LUMEN®

2022 Annual Report
2023 Proxy Statement

Our Story

We are an international facilities-based technology and communications company focused on providing our business and mass markets customers with a broad array of integrated products and services necessary to fully participate in our ever-evolving digital world.

We connect the world. We are dedicated to furthering human progress through technology by connecting people, data, and applications – quickly, securely, and effortlessly. Everything we do takes advantage of our network strength. From metro connectivity to long-haul data transport to our edge cloud, security, and managed service capabilities, we meet our customers' needs today and as they build for tomorrow.

Our Mission

Lumen's mission is to digitally connect people, data, and applications - quickly, securely, and effortlessly.

We are guided by our Core Beliefs; Clarity, Courage, Customer Obsession, and Growth Mindset. Clarity - being accountable to give and receive information in a simple, concise, and frequent manner. Courage - boldly advocating an idea or opinion even if it creates a sense of vulnerability. Customer Obsession - listening from a place of empathy, putting ourselves in the customer's shoes and advocating for them in every aspect of our business. Growth Mindset - having an open mind and a commitment to innovation and continuous learning. We believe these Core Beliefs are the key to Lumen's success.

Core Priorities

Develop Customer Obsession

Innovate & Invest for Growth

Build a Reliable Execution Engine

Radially Simplify Our Company

Further Develop Our Culture

CEO Letter

Dear Lumen Shareholders

In 2022, in partnership with the Lumen Board of Directors, we laid the foundation for our company's turnaround. We established a new mission, strengthened our executive leadership team with several new hires, and defined our core company priorities. In addition, we enhanced our corporate agility with the completion of two significant divestitures, as well as the third we announced in November. Looking ahead, our investment strategy for 2023 and 2024 focuses on optimizing our assets and properly allocating capital so that we can build new systems and processes that will meet the needs of our customers.

As I write this letter, we are experiencing pressure on our stock price, and our debt is trading at deeply discounted prices. We understand that this market dislocation is rooted in part in the fact that our company has not consistently delivered on its recent business projections, and we know how difficult this has been for those of you who have put faith and financial resources in Lumen Technologies. You deserve more; the Board, our new management team, and I are committed to delivering it to you.

This letter, my first as Lumen's CEO, outlines our core priorities and two-year investment strategy. Our plans are deeply rooted in a play-to-win mindset, focusing on being brilliant at basic execution and vigilant about creating material competitive advantages in market. We will focus on driving more efficiency in our core operations while simplifying and digitizing our business processes for seamless employee and customer experiences. Importantly, we will invest in building skills for our people to ensure they can thrive as we retool the company for innovation and growth.

Our New Mission

At Lumen, our mission is to digitally connect people, data, and applications - quickly, securely, and effortlessly.

The first part of this mission leverages our deep telecom roots: we have an expansive network that ensures individuals and businesses have access to their ever-growing data where and when they need it. Our portfolio of innovative edge cloud and security offerings uniquely positions Lumen for growth in the technology sector. As we rebuild this nearly 100-year-old company for the digital future, we understand the criticality of providing effortless customer experiences. This is where we are prioritizing a significant portion of our time and capital.

Our New Leadership Team

Attracting world-class talent is critical for Lumen's success. I am delighted to report the addition of three seasoned technology executives to my leadership team: Sham Chotai – EVP Product & Technology, Ashley Haynes-Gaspar – EVP & Chief Experience Officer, and Jay Barrows – EVP Enterprise Sales. These three leaders bring deep digital transformation experience, product development and innovation muscle, as well as marketing expertise and customer obsession. Together with our already established leaders, I believe we have the A-team to deliver on our company's transformation plans and drive value creation for shareholders.

Our New Core Priorities

There are five core priorities at the heart of our transformation which will guide our resource allocation:

Develop Customer Obsession – As we pivot from emphasizing operational efficiency to growth, we must shift to "outside-in" thinking. This means putting customer needs and expectations at the forefront of every business process, and ensuring our success measurements align to what matters most for our customers.

Invest and Innovate for Growth – With a renewed focus on our customers, we will allocate capital to build the muscle required to create new products and services that take advantage of our proprietary gifts and solve our customers' greatest business challenges. We will also invest in sales, marketing, and operations to ensure we can properly cover the markets we serve and exceed our customers' expectations.

Radically Simplify Lumen – We are focused on doing fewer things, better. This means shutting down subscale or non-accretive businesses. It also means consolidating applications and modernizing our IT infrastructure to enable seamless employee and customer experiences. These efforts will help us optimize costs and growth simultaneously.

Create a Reliable Execution Engine – As we eliminate non-accretive businesses and intensify our focus on delivering profitable revenue growth in our scaled businesses, we are reshaping our organizational structure by combining our product development teams with our IT teams to enhance Lumen's speed and agility. We are also centralizing marketing for tighter alignment to the customer life cycle. In addition, we are investing in our sales and marketing capabilities to outperform the competition in this rapidly changing market landscape.

Institute a Culture of Team, Trust, and Transparency – Transforming Lumen to become a high performing growth company will require a culture that enables change. We will help our employees build the skills to ensure our success, and we will manage their performance against our five core priorities and operating principles of team, trust, and transparency.

Our 2023-2024 Investment Strategy

Our core priorities have shaped our investment strategy for the 2023-2024 horizon - we expect to spend between $600M and $800M on a set of critical change imperatives in each of the next two years. The investments we are making will be a key to enabling us to drive stabilization in both revenue and EBITDA within two years, and growth thereafter. In addition to funding a set of tactical go-to-market and core operations programs that will enable better execution across the company, we are investing in four major strategic areas:

The Digital Enterprise: An ERP upgrade may not sound that interesting, but it will dramatically improve our workflow productivity and overall customer and employee experiences. The digital enterprise investment will also be the foundation to create modern data fabric, orchestration, and API capabilities to enable any use case across the digital customer lifecycle, from order to cash.

Network-as-a-Service (NAAS): With the rise of artificial intelligence and its abundant availability to consumers and enterprises alike, data volumes are anticipated to grow three-fold over the next five years. Our NaaS offering will be a game-changing way for customers to consume our services. We will provide them the opportunity to fire up a Lumen port anywhere on our expansive network, anytime, with any service. That's called operating leverage, and Lumen's aim is to lead the industry here.

The Lumen Growth Operating System: We are allocating capital to agile teams that co-create new technology capabilities up the stack with our customers. The early indicators show our customers are hungry for this type of partnership with telecom companies, and we are excited to capitalize on this significant opportunity.

Mass Markets & Quantum Fiber: On the Mass Markets side of Lumen, we expect to enable an incremental 500,000 Quantum Fiber locations in 2023. These locations demand high-speed, symmetric, and low latency fiber broadband service. Quantum delivers that experience, along with digital ordering, awarding us world-class NPS scores.

We are thinking differently about how we shape and grow our business at Lumen, and we are confident that this clear mindset shift will be a key differentiator amongst our market competitors.

Our Annual Meeting & Investor Conference

This year, our virtual annual meeting will be held on Wednesday, May 17 at 12:00 pm CT. Details on how to register can be found in the accompanying proxy statement.

We recognize that our turnaround is attracting the interest of many investors, some new to our journey. As such, we are holding an Investor Day on June 5th. During the Investor Day we will outline the details of our plans and progress to-date. The Investor Day will allow for more time and discussion than we are typically afforded in our quarterly earnings calls. The event will be webcast and available to view live or replayed via a link on our Investor Relations website.

On behalf of the Board of Directors and the Lumen management team, I thank you for your investment in and support of Lumen. We hope you share in our excitement for the new Lumen.

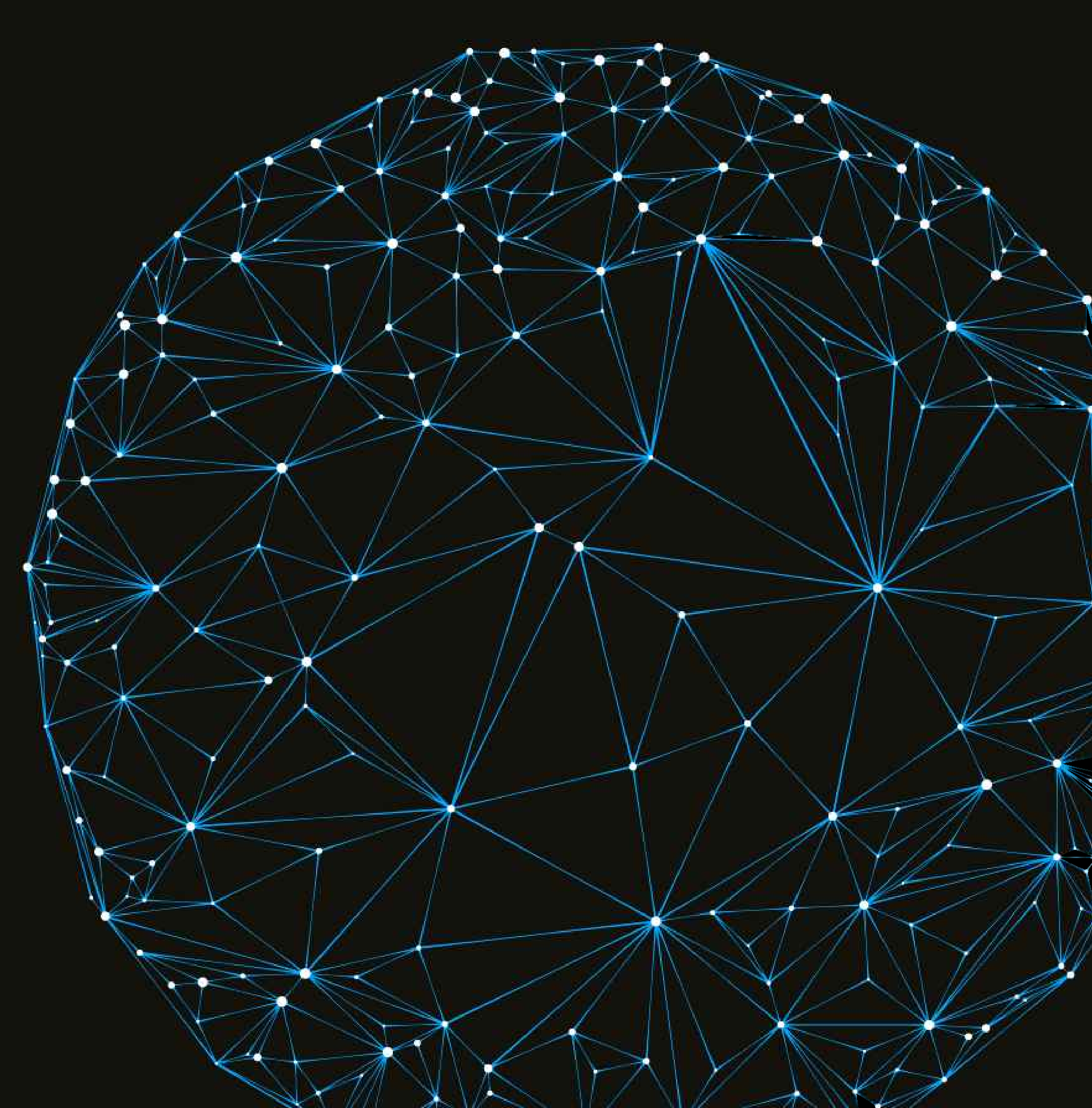
Sincerely,

Kate Johnson

President and Chief Executive Officer Lumen Technologies

LUMEN®

2023 Proxy Statement



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Forward-Looking Statements

Except for historical and factual information contained herein, matters set forth in our 2023 proxy materials (and our accompanying 2022 annual report) identified by words such as “expects,” “believes,” “will” and similar expressions are forward-looking statements as defined by the federal securities laws and are subject to the “safe harbor” protection thereunder. These forward-looking statements are not guarantees of future results and are based on current expectations only and are subject to uncertainties. Actual events and results may differ materially from those anticipated by us in those statements due to several factors, including those disclosed in our other filings with the SEC. We may change our intentions or plans discussed in our forward-looking statements without notice at any time and for any reason.

