in accordance with US GAAS and *Government Auditing Standards*, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements.
- 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 Company's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the consolidated financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the Company's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control-related matters that we identified during the audit.

The PricewaterhouseCoopers affiliated firms in Greater China and Japan performed audit procedures for UL VS Shanghai Ltd., UL - CCIC Company Limited, and UL Japan, Inc., comprising approximately 10% and 9% of total assets of the Company for the years ended December 31, 2021 and December 31, 2020, respectively. Personnel of these firms, excluding United States personnel, do not participate in a continuing education program that fully satisfies the requirement set forth in Chapter 4, paragraph 4.16 of *Government Auditing Standards*. However, these firms do participate in continuing education programs applicable to their respective countries.

Further, the PricewaterhouseCoopers affiliated firms referred to above do not have an external quality review by an unaffiliated audit organization as required by Chapter 5, paragraph 5.60 of *Government Auditing Standards*, since no such program is offered by professional organizations in the countries. However, these offices participate in the PricewaterhouseCoopers worldwide internal control review program, which requires the office to be periodically subjected to an extensive quality control review by partners and managers from other PricewaterhouseCoopers affiliated firms.

Supplemental Information

Our audit was conducted for the purpose of forming an opinion on the consolidated financial statements as a whole. The accompanying schedule of expenditures of federal awards for the year ended December 31, 2021 is presented for purposes of additional analysis as required by Title 2 U.S. *Code of Federal Regulations* Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance) and is not a required part of the consolidated financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the consolidated financial statements. The information has been subjected to the auditing procedures applied in the audit of the consolidated financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the consolidated financial statements or to the consolidated financial statements themselves, and other additional procedures, in accordance with auditing standards generally accepted in the United States of America. In our opinion, the schedule of expenditures of federal awards is fairly stated, in all material respects, in relation to the consolidated financial statements taken as a whole.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated September 1, 2022, except with respect to the opinion on the supplemental information, as to which the date is September 29, 2022 on our consideration of the Company's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts and grant agreements and other matters for the year ended December 31, 2021. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing and not to provide an opinion on the effectiveness of internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Company's internal control over financial reporting and compliance.

PricewaterhouseCoopers LLP

Chicago, Illinois
September 1, 2022, except with respect to the opinion on the supplemental information, as to which the date is September 29, 2022

Underwriters Laboratories Inc.
Consolidated Balance Sheets

(in millions)	As of December 31, 2021	2020
Assets		
Current assets:		
Cash and cash equivalents	$ 1,415	$ 978
Short-term investments	47	—
Accounts receivable, net of allowance of $12 and $11	369	369
Contract assets, net of allowance of $2 and $2	189	198
Other current assets	68	57
Total current assets	2,088	1,602
Investments	4	370
Equity investments in non-consolidated affiliates	44	39
Property, plant and equipment, net of accumulated depreciation of $724 and $680	453	457
Goodwill	621	593
Intangible assets, net of accumulated amortization of $237 and $218	73	82
Operating lease right-of-use assets	152	156
Deferred income taxes	166	118
Capitalized software, net of accumulated amortization of $372 and $358	124	128
Other assets	30	19
Total Assets	$ 3,755	$ 3,564
Liabilities and Net Assets		
Current liabilities:		
Accounts payable	$ 188	$ 135
Accrued expenses	449	372
Current portion of long-term debt	—	5
Operating lease liabilities - current	36	43
Contract liabilities	136	130
Total current liabilities	809	685
Pension and postretirement benefit plans	337	414
Long-term debt, less current portion	—	89
Operating lease liabilities	119	116
Deferred income taxes	15	13
Other liabilities	69	67
Total Liabilities	1,349	1,384
Net assets without donor restrictions attributable to:		
Underwriters Laboratories Inc.	2,385	2,160
Non-controlling interests	21	20
Total Net Assets without Donor Restrictions	2,406	2,180
Total Liabilities and Net Assets	$ 3,755	$ 3,564

The accompanying notes are an integral part of these consolidated financial statements.

Underwriters Laboratories Inc.
Consolidated Statements of Operations and Changes in Net Assets

(in millions)	Year ended December 31, 2021	2020
Operating revenues	$ 2,524	$ 2,304
Operating expenses	1,327	1,270
Excess of operating revenues over expenses	1,197	1,034
Selling, general and administrative expenses	941	701
Operating income	256	333
Income tax expense	(38)	(91)
Interest expense	(3)	(3)
Other (expense) income, net	(12)	(29)
Excess of revenues over expenses	203	210
Less: excess of revenues over expenses attributable to non-controlling interest	14	12
Excess of revenues over expenses attributable to Underwriters Laboratories Inc.	$ 189	$ 198
Excess of revenues over expenses	$ 203	$ 210
Foreign currency translation (loss) gain	(24)	42
Pension and postretirement benefit plans, net of tax of $21 and ($5)	62	(16)
Unrealized (loss) gain on available-for-sale securities, net of tax of ($1) and $1	(2)	2
Dividend declared to non-controlling interest	(13)	(11)
Change in net assets without donor restrictions	$ 226	$ 227
Net assets without donor restrictions		
Beginning of year	$ 2,180	$ 1,955
Adoption of new accounting standards	—	(2)
Beginning of year, as adjusted	2,180	1,953
End of year	$ 2,406	$ 2,180

The accompanying notes are an integral part of these consolidated financial statements.

Underwriters Laboratories Inc.
Consolidated Statements of Cash Flows

(in millions)	Year Ended December 31, 2021	Year Ended December 31, 2020
Operating activities		
Change in net assets without donor restrictions	$ 226	$ 227
Adjustments to reconcile change in net assets without donor restrictions to net cash provided by operating activities:		
Foreign currency translation loss (gain)	24	(42)
Pension and postretirement benefit plans (gain) loss, net of tax	(62)	16
Unrealized loss (gain) on available-for-sale securities, net of tax	2	(2)
Dividend declared to non-controlling interest	13	11
Depreciation and amortization	143	148
(Gain) loss on disposal of assets	(5)	1
Allowance for credit losses	7	9
Loss on foreign exchange transactions	11	16
Gain on sales of investments	(5)	(7)
Equity in earnings of non-consolidated affiliates	(11)	(3)
Dividends from investments in non-consolidated affiliates	2	2
Deferred income taxes	(70)	(4)
Pension settlement losses	11	15
Changes in assets and liabilities, excluding the effects of acquisitions		
Accounts receivable	(1)	(8)
Contract and other assets	(13)	4
Accounts payable	35	6
Accrued expenses	85	50
Contract and other liabilities	2	27
Net cash flows provided by operating activities	394	466
Investing activities		
Purchases of investments	—	(250)
Sales of investments	371	2
Purchases of equity investments in non-consolidated affiliates	(1)	(3)
Proceeds from sale of assets	8	—
Acquisitions, net of cash acquired	(47)	—
Redemptions (purchases) of short-term investments, net	(46)	27
Capital expenditures	(108)	(121)
Net cash flows provided by (used in) investing activities	177	(345)
Financing activities		
Proceeds from long-term debt	—	20
Repayments of long-term debt	(94)	(4)
Acquisition of non-controlling interest	(2)	—
Deferred acquisition payments	—	(3)
Dividends to non-controlling interest	(24)	(11)
Net cash flows (used in) provided by financing activities	(120)	2
Effect of exchange rate changes on cash and cash equivalents	(14)	3
Net increase in cash and cash equivalents	437	126
Cash and cash equivalents		
Beginning of year	978	852
End of year	$ 1,415	$ 978
Supplemental disclosures of cash flow information		
Cash paid during the year for interest	$ 2	$ 2
Cash paid during the year for income taxes	132	69
Cash paid during the year for stock-based compensation	18	36
Noncash investing and financing activities		
Capital expenditures funded by liabilities	$ 33	$ 19
Acquisitions funded by liabilities	1	2

The accompanying notes are an integral part of these consolidated financial statements.

1. Description of Business and Summary of Significant Accounting Policies

Description of Business

Underwriters Laboratories Inc. (“UL Research Institutes” and, together with UL Standards & Engagement and UL Solutions (each, as defined below), the “Company,” “we,” “our,” and “us”), is a Delaware charitable nonstock corporation with a mission of, among other things, promoting safe living and working environments throughout the world by conducting safety and environmental sciences and hazard-based safety engineering. UL Research Institutes has a favorable determination letter from the Internal Revenue Service (“IRS”) classifying it as a tax-exempt public charity, per Section 501(c)(3) of the tax code.

UL Research Institutes' principal activity relates to conducting and disseminating scientific research on public safety issues. UL Research Institutes is the sole member of ULSE, Inc. ("UL Standards & Engagement"), a Delaware nonprofit nonstock corporation that has applied for a favorable tax determination letter from the IRS to classify it as a tax-exempt social welfare organization per Section 501(c)(4) of the tax code. Starting on November 30, 2021, UL Standards & Engagement began engaging in education and outreach activities to promote public safety and developing internationally recognized safety standards. Prior to such date these activities were performed by UL Research Institutes. UL Standards & Engagement owns 100% of the outstanding common stock of UL Solutions Inc. (together with its consolidated subsidiaries, "UL Solutions"), a Delaware corporation, which is a global safety science leader that provides independent third-party testing, inspection and certification services and complementary software and advisory services to customers across a broad array of end markets.

Basis of Presentation and Principles of Consolidation

The consolidated financial statements include the accounts of the Company and variable interest entities for which the Company has determined it is the primary beneficiary. All intercompany accounts and transactions have been eliminated. The Company accounts for investments in business entities using the equity method when it has significant influence but not control (generally between 20% and 50% ownership) and is not the primary beneficiary. The significant accounting policies, as summarized below, conform to Accounting Standards Codification ("ASC") Topic 958, *Not-for-Profit Entities* ("ASC 958"), and other accounting principles generally accepted in the United States of America ("US GAAP"). The Company has reclassified certain amounts in prior-period financial statements to conform to the current period’s presentation.

ASC 958 requires classification of net assets and revenues, expenses and gains and losses, based on the existence or absence of donor restrictions. The categories, net assets without donor restrictions and net assets with donor restrictions, are defined as follows:

- Net Assets Without Donor Restrictions – Net assets available for general use and not subject to third-party donor-imposed stipulations. Net assets without donor restrictions may be designated for specific purposes by management or the Board of Trustees.

- Net Assets With Donor Restrictions – Net assets subject to third-party donor-imposed restrictions. Some donor-imposed restrictions are temporary in nature that may or will be met either by the passage of time or the events specified by the donor. Other donor-imposed restrictions are perpetual in nature, where the donor stipulates that resources be maintained in perpetuity.

In accordance with ASC 958, the Company does not have any net assets with third-party donor restrictions.

Use of Estimates

The preparation of financial statements in conformity with US GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting period. Estimates are inherently uncertain and actual results could differ materially from estimated amounts. Estimates are used for, but are not limited to, contractual revenue recognized, future cash flows associated with impairment testing for goodwill and long-lived assets, future cash flows associated with the valuation of Cash-settled Stock Appreciation Rights (“CSAR”), certain assumptions related to pension and postretirement benefits and income taxes. The Company adjusts such estimates and assumptions when facts and circumstances dictate. Changes in those estimates resulting from continuing changes in the economic environment will be reflected in the financial statements in future periods.

The Company has assessed various accounting estimates, including those that require consideration of forecasted financial information, in conjunction with the unknown future impacts of the COVID-19 pandemic using information that is reasonably available to us. The Company believes that the accounting estimates are appropriate after giving consideration to the increased uncertainties surrounding the severity and duration of the pandemic, however as additional information becomes available to us, our future assessment of these estimates, including our expectations regarding the duration, scope and severity of the pandemic, as well as other factors, could materially and adversely impact our consolidated financial statements in future reporting periods.

Revenue Recognition

The Company's revenue is primarily generated from its taxable for-profit subsidiary, UL Solutions, which recognizes revenue when its customer obtains control of promised goods or services, or as UL Solutions renders services, in an amount that reflects the consideration that UL Solutions expects to receive in exchange for those goods and services. To determine revenue recognition for arrangements that were determined to be within the scope of Accounting Standards Update (“ASU”) 2014-09, *Revenue from Contracts with Customers*, and related standards as codified in ASC Topic 606, *Revenue from Contracts with Customers* (“ASC 606”), the Company performs the following five steps: (1) identify the contract(s) with a customer, (2) identify the performance obligation(s) in the contract, (3) determine the transaction price, (4) allocate the transaction price to the performance obligations in the contract, and (5) recognize revenue when (or as) UL Solutions satisfies a performance obligation.

UL Solutions’ standard payment terms are due upon receipt of the invoice, except for new customers, which may be required to make advance payments. Certain customers may be offered extended payment terms on a case-by-case basis generally not longer than 90 days.

UL Solutions' contracts with customers may include promises to transfer multiple goods and services to a customer. When a contract includes multiple goods and services, judgment is required to determine whether each good or service is considered distinct and accounted for separately, or not distinct and accounted for together with the other goods or services in the contract. Certain contracts contain goods or services that are highly integrated or highly interdependent and are accounted for as a single performance obligation. Other contracts have goods or services that are distinct and accounted for separately. Those goods and services that are determined to be separate performance obligations are treated as separate units of account and are allocated a portion of the transaction price based on relative stand-alone selling price, which is the price at which an entity would sell a promised good or service separately to a similar customer in similar circumstances. The stand-alone selling price is determined using an established list price for the specific service and geographical region, or through a needs-based assessment. If a needs-based assessment approach is used, the stand-alone selling price is estimated by multiplying the expected labor hours by a labor rate. The labor rate is determined by considering the cost of labor, other miscellaneous costs (e.g., overhead) and applying a margin. The labor rate may be adjusted for geographic differences and other items as determined necessary, and is reviewed on a periodic basis for appropriateness.

The transaction price for contracts may include both fixed and variable consideration, which includes customer volume rebates, discounts, and the consideration received if contingent upon the quantity of tasks completed or occurrence or nonoccurrence of a future event. The Company estimates variable consideration using both the most likely amount and expected value methods to determine the total consideration to which UL Solutions expects to be entitled. The method used to estimate variable consideration varies by contract. Estimated amounts are included in the transaction price to the extent it is probable that a significant reversal of cumulative revenue recognized will not occur when the uncertainty associated with the variable consideration is resolved. The Company's estimates of variable consideration and determination of whether to include estimated amounts in the transaction price are based largely on an assessment of UL Solutions’ anticipated performance and all information (historical, current and forecasted) that is reasonably available. As most variable consideration is estimable with a high degree of confidence, generally no such constraint is necessary. UL Solutions typically has contracts in which the period between payment and transfer of the goods is less than one year. As such, the Company has elected the practical expedient to not adjust the amount of consideration for the effects of a significant financing component for all instances in which the period between payment and transfer of the goods will be one year or less. For those instances in which the period is greater than one year, the Company determined that a significant financing component is not present in the transaction as the business purpose of these arrangements is not to provide financing to UL Solutions.