Certain Defined Terms

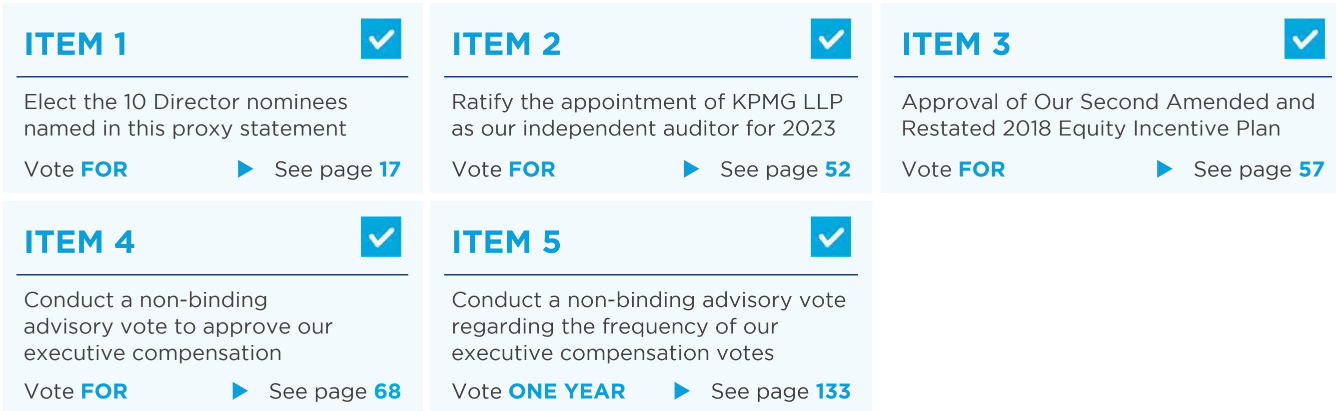
All references in this proxy statement or related materials to “we,” “us,” “our,” the “Company” or “Lumen” refer to Lumen Technologies, Inc. In addition, each reference to (i) the “Board” refers to our Board of Directors, (ii) “Voting Shares” refers collectively to our shares of Common Stock (“Common Shares”) and shares of Series L Preferred Stock (“Preferred Shares”), (iii) “Meeting,” “the meeting” “annual shareholders meeting” or “annual meeting” refers to the 2023 annual meeting of our shareholders described further herein, (iv) “named executives,” “named officers,” “named executive officers” or “NEOs” refers to the current and former officers listed in the Summary Compensation Table in this proxy statement, (v) “HRCC” refers to the Human Resources and Compensation Committee of our Board, (vi) “NCG Committee” refers to the Nominating and Corporate Governance Committee of our Board, (vii) “SLT”, “senior leadership team” or “senior officers” refers to our executive officers and a limited number of additional officers whose compensation is determined by the HRCC, (viii) “Qwest” refers to Qwest Communications International Inc., which we acquired on April 1, 2011, (ix) “Level 3” refers to Level 3 Parent, LLC and its predecessor, Level 3 Communications, Inc., (x) “Level 3 Combination” refers to our business combination with Level 3, which was consummated on November 1, 2017, (xi) “SEC” refers to the U.S. Securities and Exchange Commission, (xii) “ESG” refers to environmental, social and governance, (xiii) “GAAP” refers to U.S. generally accepted accounting principles, (xiv) “NYSE” refers to the New York Stock Exchange., (xv) “TSR” refers to total shareholder return; (xvi) “STI” refers to short-term incentive compensation, (xvii) “LTI” refers to long-term incentive compensation, (xviii) “CD&A” refers to the “Compensation, Discussion and Analysis” section of this proxy statement, (xix) “SOP” refers to Say on Pay, and (xx) “4IR” refers the 4th Industrial Revolution. Unless otherwise provided, all information is presented as of the date of this proxy statement.

Notice of 2023 Annual Shareholders Meeting

2023 Annual Meeting Information

Date and Time	Location	Record Date	Proxy Mail Date
Wednesday May 17, 2023 12:00 noon CT	**virtualshareholder meeting.com/ LUMN2023**	You can vote if you were a shareholder of record at the close of business on March 23, 2023.	On or about April 5, 2023.

Items of Business



Transact other business that may properly come before the annual meeting

Proxy Voting

Shareholders are invited to attend the live virtual meeting. Even if you expect to attend, we urge you to vote in advance using any of the following methods:

Your vote is important to us. We urge your participation.

By Internet	By phone	By Mail	Live virtual meeting
visit **proxyvote.com**	1-800-690-6903	mark, sign, date & return proxy card	vote electronically at the virtual annual meeting

Headquarters: 100 CenturyLink Drive, Monroe, LA 71203

Meeting Details: See “Frequently Asked Questions” in this proxy statement for further details.

Important Notice Regarding the Availability of Proxy Materials for the Annual Meeting of Shareholders to Be Held on May 17, 2023

The Notice of 2023 Annual Meeting, Proxy Statement, and 2022 Annual Report and information on the means to vote by Internet are available at proxyvote.com

Stacey W. Goff, **Secretary**
April 5, 2023

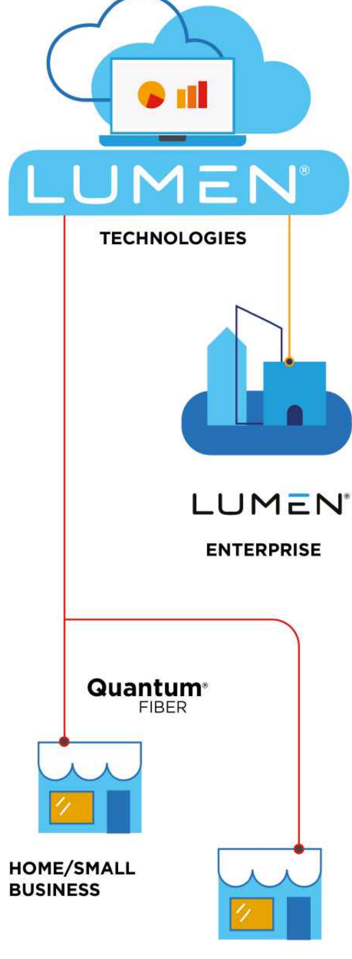
About Lumen

Who We Are

We are an international facilities-based technology and communications company focused on providing our business and mass markets customers with a broad array of integrated products and services necessary to fully participate in our ever-evolving digital world. We operate one of the world's most interconnected networks. Our platform empowers our customers to swiftly adjust digital programs securely to meet immediate demands, create efficiencies, accelerate market access and reduce costs - allowing customers to rapidly evolve their IT programs to address dynamic changes.

We conduct our operations under the following three brands: (i) "Lumen," which is our flagship brand for serving the enterprise and wholesale markets, (ii) "Quantum Fiber," which is our brand for providing fiber-based services to residential and small business customers, and (iii) "CenturyLink," which is our long-standing brand for providing mass-marketed legacy copper-based services, managed for optimal cost and efficiency.

With approximately 160,000 on-net buildings and 400,000 route miles of fiber optic cable globally, we are among the largest providers of communications services to domestic and global enterprise customers. Our terrestrial and subsea fiber optic long-haul network throughout North America, Europe and Asia Pacific connects to the metropolitan fiber networks we operate. We provide services in over 60 countries, with most of our revenue being derived in the United States.



Key 2022 Financial Highlights

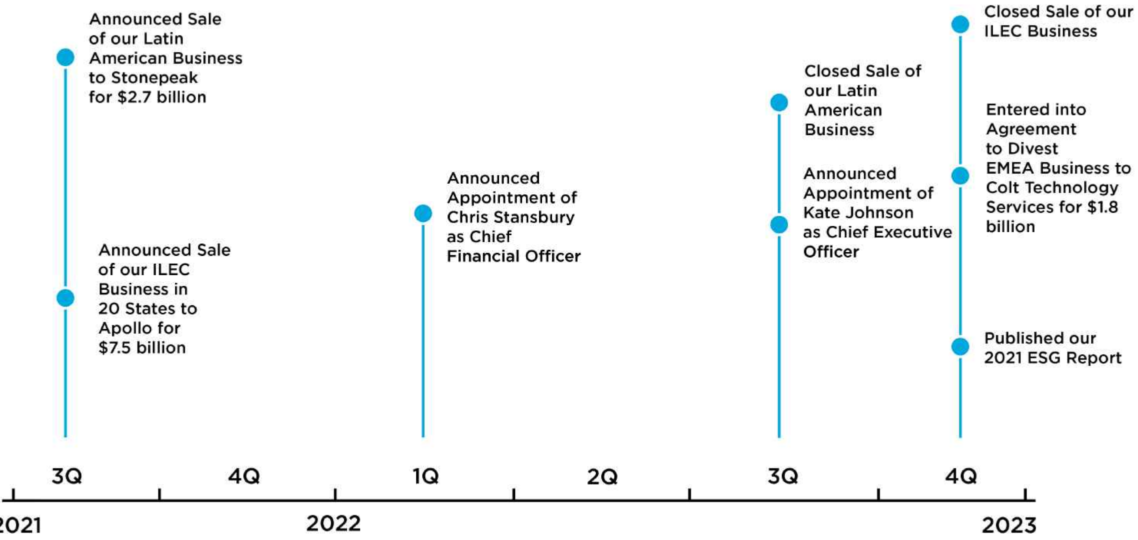
During 2022, we accomplished several significant financial milestones. Specifically, we:

- Completed or announced value-accretive business divestitures expected to generate a total of $12 billion in gross proceeds
  - Completed the $2.7 billion divestiture of our Latin American business to Stonepeak on Aug. 1
  - Completed the $7.5 billion divestiture of our 20-state ILEC business to Apollo on Oct. 3
  - Announced the proposed sale of our EMEA business to Colt Technology Services for $1.8 billion on Nov. 2
- Reduced Estimated Net Debt by $9.9 billion in 2022[1]
- Authorized an up to $1.5 billion, two-year share repurchase program and repurchased 33 million shares of common stock for a total purchase price of $200 million
- Enabled approximately 600 thousand Quantum Fiber units in 2022[2]
- Added approximately 100 thousand Quantum Fiber subscribers in 2022 and improved Quantum Fiber ARPU on a year-over-year basis consecutively for every quarter in 2022

See Appendix A for definitions of the terms used above, a reconciliation of our non-GAAP metrics used above to GAAP measures, and a description of our special items. For more complete information on Lumen and our recent performance, see the remainder of this proxy statement, including Appendix B.

$10.2B	$9.9B	$1.8B	$200M
gross proceeds generated from completed divestitures	decrease in estimated net debt[1]	expected gross proceeds from the announced EMEA business divestiture	common stock repurchased

Lumen Key Milestones



[1] During the first half of 2023, we expect to pay approximately $900 million to $1 billion of cash taxes related to the 2022 divestitures of our Latin American and 20-state ILEC businesses. To provide comparability to prior periods, Estimated Net Debt reflects the payment of those cash taxes as though it had occurred on or prior to December 31, 2022.

[2] Represents the total number of units capable of receiving our services at period end

ESG Highlights

Building strong governance and tech transparency

We believe our strong corporate governance principles and our culture of honesty, integrity and transparency allow us to build trust and protect the interests of our company and our stakeholders.

Unlocking sustainability through innovation

Our platform and solutions are a gateway to exploring technological potential, enabling our customers to build amazing things, and inspiring and enabling others to join our sustainability journey.

Protecting our planet

We commit to environmental stewardship, knowing that sustainability promotes the health of our planet and our business, and creates value for our customers, employees, communities and investors.

Empowering people

We want our employees to be proud to work with us, and fully engaged with our efforts to make the world a better place.

Our People – Human Capital

Lumen's ability to fulfill our purpose is dependent on the quality and capabilities of our people. Lumen's highly competitive business requires attracting, developing and retaining a motivated team that is inspired by leadership, engaged in meaningful work, driven by growth opportunities and thriving in a culture that embraces diversity, inclusion and belonging.

Diversity and Inclusion Steering Committee

Lumen's Diversity and Inclusion Steering Committee (DISC), is made up of senior leaders and executives, including Lumen's Chief Diversity and Inclusion Officer. Our DISC helps shape, drive and champion our overall diversity, inclusion and belonging strategy.

Commitment to Pay Equity

Following the pay equity reviews we conducted over the past few years, we adjusted employees' pay where needed. As part of our commitment to fair and equitable compensation, we plan to continue regular gender, race, and ethnicity pay equity studies of our U.S., non-represented employees and to make pay adjustments where warranted.

OHS Management Systems

We have implemented occupational health and safety management systems for employees in our North America and Europe, Middle East and Africa (EMEA) regions. Our environment, health and safety team and relevant business units implement these systems and perform periodic reviews designed to identify and achieve improvements in overall safety and performance.

Benefits Enhancements

Lumen offers progressive employee benefits and enhancements that recognize the diverse needs of our employees and their families. These include a comprehensive wellness program, flexible time off, extended maternity/parental leave, the Milk Stork program for nursing mothers, fertility benefits, gender-affirming and same sex/domestic partner healthcare benefits, adoption benefits, survivor benefits, financial wellness, mental health benefits and disability accommodations.

Our Impact – Environment

We are committed to environmental stewardship, knowing that sustainability promotes the health of both our planet and our business and creates value for our customers, employees, suppliers, communities and investors. In addition to reducing our own environment footprint, we are working to build an efficient global network to help reduce the emissions of our customers. At the same time, we encourage our employees and suppliers to engage in environmentally sustainable activities.

Energy and Emissions

We have set science-based targets approved by the Science-Based Targets initiative to reduce annualized absolute Scope 1 and Scope 2 market-based emissions by 18 percent and annualized absolute upstream Scope 3 emissions by 10 percent by 2025, compared to 2018, and we are trending toward achievement of our goal.