The majority of UL Solutions' revenue from contracts with customers represents revenue from services recognized over time as performance obligations are satisfied. The appropriate measure of progress is an input method, however, the amount of revenue to be recognized requires us to make estimates, in particular in relation to measuring progress towards completion.

For UL Solutions' Certification Testing and Non-certification Testing, Inspections and Audit arrangements recognized over time, we measure progress towards completion based on the relationship between time elapsed and expected project duration, which is considered the most indicative of UL Solutions' performance to date under the terms of the contract. Management applied judgment in determining the expected project duration for these contracts. The portion of the project’s revenue to be recognized is determined based on the percentage of time elapsed for the project during the period relative to expected project duration. The start-date is determined by the receipt of a confirmed order, and the end-date is determined by the completion of the order's deliverables. The portion of a project’s revenue estimated as earned, but not yet completed, and recognized as revenue, is included in contract assets or as a reduction to contract liabilities.

UL Solutions’ cost to obtain a contract is generally commission paid to sales personnel for the sale of services. Management determined that the amortization period of the commission costs would be one year or less and therefore has elected the practical expedient to expense these costs as incurred. As a result, the costs to obtain a contract are expensed as incurred.

UL Solutions typically does not incur costs to fulfill which would meet the capitalization criteria and therefore these costs are typically expensed as incurred.

When UL Solutions performs shipping and handling activities after the transfer of control to the customer (e.g., when control transfers prior to shipment), these are considered fulfillment activities, and accordingly, the costs are accrued when the related revenue is recognized. Taxes collected from customers relating to product sales and remitted to governmental authorities are excluded from revenues.

Refer to Note 2 for additional information.

Cash and Cash Equivalents

Cash and cash equivalents include investments purchased with original maturities of three months or less.

Short-term Investments and Investments

Short-term investments and investments consist of certificates of deposit, certain fixed-income securities and other alternative investments. Short-term investments are recorded at amortized cost, which approximates fair value. Investments, consisting of debt securities, are classified as available-for-sale securities and are recorded at fair value based upon quoted prices for similar instruments or estimates provided by the fund manager. Unrealized gains and losses on available-for-sale securities are recorded as a separate component of changes in net assets.

Available-for-sale debt securities in an unrealized loss position are evaluated to determine whether the impairment is a result of a credit loss or other factors. If the Company has the intent to sell or it is more likely than not that it will be required to sell the security before recovery of its amortized cost basis, the security's amortized cost basis is written down to fair value through income. Securities that have experienced a decline in fair value that the Company does not intend to sell, and that the Company will not be required to sell before recovery, are evaluated on a quarterly basis whether the decline in fair value has resulted from credit losses or other factors. In making this assessment, the Company considers the extent to which fair value is less than amortized cost, any changes to the rating of the security by a rating agency, and adverse conditions specifically related to the security, among other factors. If this assessment indicates that a credit loss exists, an allowance for credit losses is recorded for the credit loss, limited by the amount that the fair value is less than the amortized cost basis. Any impairment that has not been recorded through an allowance for credit losses is recognized in changes in net assets. Changes in the allowance for credit losses are recorded as a provision for (or reversal of) credit loss expense.

Upon the sale of an available-for-sale security, the unrealized gain (loss) is reclassified out of net assets and the gain (loss) is recorded as investment income (loss) in the Consolidated Statements of Operations and Changes in Net Assets. Realized gains (losses) are computed using the specific identification method and recognized as investment income (loss) in the Consolidated Statements of Operations and Changes in Net Assets.

Accounts Receivable and Contract Assets

Accounts receivables consist of amounts billed and currently due from customers. Contract assets represent revenues for projects that have been recognized for accounting purposes, but not yet billed to customers. The Company extends credit to customers in the normal course of business and maintains an allowance for credit losses. The allowance is an estimate based on historical collection experience, current and future economic and market conditions and a review of the current status of each customer's trade accounts receivable. Management evaluates the aging of the accounts receivable balances and the financial condition of its customers and all other forward-looking information that is reasonably available to estimate the amount of accounts receivable that may not be collected in the future and records the appropriate provision. Account balances are written off against the allowance when it is determined the accounts receivables will not be recovered.

Property, Plant and Equipment

Property, plant and equipment are stated at cost, net of accumulated depreciation. Major replacements and improvements are capitalized, while maintenance and repairs, which do not improve or extend the life of the respective assets, are expensed as incurred. Upon retirement or sale, the cost of disposed assets, and the related accumulated depreciation, is removed from the accounts and any resulting gain or loss is reflected in the Consolidated Statements of Operations and Changes in Net Assets.

Depreciation is computed using the straight–line method over the estimated useful life of the asset as follows:

Land improvements	15 years
Building and building improvements	15-50 years
Leasehold improvements	Lease term
Machinery, equipment and office furniture	3-15 years

Leases

The Company determines if an arrangement is a lease at inception and reassesses that conclusion if the contract is modified. The Company evaluates whether the arrangement conveys the right to control the use of an identified asset for a period of time in exchange for consideration in order to determine if the contract is or contains a lease. The right to control the use of an identified asset includes the right to obtain substantially all of the economic benefits from use of the asset and the right to direct the use of the asset.

The Company's classes of leased assets include real estate, vehicles, and equipment. When it is reasonably certain that an option to extend or terminate a lease will be exercised, the Company has included the option in the recognition of right-of-use ("ROU") assets and lease liabilities. The Company does not recognize ROU assets or lease liabilities for leases with a term of twelve months or less. The Company accounts for non-lease and lease components in a contract as a single lease component for all asset classes.

ROU assets represent the Company's right to use an underlying asset for the lease term and lease liabilities represent its obligation to make lease payments arising from the lease. ROU assets and lease liabilities are recognized at lease commencement and measured based on the present value of lease payments over the lease term. Variable lease payments are recognized as incurred and are not presented as part of the ROU asset or lease liability. Operating lease cost is recognized on a straight-line basis over the lease term. The Company does not have material finance leases.

The Company uses its incremental borrowing rate at the commencement date in determining the present value of lease payments. The Company's incremental borrowing rate is based on its estimated rate of interest for a collateralized borrowing over a similar term as the lease payments. The same process is followed for any new leases at their commencement dates or modification to existing leases that require remeasurement.

Goodwill

The Company accounts for business combinations using the acquisition method of accounting in accordance with ASC Topic 805, *Business Combinations*, which requires an allocation of the purchase consideration transferred to the identifiable assets and liabilities based on the estimated fair values as of the acquisition date. Goodwill represents the excess of the purchase price of an acquired entity over the fair value of net assets acquired. Goodwill is tested for impairment annually in the fourth quarter, or more frequently if an event occurs or conditions change that would indicate it is more likely than not that the fair value of a reporting unit is below its carrying amount. The Company's reporting units have been identified as one level below our operating segments. The goodwill impairment testing is performed by comparing the fair value of a reporting unit with its carrying amount and recognizing an impairment charge for the amount by which the carrying amount exceeds the reporting unit's fair value.

To evaluate the recoverability of a reporting unit's goodwill we have the option to first perform a qualitative analysis. If the qualitative analysis indicates it is more likely than not that the fair value of a reporting unit is below its carrying amount, we perform a quantitative impairment assessment for that reporting unit. We did not perform a qualitative analysis for any of our reporting units for the years ended December 31, 2021 or 2020.

Our quantitative assessment consists of a fair value calculation for each reporting unit that combines an income approach and a market approach, using an equal weighting. The quantitative assessment requires the application of a number of significant assumptions which are further described below, including estimated future cash flows of the reporting unit, discount rates, and market multiples.

The fair value using the income approach is determined based on the present value of estimated future cash flows of the reporting unit, discounted at an appropriate risk-adjusted rate. We use our internally developed long-range plans to estimate future cash flows and include an estimate of long-term future growth rates based on our most recent views of the long-term outlook for each reporting unit. Development of our long-range plans includes consideration of current and projected levels of income for the reporting unit based on management's plans for that business, business trends, market and economic conditions, as well as other relevant factors. The discount rate is based on the weighted average cost of capital for the reporting unit. We use discount rates that are commensurate with the risks and uncertainty inherent in the respective businesses and in our long-range plans.

The fair value using the market approach is derived from market multiples using comparable publicly traded companies for a group of benchmark companies. The selection of comparable businesses is based on the markets in which the reporting units operate given consideration to risk profiles, size, geography and diversity of products and services.

We did not recognize any impairments of goodwill for the years ended December 31, 2021 or 2020.

Intangible and Other Long-lived Assets

The Company amortizes finite-lived intangible assets using the straight-line method over their estimated economic useful lives, which range from two to fifteen years. The Company reviews long-lived assets, including property, plant and equipment, capitalized software and intangible assets with finite lives for impairment whenever an event occurs or conditions change that indicate the carrying amount of the asset group may not be recoverable. When such events occur, we perform a recoverability test by comparing the projected undiscounted cash flows of the asset group to the carrying amount. If this comparison indicates that there is a potential impairment, the asset group's fair value is determined based on the present value of its estimated future cash flows, discounted at an appropriate risk-adjusted rate. An impairment charge is recorded for the amount by which the carrying amount of the asset group exceeds its fair value. We did not recognize any impairments of intangible or other long-lived assets for the years ended December 31, 2021 or 2020.

Capitalized Software

Costs related to software acquired, developed, or modified solely to meet the Company's internal requirements, where no substantive plan either exists or is being developed to externally market the software, are capitalized in accordance with the provisions of ASC Topic 350-40, *Internal-use Software* ("ASC 350-40"). Certain costs incurred after the completion of the preliminary project stage and after management, with the relevant authority, has authorized and committed funds to the computer software project, and it is probable that the project will be completed and the software will be used to perform the function intended, are capitalized. For development costs capitalized under the requirements of ASC 350-40, amortization begins when each software module is ready for its intended use, unless the functionality of that completed software module is entirely dependent on the completion of another software module(s), and if so, the amortization begins when the other software module(s) upon which the completed software module depends is ready for its intended use. Costs are amortized over the estimated useful life on a straight-line basis. Costs related to preliminary project activities and post implementation activities are expensed as incurred. Additions to capitalized software are reported within capital expenditures in the Consolidated Statements of Cash Flows.

Production costs for software to be sold, leased or otherwise marketed are capitalized in accordance with ASC Topic 985-20, *Costs of Software to be Sold, Leased, or Marketed*. Costs incurred in research and development of new releases or significant enhancements of software products that add new functionality are expensed until technological feasibility of the software product has been established and all research and development activities for the other components of the product or process have been completed. Technological feasibility is established when all of planning, designing, coding, and testing activities are completed that are necessary to establish that the product can be produced to meet its design specifications, including features, and technical performance requirements. Production costs incurred subsequent to establishing technological feasibility are capitalized up until the software is available for general release. These production costs include direct and indirect costs. These costs are amortized on a straight-line basis over the useful life of the software (three to seven years), beginning when the related system is considered ready for use or available for sale. Annual revenues earned over the life of the product are steady and approximate straight line.

Amortization expense of capitalized internal-use software costs totaled $45 million and $51 million for years ended December 31, 2021 and 2020, respectively. The product costs incurred to develop software related courses that will be sold or delivered to customers are capitalized and amortized over the period over which the course is expected to generate revenues (generally two to three years).

Derivative Financial Instruments

The Company has global operations and conducts business denominated in various foreign currencies. In order to reduce the cash flow impact from the variation of foreign currency exposures, from time to time, the Company enters into both foreign currency forward and option contracts. The use of derivatives is restricted to those intended to reduce the risk of exposure to any currency. The Company does not enter into financial instruments for trading or speculative purposes. The Company had no open derivative instruments as of December 31, 2021 or 2020. The Company records gains and losses related to the changes in fair value, and the settlement of the currency hedging instruments, as investment income in the Consolidated Statements of Operations and Changes in Net Assets.

Concentration of Credit Risk

Financial instruments that potentially subject the Company to credit risk consist primarily of cash and cash equivalents, short-term investments, accounts receivable and contract assets. Credit risk represents the accounting loss that would be recognized at the reporting date if counterparties failed to perform as contracted. The Company believes the likelihood of incurring material losses due to concentration of credit risk is minimal. The Company actively limits its exposure to credit risk by maintaining cash deposits with major financial institutions as counterparties and by maintaining accounts receivable with a large number of customers in diverse industries and geographies in addition to establishing reasonable credit approvals and limits.

Foreign Currency

The functional currency of certain of the Company's foreign affiliates is the local currency. Assets and liabilities of international subsidiaries have been translated into U.S. dollars at year-end exchange rates, and income and expense items have been translated using monthly average exchange rates for the year. The resulting currency translation adjustments have been recorded as a separate component of changes in net assets. The Company revalues assets and liabilities entered in foreign currency using the year-end exchange rate and the resulting unrealized gain (loss) is recorded as other (expense) income, net in the Consolidated Statements of Operations and Changes in Net Assets. Realized losses on foreign currency transactions totaled $9 million and $5 million for the years ended December 31, 2021 and 2020, respectively, and have been recorded as selling, general and administrative expenses in the Consolidated Statements of Operations and Changes in Net Assets.

Liquidity Considerations

As part of the Company’s liquidity management, it has a policy to structure its financial assets to be available as its general expenditures, liabilities, and other obligations come due. The Company has $1,831 million of financial assets available within one year of the balance sheet date to meet cash needs for general expenditures consisting of cash of $1,415 million, short-term investments of $47 million and accounts receivable, net of allowance of $369 million. None of the financial assets are subject to donor or other contractual restrictions that make them unavailable for general expenditure within one year of the balance sheet date. In March 2022, the Company invested cash in excess of short-term requirements into an investment portfolio containing a mix of diversified assets. Refer to Note 19 for further details.

Fair Value

The carrying amount of cash and cash equivalents, accounts receivable, accounts payable and accrued liabilities approximate fair value due to their short maturities.

The carrying amount of revolving credit facilities approximate fair value, since interest rates are adjusted monthly, or quarterly, based on current market rates. The carrying amount of term loans approximate fair value.

ASC Topic 820, Fair Value Measurement ("ASC 820"), defines fair value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. ASC 820 also establishes a three-level fair value hierarchy that prioritizes information used in developing assumptions when pricing an asset or liability as follows:

- Level 1 observable inputs such as quoted prices in active markets;

- Level 2 inputs, other than quoted prices in active markets, that are observable either directly or indirectly; and

- Level 3 unobservable inputs where there is little or no market data, which requires the reporting entity to develop its own assumptions.

ASC 820 requires the use of observable market data, when available, in making fair value measurements. When inputs used to measure fair value fall within different levels of the hierarchy, the level within which the fair value measurement is categorized is based on the lowest level input that is significant to the fair value measurement. The Company does not have any assets or liabilities measured at fair value on a recurring basis that are level 3, except for certain pension assets discussed in Note 11. The Company did not have any transfers between fair value levels during the years ended December 31, 2021 and 2020.

Contract Liabilities

Contract liabilities include payments received in advance of performance under the contract and are subsequently reduced when the associated revenue is recognized for the respective contract. Amounts initially recorded as contract liabilities are recognized as revenue in accordance with the Company's revenue recognition policy.

Operating Expenses

Operating expenses include personnel related expenses consisting of salaries, incentives, stock-based compensation and fringe benefits for employees directly attributable to revenue generation across each of our five service categories. In addition, operating expenses include facility related costs for labs and other buildings where testing and inspection services are performed, depreciation on equipment used in testing, amortization of capitalized software, customer-related travel costs, expenses related to third-party contractors or third-party facilities and consumable materials and supplies used in testing and inspection and other costs associated with generating revenue.

Selling, General and Administrative Expenses

Selling, general and administrative expenses include personnel related expenses consisting of salaries, incentives, stock-based compensation and fringe benefits for indirect administrative functions such as executive, finance, legal, human resources and information technology, not included within operating expenses. Additionally, selling, general and administrative expenses include facility costs, depreciation and amortization, internal research and development costs as well as expenditures related to software licenses, legal and accounting fees, travel, marketing, bad debt and non-chargeable materials and supplies.

Other (Expense) Income, net

Other (expense) income, net consists primarily of non-operating gains, income and expenses related to the revaluation performed on designated balance sheet accounts, investment income, equity in earnings of non-consolidated affiliates, and non-operating pension and postretirement benefit expenses.

Stock-based Compensation

UL Solutions maintains a cash-settled stock appreciation rights ("CSAR") plan for certain employees and officers. We measure CSARs based on their fair value in accordance with ASC Topic 718, *Compensation—Stock Compensation*. Compensation expense is recognized ratably over the requisite service period, which is generally the vesting period of the respective award. The compensation expense recognized for UL Solutions' stock-based compensation awards is net of estimated forfeitures. Forfeitures are estimated based on an analysis of historical share forfeitures.

The fair value of a CSAR is estimated using a Black-Scholes-Merton option valuation model that uses various assumptions including the estimated value of the underlying stock price of UL Solutions, the expected stock price volatility, the risk-free interest rate, and expected term of the CSAR.

The absence of a public market for UL Solutions' common stock requires management to estimate the fair value per share of common stock. As set forth in the LTIP (as defined below), the determination is made at the direction of the compensation committee of UL Solutions and pursuant to a reasonable valuation method in accordance with Section 409A of the Internal Revenue Code, including without limitation, by reliance on third-party valuations completed within the preceding twelve months. In 2021, the valuation methodology used a combination of an income approach and a market approach. In 2020, the valuation methodology used only an income approach. The change in approach was driven by a number of factors occurring in the third and fourth quarters of 2021 that made UL Solutions more comparable to publicly traded peer companies and make the market approach more relevant to the common stock valuation. These factors included the consideration of planned debt financing and the impacts of certain other strategic business changes.

The fair value using the income approach is determined using a discounted cash flow analysis to estimate future cash flows of the business, discounted at an appropriate risk-adjusted rate. We use our internally developed long-range plans of earnings before interest, taxes, depreciation, amortization, capital expenditures and working capital to estimate future cash flows and include an estimated long-term future growth rate based on our most recent view of the long-term outlook for the business. Development of our long-range plans includes consideration of current and projected levels of income based on management’s plans for the business, business trends, market and economic conditions, as well as other relevant factors. The discount rate is determined using inputs from guideline public companies, adjusted for company specific factors.

The fair value using the market approach is derived from market multiples using comparable publicly traded companies for a group of benchmark companies. The selection of comparable businesses is based on the markets in which we operate given consideration to risk profiles, size, geography and diversity of products and services. The multiples are applied to estimated revenue and earnings before interest, taxes, depreciation and amortization for the next annual period using our internally developed long-range plans.

The valuation methodology also considers several objective and subjective factors to estimate the fair value per share of UL Solutions' common stock, including market conditions, UL Solutions developments and milestones, any transactions involving UL Solutions' stock, its financial position, including cash on hand and its historical and forecasted performance and operating results, and the likelihood of achieving a liquidity event of UL Solutions' common stock, in light of prevailing market conditions. Third-party valuations are performed in accordance with the guidance outlined in the American Institute of Certified Public Accountants’ Accounting and Valuation Guide, Valuation of Privately Held Company Equity Securities Issued as Compensation.

We estimate volatility based on the volatility of a set of comparable peer companies. The risk-free interest rate represents the continuously compounded yield on zero coupon U.S. Treasury STRIPs with a remaining term equivalent to the estimated remaining term of the CSAR. The expected term is estimated based on a number of inputs including UL Solutions' stock price, volatility, and time remaining to expiration.

Income Taxes

The Company recognizes income taxes, which primarily represent taxes related to UL Solutions, based on amounts refundable or payable for the current year and records deferred tax assets or liabilities for temporary differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases, net operating loss carryforwards and tax credit carryforwards. Deferred tax assets and liabilities are measured using current enacted tax rates expected to apply to taxable income in the years in which temporary differences are expected to reverse. Inherent in determining the annual tax rate, are judgments regarding business plans, planning opportunities and expectations about future outcomes. Realization of certain deferred tax assets, primarily net operating loss and other carryforwards, is dependent upon generating sufficient taxable income in the appropriate jurisdiction prior to the expiration of the carryforward periods. The Company has classified all deferred tax assets and liabilities, along with any related valuation allowances, as net non-current on the Consolidated Balance Sheets. Deferred tax expense or benefit is the result of changes in the deferred tax asset or liability.

The Company records valuation allowances to reduce deferred tax assets to the amount that is more-likely-than-not to be realized. When assessing the need for valuation allowances, the Company considers all available evidence, including three years of cumulative operating income/(loss), expected future taxable income and ongoing prudent and feasible tax planning strategies. Should a change in circumstances lead to a change in judgment about the realizable value of deferred tax assets in future years, the Company would adjust related valuation allowances in the period that the change in circumstances occurs, along with a corresponding increase or charge to income.

For uncertain tax positions related to exposures associated with various tax filing positions, the Company recognizes a tax benefit only if it is more-likely-than-not that the tax position will be sustained upon examination by the relevant taxing authorities, including resolutions of any related appeals or litigation processes, based on the technical merits of the position. The tax benefits recognized in the financial statements from such a position are measured based on the largest benefit that is more-likely-than-not to be realized upon settlement. We adjust our liability for unrecognized tax benefits in the period they are settled, the statute of limitations expires, or when new information becomes available.

The Company has generated income in certain foreign jurisdictions that may be subject to additional foreign withholding taxes and U.S. state income taxes, if repatriated. We regularly review our plans for reinvestment or repatriation of unremitted foreign earnings. We currently have two affiliates for which tax liabilities are recorded on unremitted foreign earnings. Our assertion on indefinite reinvestment of foreign earnings is based upon assumptions of future liquidity needs of the business and cash flow projections of affiliates.

Recently Issued Accounting Standards - Adopted

Effective January 1, 2021, the Company adopted ASU 2019-12, *Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes*. Under this guidance, the accounting for income taxes is simplified by removing certain exceptions previously included in the guidance. The standard also provides new guidance on accounting for specific taxes and minor codification improvements. The adoption of this ASU did not have a material impact on the Company’s consolidated financial statements.

Effective January 1, 2021, the Company adopted ASU 2020-01, *Clarifying the Interactions between Topic 321, Investments—Equity Securities, Topic 323, Investments—Equity Method and Joint Ventures, and Topic 815, Derivatives and Hedging*. This guidance eliminates differences in practice among fair value accounting for investments in equity securities, equity method investments and certain derivative instruments. The standard is expected to increase comparability of the accounting for these items. The adoption of this ASU did not have a material impact on the Company’s consolidated financial statements.

Effective January 1, 2020, the Company early adopted ASU 2016-13, *Financial Instruments—Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments*, and the associated ASUs (“ASC 326”). The amendments replace the incurred loss impairment methodology with a methodology that reflects expected credit losses and requires consideration of a broader range of reasonable and supportable information to inform credit loss estimates. Accordingly, companies are required to consider forward-looking information to estimate credit losses expected to occur over the estimated life of an asset, including losses that may be incurred in future periods. ASC 326 impacts our financial instruments held at amortized cost including accounts receivables and contract assets. As a result of using the modified retrospective adoption approach, the Company recorded a noncash cumulative effect adjustment to net assets of $3 million, net of $1 million of income taxes, on the opening Consolidated Balance Sheet as of January 1, 2020.

In addition, for available-for-sale debt securities, ASC 326 replaces the other-than-temporary impairment model and requires the recognition of an allowance for reductions in a security’s fair value attributable to declines in credit quality, instead of a direct write-down of the security when a valuation decline is determined to be other-than-temporary. The impact of adopting ASC 326 had an immaterial impact on the allowance of credit losses on available-for-sale debt securities.

Effective January 1, 2020, the Company adopted ASU 2018-13, *Fair Value Measurement (Topic 820): Disclosure Framework—Changes to the Disclosure Requirements for Fair Value Measurement*, which is part of the FASB disclosure framework project to improve the effectiveness of disclosures in the notes to the financial statements. The amendments in the standard remove, modify and add certain disclosure requirements related to fair value measurements covered in Topic 820, “Fair Value Measurement.” The adoption of this ASU did not have a material impact on the Company’s consolidated financial statements.

Effective January 1, 2020, the Company adopted ASU 2018-14, *Compensation—Retirement Benefits—Defined Benefit Plans—General (Subtopic 715-20)*. Under this guidance, a company will modify its fair value accounting policy and fair value of financial instruments footnote disclosures. The primary change increases disclosure requirements around level 3 assets. There is a reduction in disclosure requirements around level 1 and 2 transfers, as well as, the valuation process policy followed. The adoption of this ASU was applied on a retrospective basis to all periods presented. Refer to Note 11 for additional information.

Effective March 12, 2020 upon issuance, the Company adopted ASU 2020-04, *Reference Rate Reform (Topic 848): Facilitation of the Effects of Reference Rate Reform on Financial Reporting*. The ASU provides optional expedients and exceptions for applying generally accepted accounting principles to contracts, hedging relationships, and other transactions affected by the transition away from reference rates expected to be discontinued to alternative reference rates. These amendments are effective immediately and may be applied prospectively to contract modifications made and hedging relationships entered into or evaluated on or before December 31, 2022. The adoption of this ASU did not have a material impact on the Company’s consolidated financial statements.

Recently Issued Accounting Standards – Not Adopted

In October 2021, the FASB issued ASU 2021-08, *Accounting for Contract Assets and Contract Liabilities from Contracts with Customers—Topic 805, Business Combinations*. The guidance eliminates diversity in practice related to contract liabilities recognized in a business combination, as well as accounting for payment terms and their effect on subsequent revenue recognized by the acquirer. The guidance is effective prospectively for fiscal years beginning after December 15, 2023 for nonpublic entities, with early adoption permitted. We are assessing the impact this standard may have on our consolidated financial statements.

2. Revenue

The table below summarizes the revenue streams from which the Company derives its revenues for the year ended December 31:

(in millions)	2021	2020
Certification Testing	$ 678	$ 635
Ongoing Certification Services	829	766
Non-certification Testing, Inspections and Audit	628	558
Software and Advisory	382	342
Grants and Royalties	7	3
Total	$ 2,524	$ 2,304

Description of Revenue Streams

Certification Testing

Certification Testing is performed by UL Solutions and involves the evaluation of products, components and systems in accordance with industry standards, regulatory requirements and other design and performance specifications. As a result of the certification testing process, many of UL Solutions' customers are authorized to use the UL-in-a-circle certification mark (the "UL Mark") on their products, packaging and marketing collateral to demonstrate to the marketplace that their tested product met the applicable requirements. This service supports customers' new product development processes and helps customers mitigate risk, demonstrate safety compliance and deliver confidence to businesses and consumers, and it drives demand for Ongoing Certification Services. Certification testing services often lead to Ongoing Certification Services to support the continued safety, compliance and performance objectives of the customer.

Contracts are generally structured as fixed payments as the total amount to be charged to the customer does not vary. Revenue from Certification Testing is generally recognized over-time. In these cases, the services create an asset with no alternative use as each of the services are specific to the products and specifications provided by the customer, and UL Solutions has an enforceable right to payment. Generally, revenue is recognized using an input method based on the relationship between time elapsed and expected project duration which is considered the most indicative of UL Solutions' performance to date under the terms of the contract.

In some instances, revenue from Certification Testing does not meet the over-time criteria and is recognized at a point in time when control is transferred to the customer. Control is transferred to the customer upon the delivery of the test report to the customer. These instances occur when the agreement or the nature of the services causes a lack of right to payment until control transfer.

Ongoing Certification Services

In order to maintain the right to use the UL Mark on and in conjunction with their products and to meet certain regulatory requirements, UL Solutions' customers must meet specific certification program requirements, including mandatory inspection and monitoring. These requirements, addressed through tailored certification and inspection services, are designed to validate the continued compliance of customers' previously certified products, components, and systems. UL Solutions delivers these services through periodic inspections, initial and follow-up audits, sample testing, and UL label usage, the frequency and combination of which can vary based on product, component or system type, production volume and historical customer compliance. These services are designed and executed to help protect the integrity of the UL Mark.

Contracts are generally structured as fixed payments as the total amount to be charged to the customer does not vary. In some cases, the customer is charged a usage price based on its total production volume. Revenue from compliance program contracts is recognized over-time on a straight-line basis because the customer receives and consumes the benefit of continued certification as UL Solutions performs services through the periodic verification of the customers' compliance.

As part of Ongoing Certification Services, customers may order physical labels (recorded in other assets) that bear the UL Mark to affix to their products to demonstrate to end-customers that the products comply with the certification requirements of UL Solutions. The labels are a separate performance obligation, distinct from the compliance program. Revenue from physical labels is recognized upon shipment, the point in time in which the customer obtains control of the labels.

Non-certification Testing, Inspections and Audit

Non-certification Testing, Inspection and Audit services consist of performance testing against customer or other requirements that may or may not be required by any regulation and may or may not necessarily result in a certification, but which are still desired by UL Solutions' customers to help ensure the desired safety, performance and reliability of their products. Other services include on-site and remote inspections, audits and field engineering specialty services. Additionally, non-certification offerings provide insight into the supply chains of customers, which often leads to incremental cross-selling opportunities for additional UL Solutions services.