Renewable Energy Initiatives

In 2021, we purchased and generated 320,085 megawatt hours (MWh) of renewable energy, including zero-carbon electricity, bio-fuels, and self-generated solar electricity.

Customer Initiatives

Lumen's Platform for Amazing Things supports our customers' goals to reduce their environmental footprint and achieve greater sustainability, including by:

- helping our customers enable IT architecture that reduces costs and carbon emissions through greater use of digital platforms and the cloud, and
- connecting "Internet of Things" (IoT) devices to the internet to provide deeper analytical insights that can help enable real-time changes and decisions to improve operational efficiency and reduce environmental impact.

Transportation Initiatives

We work to reduce transportation emissions by:

- Dispatching and operating our fleet more efficiently through the installation of GPS on approximately 10,000 of our vehicles. These efficiencies are resulting in fuel expense savings as well as reduced GHG emissions.
- Adding sensors to our fleet to monitor vehicle idling time. By using data to identify opportunities for improvement, our field technicians are able to reduce emissions and costs by saving fuel.

Our Commitment – Governance and Social Capital

Lumen's Platform for Amazing Things and the opportunities presented by the 4IR have created a strategic opportunity for evaluating and evolving our sustainability program and developing additional reporting responsive to various frameworks, including SASB standards and TCFD recommendations. To achieve our ESG program goals, during 2022 we engaged with stakeholders to learn their perspectives on sustainability generally and our evolving programs specifically.

Cybersecurity, Data and Customer Privacy

We launched our online Trust Center, a portal to make it easier for our customers and other stakeholders to access information about our approach to privacy, data protection, security, transparency and other related issues. The Trust Center hosts policies, notices, documentation, reports and self-service options—including access to our Vulnerability Disclosure Program.

Ethics and Compliance Program

Our global corporate Ethics and Compliance program, as overseen by the Risk and Security Committee of the Board, is designed to develop, communicate and enforce our ethical and legal standards. We recently audited several areas of the program, including the whistleblower program, Integrity Line, compliance training, third-party screenings and insider trading program. We report all audit results and actions to the Audit Committee.

Data Privacy

We have adopted a data minimization policy designed to comply with applicable state, U.S. and other international jurisdictions' laws and ensure appropriate protections when sharing information with third parties, including vendors.

Commitment to Human Rights

Lumen is committed to proactively addressing human rights issues and risks within our business, and in our relationships with third parties. Our Code of Conduct and Supplier Code of Conduct address topics relating directly to human rights, while our Human Rights Policy outlines our expectations.

Proxy Voting Roadmap

ITEM 1

Election of Directors

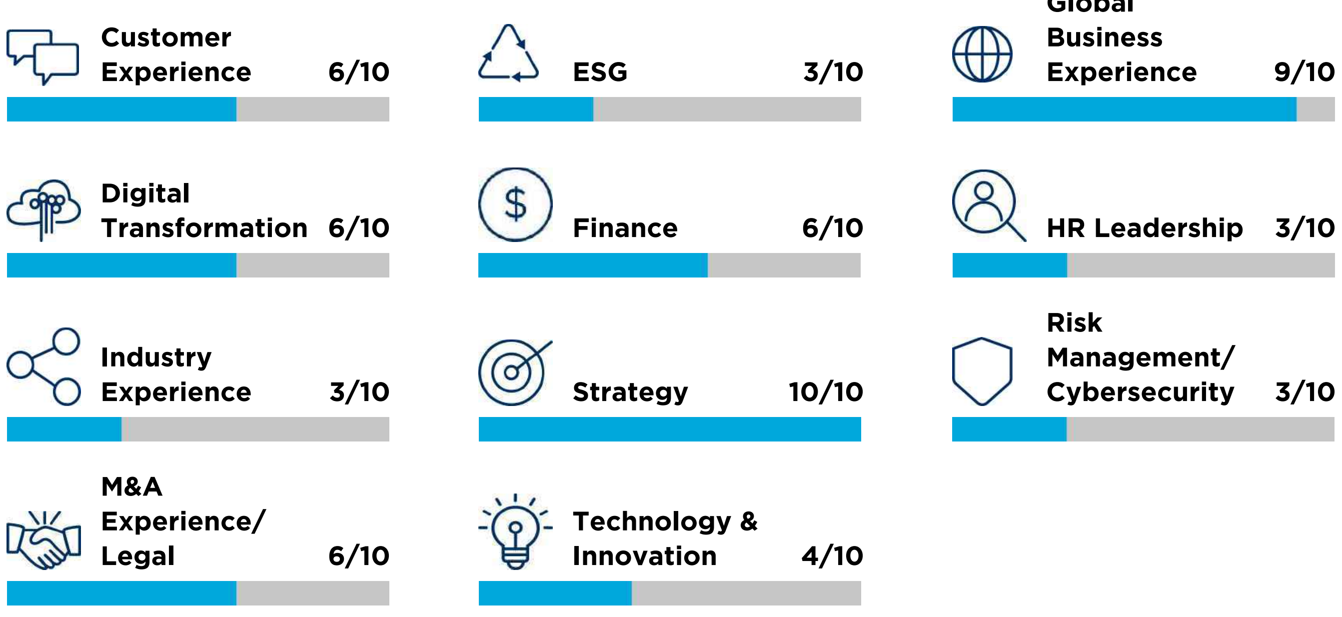
See page 17

The Board unanimously recommends a vote **FOR** each nominee

Board Demographics

Average Age	An Engaged Board of Directors
65.8 years old	**≥90%** attendance rate for 2022 Each director attended more than 90% of Board meetings and standing committee meetings 8 regular Board meetings and 25 standing committee meetings
Tenure	**Independence**
7.1 Average years	**9 of 10** nominees are independent All members of the Audit, Human Resources & Compensation, Nominating & Corporate Governance and Risk & Security committees are independent.

Skills



ITEM 2

Ratify KPMG as Our 2023 Independent Auditor

▶ See page 52

KPMG is an independent firm that provides us with significant industry and financial reporting expertise at reasonable fees. The audit committee annually evaluates KPMG and determined that its retention continues to be in the best interests of Lumen and its shareholders.

The Board unanimously recommends a vote **FOR** this proposal

ITEM 3

Approval of Our Second Amended and Restated 2018 Equity Incentive Plan

▶ See page 57

Key terms of the 2018 Equity Incentive Plan (the "Plan") are aligned with shareholder interests. Lumen cannot make equity awards to employees beyond the remaining allotment under the Plan. Approval of our Second Amended and Restated 2018 Equity Incentive Plan is primarily designed to authorize 2,000,000 additional shares for equity grants. The independent HRCC oversees the Plan, which is reviewed and benchmarked against Lumen's peers with the assistance of an independent compensation consultant.

The Board unanimously recommends a vote **FOR** this proposal

ITEM 4

Advisory Vote on Executive Compensation - "Say-on-Pay"

▶ See page 68

Pay and Performance Alignment

- Executive compensation targeted at the 50th percentile of peers and aligned with short- and long-term business goals and strategy.

✓ The Board unanimously recommends a vote **FOR** this proposal

ITEM 5

Advisory Vote Regarding the Frequency of Our Executive Compensation Votes

See page 133

We believe that say-on-pay votes should be conducted annually so that you may express your views on our executive compensation programs each year. An annual advisory vote is consistent with our policy of regularly seeking input from you on corporate governance and executive compensation matters.

The Board unanimously recommends that you vote to hold an advisory vote on executive compensation **EVERY YEAR**.

Leadership Transition

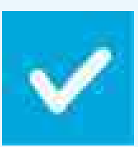
On April 4, 2022, the Company welcomed our new Chief Financial Officer ("CFO"), Chris Stansbury. Mr. Stansbury brought more than 30 years of finance leadership experience at multinational corporations across several industries during his distinguished career, having served most recently as Chief Financial Officer of Arrow Electronics, Inc., one of the world's largest providers of technology products, services and solutions.

On November 7, 2022, the Company welcomed our new President and Chief Executive Officer ("CEO") and member of the Board of Directors, Kate Johnson, following an extensive search process. Ms. Johnson is an extraordinary leader and a technology expert with a distinguished career, having served most recently as President of Microsoft U.S., a division of Microsoft Corporation.

Ms. Johnson succeeded Jeff Storey who retired as CEO and a member of the Board and served as Special Advisor to the Board and CEO through December 31, 2022 to assure continuity during the management transition.

ITEM 1

Election of Directors



Lumen's mission is to further human progress through technology. We believe that strong corporate governance is key to achieving our mission.

Following the NCG Committee's recommendation, the Board of Directors has nominated the 10 nominees below for a one-year term expiring at our 2024 annual meeting of shareholders, or until his or her successor is duly elected and qualified. All of the nominees with the exception of Kate Johnson were elected to the Board at the 2022 annual meeting.

To be elected, each of the 10 nominees must receive an affirmative vote of a majority of the votes cast in the director's election. Any director failing to receive a majority of votes cast must promptly tender his or her resignation, which will be addressed by us in the manner described in our Bylaws.

Director Nominees

Quincy L. Allen
Martha Helena Bejar
Peter C. Brown
Kevin P. Chilton
Steven T. "Terry" Clontz
T. Michael Glenn
Kate Johnson
Hal Stanley Jones
Michael Roberts
Laurie Siegel

The Board unanimously recommends a vote **FOR** each of the above named nominees for director.

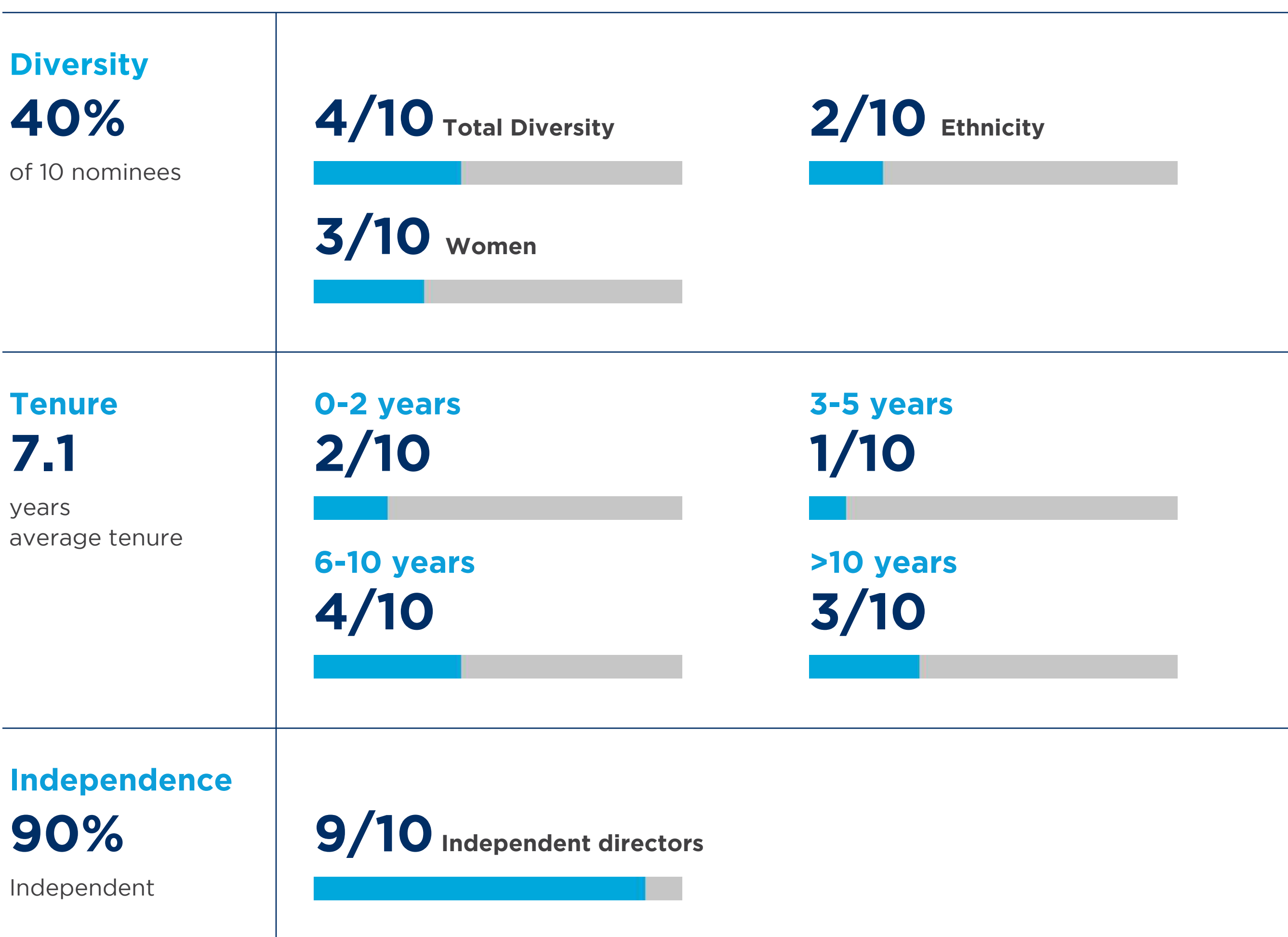
Board of Directors and Governance

Board Composition – Qualifications, Skills and Diversity

Our Board collectively possesses a wide array of skills, experiences and perspectives that we believe strengthen its ability to fulfill its oversight roles in creating and maintaining long-term sustainable shareholder value.

Each year, the Board reviews the skills necessary to effectively discharge its oversight responsibilities. We strive to maintain a well-rounded and diverse Board. Below please find information about our nominees.

Board Nominee Composition


Diversity
40%
of 10 nominees
4/10 Total Diversity
2/10 Ethnicity
3/10 Women
Tenure
7.1
years
average tenure
0-2 years
2/10
3-5 years
1/10
6-10 years
4/10
>10 years
3/10
Independence
90%
Independent
9/10 Independent directors

Skills and Relevance to Lumen’s Strategy

Lumen’s NCG Committee uses a skills matrix as part of the Board’s annual evaluation, succession planning and director nomination process. The goal is to ensure our director nominees collectively possess the relevant skills and backgrounds for the Board to effectively discharge its responsibilities. The skills listed in this matrix only indicate the most prominent skills that our Board relies upon. This matrix is not a comprehensive reflection of the wide variety of skills that our director nominees possess and routinely contribute to Lumen.

Board Skills Matrix

Skills and Qualifications	Allen	Bejar	Brown	Chilton	Clontz	Glenn	Johnson	Jones	Roberts	Siegel
Customer experience Experience in retail and/or consumer services and products. Knowledge of customer segmentation models and influencing behavior in a digital world.	■	■	■			■	■		■	
Digital Transformation Driving and implementing transformation enterprise-wide with a focus on simplification and automation	■		■			■	■	■	■	
ESG Assessing business operations in conjunction with evolving corporate governance and ESG principles.		■		■						■
Finance Significant expertise in corporate finance or financial accounting.	■	■	■	■		■		■		
Global Business Experience Broad leadership experience with multinational companies or in international markets.	■	■	■		■	■	■	■	■	■
HR Leadership Insight into workforce management, diversity and inclusion, compensation design, and culture management.				■					■	■
Industry Experience Prior experience working in the telecommunications or technology sectors.		■			■		■			
M&A Experience Experience navigating growth opportunities, analyzing strategic transactions and negotiating complex transactions.			■	■	■	■		■		■
Risk Management/Cybersecurity Knowledge of the evolving landscape of data security, information technology and enterprise risk management programs.				■	■			■		
Strategy Developing and implementing plans to help achieve long-term objectives.	■	■	■	■	■	■	■	■	■	■
Technology & Innovation Managing technological change and driving technological innovation within an organization.	■	■			■		■			
Black or African American	■									
Hispanic or Latino		■								
White			■	■	■	■	■	■	■	■
Gender (Male/Female)	M	F	M	M	M	M	F	M	M	F
Tenure	2	7	14	6	6	6	1	3	12	14

Our Director Nominees

The first item for consideration at the meeting will be the election of the following 10 nominees:

Director since:
2021

Independent
63 years old

Committees:

- Audit Committee
- Risk and Security Committee

Quincy L. Allen

Experience
Quincy L. Allen has over 35 years of leadership experience in the technology services industry.

IBM Corporation

- Go-To-Market Leader of Cognitive Process Services and Chief Marketing Officer for IBM Cloud (2015 to 2018)

Unisys Corporation, a global information technology company

- Chief Marketing and Strategy Officer (2012 to 2015)

Vertis Communications, a direct marketing and advertising company

- Chief Executive Officer (2009 to 2010)

Xerox Corporation (1982-2009)

- President of the Global Services and Strategic Marketing Group
- President of Production Systems Group

Other Public Company Directorships
Mr. Allen currently also serves on the boards of Office Depot and ABM Industries, Inc.

Skills:

Customer Experience

Digital Transformation

Finance

Global Business Experience

Strategy

Technology & Innovation

Director since:
2016

Independent
60 years old

Committees:

- Human Resources and Compensation Committee
- Nominating and Corporate Governance Committee *(Chair)*

Martha Helena Bejar

Experience

Martha Helena Bejar is a telecommunications expert with innovative experience.

DaGrosa Capital Partners LLC, a private equity firm

- Senior Partner/Advisor (2022 to Present)

Red Bison Advisory Group, LLC, which provides business advisory services

- Co-founder and principal (2014 to 2019)

Unium, Inc., a Wi-Fi technology provider

- Chief Executive Officer (2016 to 2018)

Flow Mobile, Inc., a broadband wireless company

- Chief Executive Officer (2012 to 2015)

Infocrossing, Inc. (a U.S.-based cloud services affiliate of Wipro Limited)

- Chief Executive Officer and Chairperson (2011 to 2012)

Wipro's Information Technology Services affiliate

- President of Worldwide Sales and Operations (2009 to 2011)

Microsoft Corporation

- Corporate Vice President for the communications sector (2007 to 2009)

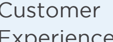
Other

- Prior to 2007, Ms. Bejar held diverse executive sales, operations, engineering and R&D positions at Nortel and Bellsouth/ AT&T.

Other Public Company Directorships

Ms. Bejar currently serves on the boards of CommVault Systems; Sportsman's Warehouse Holdings, Inc.; and Quadient SA (formerly Neopost). In the last five years she served on the boards of Mitel Networks Corporation and Polycom, Inc.

Skills:



Customer Experience

ESG

Finance

Global Business Experience

Industry Experience

Strategy

Technology & Innovation

Director since:
2009

Independent
64 years old

Committees:
- Audit Committee
- Risk and Security Committee

Peter C. Brown

Experience
Peter C. Brown is a business leader with significant, finance, strategy, corporate development, and management experience.

Grassmere Partners, LLC, a private investment firm
- Chairman (2009-present)

AMC Entertainment Inc.
- Chairman and Chief Executive Officer (1999 to 2009)
- Chief Financial Officer (1991 to 1999)

EPR Properties, a NYSE-listed real estate investment trust
- Founder and Chairman of the Board (1997-2000)
- Member of the Audit Committee and Chairman of the Finance Committee (2010 to present)

Other Public Company Directorships
He serves on the board of Cinedigm Corporation where he is Chairman of the Nominating and Audit Committees, and serves on the Compensation Committee.

Skills:

Customer Experience

Digital Transformation

Finance

Global Business Experience

M&A Experience/ Legal

Strategy

Director since:
2017

Independent
68 years old

Committees:
- Audit Committee
- Risk and Security Committee *(Chair)*

Kevin P. Chilton

Experience
Kevin P. Chilton is retired from the U.S. Air Force as a four-star general and contributes considerable cybersecurity, risk management and scientific leadership experience to our Board.

Chilton & Associates, LLC, a consulting company
- President (2011-present)

34-year military career
- Commander, U.S. Strategic Command (2007 to 2011), overseeing the U.S. Department of Defense's nuclear, space and cyberspace operations;
- Commander, U.S. Air Force, Space Command (2006 to 2007)
- NASA astronaut (1987 to 1996), including three space shuttle flights;
- Deputy Program Manager of the International Space Station (1996 to 1998)

Other Public Company Directorships
He serves on the board of AeroJet Rocketdyne and, in the last five years, has served on the boards of Orbital Sciences Corporation and Orbital ATK, Inc.

Skills:

ESG

Finance

HR Leadership

M&A Experience/ Legal

Risk Management/ Cybersecurity

Strategy

Director since:
2017

Independent
72 years old

Committees:
- Human Resources and Compensation Committee
- Nominating and Corporate Governance Committee

Steven T. "Terry" Clontz

Experience

Steven T. "Terry" Clontz is an innovative technology leader with global telecommunications experience developed throughout his career in several executive roles in the telecommunications industry.

StarHub, Ltd., a Singaporean telecommunications company

- Chairman of the Board (2016 to 2022)
- Chief Executive Officer (1999 to 2010)

ST Telemedia Pte. Ltd., a Singaporean investment company specializing in investing in the communications industry

- Senior Executive Vice President (International) (2010 to 2017)
- Corporate Advisor (2018 to present)

IPC Information Systems, a global technology services company headquartered in New York

- Chief Executive Officer, President and Director (1995 to 1998)

BellSouth International, Inc.

- President, Asia-Pacific (1987 to 1995)

Temasek International Advisors Pte. Ltd., a Singaporean investment company

- Corporate Advisor (2010 to 2022)

Other
Mr. Clontz's governance experience includes various positions with other communications companies, including serving as a Board Director of Armor (USA) and chairing the Executive Committee of UMobile (Malaysia).

Other Public Company Directorships

In the last five years, Mr. Clontz served on the board of StarHub Ltd.

Skills:

Global Business Experience

Industry Experience

M&A Experience/ Legal

Risk Management/ Cybersecurity

Strategy

Technology & Innovation

Director since:
2017

Independent
67 years old
Chairman of the Board

Committees:
- Human Resources and Compensation Committee

T. Michael Glenn

Experience

T. Michael Glenn's executive leadership roles bring significant market development, customer, communications, strategic development and operational experience to our Board.

FedEx Corp. (1981 to 2016)

- President and Chief Executive Officer of FedEx Corporate Services and a member of its five-person Executive Committee responsible for developing and implementing strategic business activities
- Executive Vice President of Market Development and Corporate Communications
- Senior Vice President, Worldwide Marketing, Customer Service and Corporate Communications for FedEx Express

Oak Hill Capital Partners, a private equity firm (2017 to 2020)

- Senior Advisor

Other Public Company Directorships

Mr. Glenn currently serves on the board of Pentair PLC.

Skills:

Customer Experience

Digital Transformation

Finance

Global Business Experience

M&A Experience/ Legal

Strategy

Director since:
2022

55 years old

Committees:
- None

Kate Johnson

Experience

Kate Johnson is a seasoned technology innovator with a proven track record of driving business transformation success at several of the world's top Fortune 100 technology companies.

Lumen

- President and Chief Executive Officer (November 2022 to present)

Microsoft Corporation

- President of Microsoft U.S., a division of Microsoft Corporation (2017 to 2021)

GE Digital

- Executive Vice President of GE Digital and Corporate Vice President (2013 to 2017)

Oracle

- Senior Vice President for North America Technology and Government Consulting (2007 to 2013)

Red Hat, a provider of enterprise open source software products

- Vice President of Global Services and Strategic Accounts (2004 to 2007)

Other Public Company Directorships

Ms. Johnson currently serves on the board of United Parcel Service.

Skills:

Customer Experience

Digital Transformation

Global Business Experience

Industry Experience

Strategy

Technology & Innovation

Director since:
2020

Independent
70 years old

Committees:
- Audit Committee
- Risk and Security Committee

Hal Stanley Jones

Experience
Hal Stanley Jones brings significant financial, public accounting and controls experience to our Board.

Graham Holdings (formerly known as the Washington Post Company)
- Chief Financial Officer (2009 to 2013)
- Held various senior level positions at The Washington Post Company (1989 to 2008)

Kaplan Professional, a subsidiary of The Washington Post
- Chief Executive Officer and President (2008 to 2009)

PricewaterhouseCoopers
- Certified Public Accountant (1977 to 1988)

Other Public Company Directorships
He has served on the board of Playa Hotels and Resorts, N.V. since 2013, and it became publicly traded in 2017.

Skills:

Digital Transformation

Finance

Global Business Experience

M&A Experience/ Legal

Risk Management/ Cybersecurity

Strategy

Director since:
2011

Independent
72 years old

Committees:
- Human Resources and Compensation Committee
- Nominating and Corporate Governance Committee

Michael Roberts

Experience
Michael Roberts has Fortune 500 global executive, marketing and customer service expertise.

McDonald's Corporation
- President and Chief Operating Officer (2004 to 2006)
- Chief Executive Officer of McDonald's USA (2004)
- Prior to these roles, held various senior level roles at McDonald's USA (2001 to 2004)

Westside Holdings LLC, a marketing and brand development company
- Founder and Chief Executive Officer (2006 to present)

Other Public Company Directorships
He serves on the board of W. W. Grainger, Inc.

Skills:

Customer Experience

Digital Transformation

Global Business Experience

HR Leadership

Strategy

Director since:
2009

Independent
67 years old

Committees:

- Human Resources and Compensation Committee *(Chair)*
- Nominating and Corporate Governance Committee

Laurie Siegel

Experience

Laurie Siegel is a business advisor with extensive expertise in human capital and executive compensation.

Tyco International

- Senior Vice President of Human Resources and Internal Communication (2003 to 2012)

Honeywell International, Inc.