Contracts are generally structured as fixed payments as the total amount to be charged to the customer does not vary. For services where the customer does not simultaneously receive and consume the benefit of the performance obligation, revenue is recognized upon the delivery of the final deliverables to the customer. For services that create an asset with no alternative use as each of the services are specific to the products and specifications provided by the customer, and UL Solutions has an enforceable right to payment, revenue is recognized over-time using an input method based on the relationship between time elapsed and expected project duration which is considered the most indicative of UL Solutions' performance to date under the terms of the contract.

Software and Advisory

UL Solutions' broad suite of software and advisory services enhances customers’ risk management processes by enabling them to proactively reduce risk, improve operational and quality performance and help to ensure on-going environmental, health and safety ("EHS") compliance across their systems, assets and enterprises. Software and advisory services are highly complementary to the other services offered by UL Solutions and allow fully integrated solutions to be delivered to customers.

Software as a Service (SaaS) and licensed software solutions provide data-driven supply chain insights (e.g. chemical management), sustainability monitoring and verification (e.g. energy consumption tracking), compliance reporting (e.g. employee safety training), engineering process management, building health and safety and product and process cybersecurity evaluations (e.g. vulnerability assessments).

UL Solutions' advisory services teams provide guidance that is highly tailored to support its customers' efforts to effectively manage safety, compliance and regulatory risks, enhance security and sustainability and access new markets. UL Solutions provides these services across a number of end markets and applications, including retail, life sciences, renewable energy and real estate.

Contracts are structured as fixed payments as the total amount to be charged to the customer does not vary. The Company generally recognizes revenue from on-premise software at a point in time when it is made available to the customer. The Company generally recognizes revenue from SaaS contracts, which are provided on a subscription basis, ratably over the contract period beginning on the date the service is first made available to the customer. The revenue from implementation services, post-contract customer support services, and other customer support services is recognized over the service period as the customer benefits from the services as they are performed. Advisory revenue is generally recognized over time.

Grants and Royalties

Grant revenue relates to U.S. Federal government awarded grants and contracts in which UL Research Institutes is the prime recipient, subrecipient or contractor. Other contracts are created with non-Federal third-parties and are executed per the terms of the contract.

Royalty revenue relates to agreements between UL Standards & Engagement and third-parties to resell standards in the market. These agreements can either be in the form of license or service agreements.

Contract Balances

The following table summarizes contract balances as of December 31:

(in millions)	2021	2020
Accounts receivable, net of allowance	$ 369	$ 369
Contract assets, net of allowance	$ 189	$ 198
Contract liabilities	$ 136	$ 130

Remaining Performance Obligations

Remaining consideration, including variable consideration, from contracts with customers pertains to contracts with multiple performance obligations, extended warranties on products and multi-year maintenance agreements, which are typically recognized as the performance obligation is satisfied.

3. Acquisitions

The Company’s acquisitions completed by UL Solutions have historically been made at prices above the determined fair value of the acquired identifiable net assets, resulting in goodwill attributable to the value of the assembled workforce, as well as expected synergies with UL Solutions' existing lines of business. These synergies include the elimination of redundant facilities, functions and staffing; use of UL Solutions’ existing commercial infrastructure to expand sales of the acquired businesses’ products; and use of the commercial infrastructure of the acquired businesses to cost-effectively expand sales of UL Solutions' products. Aggregate acquisition-related costs associated with business combinations are not material for the years ended December 31, 2021 and 2020 and are included in selling, general and administrative expenses in our Consolidated Statements of Operations and Changes in Net Assets as incurred.

In July 2021, UL Solutions acquired approximately 97% of the equity securities of Method Park Holding AG (“Method Park”), a stock corporation incorporated in Germany, for approximately $50 million in cash (as adjusted for customary post-closing adjustments). In October 2021, UL Solutions acquired the remaining equity securities of Method Park for approximately $2 million in cash (as adjusted for customary post-closing adjustments). Method Park specializes in process engineering solutions, training and advisory services focusing on the safety critical aspects of the automotive, medical and aerospace industries.

Goodwill of $38 million resulting from the Method Park acquisition relates to expected synergies with UL Solutions' existing lines of business, as well as the value of the assembled workforce. Goodwill related to this acquisition is not deductible for income tax purposes.

The following table summarizes the allocation of the purchase price to the fair value of assets acquired and liabilities assumed for the Method Park acquisition.

(in millions)		
Cash	$	4
Accounts receivable and other current assets		10
Intangible assets		12
Goodwill		38
Capitalized software and other assets		4
Operating lease right-of-use assets		11
Total assets		79
Other current liabilities and accruals		(12)
Operating lease liabilities - long term		(10)
Deferred income taxes		(5)
Total fair value of net assets acquired		52
Less: Non-controlling interest		(2)
Total consideration transferred	$	50

4. Other (Expense) Income, net

The components of other (expense) income, net for the years ended December 31 were as follows:

(in millions)		2021		2020
Foreign exchange losses	$	(2)	$	(11)
Investment income, net of fees		7		14
Equity in earnings of non-consolidated affiliates		11		3
Non-operating pension and postretirement benefit expense		(19)		(22)
U.S. pension plan settlement losses		(11)		(15)
Other		2		2
Total	$	(12)	$	(29)

5. Fair Value of Financial Instruments and Available-for-Sale Debt Securities

The following tables present the Company’s fair value hierarchy for financial instruments measured at fair value and is intended to permit reconciliation of the fair value hierarchy to the amounts presented in the Consolidated Balance Sheets.

	December 31, 2021			
(in millions)	Level 1	Level 2	Level 3	Total Fair Value
Short-term investments:				
Certificates of deposit	$ 47	$ —	$ —	$ 47
Long-term investments:				
Private equity[(a)]				4
Total Investments at fair value				$ 51

(a) In accordance with ASC 820, certain investments that are measured at fair value using the net asset value per share (or its equivalent) practical expedient have not been classified in the fair value hierarchy. The fair value amounts presented in this table are intended to permit reconciliation of the fair value hierarchy to the amounts presented in the Consolidated Balance Sheets.

	December 31, 2020			
(in millions)	Level 1	Level 2	Level 3	Total Fair Value
Long-term investments:				
Cash and cash equivalents	$ 1	$ —	$ —	$ 1
U.S. treasury and government obligations	31	—	—	31
Corporate bonds	—	203	—	203
Mortgage and other asset-loans and securities	—	131	—	131
Total assets in the fair value hierarchy	$ 32	$ 334	$ —	366
Private equity[(a)]				4
Total investments at fair value				$ 370

(a) Described in previous table.

Available-for-sale Debt Securities Impairment

During 2021, UL Solutions sold all of its available-for-sale debt securities for $367 million, resulting in a gain of $2 million recognized in other expense (income), net for the year ended December 31, 2021.

The following tables summarize the unrealized positions for available-for-sale debt securities as of December 31, 2020.

	December 31, 2020			
(in millions)	Amortized Cost	Accrued Interest	Unrealized Gains	Total Fair Value
U.S. Treasury and government obligations	$ 31	$ —	$ —	$ 31
Corporate bonds	197	2	4	203
Mortgage and other asset-loans and securities	130	—	1	131
Total available-for-sale debt securities	$ 358	$ 2	$ 5	$ 365

The Company concluded that no impairment losses existed as of December 31, 2020.

As of December 31, 2020, the Company had available-for-sale debt securities in a continuous unrealized loss position for less than twelve months with fair values of $1 million for US treasury and government obligations, $3 million for corporate bonds and $11 million for mortgage and other asset-loans and securities. The unrealized losses for these securities were immaterial both individually and cumulatively. The Company had no available-for-sale debt securities in a continuous unrealized loss position for twelve months or greater as of December 31, 2020.

Valuation Methods

Quoted market prices in active markets for all Level 1 investments were available at December 31, 2020.

Level 2 investments generally include corporate bonds and agency securities traded through broker dealers. Fair value for these instruments is based on quoted prices for similar instruments in active markets.

Composition of Investment Income

The composition of investment income, net of fees, was as follows for the years ended December 31:

(in millions)	2021	2020
Interest and dividend income	$ 7	$ 10
Realized gain	3	5
Realized loss	(3)	(1)
Total	$ 7	$ 14

6. Investments

Equity Investments in Non-consolidated Affiliates

UL Solutions has an ownership share of approximately 28% in DQS Holding GmbH (“DQS”), a global management system assessment company, headquartered in Germany. The Company accounts for this investment using the equity method. The carrying amount of UL Solutions' investment in DQS was $23 million and $14 million for the years ended December 31, 2021 and 2020, respectively. DQS paid dividends to UL Solutions of $2 million in 2021 and 2020, net of withholding taxes. The Company recorded equity earnings of $11 million in 2021 and $3 million in 2020.

UL Solutions has a 45% ownership share in Gulf Renewable Lab Company (“GCCE Lab”), located in Saudi Arabia, that was created through a joint venture between GCC Electrical Equipment Testing Lab and UL Solutions. The Company accounts for this investment using the equity method. The carrying amount of UL Solutions’ investment in GCCE Lab was $2 million and $3 million for the years ended December 31, 2021 and 2020, respectively. The equity losses recorded by the Company for the years ended December 31, 2021 and 2020 were immaterial.

UL Solutions holds investments in equity securities of various companies, in each case less than 10% of the applicable company's outstanding equity securities. The Company accounts for these investments at cost, less any impairment, plus or minus changes resulting from observable price changes in orderly transactions for the identical or a similar investment of the same issuer. The carrying amount of these investments was $19 million and $22 million at December 31, 2021 and 2020, respectively.

Variable Interest Investment

UL Solutions owns 70% of the equity interests of UL-CCIC Company Limited (“UL-CCIC”), an entity formed under the laws of the People’s Republic of China (“P.R.C”). The remaining 30% of the equity interests are owned by China Certification & Inspection (Group) Co., Ltd. (“CCIC”), a Chinese state-owned enterprise. UL-CCIC offers product safety testing services enabling its customers to access North American and other international markets, Electromagnetic Compatibility (“EMC”) and commercial inspection and testing services. UL-CCIC provides local voluntary certification schemes to help their customers differentiate their products within the China market. UL-CCIC also offers China Compulsory Certification (“CCC”) testing service under some product categories, which is approved by the Certification and Accreditation Administration P.R.C. and market access agency services to manufacturers outside of the P.R.C. to help them obtain the CCC mark.

UL-CCIC is governed by an agreement first entered into in June 2002, and has been amended from time to time. UL-CCIC was established with an initial duration of 10 years, starting from the date that it obtained its business license. The duration was subsequently extended and will currently expire in January 2023. UL Solutions and CCIC are in discussions to extend the duration of the UL-CCIC agreement.

The board of directors of UL-CCIC consists of seven directors, with four appointed by UL Solutions and three by CCIC. The chair of the UL-CCIC board of directors is appointed by UL Solutions and the vice chair by CCIC. UL-CCIC has a general manager, who is in charge of the day-to-day management of UL-CCIC and reports to the UL-CCIC board of directors. UL Solutions has the exclusive right to nominate the general manager. UL Solutions is not contractually required to provide additional financing support to UL-CCIC.

The Company determined that it is the primary beneficiary of UL-CCIC because UL Solutions has the power to direct many of the activities that most significantly impact the performance of the entity through its right to appoint a majority of the directors on UL-CCIC’s board of directors, as well as the general manager. Pursuant to the governing documents of UL-CCIC, certain decisions and actions of its board of directors require either unanimous approval or the approval of two-thirds of the directors; however, the Company believes that such decisions and actions are not the most significant to the performance of UL-CCIC. As such, the Company consolidates UL-CCIC as a variable interest entity (“VIE”). The profits and losses of UL-CCIC are shared by the parties in proportion to their respective contributions to registered capital. Such equity interest represents the Company’s variable interest in UL-CCIC and provides for participation in both the risk of loss and future economic gains.

UL-CCIC is a separate legal entity and its assets are legally owned by UL-CCIC and are not available to the Company’s creditors. UL-CCIC assets of $163 million and $165 million and liabilities of $69 million and $77 million, inclusive of intercompany eliminations, were included in the Company’s Consolidated Balance Sheets at December 31, 2021 and 2020, respectively.

7. Property, Plant and Equipment

The components of property, plant and equipment, net as of December 31 were as follows:

(in millions)	2021	2020
Land and improvements	$ 31	$ 32
Building and building improvements	350	355
Leasehold improvements	130	126
Machinery, equipment and office furniture	666	624
Property, plant and equipment, gross	1,177	1,137
Total accumulated depreciation	(724)	(680)
Property, plant and equipment, net	$ 453	$ 457

Depreciation expense for the years ended December 31, 2021 and 2020 was $77 million and $74 million, respectively.

8. Goodwill

Changes in the carrying amount of goodwill for the years ended December 31, 2021 and 2020 were as follows:

(in millions)		
Balance at December 31, 2019	$	581
Acquisitions		1
Effect of changes in foreign exchange rates		11
Balance at December 31, 2020	$	593
Acquisitions		38
Effect of changes in foreign exchange rates		(10)
Balance at December 31, 2021	$	621

The Company's annual impairment analyses for 2021 and 2020 indicated no impairment of goodwill. The carrying amounts of goodwill at December 31, 2021 and December 31, 2020 were net of accumulated impairments of $129 million.

9. Intangible Assets

The following tables summarize intangible assets as of December 31:

		2021		
(in millions)	Life	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
Customer relationships	7 - 15 years	$ 246	$ (188)	$ 58
Intellectual property and patents	3 - 15 years	20	(15)	5
Non-competition agreements	3 - 5 years	8	(7)	1
Trademarks	2 - 13 years	36	(27)	9
Total		$ 310	$ (237)	$ 73

		2020		
(in millions)	Life	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
Customer relationships	7 - 13 years	$ 244	$ (172)	$ 72
Intellectual property and patents	3 - 15 years	16	(14)	2
Non-competition agreements	3 - 5 years	8	(7)	1
Trademarks	2 - 9 years	32	(25)	7
Total		$ 300	$ (218)	$ 82

We did not recognize any impairments of intangible assets for the years ended December 31, 2021 or 2020.

Intangible Asset Amortization Expense

The weighted average remaining amortization period is approximately 9 years. Intangible asset amortization expense, reported within selling, general and administrative expenses within the Consolidated Statements of

Operations and Changes in Net Assets, was $21 million and $23 million for the years ended December 31, 2021 and 2020, respectively.

As of December 31, 2021, estimated future amortization expense for intangible assets is as follows:

(in millions)		
2022	$	16
2023		12
2024		10
2025		8
2026		6

10. Accrued Expenses

The components of accrued expenses as of December 31 were as follows:

(in millions)		2021		2020
Accrued compensation and benefits	$	388	$	276
Accrued income taxes		31		50
Other accrued expenses		30		46
Total	$	449	$	372

11. Pension and Postretirement Benefit Plans

Pension

UL Solutions has various non-contributory defined benefit pension plans covering certain employees and retired employees of the Company and its subsidiaries. The benefits are based on years of service and participant compensation. With the exception of Taiwan, Japan and Switzerland, these plans have been frozen for new employees. No future employees will be eligible to participate in these plans. The Company uses the spot rate approach for calculating service cost and interest cost.

The Company recognized settlement losses of $11 million and $15 million in 2021 and 2020, respectively, in other (expense) income, net related to the U.S. pension plan. The settlement losses resulted from total lump sum payments of $33 million in both 2021 and 2020, which exceeded annual service and interest cost of the plan. UL Solutions' funding policy is to contribute to defined benefit pension plans in the United States and a number of other countries when pension laws and/or economics either require or encourage funding.

The following table provides a reconciliation of the changes in the defined benefit pension obligations and fair value of assets for the years ended December 31, and a statement of funded status as of December 31:

(in millions)	U.S. 2021	U.S. 2020	Non U.S. 2021	Non U.S. 2020
Change in projected benefit obligation				
Projected benefit obligation at beginning of year	$ 561	$ 531	$ 185	$ 156
Service cost	4	5	6	7
Interest cost	13	15	2	3
Actuarial (gain) loss	(20)	54	(1)	11
Benefits paid	(44)	(44)	(3)	(3)
Exchange rate (gain) loss	—	—	(7)	11
Projected benefit obligation at end of year	514	561	182	185
Change in fair value of plan assets				
Fair value of plan assets at beginning of year	303	283	62	55
Actual return on plan assets	37	26	4	6
Employer contribution	29	38	2	1
Benefits paid	(44)	(44)	(3)	(3)
Exchange rate (gain) loss	—	—	(2)	3
Fair value of plan assets at end of year	325	303	63	62
Underfunded status of plans	$ (189)	$ (258)	$ (119)	$ (123)
Amounts recognized in Consolidated Balance Sheets				
Current liabilities	$ —	$ —	$ (1)	$ (1)
Non-current liabilities	(189)	(258)	(118)	(122)
Total liability at end of year	$ (189)	$ (258)	$ (119)	$ (123)
Amounts recognized in net assets without donor restrictions				
Net actuarial loss	(167)	(238)	(41)	(46)
Net amount recognized	$ (167)	$ (238)	$ (41)	$ (46)

Total benefits costs and amounts recognized in net assets without donor restrictions for the years ended December 31 were as follows:

	U.S.		Non U.S.	
(in millions)	2021	2020	2021	2020
Components of net periodic benefit cost				
Service cost	4	5	6	7
Interest cost	13	15	2	3
Expected return on plan assets	(16)	(17)	(2)	(2)
Amortization of net actuarial loss	18	21	3	1
Settlement losses	11	15	—	—
Net periodic pension cost	$ 30	$ 39	$ 9	$ 9
Amounts recorded in net assets without donor restrictions				
Balance at beginning of the year	$ 238	$ 229	$ 46	$ 41
Net actuarial (gain) loss	(41)	45	(2)	7
Amortization of				
Prior service credit	—	—	—	(1)
Net actuarial loss	(30)	(36)	(3)	(1)
Balance at end of the year	$ 167	$ 238	$ 41	$ 46

The service cost component of net periodic benefit cost is recorded in the same line items as other compensation costs arising from services rendered, in operating expenses, and in selling, general and administrative expenses. The other components of net periodic benefit cost are recorded in other (expense) income, net.

The following benefit payments, which reflect expected future service, are expected to be paid as follows:

(in millions)	U.S.	Non U.S.	Total
2022	$ 45	$ 4	$ 49
2023	38	6	44
2024	37	4	41
2025	38	5	43
2026	39	5	44
Years 2027 through 2031	166	35	201

UL Solutions anticipates contributing in 2022 approximately $nil and $2 million to its U.S. and foreign pension plans, respectively.

The weighted average assumptions used in the measurement of the benefit obligations at December 31 were as follows:

	U.S.		Non U.S.	
	2021	2020	2021	2020
Discount rate	3.0 %	2.7 %	0.2 - 2.9 %	0.1 - 3.1 %
Rate of compensation increase	2.3 % for 2021 3.0 % for 2022+	2.3 % for 2021 3.0 % for 2022+	1.5 - 4.0 %	1.5 - 4.0 %

The weighted average assumptions used in the measurement of the net periodic benefit costs for the years ended December 31 were as follows:

	U.S.		Non U.S.	
	2021	2020	2021	2020
Discount rate	2.7 %	3.4 %	0.1 - 2.5 %	0.7 - 3.9 %
Expected return on plan assets	6.0 %	6.0 %	0.6 - 5.0 %	0.3 - 5.3 %
Rate of compensation increase	2.3 % for 2021 3.0 % for 2022+	3.0 %	1.5 - 4.0 %	1.5 - 4.0 %

The expected rate of return on plan assets is determined based on long-term historical performance of plan assets, current asset allocation and expected future long-term asset returns.

The Company determines the discount rate used to measure plan liabilities as of the December 31 measurement date for the pension and postretirement benefit plans, which is also the date used for the related annual measurement assumptions. The Company uses the full Aon AA Above Median Yield Curve rather than a single discount rate.

The table below outlines the projected benefit obligation ("PBO"), accumulated benefit obligation ("ABO") and plan assets for all plans where the ABO exceeds plan assets at December 31:

	U.S.		Non U.S.	
(in millions)	2021	2020	2021	2020
Projected benefit obligation	$ 514	$ 561	$ 182	$ 185
Accumulated benefit obligation	476	517	152	156
Fair value of plan assets	325	303	63	62

Pension Assets

The assets in the investment portfolio for defined benefit pension plans are diversified in a manner that is intended to achieve the return objective and reduce the volatility of returns on the assets. UL Solutions' investment objective is to ensure that funds are available to meet the plans' benefit obligations when they become due. The overall investment strategy is to prudently invest plan assets into diversified equity and debt securities, as well as alternative investments, to achieve long-term return expectations. The plan relies on a total return strategy in which investment returns consist of both capital appreciation (both realized and unrealized), as well as current yield (interest and dividends) over a long-term period.

The following tables present the Company's fair value hierarchy (as defined in Note 1) for those pension assets measured at fair value at December 31:

	2021			
(in millions)	Level 1	Level 2	Level 3	Total Asset Balance
U.S.				
Cash and cash equivalents	$ 6	$ —	$ —	$ 6
Fixed-income investments	—	54	—	54
Fixed-income mutual funds	20	—	—	20
Corporate equities	—	27	—	27
Commingled equities	—	88	—	88
Equity mutual funds	68	—	—	68
Real estate mutual funds	14	—	—	14
Total U.S. assets in the fair value hierarchy	108	169	—	277
Hedge funds[(a)]				48
Total U.S. investments at fair value				325
Non U.S.				
Cash and cash equivalents	1	—	—	1
Commingled funds	—	35	—	35
Guaranteed investment contract	—	—	27	27
Total non U.S. assets	1	35	27	63
Total pension assets				$ 388

(a) In accordance with ASC 820, certain investments that are measured at fair value using the net asset value per share (or its equivalent) practical expedient have not been classified in the fair value hierarchy. The fair value amounts presented in this table are intended to permit reconciliation of the fair value hierarchy to the amounts presented in the Consolidated Balance Sheets. The terms and conditions of our hedge fund investments vary, however, the majority of our hedge fund investments may be redeemed quarterly with redemption notice periods between 45-90 days. We do not intend to sell or otherwise dispose of these investments at prices different than the net asset value per share.

(in millions)	2020 Level 1	2020 Level 2	2020 Level 3	2020 Total Asset Balance
U.S.				
Cash and cash equivalents	$ 3	$ —	$ —	$ 3
Fixed- income investments	—	67	—	67
Fixed-income mutual funds	15	—	—	15
Corporate equities	—	21	—	21
Commingled equities	—	68	—	68
Equity mutual funds	60	—	—	60
Master limited partnerships	—	11	—	11
Real estate mutual funds	15	—	—	15
Total U.S. assets in the fair value hierarchy	93	167	—	260
Hedge funds[(a)]				43
Total U.S. investments at fair value				303
Non U.S.				
Cash and cash equivalents	1	—	—	1
Commingled funds	—	32	—	32
Guaranteed investment contract	—	—	29	29
Total non U.S. assets	1	32	29	62
Total pension assets				$ 365

(a) Described on previous page

The following table summarizes the changes in fair value of the Company's Level 3 pension assets:

(in millions)	Guaranteed Investment Contracts
Balance at January 1, 2020	$ 23
Unrealized gain	6
Balance at December 31, 2020	$ 29
Unrealized loss	(2)
Balance at December 31, 2021	$ 27

Valuation Methods

We follow ASC Topic 820, *Fair Value Measurement*, in determining the fair value of plan assets within our defined benefit pension plans.

Quoted market prices in active markets for all Level 1 investments were available at December 31, 2021 and 2020.

Fixed-income investments, corporate equities, and master limited partnerships have been categorized as Level 2 as these investments do not have publicly quoted prices in active markets. Commingled funds have been categorized as Level 2 and are maintained by investment companies that hold investments in accordance with a stated set of fund objectives. The values of the commingled funds are not publicly quoted and must trade through a broker. These funds are invested in equity and fixed-income mutual funds. The fund administrator values the fund using the net asset value per fund share, derived from the quoted prices in active markets of the underlying securities.

Level 3 investments include several guaranteed investment contracts. These investments do not have actively traded quotes as of December 31, 2021 and 2020, and require the use of unobservable inputs, such as indicative quotes from dealers, and estimates provided by the fund managers, to value these securities.

For the U.S. plan, the 2021 target investment allocation was 56% for equity strategies, 25% for fixed-income and cash strategies and 19% for alternative strategies. The 2020 target investment allocation was 46% for equity strategies, 28% for fixed-income and cash strategies and 26% for alternative strategies. Actual investment allocations may vary from target investment allocations due to prevailing market conditions. UL Solutions regularly reviews actual investment allocations and periodically rebalances investments to achieve target allocations.

Actual pension plan asset allocations at December 31 were as follows:

	U.S.		Non U.S.	
	2021	2020	2021	2020
Equity securities	56%	49%	38%	35%
Fixed-income securities	23%	27%	18%	17%
Alternatives	19%	23%	—%	—%
Guaranteed investment contract	—%	—%	42%	46%
Other	2%	1%	2%	2%
	100%	100%	100%	100%

Postretirement Benefit Plans

UL Solutions has a contributory postretirement medical benefits plan for certain employees and retired employees of the Company and its subsidiaries. The U.S. plan has been closed to new entrants since January 1, 2016. For its U.S. plan, the Company adopted the spot rate approach for calculating service cost and interest cost.

The following table sets forth the projected benefit obligation of postretirement benefits at December 31:

	U.S.		Canada	
(in millions)	2021	2020	2021	2020
Change in projected benefit obligation				
Projected benefit obligation at beginning of year	$ 26	$ 20	$ 9	$ 8
Service cost	1	1	—	—
Interest cost	1	1	—	—
Actuarial (gain) loss	(6)	5	(1)	1
Benefits paid	(1)	(2)	—	—
Plan participant contributions	1	1	—	—
Projected postretirement benefit obligation at end of year	$ 22	$ 26	$ 8	$ 9
Change in fair value of plan assets				
Fair value of plan assets at beginning of year	$ —	$ —	$ —	$ —
Employer contribution	—	1	—	—
Plan participant contribution	1	1	—	—
Benefits paid	(1)	(2)	—	—
Fair value of plan assets at end of year	$ —	$ —	$ —	$ —
Amounts recognized in Consolidated Balance Sheets				
Current liabilities	$ (1)	$ (1)	$ —	$ —
Non-current liabilities	(21)	(25)	(9)	(9)
Total liability at end of year	$ (22)	$ (26)	$ (9)	$ (9)
Amounts recognized in net assets without donor restrictions				
Prior service cost	$ —	$ (1)	$ —	$ —
Net actuarial (loss) gain	(8)	(1)	2	3
Net amount recognized	$ (8)	$ (2)	$ 2	$ 3

Total benefits cost and amounts recognized in net assets without donor restrictions for the years ended December 31 were as follows:

	U.S.		Canada	
(in millions)	2021	2020	2021	2020
Component of net periodic benefit cost				
Service cost	$ 1	$ 1	$ —	$ —
Interest cost	1	1	—	—
Amortization of net actuarial gain	—	(1)	—	—
Net periodic benefit cost	$ 2	$ 1	$ —	$ —
Amounts recorded in net assets without donor restrictions				
Balance at beginning of the year	$ (2)	$ (8)	$ 3	$ 2
Net actuarial (gain) loss	(6)	5	(1)	1
Amortization of net actuarial loss (gain)	—	1	(1)	—
Exchange rate loss	—	—	1	—
Balance at end of the year	$ (8)	$ (2)	$ 2	$ 3

The service cost component of net periodic benefit cost is recorded in the same line items as other compensation costs arising from services rendered, in operating expenses, and in selling, general and administrative expense. The other components of net periodic benefit cost are recorded in other (expense) income, net.

The projected future benefit payments, which reflect expected future services are as follows:

(in millions)	U.S.	Canada	Total
2022	$ 1	$ —	$ 1
2023	1	—	1
2024	1	—	1
2025	1	—	1
2026	1	—	1
Years 2027 through 2031	5	2	7

UL Solutions anticipates contributing in 2022 approximately $1 million and $nil for its U.S. and Canada health benefit plans, respectively.

The following assumptions were used to determine the benefit obligations under the plans at December 31:

	U.S.		Canada	
	2021	2020	2021	2020
Discount rate	3.1%	2.8%	3.0%	2.6%
Health care cost trend rate (Pre-65)	6.3%	6.5%	6.5%	—%
Health care cost trend rate (Post-65)	5.8%	6.0%	6.5%	6.5%
Ultimate trend rate reached in 2029 for U.S. / 2040 for Canada	4.5%	4.5%	4.1%	4.1%

The following assumptions were used to determine the net periodic benefit costs under the plans for the years ended December 31:

	U.S.		Canada	
	2021	2020	2021	2020
Discount rate	2.8%	3.4%	2.6%	3.5%
Health care cost trend rate	6.3%	6.5%	4.3%	3.9%

Savings Plans

The Company sponsors various defined contribution savings plans in the U.S., as well as certain international locations, that allow employees to contribute a portion of their pre-tax and/or after-tax income in accordance with plan specified guidelines. Under specified conditions, the Company will contribute to certain savings plans based on the employee's eligible pay and/or will match a percentage of the employee contributions up to certain limits. For the years ended December 31, 2021 and 2020, the Company's contribution was $44 million and $42 million, respectively.