- Held various senior level positions (1994 to 2002)

LAS Advisory Services, a business and human resources consultancy

- Founder and Principal since 2012

G100

- Chairman (Talent Consortium) (2013 to 2023)
- Senior Advisor (current)

Other Public Company Directorships

She serves on the board of FactSet Research Systems, Inc. In the last five years she served on the boards of California Resources Corporation and Volt Information Sciences, Inc.

Skills:

ESG

Global Business Experience

HR Leadership

M&A Experience/ Legal

Strategy

How Our Board is Evaluated and Selected

Evaluations

Our NCG Committee leads an annual evaluation of our Board, its members and committees, and the Board periodically assesses whether it has the skills, processes, structure, and policies necessary to attain its goals and fulfill its responsibilities. While the NCG Committee's formal evaluation is conducted on an annual basis, directors share their perspectives and suggestions throughout the year. The NCG Committee uses this ongoing and annual feedback when considering Board composition, Board refreshment, and other governance issues, and in connection with nominating directors to be elected to the Board. The NCG Committee periodically engages nationally recognized firms to assist it with the design and implementation of its director evaluation and selection processes.

Nomination

In considering director nominees, the NCG Committee reviews candidates suggested by our directors, executive officers or shareholders who comply with our Bylaws. A shareholder or group of up to 10 shareholders owning 3% or more of Lumen's outstanding common stock continuously for at least three years can nominate director candidates constituting up to 20% of the Board and include these nominations in our annual meeting proxy materials. From time to time, the NCG Committee engages a third-party search firm to assist in identifying and evaluating qualified candidates.

The NCG Committee assesses each director candidate based on his or her skills, judgment, character, independence, diversity, and experience in the context of the needs of the Board. Potential conflicts and overboarding are also evaluated. When evaluating candidates for nomination as new directors, the NCG Committee considers (and asks any search firm that it engages to provide) a pool of candidates that includes women and individuals from diverse backgrounds, in accordance with the "Rooney Rule" the Board adopted in 2019.

What is the Rooney Rule?

The Rooney Rule is named after former Pittsburgh Steelers owner Dan Rooney and was adopted in the National Football League in 2003 requiring teams to interview ethnic-minority candidates for head coaching jobs. As applied at Lumen, the rule requires us to consider at least one woman and one underrepresented minority in the slate of candidates for open Board seats.

Our Corporate Governance Guidelines also establish a target average director tenure of no more than ten years, set a goal of all Board members (except our CEO) being independent and express the Board's general sense that no director should be age 75 or older prior to the next annual shareholders meeting. No director may serve on more than three other unaffiliated public company boards, unless this prohibition is waived by the Board. The NCG Committee may, but has not formally chosen to, establish additional qualifications. The NCG Committee and the Board also evaluate on a periodic basis the effectiveness of its nominating processes and procedures.

1. SUCCESSION PLANNING

The NCG Committee meets with the CEO to discuss the Company's long-term strategy and what skills (if any) are missing from the Board to best complement that strategy.

2. IDENTIFICATION OF CANDIDATES

In the event of an open seat or skill gap, the NCG Committee engages in a search process, which typically includes the use of an independent search firm. The NCG Committee, the Chairman of the Board, the CEO, and search firm will put together a candidate profile to identify candidates' skills, experience, and background that best align with the Company's strategy.

3. INTERVIEWING CANDIDATES

The NCG Committee forms a search committee that is comprised of the Chairman of the Board, the HRCC and NCG Committee chairs, and the CEO who will request to interview with a diverse slate of candidates that best fit the profile. The candidates are initially interviewed remotely by the search committee members and if selected to advance, with the NCG Committee members in-person.

4. DECISION AND NOMINATION

After the NCG Committee determines that the director candidates are the best fit for the Company and its shareholders, the NCG Committee will recommend them to the Board for approval. Following Board approval, the director candidates are appointed to the Board, will complete an onboarding process, and will stand for election by shareholders at the next annual meeting.

5. ELECTION

The shareholders consider the nominees and elect directors by majority vote to serve one-year terms.

6. ONGOING ASSESSMENT

The NCG Committee continuously assesses the composition of the Board to maintain alignment with the Company's evolving corporate strategy. This includes a periodic review of the contributions by each director; the skills, experiences and diversity represented on the Board; and the results of previous shareholder votes.

Education and Orientation

We encourage our directors to participate in continuing education programs focused on our business and industry, their committee roles and responsibilities and the legal and ethical responsibilities of directors. We reimburse our directors for the costs of these programs. We also provide continuing director education during Board and committee meetings and other Board discussions. From time to time, these include presentations from third parties.

Additionally, we encourage our directors to participate in nationally recognized governance organizations, including the National Association of Corporate Directors ("NACD") and G100.

New directors participate in an orientation program that familiarizes them with the Company's business, operations, strategies and corporate governance practices and assists them in developing Company and

industry knowledge to optimize their service on the Board. New directors also attend meetings with members of our management team to expedite their ability to effectively and fully discharge their responsibilities.

Over the course of 2022, our Board collectively attended a combination of over 108 continuing education webinars and seminars covering an extensive list of topics ranging from board committee effectiveness, cybersecurity, and ESG, to human capital management and SOX controls.

Independence

All directors other than our CEO are independent and the Board regularly meets in executive sessions with only the independent directors. Each year and prior to nominating a new director, the Board evaluates and affirmatively determines each director nominee's independence using standards required by the SEC, NYSE and our Corporate Governance Guidelines. Annually, each director nominee completes a detailed questionnaire that solicits information about relationships that could have an impact on independence. Our management delivers reports on those relationships to the NCG and Audit Committees. Both the NCG and Audit Committees evaluate the reports from management and consider any other factors which could influence a nominee's independence. In connection with the meeting, the Board also weighed the potential impact of tenure on the independence of our longest-serving directors, Messrs. Brown and Roberts, and Ms. Siegel. The Board noted that these directors possess significant experience serving at Lumen under different operating environments, management teams and financial market cycles, and have served on the Board under three consecutive CEOs. The Board further concluded that each of these directors (i) are effective directors who fulfill their responsibilities with integrity and independence of thought, (ii) appropriately challenge management and the status quo, and (iii) are reasoned, balanced, and thoughtful in Board deliberations and in communications with management. The Board ultimately determined that none of these long-tenured directors' independence from management has been diminished by their years of service. During their reviews, the NCG and Audit Committees consider transactions and relationships between the Company, its subsidiaries or affiliates and any directors, executive officers, their immediate family members or an entity in which any of the foregoing have a significant interest. Both the NCG and Audit Committee chairs make reports on these independence evaluations to the Board. In early 2023, the Board reviewed all relationships between the Company and each director and affirmatively determined that all of our director nominees are independent other than Ms. Johnson, our CEO.

Refreshment

Board and committee refreshment are regularly reviewed by our NCG Committee. Our Board periodically receives recommendations from the NCG Committee about possible changes designed to staff the Board and its committees with individuals who have the skills, experiences and perspectives necessary to make meaningful contributions to shaping and implementing Lumen's business strategies.

In 2022 and for our 2023 slate of nominees, the NCG Committee and Board considered a wide range of factors in assessing the composition of the Board, including:

- shareholder input on important elements of Board composition;
- skill sets necessary to oversee the successful development and implementation of our business strategies, including our continued evolution to a digital technology company offering a simpler and improved customer experience;
- balancing fresh, diverse perspectives with institutional and industry knowledge;
- current and long-term needs of the Board; and
- independence and potential conflicts.

6 New Independent Directors Added Since 2017

6

added Strategy experience

5

added Global Business experience

4

added Digital Transformation, Finance, and M&A experience

Recent Board Changes

We have made a concerted effort over the past couple years to refresh and refocus our Board.

At the 2023 annual meeting, our current Vice Chairman, W. Bruce Hanks, will retire from the Board. Mr. Hanks has served as a director since 1992.

In November 2022, Jeffrey K. Storey retired from the Board, and our new President and CEO Kate Johnson joined the Board.

At the 2021 annual meeting, Virginia Boulet retired from the Board, capping 26 years of service as a director. Effective February 25, 2021, we added Quincy L. Allen to the Board following a robust national search.

We remain actively focused on taking additional steps designed to ensure that our Board continues to be staffed with a collection of individuals meeting our objectives.

How Our Board is Organized

Board Leadership Structure

The NCG Committee periodically reviews the Board's leadership structure and, when appropriate, recommends changes, taking into consideration the needs of the Board and the Company at the time. Since 2009, we have elected a non-executive chairman.

Mr. Glenn has served as Lumen's independent, non-executive Chairman since May 2020. As Chairman, Mr. Glenn presides over meetings of the Board, oversees the management, development and functioning of the Board and performs any additional duties the Board may identify.

We believe that separation of the Chairman and CEO positions has functioned effectively over the past several years. Separating these positions has allowed our CEO to have primary responsibility for the operational leadership and strategic direction of our business, while allowing our Chairman to lead the Board in its fundamental role of providing guidance to and separate oversight of management.

As noted in our Corporate Governance Guidelines, it is the sense of the Board that the Chairman of the Board and the chairs of our committees should rotate approximately every five years.

Since 2004, the Board has also elected a non-executive Vice Chairman each year. The Board currently has no plans to select a successor Vice Chairman when our current Vice Chairman, W. Bruce Hanks, retires at the 2023 annual meeting.

Board Committees

Each of our four standing Board committees supports the full Board with various risk management, governance and strategic responsibilities.

AUDIT COMMITTEE*

Meetings in 2022: 8

See **"Audit—Audit Committee Report"** below for additional information.

Key Responsibilities

- Oversees the Company's system of financial reporting
- Reviews and discusses our major financial risks, including matters potentially impacting financial reporting, with management, our internal auditors and our independent auditors
- Assists the Board in fulfilling its oversight responsibilities relating to the adequacy and effectiveness of
  - our internal controls over financial reporting,
  - our internal controls regarding information technology security and
  - our disclosure controls and procedures
- Monitors the qualifications, independence and performance of Lumen's independent auditors

* Each member is an "audit committee financial expert"

Q1

- Report on 2021 Financial Statements
- Review of Related Party Transactions
- Report from KPMG
- Report from Internal Audit/SOX
- Annual Pension Accounting and Reporting Update
- Litigation Update

Q2

- Report on First Quarter 2022
- Report from KPMG
- Report from Internal Audit/SOX
- Litigation Update
- Review of SEC Draft Rules on Cybersecurity and Climate

Q3

- Report on Second Quarter 2022
- Report from KPMG
- Report from Internal Audit/SOX
- Litigation Update
- Compliance with Debt Covenants
- Review Committee Self-Evaluation Criteria

Q4

- Report on Third Quarter 2022
- Report from KPMG
- Report from Internal Audit/SOX
- Litigation Update
- Corporate Real Estate Update
- Review of Committee Charter

HUMAN RESOURCES AND COMPENSATION COMMITTEE

Meetings in 2022: 9

See **"CD&A"** below for additional information.

Key Responsibilities

- Establishes executive compensation strategy
- Oversees design and administration of equity incentive plans
- Oversees human capital strategy, including diversity and inclusion and talent recruiting, development and retention
- Oversees, in consultation with management, our compliance with regulations governing executive and director compensation
- Monitors compensation, labor relations, and workforce risk

Q1

- Final Review and Approval of Performance for 2021 STI
- Discussion of Performance for Outstanding LTI Programs
- Approval of 2022 Incentive Design Plan
- Approval of 2022 Delegated Authority Under LTI Program
- Approval of 2021 STI and 2022 Compensation for Senior Officers
- Initial Review of 2022 Proxy Disclosures

Q2

- Discussion of Q1 2022 Incentive Performance
- Review and Discussion of Proposed Retention Program
- Review and Approval of Outside Director Compensation
- Review and Discussion of 2022 Proxy Advisor Reports and Executive Pay Developments
- Review of Engagement Survey Results
- Review of Human Resources Risks
- Review of 2022 Shareholder Engagement

Q3

- Review and Discussion of Q2 2022 Incentive Performance
- Review and Approval of Peer Group for Officer Compensation Benchmarking
- Initial Discussion of 2023 Incentive Programs
- Review and Approval of Form LTI Award Agreements
- Review Committee Self-Evaluation Criteria
- C-Suite Talent Discussion

Q4

- Review and Discussion of Q3 2022 Incentive Performance
- Review and Discussion of Share Pool Projections
- Discussion of 2023 Incentive Programs
- Review of Projected 2022 Compensation for Senior Leadership Team
- Discussion of Talent and Approval of Compensation Actions
- Review of Committee Charter

NOMINATING AND CORPORATE GOVERNANCE COMMITTEE

Meetings in 2022: 4

Key Responsibilities

- Recommends to the Board nominees to serve as directors and officers
- Oversees CEO's annual performance evaluation
- Oversees the development and implementation of our ESG strategies
- Oversees and recommends improvements to our governance principles, policies and practices
- Assists the Board in fulfilling its oversight responsibilities with respect to the management of risks associated with the Company's Board leadership structure and corporate governance matters
- Annually leads Board and Committee evaluations
- Evaluates Board composition, skills and director independence
- Reviews political contributions reporting and budget
- Onboards new directors
- Oversees director continuing education
- Evaluates individual directors

Q1

- Discussion and Determination of Independence Status of Directors
- Review and Discuss Board Skills Matrix, Diversity, Independence and Tenure
- Review Board Refreshment and Succession Planning
- Board and Committee Composition and Director Appointment
- Approval of Slate of Directors for Annual Meeting
- Review of Proxy Governance Disclosures
- ESG Quarterly Review

Q2

- Update on Shareholder Engagement Meetings
- Update on Annual Meeting
- Review and Approval of Officer and Committee Slates
- ESG Quarterly Review

Q3

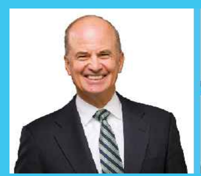
- ESQ Quarterly Review
- Review Board and Committee Self-Evaluation Criteria
- CEO Succession Planning
- CEO Evaluation

Q4

- Report on Shareholder Engagement and Themes
- Board and Committee Self-Evaluation Process and Outcome Report
- ESG Quarterly Review
- Charter and Corporate Governance Guidelines Review

RISK AND SECURITY COMMITTEE

Meetings in 2022: 4



Key Responsibilities

- Assists the Board in fulfilling its oversight responsibilities with respect to, among others:
  - risks posed by cyberattacks or other casualty events
  - risks related to network reliability, privacy and regulations
  - other key enterprise or operational risks as jointly determined by the Committee and management
  - insurance program reviews
- Oversees our classified activities and facilities through a subcommittee
- Oversees our corporate ethics and compliance and enterprise risk management ("ERM") programs and activities
- Receives periodic reports on various risk exposures. These include quarterly reports on cybersecurity, which typically include reports on recent cyber intrusions, mitigation steps taken in response to those intrusions and ongoing cybersecurity initiatives and periodic reports from outside consultants regarding cyber security
- Coordinates risk oversight functions of other Board committees

Additional information about the responsibilities of our committees is available in the committees' respective charters, which can be obtained on our website: https://www.lumen.com/en-us/about/governance/board-committees.html.

Q1

- ERM Update
- ERM Deep Dive (Various Topics)
- Quarterly Cybersecurity Review
- Corporate Ethics and Compliance Quarterly Review

Q2

- ERM Update
- Quarterly Cybersecurity Review
- Insurance Programs/Environmental Health & Safety
- Business Continuity Management
- Privacy Review
- Corporate Ethics and Compliance Quarterly Review

Q3

- ERM Update
- Quarterly Cybersecurity Review
- Corporate Ethics and Compliance Quarterly Review
- Network Resilience
- Regulatory Developments and Compliance
- Review Committee Self-Evaluation Criteria

Q4

- ERM Update
- Annual Assessment of Most Critical Enterprise Risks
- Quarterly Cybersecurity Review
- Corporate Ethics and Compliance Quarterly Review
- Privacy Review
- Review of Committee Charter

Director Meeting Attendance

Directors are expected to attend all Board meetings, meetings of committees on which they serve and the annual shareholders meeting. All then current directors attended our 2022 annual meeting. During 2022 there were four regular and four special meetings of the Board, as well as 25 standing committee meetings. Each director attended more than 90% of the total number of the 2022 Board and the respective committee meetings on which he or she served. During 2022, our independent directors met in executive session on a quarterly basis, led by our Chairman.

Our Board's Responsibilities & Engagement

Martha Helena Bejar

Nominating and Corporate Governance Committee Chair

"In 2022, our Board focused a great deal of attention on succession planning, ESG initiatives, and shareholder engagement efforts.   A special subcommittee of the Board comprised of our Board Chair, and Audit, HRCC, and NGC Committee chairs spearheaded efforts to identify and appoint Lumen's new CEO, Kate Johnson, in November 2022. The NCG Committee in partnership with the Board continued our focus in 2022 on the Company's ESG initiatives and disclosures, working to support management's efforts to enhance the Company's ESG initiatives and communications. Our Board Chair and HRCC and NCG Committee chairs also devoted considerable time towards the Company's shareholder engagement efforts to better understand the expectations and concerns of shareholders and identify areas for improvement"

Our Board and its committees collectively oversee our business and management's development and implementation of our strategies through regular meetings and communications with Lumen's executive team. We believe our governance policies and practices provide a transparent framework for effective governance and compliance with SEC and NYSE requirements. The Board continually reviews our governance practices for alignment with best practices and stakeholder interests and acts to enhance our ability to oversee the execution of strategies that drive value for Lumen, our customers, employees and shareholders. Our Corporate Governance Guidelines, along with other governance documents, including our Code of Conduct, Bylaws and other governance policies are available on our website: lumen.com/en-us/about/governance/documentation.html

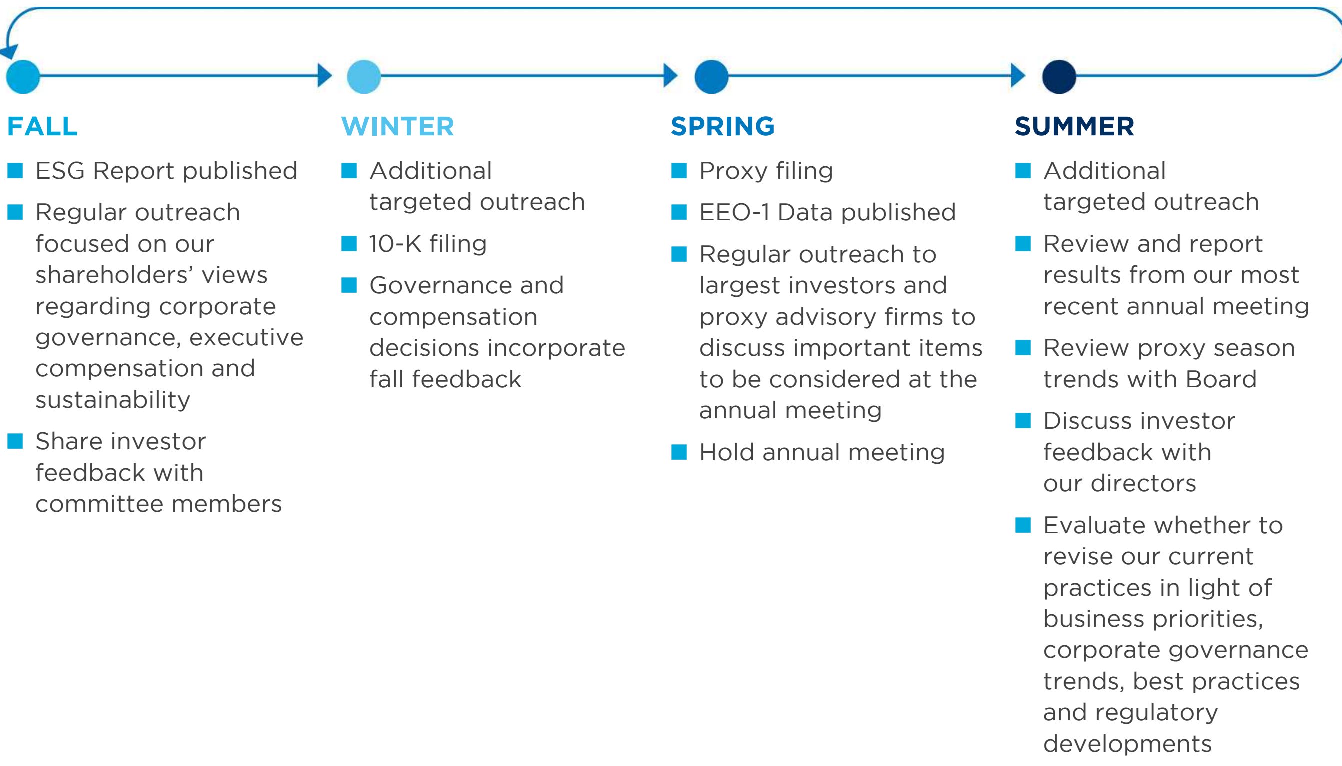
Key Responsibilities of The Board

In addition to the responsibilities handled by its committees, the Board believes its key responsibilities include:

Shareholder Engagement	Oversight of Strategy	Succession Planning	Oversight of Risk	Oversight of ESG
■ Members of management and the Board engage on a year-round basis with holders of our equity and debt securities, as well as proxy advisory firms and ESG rating firms, among others.	■ Our Board regularly engages in active discussions with management to formulate and implement appropriate strategies for the Company and each of its business segments. ■ In addition to regular Board and committee meetings, the Board participates in an annual in- depth dedicated review of the Company's overall strategy with our management team.	■ The Board oversees succession planning for members of our senior leadership team, including the CEO, and monitors the performance of each member of such team.	■ The Board, along with its committees, reviews and oversees Lumen's risk management processes. ■ The Board also works with management to assess our key short-and long-term risks and mitigation efforts.	■ The Board and the NCG Committee, in conjunction with designated management teams periodically evaluate our ESG programs and seek to identify meaningful opportunities to enhance our programs. ■ The Board strives to set an appropriate "tone at the top" stressing a positive corporate culture.

Shareholder Engagement

The Board believes that input from shareholders is a critical component in our efforts to continually enhance our governance practices and maximize long-term shareholder value. As illustrated below, members of management and the Board engage on a year-round basis with holders of our equity and debt securities, as well as proxy advisory firms and ESG rating firms, among others.



By the Numbers: Shareholder Engagement in 2022

Reached out to **Top 30 shareholders,** representing 60% of shares outstanding

Held **14 meetings with shareholders** representing 17.4% of shares outstanding

Also reached out to **Proxy Advisory Firms** during Fall engagement

A combination of our Chair of the Board, our HRCC Chair and our NCG Committee Chair participated in 11 out of 14 meetings with shareholders representing 16.3% of shares outstanding

These efforts complement management's outreach through participation by our CEO, CFO and other senior leaders in investor conferences in the U.S. and abroad, and through regular investor dialogue conducted by our Investor Relations department. In 2022, our Investor Relations department led over 800 meetings with over 250 equity shareholders representing approximately 35 percent of our shares outstanding, and 200 debtholders. We believe these Investor Relations-led engagements help build strong relationships and goodwill with the analyst and investor community. Some of our investor presentations are made available in the Investor Events section of Lumen's corporate website at ir.lumen.com.

Board Responsiveness

Our Board is committed to constructive engagement and dialogue with our investors. We regularly evaluate and respond to the views expressed by our shareholders. This dialogue has led to enhancements in our corporate governance, environmental and social, and executive compensation activities that the Board believes are in the best interests of Lumen and our shareholders.

Our 2022 Investor Engagement Team	■ Board Chairman ■ Chair, HRCC Committee ■ Chair, NCG Committee ■ Executive Vice President, Human Resources	■ Senior Vice President, Investor Relations ■ Chief Diversity and Inclusion Officer ■ Senior Vice President, Treasurer ■ Vice President, Deputy General Counsel, Corporate Governance & Transactions
Topics Discussed	■ Long-Term Incentive (LTI) Framework ■ Short-Term Incentive (STI) Framework ■ Pay for Performance Alignment ■ Board Diversity and Refreshment ■ Governance Practices ■ ESG	■ Human Capital Resources ■ Succession Planning ■ Corporate Communications ■ Capital Allocation and Growth Strategy ■ EEO-1 Data Disclosure ■ Cybersecurity
What We Learned	■ Investors were interested in learning more about Lumen's growth strategy, long-term strategic plan, capital allocation, and governance ■ Investors were interested in learning more about Lumen's climate action plan and the impact our 2022 divestitures will have on our plan to set new science based targets ■ Investors wanted to learn more about succession planning and what went into the search and selection of Ms. Johnson as the new CEO	■ Investors expressed a desire to see distinct metrics for STI and LTI ■ Investors asked about Board discussions around ethnic/gender diversity and indicated they like to see 30% gender diversity on the Board.

Communications to the Board

Communication with shareholders and other interested parties is an important part of the governance process. Any shareholder or other stakeholder who wishes to contact the Board, the Chairman or any Director can send correspondence to:

Write: P.O. Box 5061; Monroe, Louisiana 71211

Email: boardinquiries@lumen.com

BOARD ACTS ON STAKEHOLDER FEEDBACK RECEIVED THROUGHOUT THE YEAR

The chart below summarizes engagement topics discussed and governance actions taken over the past couple years in response to specific shareholder feedback or voting guidelines published by our shareholders or proxy advisors.