12. Income Taxes

UL Research Institutes is a nonprofit organization exempt from Federal income taxes under section 501(c)(3) of the Internal Revenue Code. UL Standards & Engagement is a nonprofit organization exempt from Federal income taxes under section 501(c)(4) of the Internal Revenue Code. The Company owns various subsidiaries that are for-profit entities and subject to income tax in their respective jurisdictions.

Components of excess of revenues over expenses before taxes at December 31 were as follows:

(in millions)	2021	2020
Domestic	$ (75)	$ (2)
Foreign	316	303
Excess of revenues over expenses before taxes	$ 241	$ 301

Components of the provision (benefit) for income taxes at December 31 were as follows:

(in millions)	2021	2020
Current tax provision		
U.S. Federal	$ 47	$ 33
U.S. State	13	8
Foreign	50	52
Deferred tax provision		
U.S. Federal	(59)	(21)
U.S. State	(13)	(2)
Foreign	—	21
Total income tax provision	$ 38	$ 91

Reconciliation of the U.S. federal statutory rate to the Company's effective tax rate:

	2021	2020
U.S. Federal Statutory Rate	21.0 %	21.0 %
Effect of		
Foreign tax on foreign activities	(4.7)%	(3.9)%
U.S. tax on foreign activities	0.9 %	1.1 %
Change in prior period estimates	(0.1)%	0.7 %
State and local income taxes	(0.9)%	1.6 %
Intra-entity transfer of intangible assets	— %	8.0 %
Foreign derived intangible income benefit	(4.5)%	— %
U.S. tax-exempt organization	3.7 %	1.5 %
Other reconciling items, net	0.4 %	0.2 %
Effective tax rate	15.8 %	30.2 %

Other reconciling items consist of non-deductible expenses such as meals and entertainment and general business credits such as R&D tax credits.

Results for 2021 included $11 million of non-recurring income tax benefit due to the foreign derived intangible income deduction.

Results for 2020 included $24 million of income tax expense due to the write-off of a deferred tax asset previously created pursuant to ASU 2016-16. The deferred tax asset was no longer realizable as a result of an intercompany sale of certain intangible assets.

The Company has not recognized deferred tax liabilities in the U.S. with respect to its outside basis differences in most foreign affiliates. As of December 31, 2021 and 2020, approximately $224 million and $211 million, respectively, of the Company's accumulated undistributed earnings from its foreign subsidiaries are intended to be indefinitely reinvested. It is not practicable to determine the amount of unrecognized deferred tax liabilities on these earnings. The Company is not indefinitely reinvested with regard to select other foreign affiliates and has recorded a deferred tax liability for foreign withholding taxes on unrepatriated earnings.

Components of the deferred income tax assets and liabilities at December 31 were as follows:

(in millions)	2021	2020
Deferred tax assets		
Accrued pension and postretirement liabilities	$ 74	$ 90
Accrued employee benefits	71	49
Other accrued expenses	10	11
Net operating loss carryforward	44	46
Advance payments	35	—
Lease liabilities	38	39
Other	7	3
Subtotal (before valuation allowances)	279	238
Valuation allowances	(42)	(43)
Total deferred tax assets	237	195
Deferred tax liabilities		
Basis difference for intangible assets	(24)	(15)
Basis difference for fixed assets	(19)	(18)
Advance payments	—	(12)
Lease assets	(36)	(38)
Tax on unrepatriated earnings	(3)	(4)
Other	(4)	(3)
Total deferred tax liabilities	(86)	(90)
Net deferred income tax assets	$ 151	$ 105

As of December 31, 2021, the Company has approximately $153 million of gross foreign tax net operating loss (“NOL”) carryforwards. If not used, $43 million of the NOL carryforwards will expire between 2022 and 2041, while the remaining carryforward is indefinite. The use of certain NOL carryforwards is limited due to rules regarding acquired tax attributes, loss sharing between group members, and business continuity. The valuation allowances are reserves against certain NOLs and other deferred tax assets for which the realization is unlikely.

Uncertain Tax Positions

The total unrecognized tax benefits that, if recognized, would affect the Company’s effective tax rate were $25 million and $23 million as of December 31, 2021 and 2020, respectively. Interest and penalties related to unrecognized tax benefits are recorded in income tax expense and were $8 million and $6 million as of December 31, 2021 and 2020, respectively. As of December 31, 2021, the Company anticipates that approximately $1 million of the gross unrecognized tax benefits could decrease by payment, release, or expiring statutes of limitations, or combination thereof, in the next 12 months.

In the United States, the Company has open years ranging from 2017 to 2021 with significant foreign jurisdictions still open for audit between 2008 and 2021. The Company believes sufficient provision has been made for all potential adjustments for all years that are not closed by the statute in all major tax jurisdictions and that any such adjustments would not have a material adverse effect on the Company’s financial position, liquidity, or results of operations.

13. Borrowings

Long-term debt and short-term borrowing as of December 31 consisted of the following:

(in millions)	2021	2020
USD denominated variable term loan due 2022	$ —	$ 94
Current portion of long-term debt	—	(5)
Long-term debt, less current portion	$ —	$ 89

UL Research Institutes had a term loan agreement, dated as of December 15, 2017 (the "Term Loan Agreement"), which had a maturity date of December 15, 2022. Borrowings on the Term Loan Agreement bore interest at a rate per annum equal to, at the option of the Company, (a) in the case of Eurocurrency loans, the Eurocurrency rate plus a margin ranging from 1.25% to 2.0%, or (b) in the case of base rate loans, a margin ranging from 0.25% to 1.0% plus the higher of (i) the Federal Funds Effective Rate plus 0.5%, (ii) the Bank of America “prime rate”, or (iii) the Eurocurrency rate plus 1.0%. The margin for both Eurocurrency and base rate loans was based on the Company's most recently tested consolidated net leverage ratio. On December 15, 2020, the Company amended the Term Loan Agreement to increase the principal amount by $20 million, bringing the outstanding balance net of principal payments to $94 million as of December 31, 2020. On December 7, 2021, UL Research Institutes repaid the Term Loan Agreement in full, which resulted in the termination of the Term Loan Agreement.

UL Solutions maintained two revolving credit facilities at December 31, 2021 totaling $400 million to be used for general corporate purposes (the "2017 Revolving Credit Facility"). The facilities had a maturity date of December 15, 2022 and quarterly minimum interest coverage ratio and leverage ratio requirements. Borrowings on the facilities bore interest at a rate per annum equal to, at the option of UL Solutions, (a) in the case of Eurocurrency loans, the Eurocurrency rate plus a margin ranging from 1.25% to 2.0%, or (b) in the case of base rate loans, a margin ranging from 0.25% to 1.0% plus the higher of (i) the Federal Funds Effective Rate plus 0.5%, (ii) the Bank of America "prime rate", or (iii) the Eurocurrency rate plus 1.0%. The margin for both Eurocurrency and base rate loans was based on UL Solutions' most recently tested consolidated net leverage ratio. There were no borrowings in 2021 or 2020 under the 2017 Revolving Credit Facility and there were no borrowings outstanding as of December 31, 2021 or 2020.

These facilities included customary representations and warranties, covenants and events of default, subject in each case to certain exceptions. The covenants included, among other things, financial reporting, notices of default and other material changes and maintenance of line of business, as well as limitations on investments and acquisitions, mergers and transfers of all or substantially all assets, dividends and distributions, burdensome contracts with affiliates, liens and indebtedness.

In January 2022, UL Solutions entered into a credit agreement with Bank of America, N.A. and certain other lenders. In connection with entering into this agreement, UL Solutions terminated the 2017 Revolving Credit Facility. Refer to Note 19 for further details.

14. Leases

The Company has operating and finance leases for real estate, vehicles and equipment. Operating leases are included in operating lease right-of-use assets, operating lease liabilities - current, and operating lease liabilities in the Consolidated Balance Sheets. Amounts recognized for finance leases as of and for the years ended December 31, 2021 and 2020 were immaterial.

Lease costs incurred by lease type, and/or type of payment for the annual periods ending December 31 were as follows:

(in millions)	2021	2020
Short-term lease cost	$ 2	$ 3
Operating lease cost	57	53
Variable lease cost	18	12
Total lease cost	$ 77	$ 68

Other supplemental quantitative disclosures for the years ended December 31 are as follows:

(in millions)	2021	2020
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flows from operating leases	$ 56	$ 57
Right-of-use assets obtained in exchange for operating lease liabilities	49	53
Weighted-average remaining lease term (in years) - operating leases	6.19	5.84
Weighted-average discount rate - operating leases	2.97 %	3.46 %

Estimated undiscounted future lease payments under non-cancellable operating leases and finance leases as of December 31, 2021 are as follows:

(in millions)	Operating Lease Liabilities
Lease maturity	
2022	$ 49
2023	39
2024	28
2025	19
2026	16
Thereafter	40
Total undiscounted future cash flows	191
Less: imputed interest	36
Present value of future cash flows	$ 155

15. Net Assets

The following table summarizes the changes in net assets attributable to UL Research Institutes and non-controlling interests.

(in millions)	Total	UL Research Institutes	Non-controlling Interests
Net assets without donor restrictions			
Adjusted Balance at January 1, 2020	$ 1,953	$ 1,934	$ 19
Excess of revenues over expenses	210	198	12
Foreign currency translation gain	42	42	—
Pension and postretirement benefit plans, net of tax of ($5)	(16)	(16)	—
Unrealized gain on available-for-sale securities, net of tax of $1	2	2	—
Dividend declared to non-controlling interest	(11)	—	(11)
Balance at December 31, 2020	$ 2,180	$ 2,160	$ 20
Excess of revenues over expenses	203	189	14
Foreign currency translation loss	(24)	(24)	—
Pension and postretirement benefit plans, net of tax of $21	62	62	—
Unrealized loss on available-for-sale securities, net of tax of ($1)	(2)	(2)	—
Dividend declared to non-controlling interest	(13)	—	(13)
Balance at December 31, 2021	$ 2,406	$ 2,385	$ 21

16. Stock-based and Other Incentive Compensation

Cash-settled Stock Appreciation Rights ("CSARs")

In 2012, UL Solutions established a Long-Term Incentive Plan under which CSARs were issued. This plan is intended for certain employees of the Company to maximize their contribution to the long-term success of the Company and encourage them to remain in the employ of the Company through awards of CSARs. Eligible participants receive CSAR awards annually that entitle the employee to receive an amount determined based on the appreciation in the value of a specified number of shares of UL Solutions as determined by the compensation committee of the board of directors of UL Solutions (pursuant to a reasonable valuation method in accordance with Section 409A of the Internal Revenue Code, including without limitation, by reliance on an independent appraisal completed within the preceding twelve months) from the date of grant up to a specified date or dates. Benefit payments under the plan are made in cash, not common stock, beginning at the end of the three-year cliff vesting period from the original grant date up to the termination date which is five to seven years from the grant date. Expenses related to the CSARs have been recorded in accordance with ASC Topic 718, *Compensation—Stock Compensation*. Due to the cash settlement at the end of the performance period, the awards are classified as a liability and are remeasured at December 31st of each year.

The CSAR activity during the years ended December 31 were as follows:

	Number of CSAR Awards	Weighted Average Grant Price	Weighted Average Remaining Term	Aggregate Intrinsic Value (in millions)
Outstanding as of December 31, 2019	5,623,014	$ 34.20	2.78 years	$ 72
Granted	93,275	47.04		
Exercised	(2,166,905)	30.59		
Forfeited	(106,208)	42.43		
Outstanding as of December 31, 2020	3,443,176	$ 36.56	2.33 years	$ 47
Granted	810,270	51.05		
Exercised	(646,553)	38.32		
Forfeited	(47,145)	46.42		
Outstanding as of December 31, 2021	3,559,748	$ 39.41	1.80 years	$ 168
Exercisable as of December 31, 2021	2,660,507	$ 36.30	1.28 years	$ 134

As of December 31, 2021, there was $13 million of compensation expense that has yet to be recognized related to non-vested CSAR awards. This expense is expected to be recognized over the remaining weighted-average vesting period of 20 months.

The following table summarized the assumptions used in the Black-Scholes-Merton model:

	2021	2020
Risk-free interest rate	0.05% - 0.89%	0.06% - 0.14%
Weighted average volatility	27.70%	21.60%
Expected life (in years)	0.06 - 2.67	0.06 - 2.25
Weighted average grant date fair value per share of rights granted	$6.59	$6.48

Expected volatility is a statistical measure of the amount by which a stock price is expected to fluctuate during a period. Since UL Solutions' common stock is not publicly traded, for the 2021 annual grant date, the Company estimated the expected volatility based upon the historical and implied stock price volatility of a group of comparable industry peers relevered to reflect the Company's capital structure. The expected term assumption is based on the weighted average of historical grants.

Compensation expense related to CSAR payments is recognized in the financial statements for the years ended December 31 as follows:

(in millions)	2021	2020
Operating expenses	$ 11	$ —
Selling, general and administrative expenses	104	10
CSAR compensation expense	$ 115	$ 10
Income tax benefit	(27)	(3)
CSAR compensation expense, net of tax	$ 88	$ 7

In the third and fourth quarters of 2021, UL Solutions obtained third-party valuations to estimate the fair value of its underlying stock price based on the methodology described in Note 1. Based on these valuations, UL Solutions' stock price increased significantly during the year and the Company remeasured its outstanding CSAR awards at their estimated fair value using a Black-Scholes-Merton option valuation model, which contributed to the significant increase in CSAR expense in 2021 compared to 2020.

The Company had a short-term liability of $149 million and $46 million recorded in the Consolidated Balance Sheets to accrued compensation and benefits at December 31, 2021 and 2020, respectively, representing the fair value of the awards. The Company had a long-term liability of $6 million and $2 million recorded in the Consolidated Balance Sheets to other liabilities at December 31, 2021 and 2020, respectively, representing the fair value of the awards.