Shareholder Engagement Topics – 2019 to 2022

- Capital Allocation and Growth Strategy
- Long-Term Incentive (LTI) Framework
- Short-Term Incentive (STI) Framework
- Pay for Performance Alignment
- Board Diversity
- Governance Practices ESG
- Human Capital Resources
- Board Refreshment
- COVID-19
- Pandemic Response
- EEO-1 Data Disclosure
- Cybersecurity
- Succession Planning
- Climate Action Plan
- Corporate Communications

Actions taken in response to shareholder input

2020 to 2022

- No Changes to 2020 or 2021 compensation program design – despite COVID-19
- Rotated NCG Committee Chair at 2020 annual meeting
- Reduced average Board tenure
- Independent Chairman named at 2020 annual meeting
- All non-CEO directors independent since 2020 annual meeting
- Commitment to ongoing publication of EEO-1 Data on Sustainability webpage beginning in April 2022
- Formation of Sustainability Management Committee
- LTI - added Relative TSR performance metric

Increased disclosure for:

- Board diversity
- Cyber security/ data privacy
- Human capital management
- ESG
- Incentive design rationale
- Rigorous goal setting process

2019 to 2020

- "Rooney Rule" – adopted for director searches
- Board Tenure – commitment to lower overall average years of service
- NCG Committee Oversight – clarified political contributions and lobbying policies
- STI – added Revenue weighted at 15%
- STI – added a discretionary 20% cap on Individual Performance Modifier for Named Executive Officers
- Goal Rigor – supplemental disclosures to explain the compelling business rationale for our incentive compensation performance targets
- CEO Pay – expanded "realized" and "realizable" pay disclosure
- LTI Performance Period – returned to 3 yr. cumulative goals
- LTI – added Relative TSR modifier
- No one-time awards

Long-Term Strategic Planning

To ensure that our business strategies create long-term, sustainable value for our shareholders, our Board regularly engages in active discussions with management to formulate and implement appropriate strategies for the Company and each of its business segments. The Board and management routinely discuss key initiatives, potentially transformative technologies, innovation, culture and corporate governance opportunities focused on driving long-term value. During 2022, this collaboration targeted (1) developing new revenue streams; (2) enhancing and scaling capabilities to establish market leadership; (3) managing costs primarily through digitalizing and automating our operations; (4) maximizing cash and encouraging customer migrations to our growth products; and (5) increasing margins through select price increases. In addition to regular Board and committee meetings, which include presentations and discussions of strategic and tactical initiatives, the Board participates in an annual in-depth dedicated review of the Company's overall strategy with our management team. The Board and our management team discuss the industry and competitive landscapes, short and long-term plans, capital allocation strategies and other mission-critical topics.

4

special meetings in 2022 to discuss strategic topics.

CEO and Executive Succession Planning

The Board and management recognize the importance of continuously developing our executive talent, identifying potential outside candidates and preparing for emergency situations. Our HRCC, along with management, conducts periodic talent reviews that include succession plans for our senior leadership positions, including 360° peer reviews conducted by the NCG Committee. In 2018, the NCG Committee engaged a nationally recognized third-party consultant to develop a comprehensive executive management succession planning strategy and since then Lumen has retained the same consultant to continue to advise the Board and the company's leadership with the following objectives:

- View succession planning as an ongoing process, not an "event"
- Develop a succession plan for different scenarios (emergency, accelerated and orderly)
- Link succession planning to strategy by creating a CEO profile that focuses on what is most needed to lead Lumen now and in the future
- Understand the external market of CEO-ready talent and regularly update this understanding and benchmark data
- Assess the readiness of current key Lumen executives to assume the CEO and other top positions and Lumen's plans and timeframes for addressing any gaps in readiness
- Ensure that key Lumen executives have clear and actionable development plans, including detailed coaching for key executives and establish a regular and transparent process for leadership and the Board to track progress against development goals as needed

2018

- Initiated our engagement with an independent consulting firm regarding succession planning efforts
- Developed CEO success profile
- Began assessment of key Lumen executives

2019

- Approved an emergency succession plan and related communications plan
- Completed assessment of key Lumen executives
- Created development plans for key Lumen executives
- Identified and reviewed potential external CEO candidates

2020

- Refreshed and reviewed potential external CEO candidates
- Implemented actionable development plans, including detailed coaching, for key Lumen executives

2021

- Continued to work with independent consulting firm to refine our internal and external development processes
- Received feedback from CEO regarding senior leadership team

2022

- Completed CEO succession plan; Ms. Johnson succeeded Mr. Storey on November 7, 2022
- Completed CFO succession plan; Mr. Stansbury succeeded Mr. Dev on April 4, 2022

For additional information regarding our CEO and CFO succession plan, please see “Compensation Discussion & Analysis – Section one – CEO and CFO Succession”.

Risk Oversight

BOARD OF DIRECTORS

Audit Committee	Human Resources and Compensation Committee	Nominating and Corporate Governance Committee	Risk and Security Committee
■ Internal Controls over Financial Reporting (Quarterly) ■ Risk Factors included in periodic reports (Annual with Quarterly Reviews) ■ Investment Risk related to Treasury Activities (As Needed) ■ Debt Covenant Compliance Risk (Annually)	■ Executive Compensation (Quarterly) ■ Human Capital Strategy (Quarterly) ■ Workforce related risks (Quarterly)	■ ESG (Quarterly) ■ Political Contributions (Annually) ■ Independence of Directors and Board Committees (Annually)	■ Enterprise Risk Management (Quarterly) ■ Cybersecurity (Quarterly) ■ Ethics and Compliance (Quarterly) ■ Data Privacy (Biannually)

MANAGEMENT

- Under our ERM program, management develops a response plan for prioritized risks, as well as monitoring and mitigation plans for other identified risk focus areas.
- Management provides regular reports on our key risks and risk mitigation strategies to the Risk and Security Committee, and assists other Committees in monitoring the risks for which they are responsible.
- Committees report on risk issues to the full Board.

ENTERPRISE RISK MANAGEMENT (ERM) PROGRAM

Assess

- The ERM process involves an annual enterprise risks assessment based around 40 key financial, compliance, operational and strategic risks facing the company. This assessment process is facilitated by Internal Audit in collaboration with the Ethics & Compliance team within the legal department and involves interviews with executives across business functions, and consideration of other factors such as the external environmental and the history of previous issues which could indicate a relatively higher or lower risk in a particular area.
- The results of the assessment are presented by Internal Audit to the senior leaders, the Audit Committee and the Risk and Security Committee in order to define the most critical risks (typically six to eight) which the Board and management believe warrant more detailed and frequent monitoring throughout the year.
- Internal Audit also uses the results of this Enterprise Risk Assessment to determine key focus areas within the Internal Audit plan for the upcoming year and performs a quarterly update to the risk assessment to identify any changes potentially requiring a Board or Internal Audit response.

Monitor

- For each of the six to eight critical ERM risks we identify executive risk owners who are responsible for defining key risk indicators, metrics and targets to indicate how effectively the respective risk is being managed.
- On an annual basis each risk owner presents a deep-dive assessment to the Risk & Security Committee explaining their quantitative measures, goals and plans for the upcoming year.
- On a quarterly basis Internal Audit works with each executive risk owner to update these indicators, identify any divergence from goals and note actions taken and planned. The risk owners assign an overall color and trend to indicate their overall assessment of their management of that risk. The resulting dashboard and detail for these ERM risks is presented to the Risk & Security Committee at each quarterly meeting.
- Each Committee regularly reports to the full Board regarding its risk oversight functions.

Align

- The results of the Annual Enterprise Risk Assessment are compared to both the Risk Factors disclosed in the company's annual report (10-K) and against the charters and agendas for the Board Committees to ensure alignment between the Company's assessment, external disclosures and coverage by the Board of the respective key risks. We believe this combination of annual and quarterly review by the Board Committees, along with the ability of the Board to call upon risk owners at any time as required, allows the Board to effectively exercise its oversight function over key risks to Lumen.

Oversight of Cybersecurity Risks	As a technology and communications company that enables global transmission of large amounts of information over our networks, maintaining the security and integrity of information and systems under our control is a priority among our operational risk management efforts. We view cybersecurity risk as an enterprise-wide risk, subject to control and monitoring at various levels of management throughout the Company. The Risk and Security Committee and its Chair review Cybersecurity and Data Privacy quarterly and such topics of review include: ■ risk assessments from information security, privacy and internal audit management teams with respect to cybersecurity, including the adequacy and effectiveness of the Company's internal controls regarding cybersecurity, ■ emerging cybersecurity developments and threats and ■ the Company's strategy to mitigate cybersecurity risks, such as our contingency plans in the event of security breaches or other system disruptions and cyber insurance coverage. To assess and mitigate cybersecurity risk, we have implemented a global information security management program that includes administrative, technical and physical safeguards and we periodically engage both internal and external auditors and consultants to assess and enhance our program, all of which is subject to oversight by and reporting to the Risk and Security Committee. We engage independent external auditors and consultants who are fully accredited under various information security standards, including those administered by the International Organization for Standardization and the PCI Security Council. Since 2021, Lumen has maintained a Security & Privacy Council that meets on a bi-monthly basis. The meetings are led by Lumen's Chief Privacy Officer and Chief Security Officer who provide organization level updates and also invite other presenters to provide updates on emerging threats and other topical issues.
Oversight of Data Privacy Risks	In addition to securing our network, we also take steps to protect the content of information Lumen collects, stores, uses and shares. Employee and customer information is encrypted, consistent with industry standards or legal requirements, both at rest and in transmission. We have adopted a data minimization policy designed to comply with and detect breaches of applicable laws and provide appropriate protections when sharing information with third parties, including vendors. We maintain other plans or programs to manage our data privacy risks, including a privacy policy and a cyber incident response plan. As part of the ERM process, the Risk and Security Committee receives reports on data privacy protection efforts and controls across the enterprise.
Oversight of Political Contributions Risks	Our Board and NCG Committee oversee our political initiatives and annually review Lumen's political and lobbying activities and related budgets. We strive to advocate public policy solutions that best serve our stakeholders. Our semi-annual Political Contributions Reports provide transparency in this process, demonstrating ethical corporate governance and promoting confidence in the democratic process. Specifically, our Reports disclose our corporate political contributions and those of our political action committees in accordance with applicable federal and state campaign finance laws and contributions to trade associations and 501(c) (4) organizations. Although not part of this proxy statement, our most recent Political Contributions Reports can be located on our website at lumen.com.

Oversight of Human Capital Management Risks	Our highly competitive business requires skilled and motivated employees and leaders with the necessary expertise to execute our innovation, efficiency and transformation strategies. Developing and retaining top talent is a priority. The Board regularly discusses with management Lumen's continuous efforts to attract and retain the caliber of employee with the type of knowledge and skills necessary to realize our goals. Both our directors and management set a "tone at the top" through: ■ regularly meeting with our most senior human resources executive to discuss culture, talent strategy and leadership development and staying ahead of market trends by identifying early the skills needed for our future; ■ designing strategies to support diversity, inclusion and belonging programs; and ■ designing strategies to bridge any gaps in our succession plans by cultivating our in-house talent or engaging third parties.
Oversight of Finance Risks	Our Audit Committee is primarily responsible for assisting the Board in its oversight of financial risks. In performing this function, the Audit Committee monitors our capital needs and financing plans and oversees our strategy for managing interest rate and currency risk. The Audit Committee monitors compliance with debt covenants in our financial instruments, including those that require us or our subsidiaries to comply with certain maximum levels of leverage and minimum levels of interest coverage. The Audit Committee also periodically reviews our pension and other postretirement benefit obligations.
Oversight of Other Risks and Information	Our Board committees oversee certain other risks specified in the preceding section "— Board Committees," and our Board and committees further oversee the ESG program and other risks discussed under the heading "ESG Sustainability Leadership" below.

ESG Sustainability Leadership

BOARD OF DIRECTORS

The Board and respective Committees, in conjunction with designated management teams, periodically evaluate our ESG programs and seek to identify meaningful opportunities to enhance our programs.

Nominating and Corporate Governance Committee	Audit Committee	Human Resource and Compensation Committee	Risk and Security Committee
Has primary responsibility for ESG oversight with quarterly reviews	Reviews data transparency and reporting	Reviews human capital management	Reviews network reliability and privacy

SENIOR MANAGEMENT

Throughout the year, our CEO and other members of senior management provide leadership and guidance around Lumen's sustainability efforts.

INDEPENDENT EXPERTS

As needed, Lumen partners with external, independent ESG consultants to provide expertise and guidance on topics such as:

- Assessments
- Benchmarking
- Calculations
- Communications
- Strategy
- Verification

SUSTAINABILITY MANAGEMENT COMMITTEE

- Comprised of individuals from across the business including personnel with expertise in corporate communications, customer experience, data security and privacy, diversity, inclusion and belonging, environmental, government relations, human resources, internal audit, investor relations, legal, and sourcing/procurement, amongst other fields
- Designs and oversees our sustainability program
- Meets both before and after each meeting of the Nominating and Corporate Governance Committee to prepare for such meetings and to report on ESG outcomes and action items from the meetings

Sustainability Initiatives

We believe our commitment to sustainability promotes the financial health of our business, the quality of service we provide and value creation for our employees, communities, customers and investors. Over the past couple of years, we have undertaken three assessments designed to enhance our sustainability programs.