Performance Cash Awards

In 2018, UL Solutions established a non-equity based Performance Cash Award as part of its Long-Term Incentive Plan, which entitles the holder to a cash payout upon the achievement of certain performance goals. The performance period for these awards is the three-year period beginning January 1 of the year granted. Actual cash payments under the award may range from 0% to a maximum potential value of 200% of the award's value at target based on the satisfaction of the applicable performance metrics for the performance period. Awards vest and amounts payable in respect thereof are paid on the three-year anniversary of the award date. Compensation expense related to Performance Cash Awards is recognized in the financial statements for the years ended December 31 as follows:

(in millions)	2021	2020
Operating expenses	$ 1	$ —
Selling, general and administrative expenses	19	6
Performance Cash compensation expense	$ 20	$ 6
Income tax benefit	(5)	—
Performance Cash compensation expense, net	$ 15	$ 6

The Company had a short-term liability of $13 million and $10 million recorded in the Consolidated Balance Sheets to accrued compensation and benefits at December 31, 2021 and 2020, respectively, representing the cash value of the award that has been accrued based on the vesting period. The Company had a long-term liability of $14 million and $6 million recorded in the Consolidated Balance Sheets to other liabilities at December 31, 2021 and 2020, respectively, representing the cash value of the award, which has been accrued based on the vesting period.

17. Commitments and Contingencies

In 2007, UL Solutions entered into a $20 million contractual commitment to invest in a private equity investment partnership. UL Solutions serves as one of several limited partners. In April 2019, the private equity investment general partner notified UL Solutions that $4 million of the remaining capital commitment had been released. As of December 31, 2021, UL Solutions had provided cumulative contributions totaling $14 million to the partnership with a remaining capital commitment of $2 million. Future capital calls of the remaining $2 million capital commitment could occur over the next several years and will be initiated by the general partner, as market conditions warrant.

In addition, the Company is party in the ordinary course of business to certain claims, litigation, audits and investigations. The Company will record an accrual for a loss contingency when it is probable that a loss has been incurred and the amount of the loss can be reasonably estimated. The Company believes it has established adequate accruals for liabilities that are probable and reasonably estimable and that may be incurred in connection with any such currently pending or threatened matter, none of which are material. In the Company’s opinion, the settlement of any such currently pending or threatened matter is not expected to have a material impact on the Company’s financial position, results of operations, or cash flow.

18. Functional Expenses

The Company's nonprofit activities are composed of three functional programs: Research, Standards, and Education & Outreach. The three programs are independently conducted by two separate entities. The Research program is conducted by UL Research Institutes and is focused on the exploration of threats to human safety, and includes fire, battery, chemical, health safety research, and international safety. The Standards program is conducted by UL Standards & Engagement and translates research insights into practical innovations to advance human safety through the development of safety standards and proactive communication, advocacy and policy initiatives. This program is both self and government funded. The Education & Outreach is conducted by UL Research Institutes and performs communication of research insights through public education and outreach, such as Intellectual Property Crime College, and youth safety awareness initiatives. In addition, the Company's commercial activities are performed by UL Solutions, which provides independent third-party testing, inspection and certification services and complementary software and advisory services to customers.

Expenses that comprise the consolidated organization have been broken out for the years ended December 31 below:

	2021					
(in millions)	Research	Standards	Education & Outreach	Functional Programs Administration	UL Solutions	Total
Salaries & benefits	$ 7	$ 12	$ 3	$ 5	$ 1,484	$ 1,511
Facilities travel & other general	3	1	1	6	430	441
Depreciation, amortization & impairment	1	—	—	—	143	144
Outside services	4	6	1	7	154	172
Income tax	—	—	—	2	36	38
Interest	—	—	—	2	1	3
Non-operating pension and post-retirement benefits	—	—	—	—	19	19
Total	$ 15	$ 19	$ 5	$ 22	$ 2,267	$ 2,328

	2020					
(in millions)	Research	Standards	Education & Outreach	Functional Programs Administration	UL Solutions	Total
Salaries & benefits	$ 7	$ 9	$ 3	$ 3	$ 1,267	$ 1,289
Facilities travel & other general	4	2	1	2	395	404
Depreciation, amortization & impairment	—	—	—	—	151	151
Outside services	3	5	1	5	113	127
Income tax	—	—	—	—	91	91
Interest	—	—	—	2	1	3
Non-operating pension and post-retirement benefits	—	—	—	—	22	22
Total	$ 14	$ 16	$ 5	$ 12	$ 2,040	$ 2,087

19. Subsequent Events

The Company has evaluated transactions through September 1, 2022, the date the consolidated financial statements were available to be issued. The Company is not aware of any subsequent events which would require recognition or disclosure in the consolidated financial statements, except as described in the following paragraphs.

In January 2022, UL Solutions entered into a credit agreement with Bank of America, N.A. and certain other lenders, which provides for senior unsecured credit facilities in an aggregate principal amount of $1,250 million (collectively, the “Credit Facility”), consisting of term loans in an initial aggregate principal amount of $500 million and revolving loan commitments in an initial aggregate principal amount of $750 million (including a $25 million sub-facility for letters of credit). The Credit Facility includes an accordion feature permitting an increase in the Credit Facility by an aggregate amount of up to $625 million (of which up to $400 million may consist of term loans), subject to the consent of any lenders providing such increase, the absence of any default or event of default and entry into customary documentation with respect to such increase. UL Solutions Inc.'s wholly owned subsidiary, UL LLC, a Delaware limited liability company, is the named borrower under the Credit Facility and UL Solutions Inc. provides a guaranty of its obligations thereunder. Proceeds from the Credit Facility, which initially included $500 million in term loans and $200 million in draws from the revolving loan commitments, were used to refinance the 2017 Revolving Credit Facility as well as for general corporate purposes. As of September 1, 2022, $599 million remains outstanding under the Credit Facility. The Credit Facility matures in January 2027. In connection with entering into the Credit Facility, UL Solutions terminated the 2017 Revolving Credit Facility.

Future borrowings under the Credit Facility are subject to the satisfaction of customary conditions, including the absence of any default or event of default and the accuracy of representations and warranties.

Borrowings under the Credit Facility bear interest at a rate per annum equal to, at UL Solutions' option, (a) in the case of U.S. dollar loans, the Bloomberg Short-term Bank Yield Index rate plus a margin, and for all other currencies, a specified benchmark rate for the applicable currency plus, in certain instances, a specified spread adjustment plus a margin (loans with a rate based on this clause (a), “benchmark rate loans”) or (b) for U.S. dollar loans only, the base rate plus a margin (loans with a rate based on this clause (b), “base rate loans”). The margin is initially 1.125% for benchmark rate loans and 0.125% for base rate loans but will be adjusted based on our most recently tested consolidated net leverage ratio and may vary from 1.0% to 1.5% for benchmark rate loans and 0.0% to 0.5% for base rate loans. The unused commitment fee varies from 0.1% to 0.2% based on UL Solutions' most recently tested consolidated net leverage ratio.

The Credit Facility includes customary representations and warranties, covenants and events of default, subject in each case to certain exceptions. The covenants include, among other things, financial reporting, notices of default and other material changes and maintenance of line of business, as well as limitations on investments and acquisitions, mergers and transfers of all or substantially all assets, dividends and distributions, burdensome contracts with affiliates, liens and indebtedness.

The Credit Facility also includes a financial covenant to be tested quarterly, commencing on March 31, 2022, which requires UL Solutions to maintain a consolidated net leverage ratio of not greater than 3.5 to 1.0, calculated on a consolidated basis for each consecutive four fiscal quarter period, with an increase in the maintenance level to 4.0 to 1.0 for each of the four test periods immediately following any permitted acquisition that involves the payment of aggregate consideration in excess of $100 million, subject to a two fiscal quarter rest period between increases for separate acquisitions. The calculation of the consolidated net leverage ratio permits the netting of up to $250 million of unrestricted cash from funded debt.

In February 2022, UL Solutions acquired 100% of the outstanding stock of KBW Corporation (“KBW”), a South Korea-based company specializing in electromagnetic, wireless and safety testing for the medical device and consumer technology industries. The purchase price consists of approximately $18 million in cash consideration, subject to customary post-closing adjustments.

In March 2022, the Company invested cash in excess of short-term requirements of $1,640 million into investment portfolios containing a mix of public equities, diversifying assets, private investments and fixed income investments. The investment portfolios are intended to support the Company's long-term nonprofit mission while providing sufficient liquidity to fund short-term operational requirements. As such, the portfolios are subject to various restrictions on redemptions, however, are expected to maintain minimum levels of liquidity such that, at all times, at least 5-10% of investments can be redeemed within one month and at least 40-50% of investments can be redeemed within one year. The balance of the portfolios may be invested in assets with longer redemption periods and increased restrictions on liquidity.

In June 2022, UL Solutions acquired 100% of the outstanding stock of KAM Specialty Equipment Services Company (doing business as "Data Test Labs”), a US-based company focusing on electrical, environmental and mechanical testing for automakers and their suppliers. The purchase price consists of approximately $16 million in cash consideration, subject to customary post-closing adjustments.

Supplemental Information

Underwriters Laboratories Inc.
Supplemental Information - Schedule of Expenditures of Federal Awards
For the Year Ended December 31, 2021

Federal Grantor / Program Title	Assistance Listing Number	Award/Pass Through Number	Pass-Through Grantor	Federal Expenditures Direct	Federal Expenditures Pass-through	Total Federal Expenditures	Passed Through to Subrecipients
Research and Development Cluster							
Department of Homeland Security							
Assistance to Firefighters Grants							
Fire Prevention and Safety FY2017	97.044	EMW-2017-FP-00628	N/A	$ 36,261	$ —	$ 36,261	$ —
Fire Prevention and Safety FY2018	97.044	EMW-2018-FP-00476	N/A	286,930	—	286,930	—
Fire Prevention and Safety FY2019	97.044	EMW-2019-FP-00770	N/A	548,590	—	548,590	—
Impact of PPE and Base Layer on Fireground Gas and Particulate Exposure Risks	97.044	EMW-2017-FP-00635 093182-17265	University of Illinois	—	57,761	57,761	—
Subtotal CFDA #97.044				871,781	57,761	929,542	—
Department of Justice							
National Institute of Justice Research, Evaluation, and Development Project Grants							
Development of an Interactive Database of Contemporary Material Properties for Computer Fire Modeling	16.560	2019-DU-BX-0018	N/A	164,988	—	164,988	—
Subtotal CFDA #16.560				164,988	—	164,988	—
Total Research and Development Cluster				1,036,769	57,761	1,094,530	—
Total Federal Expenditures				$ 1,036,769	$ 57,761	$ 1,094,530	$ —

The accompanying notes are an integral part of this schedule.

1. Basis of Presentation

The accompanying Schedule of Expenditures of Federal Awards (the “Schedule”) includes the federal grant activity of the Company and is presented on the accrual basis of accounting. The information in the Schedule is presented in accordance with the requirements of Title 2 *U.S. Code of Federal Regulations Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance). Therefore, some amounts presented in this schedule may differ from amounts presented in, or used in the preparation of, the consolidated financial statements.

The Company utilizes the predetermined facilities and administrative rate as agreed upon in their Non-Profit Rate agreement with the Federal Government when charging indirect costs, rather than the 10% de minimis cost rate as described in Section 200.414 of the Uniform Guidance.

2. UL LLC as a Subrecipient and as a Prime Recipient

UL LLC, a wholly-owned subsidiary of the Company, evaluates its federal expenditures independently of the Company’s federal expenditures. UL LLC assesses prime award expenditures and subaward expenditures from prime recipients other than the Company on an annual basis to determine if UL LLC meets the oversight agency’s requirement for an audit. A review of fiscal year 2021 prime award expenditures and subaward expenditures from prime recipients other than the Company revealed that UL LLC has not met the requirement for an audit in accordance with the Uniform Guidance and the Department of Energy guidance for for-profit entities. The accompanying Schedule includes only the awards granted to the Company, not to UL LLC. However, the accompanying financial statements are prepared on a consolidated basis and they include federal expenditures of both the Company and UL LLC.

Part II
Reports on Internal Controls and on Compliance

Report of Independent Auditors on Internal Control Over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed in Accordance with *Government Auditing Standards*

To the Board of Trustees of Underwriters Laboratories Inc.

We have audited, in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards,* issued by the Comptroller General of the United States, the consolidated financial statements of Underwriters Laboratories Inc. and its subsidiaries (the "Company"), which comprise the consolidated balance sheet as of December 31, 2021, and the related consolidated statements of operations and changes in net assets and of cash flows for the year then ended, including the related notes (collectively referred to as the "consolidated financial statements"), and have issued our report thereon dated September 1, 2022, except with respect to the opinion on the supplemental information, as to which the date is September 29, 2022.

The PricewaterhouseCoopers affiliated firms in Greater China and Japan performed audit procedures for UL VS Shanghai Ltd., UL - CCIC Company Limited, and UL Japan, Inc., comprising approximately 10% of total assets of the Company for the year ended December 31, 2021. Personnel of these firms, excluding United States personnel, do not participate in a continuing education program that fully satisfies the requirement set forth in Chapter 4, paragraph 4.16 of *Government Auditing Standards*. However, these firms do participate in continuing education programs applicable to their respective countries.

Further, the PricewaterhouseCoopers affiliated firms referred to above do not have an external quality review by an unaffiliated audit organization as required by Chapter 5, paragraph 5.60 of *Government Auditing Standards*, since no such program is offered by professional organizations in the countries. However, these offices participate in the PricewaterhouseCoopers worldwide internal control review program, which requires the office to be periodically subjected to an extensive quality control review by partners and managers from other PricewaterhouseCoopers affiliated firms.

Report on Internal Control Over Financial Reporting

In planning and performing our audit of the financial statements, we considered the Company's internal control over financial reporting (internal control) as a basis for designing audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control. Accordingly, we do not express an opinion on the effectiveness of the Company's internal control.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A *material weakness* is a deficiency, or a combination of deficiencies, in internal control such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected, on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

Report on Compliance and Other Matters

As part of obtaining reasonable assurance about whether the Company's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts and grant agreements, noncompliance with which could have a direct and material effect on the financial statements. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the Company's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Company's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

PricewaterhouseCoopers LLP

Chicago, Illinois
September 1, 2022, except with respect to the opinion on the supplemental information, as to which the date is September 29, 2022.

Report of Independent Auditors on Compliance for Each Major Program and on Internal Control Over Compliance Required by Uniform Guidance

To the Board of Trustees of Underwriters Laboratories Inc.

Report on Compliance for Each Major Federal Program

Opinion on Each Major Federal Program

We have audited Underwriters Laboratories Inc. and its subsidiaries' (the "Company") compliance with the types of compliance requirements identified as subject to audit in the OMB *Compliance Supplement* that could have a direct and material effect on Company's major federal program for the year ended December 31, 2021. The Company's major federal program is identified in the summary of auditor's results section of the accompanying schedule of findings and questioned costs.

In our opinion, the Company complied, in all material respects, with the compliance requirements referred to above that could have a direct and material effect on each of its major federal programs for the year ended December 31, 2021.

Basis for Opinion on Each Major Federal Program

We conducted our audit of compliance in accordance with auditing standards generally accepted in the United States of America (US GAAS); the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States; and the audit requirements of Title 2 U.S. *Code of Federal Regulations* Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance). Our responsibilities under those standards and the Uniform Guidance are further described in the Auditors' Responsibilities for the Audit of Compliance section of our report.

We are required to be independent of the Company and to meet our other ethical responsibilities, in accordance with relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion on compliance for each major federal program. Our audit does not provide a legal determination of the Company's compliance with the compliance requirements referred to above.

Responsibilities of Management for Compliance

Management is responsible for compliance with the requirements referred to above and for the design, implementation, and maintenance of effective internal control over compliance with the requirements of laws, statutes, regulations, rules and provisions of contracts or grant agreements applicable to the Company's federal programs.

Auditors' Responsibilities for the Audit of Compliance

Our objectives are to obtain reasonable assurance about whether material noncompliance with the compliance requirements referred to above occurred, whether due to fraud or error, and express an opinion on the Company's compliance based on our audit. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with US GAAS, *Government Auditing Standards*, and the Uniform Guidance will always detect material noncompliance when it exists. The risk of not detecting material noncompliance resulting from fraud is higher than for that resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Noncompliance with the compliance requirements referred to above is considered material, if there is a substantial likelihood that, individually or in the aggregate, it would influence the judgment made by a reasonable user of the report on compliance about the Company's compliance with the requirements of each major federal program as a whole.

In performing an audit in accordance with US GAAS, *Government Auditing Standards*, and the Uniform Guidance, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material noncompliance, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the Company's compliance with the compliance requirements referred to above and performing such other procedures as we considered necessary in the circumstances.
- Obtain an understanding of the Company's internal control over compliance relevant to the audit in order to design audit procedures that are appropriate in the circumstances and to test and report on internal control over compliance in accordance with the Uniform Guidance, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over compliance. Accordingly, no such opinion is expressed.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and any significant deficiencies and material weaknesses in internal control over compliance that we identified during the audit.

Other Matters

The results of our auditing procedures disclosed instances of noncompliance, which are required to be reported in accordance with the Uniform Guidance and which are described in the accompanying schedule of findings and questioned costs as items 2021-001 and 2021-002. Our opinion on each major federal program is not modified with respect to these matters.

Government Auditing Standards requires the auditor to perform limited procedures on the Company's response to the noncompliance findings identified in our audit described in the accompanying Corrective Action Plan. The Company's response was not subjected to the other auditing procedures applied in the audit of compliance and, accordingly, we express no opinion on the response.

Report on Internal Control Over Compliance

A *deficiency in internal control over compliance* exists when the design or operation of a control over compliance does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, noncompliance with a type of compliance requirement of a federal program on a timely basis. A *material weakness in internal control over compliance* is a deficiency, or combination of deficiencies, in internal control over compliance, such that there is a reasonable possibility that material noncompliance with a type of compliance requirement of a federal program will not be prevented, or detected and corrected, on a timely basis. A *significant deficiency in internal control over compliance* is a deficiency, or a combination of deficiencies, in internal control over compliance with a type of compliance requirement of a federal program that is less severe than a material weakness in internal control over compliance, yet important enough to merit attention by those charged with governance.

Our consideration of internal control over compliance was for the limited purpose described in the Auditors' Responsibilities for the Audit of Compliance section above and was not designed to identify all deficiencies in internal control over compliance that might be material weaknesses or significant deficiencies in internal control over compliance. Given these limitations, during our audit we did not identify any deficiencies in internal control over compliance that we consider to be material weaknesses, as defined above. However, material weaknesses or significant deficiencies in internal control over compliance may exist that were not identified.

Our audit was not designed for the purpose of expressing an opinion on the effectiveness of internal control over compliance. Accordingly, no such opinion is expressed.

The purpose of this report on internal control over compliance is solely to describe the scope of our testing of internal control over compliance and the results of that testing based on the requirements of the Uniform Guidance. Accordingly, this report is not suitable for any other purpose.

PricewaterhouseCoopers LLP

Chicago, Illinois
September 29, 2022

Part III
Schedule of Findings and Questioned Costs

Section I. Summary of Auditor's Results

Financial Statements

Type of auditor's report issued: Unmodified

Internal control over financial reporting:

• Material weakness(es) identified?		Yes	X	No
• Significant deficiency identified that are not considered to be material weakness(es)?		Yes	X	None Reported
• Noncompliance material to financial statements noted?		Yes	X	No

Federal Awards

Internal control over major programs:

• Material weakness(es) identified?		Yes	X	No
• Significant deficiency identified that are not considered to be material weakness(es)?		Yes	X	None Reported

Type of auditor's report issued on compliance for major programs: Unmodified

Any audit findings disclosed that are required to be reported in accordance with section 200.516 (a) of the OMB Uniform Guidance?	X	Yes		No

Identification of major programs

Federal CFDA Number(s)	*Name of Federal Program or Cluster*
97.044, 16.560	Research & Development Cluster

Dollar threshold used to distinguish between Type A and Type B programs: $750,000

Auditee qualified as low-risk auditee?	X	Yes		No

Section II. Financial Statement Findings

None noted.

Section III. Federal Award Findings and Questioned Costs

2021-001: Cash Management

Award Name: 2019 Fire Prevention and Safety (FP&S)

Assistance Listing Number: 97.044

Award Number: EMW-2019-FP-00770

Agency: Department of Homeland Security

Award Year: 2019

Criteria: In accordance with 2 CFR 200.305 (b), for non-Federal entities other than states, payment methods must minimize the time elapsing between the transfer of funds from the United States Treasury or the pass-through entity and the disbursement by the non-Federal entity whether the payment is made by electronic funds transfer, or issuance or redemption of checks, warrants, or payment by other means.

Reimbursement is the preferred method when the requirements in paragraph (b) cannot be met, when the Federal awarding agency sets a specific condition per 2 CFR 200.208, or when the non-Federal entity requests payment by reimbursement.

Per the OMB Compliance Supplement, the non-Federal entity must disburse funds for program purposes before requesting payment from the Federal awarding agency or pass-through entity.

Condition: In testing compliance with the cash management compliance requirement in accordance with the OMB Compliance Supplement, specifically the reimbursement method, 25 individual expenditures across all grants were tested to compare the date Underwriters Laboratories Inc. paid the vendor to the date Underwriters Laboratories Inc. requested reimbursement. We noted 1 instance out of 25 totaling $233,818, across all grants, in which reimbursement was requested before Underwriters Laboratories Inc. paid the vendor. Additionally, the request for reimbursement in the amount of $233,818 was incorrect. The reimbursement should have instead been in the amount of $223,818, resulting in a $10,000 questioned cost.

Cause: Management's current process when requesting reimbursement from sponsors is to ensure the expenditures are incurred rather than to ensure payments have been made. Further, a billing error that was not detected resulted in the $10,000 reimbursement request error resulting in an amount in excess of the invoice being requested and reimbursed by the federal government.

Effect: Underwriters Laboratories Inc. requested and received Federal reimbursement prior to paying vendors for the selected expenses and the requested reimbursement was overstated by $10,000.

Questioned Costs: $10,000

Recommendation: Underwriters Laboratories Inc. should consider existing internal control procedures to ensure expenditures are paid in compliance with Federal reimbursement requirements and that requests for reimbursement are reviewed and validated against supporting documentation to identify any discrepancies prior to requesting reimbursement.

Management's View and Corrective Action Plan: Management's views and corrective action plan are included at the end of this report after the summary of status of prior audit findings.

2021-002: Procurement/Full and open competition

Award Name: 2019 Fire Prevention and Safety (FP&S)

Assistance Listing Number: 97.044

Award Number: EMW-2019-FP-00770

Agency: Department of Homeland Security

Award Year: 2019

Criteria: Underwriters Laboratories Inc. has a policy whereby purchases shall comply with Uniform Guidance for Grants and Cooperative agreements, as established in 2 CFR 200.320 Methods of Procurement to be followed and they have adopted $10,000 as their micro-purchase threshold. 2 CFR 200.318 requires that documentation of the history of the procurement, the procurement method and rationale for the method selected, selection of contract type, basis for contractor selection, and basis for the contract price to be included in the procurement file.

Condition: There was 1 transaction totaling $233,818 out of 1 transaction tested totaling $233,818, excluding transactions with subrecipients, over the $10,000 threshold and this transaction was selected for testing. Management provided us with the Underwriters Laboratories, Inc. Vendor Selection Form noting multiple vendors were identified for the project at hand. However, management received one response, of three vendors identified, and did not provide rationale for why the selected vendor was sufficient (both from a capabilities and cost side) within the Vendor Selection Form prior to the purchase being made.

Cause: There is no formal review to ensure all federal documentation requirements related to purchases above the micro-purchase threshold have been included in the procurement files (i.e., Vendor Selection Form).

Effect: The lack of a formal process for review of the Vendor Selection Form could result in inadequate bids and competition.

Questioned Costs: There are no questioned costs associated with this finding, however, see finding 2021-001 for additional context, as the item selected for testing above, was the same as that selection.

Recommendation: We recommend Underwriters Laboratories Inc. formalize the documentation and review required for procurements over the micro-purchase threshold, including instances where requests for bids from multiple vendors are not received to ensure the vendor selection process is adequately communicated prior to the purchase being made.

Management's View and Corrective Action Plan: Management's views and corrective action plan are included at the end of this report after the summary of status of prior audit findings.

2020-001: Intrusion Detection (Significant Deficiency)

Criteria: As part of PwC's audit, they are required to obtain an understanding of internal controls relevant to the audit, which includes the end to end process around key financial reporting cycles and evidence the implementation of relevant controls and the related IT dependencies (AU-C section 315).

Recommendation: PwC recommended that UL undertake actions to address the above control deficiencies to ensure that the risk associated with unauthorized access is properly mitigated.

Planned Corrective Action: UL's security management program is updated to review vulnerability issues on an ongoing basis with reporting to the executive level on a monthly basis along with including reporting on patch management. Critical and high vulnerability issues will be resolved in the specified time frame or will be removed from the network until a remediation plan is in place.

Status Update: Enterprise Cybersecurity organization defined metrics to report regarding patch management and vulnerability management. These metrics are reported to the Operating Committee (OC), UL's most senior leaders monthly. Additionally, these metrics are included in every Board of Director's material for review periodically.

2020-002: Segregation of Duties (Significant Deficiency)

Criteria: As part of PwC's audit, they are required to obtain an understanding of internal controls relevant to the audit, which includes the end to end process around key financial reporting cycles and evidence the implementation of relevant controls and the related IT dependencies (AU-C section 315).

Recommendation: PwC recommended UL undertake actions to perform a detailed review of users assigned conflicting roles at least annually and that a mitigating control analysis is performed where conflicts exist.

Planned Corrective Action: We have redesigned roles and responsibilities for financially relevant processes and systems and have implemented a review process as well as mitigating controls where conflicts exist.

Status Update: Finance reviewed roles and responsibilities and removed conflicts to the maximum extent possible. Mitigating controls were implemented where conflicts remain. A segregation of duties tool was also implemented that reviews on a regular basis for segregation of duties issues and alerts management of conflicts.

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Research Institutes

Finding Number: 2021-001
Anticipated Completion Date: 12/31/2023
Responsible Contact Person: Jocelyn Lombardozzi
Planned Corrective Action:

Management maintains that the Company has internal control procedures to ensure expenditure are paid in compliance with Federal reimbursement requirements. The Company is in compliance with 2 CFR Part 200.305 (b), which requires non-Federal entities to use reimbursement methods that "…minimize the time elapsing between the transfer of funds from the United States Treasury or the pass-through entity and the disbursement by the non-Federal entity…".

The finding "2021-001: Cash Management" is based on the result of testing for Audit Objective #4 in Part 3, Section C. Cash Management in the Office of Management and Budget (OMB) Compliance Supplement issued July 2021. "For grants and cooperative agreements to non-federal entities that are paid on a reimbursement basis, supporting documentation shows that the costs for which reimbursement was requested were paid prior to the date of the reimbursement request." However, 2 CFR Part 200.305 Federal Payment does not require costs to be paid prior to the date of the reimbursement request.

The Company records expenditures in the accounting system on an accrual basis of accounting. Requesting reimbursement for the costs incurred and recorded in the accounting system on an accrual basis is compliant with the requirements stated in 2 CFR Part 200.305 Federal Payment regardless of whether the costs were actually paid. The definition of "Expenditures" provided in 2 CFR Part 200.1 states that expenditures "may be reported on a cash or accrual basis, as long as the methodology is disclosed and is consistently applied". Definitions further supports that "Expenditures" on an accrual basis include "the net increase or decrease in the amounts owed by the non-Federal entity for: Goods and other property received; and services performed by employees, contractors, subrecipients, and other payees."

In 2017, on behalf of the 190 members of the Council on Governmental Relations (COGR), COGR wrote a letter to the OMB Office of Federal Financial Management requesting that the Compliance Supplement be amended, followed by an update to 2 CFR Part 200.305, to address policy inconsistencies between Compliance Supplement Part 3, Section C. Cash Management and 2 CFR Part 200.305 Federal Payment. This request has not been addressed to date.

The finding "2021-001: Cash Management" is the result of policy inconsistencies as referenced in COGR's letter. Management agrees with COGR's position and believes that 2CFR Part 200 takes precedence over the Compliance Supplement. Adhering to the language in the Compliance Supplement will require changes to current existing systems and processes that are adequately designed to be compliant with 2 CFR Part 200 and are working effectively. These changes will result in unnecessary costs and administrative burden.

In connection with expected growth of the organization, Management is implementing a grant management system and new accounting system and will be hiring additional grant management staff. Despite policy inconsistencies mentioned above, as part of these implementations, Management will implement capabilities into the new systems and new processes to ensure requests for reimbursement are submitted after expenditures are reviewed against supporting documentation for any discrepancies and accuracy and are paid.

Finding Number: 2021-002
Anticipated Completion Date: 10/31/2022
Responsible Contact Person: Laurence Emrie
Planned Corrective Action:

Management will review the Government Contracting and Grants Within the United States of America Procedure Manual (Section 7.9 – Procurement, Subsection 7.9.5 – Single Source Procurement) and update, as needed, the necessary steps and documentation required when using the Vendor Selection Form, including situations in which only one vendor submits a qualified bid.

In the future, all purchase requisitions tagged to a government project exceeding the micro-purchase threshold will be reviewed with Grants & Contracts team before the purchase requisition is approved to ensure compliance with requirements.

Ron Blaustein

Ron Blaustein,
Senior Vice President & Chief Financial Officer