In August 2021, Lumen completed its inaugural "materiality assessment," which helped guide how we prioritize our sustainability and ESG initiatives. Working with an independent consultant, we conducted a peer and industry benchmarking review of sustainability topics that are common to the communications and technology industry. We assessed international standards and guidelines, and sought input from a wide range of stakeholders. Based on this 2021 assessment, we concluded that the sustainability issues most important to Lumen's stakeholders, with the most potential to have an impact on Lumen's future business success, were (1) Customer Experience; (2) Cybersecurity and Customer Privacy; (3) Network Resilience and Reliability; (4) Digital Transformation; and (5) Innovation.

In June 2022, Lumen conducted a maturity assessment of our ESG program. We partnered with an independent consultant to assesses Lumen's overall ESG program against a detailed leading practice evaluation framework and benchmarked our program against industry peers. The maturity assessment reviewed several dimensions of ESG performance to identify gaps between leading practice and Lumen's ESG disclosures, rankings, and ratings against industry peers. We used this "gap" analysis to develop a list of short- and long-term opportunities to improve our ESG practices.

Lumen undertook in August 2022, with the help of an independent consultant, a transition risk and opportunity assessment focused on future climate change risks and opportunities in alignment with recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD). This assessment evaluated potential climate-related transition risks and business opportunities arising from the transition towards a low carbon economy. In conducting the assessment, we relied on the assumptions and outputs of climate policy scenarios from the International Energy Agency's (IEA) 2021 World Energy Outlook. Specifically, we relied upon the IEA's Stated Policies Scenario (STEPS) and Sustainable Development Scenario (SDS) because they encompass a broad range of future climate and policy outcomes. We prioritized the assessment's findings by ranking our top transition risks and opportunities, and concluded that our opportunities arising out of climate change outweigh the potential risks.

Lumen believes evaluations such as the above-described materiality assessment, maturity assessment, and transitional risk and opportunity assessment are important tools in helping us to continue to evolve and improve our programs.

Human Capital

We support the passions and interests of our employees and empower them to be a positive influence in the world. We want our employees to be proud to work with us and fully engaged with our efforts to make the world a better place. That means creating a positive culture, in which everyone feels empowered to achieve change. We engage and inspire others to pursue careers in tech, empower our employees to thrive and belong, and support community volunteerism. Our efforts include:

- In support of STEM Education, Lumen partnered with organizations such as Pathways in Technology Early College High School (P-TECH) to provide an innovative education opportunity to first-generation college-seekers, English language learners, women and low-income students.
- In 2021, our employees logged 17,000 volunteer hours through a mixture of virtual and in-person events.
- Employees are encouraged to actively volunteer in their own communities and were supported through our Dollars for Doers program which enables each employee to give up to $1,000 of Lumen funds annually to the charity of their choice.
- Through our annual Campaign to Fight Hunger to support hunger relief efforts around the globe, employee donations and a corporate match enabled us to provide over 762,780 meals for those in need in 2021.
- In 2022, we established a relief fund to support employees with immediate financial grants who suffered losses from wildfires or other natural disasters.
- Eleven global employee resource groups play an important role in advancing diversity, inclusion, and belonging within our company.

For additional information regarding our management of human capital, please see "Compensation Discussion & Analysis – Section five – HRCC Engagement and Compensation Governance", and our Annual Report on Form 10-K for the year ended December 31, 2022.

Director Compensation

Overview

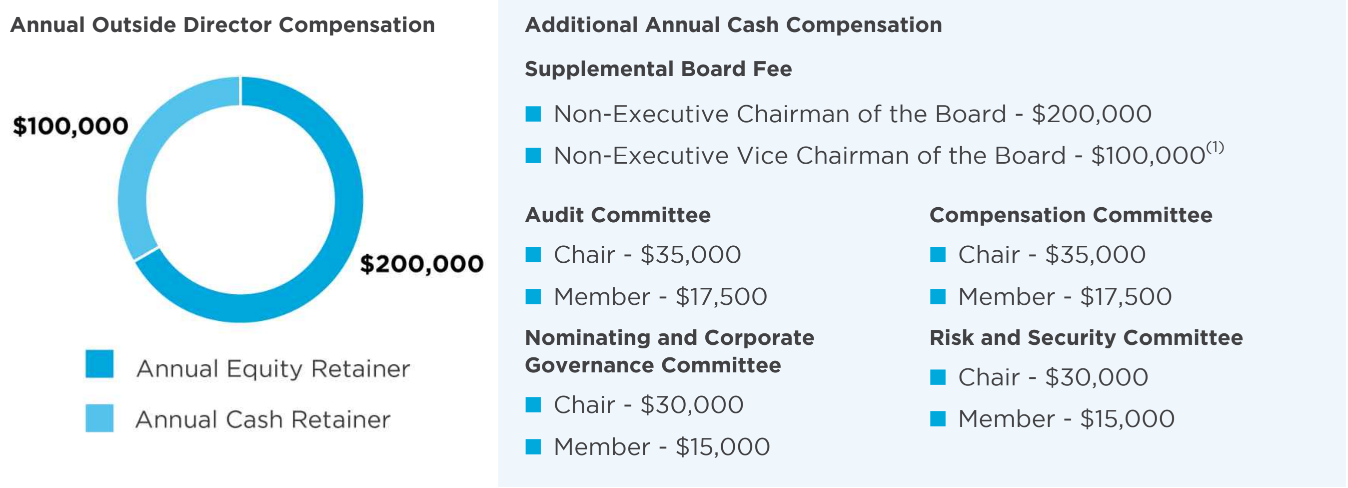
The Board believes that each of our non-employee directors (whom we also refer to as outside directors or non-management directors) should be compensated through a mix of cash and equity-based compensation. Our HRCC, consisting entirely of independent directors, has primary responsibility for periodically reviewing and considering any revisions to director compensation.

The table and the discussion below summarize how we compensated our outside directors in 2022. This table does not include compensation paid to our former President and CEO, Jeff Storey, or our current President and CEO Kate Johnson, neither of whom received or receives any additional compensation for their service as a director. Please see the "Summary Compensation Table" below for details regarding all compensation paid to Mr. Storey and Ms. Johnson during 2022.

Cash and Stock Payments

Each year, with assistance from its independent consultant, the HRCC reviews the market competitiveness of our outside director compensation. We review the total compensation for an "average profile" director for their cash fees (retainer, committee fees and meeting fees) and equity awards and compared those amounts against director compensation for the "Compensation Benchmarking Peer Group" described on page 107.

In May 2022, following the above-described process and based on input from its independent consultant, the HRCC made no changes to our director compensation, which was at the 50th percentile as compared to our peers.



Additional Annual Cash Compensation

Supplemental Board Fee

- Non-Executive Chairman of the Board - $200,000
- Non-Executive Vice Chairman of the Board - $100,000[1]

Audit Committee

- Chair - $35,000
- Member - $17,500

Nominating and Corporate Governance Committee

- Chair - $30,000
- Member - $15,000

Compensation Committee

- Chair - $35,000
- Member - $17,500

Risk and Security Committee

- Chair - $30,000
- Member - $15,000

1 Lumen plans to eliminate the position of Vice Chairman in May 2023.

CASH FEES – During 2022, each outside director earned a combination of annual cash retainers, which are paid on a quarterly basis with amounts prorated for any changes during the year.

We pay each outside director an annual cash retainer of $100,000 ("Annual Board Retainer") and annual fees to the chairs and members of each of the committees as set forth in the table above.

We currently pay annual supplemental Board fees to our non-executive Chairman of the Board, Mr. Glenn, and non-executive Vice Chairman of the Board, Mr. Hanks, of $200,000 and $100,000, respectively. The Chairman's duties are set forth principally in our Corporate Governance Guidelines; see "How Our Board is Organized—Board Leadership Structure." Under our Bylaws, the Vice Chairman is charged with the responsibility of assisting the Chairman and performing such other duties as may be assigned to him by the Board or the Bylaws. As noted above, we do not plan to select a successor Vice Chairman to our current Vice Chairman, W. Bruce Hanks, when he retires from the Board at the 2023 annual meeting.

In addition to the above described annual cash fees, if outside directors are requested to perform supplemental responsibilities, the additional time and effort may be eligible for a discretionary, supplemental cash or equity compensation. During 2022, the Board formed a special CEO Succession Committee and, over the course of several months, evaluated a range of internal and external candidates to succeed Mr. Storey upon his retirement. The HRCC awarded an extraordinary service fee of $20,000 cash to each of Mses. Bejar and Siegel and Messrs. Glenn and Hanks for their service on this committee.

EQUITY GRANT – During 2022, the HRCC awarded an annual equity grant valued at $200,000 to each outside director, with the number of shares determined by dividing this target value by the volume-weighted average closing price of our Common Shares over a 15-day trading period ending prior to the grant date and rounding to the nearest whole share.

This grant was awarded to each director in the form of time-vested shares of restricted stock unless the director made an election to defer all or a portion of the award under our Non-Employee Directors Deferred Compensation Plan (discussed below). For those directors who elected to defer any portion of the grant, the portion deferred was issued to the director as time-vested restricted stock units. These awards are scheduled to vest on May 18, 2023 (one year after their grant), subject to the director's continued service through that date, with vesting accelerated in certain circumstances as described in the award agreement.

Dividends (or, for restricted stock units, dividend equivalents) on these awards are not paid currently but rather accrue from the grant date through the date of vesting (for restricted stock) or the date of issuance of the underlying shares (for restricted stock units) and are subject to the same vesting terms as the related award. Dividends on shares of restricted stock are paid to the director upon vesting while dividend equivalents on restricted stock units are paid to the director at the same time as the underlying shares are issued to him or her.

As described in further detail in "Compensation Discussion & Analysis—Section Five-HRCC Engagement and Corporate Governance—Stock Ownership Guidelines" each outside director is expected to beneficially own Lumen stock equal in market value to five times the annual cash retainer payable to outside directors.

2022 Compensation of Outside Directors

Directors' Compensation

Name	Fees Earned or Paid In Cash	Stock Awards(1)(2)(3)	All Other Compensation(4)	Total
Continuing Directors:				
Quincy L. Allen	$132,500	$211,060	$2,000	$345,560
Martha H. Bejar	167,500	211,060	2,000	380,560
Peter C. Brown	132,500	211,060	—	343,560
Kevin P. Chilton	147,500	211,060	—	358,560
Steven T. Clontz	132,500	211,060	981	344,541
T. Michael Glenn	337,500	211,060	—	548,560
Hal S. Jones	132,500	211,060	—	343,560
Michael J. Roberts	132,500	211,060	—	343,560
Laurie A. Siegel	170,000	211,060	—	381,060
Retiring Director:				
W. Bruce Hanks(5)	255,000	211,060	513	466,573

1 For fiscal 2022, the HRCC granted each outside director an award of restricted shares or restricted stock units valued at $200,000 based upon the volume-weighted average closing price of our Common Shares over a 15-day trading period ending prior to the May 17, 2022, grant date. However, as required by SEC rules, the dollar value reported in this column reflects the grant date fair value of that award based upon the closing stock price of our Common Shares on the grant date in accordance with FASB ASC Topic 718. These awards vest on May 18, 2023, subject to the director's continued service through that date (with vesting accelerated in certain limited circumstances). See "—Cash and Stock Payments."

2 As of December 31, 2022, outside directors held the following unvested equity-based awards: (i) Ms. Siegel and Messrs. Brown, Clontz, Hanks, Jones and Roberts each held 18,514 shares of restricted stock; (ii) Ms. Bejar and Messrs. Allen, Chilton and Glenn each held 18,514 RSUs.

3 As of December 31, 2022, outside directors held the following vested RSUs deferred under the Non-Employee Director Deferred Compensation Plan: Mr. Allen – 14,536; Ms. Bejar – 25,608; Mr. Chilton – 13,152; Mr. Glenn – 45,681; Mr. Roberts – 14,706. For further information on our directors' stock ownership, see "Ownership of Our Securities—Executive Officers and Directors," and for information on certain deferred equity and cash fee arrangements, see "—Non-Qualified Deferred Compensation."

4 Includes (i) reimbursements for the cost of annual physical examinations and related travel of $981 for Mr. Clontz and $513 for Mr. Hanks, (ii) the payments related to the attendance of the NACD Conference of $2,000 each for Mr. Allen and Ms. Bejar. Except as otherwise noted in the prior sentence, the table above does not reflect reimbursements for travel expenses.

5 Mr. Hanks' term will end immediately following the 2023 annual shareholders meeting.

Non-Qualified Deferred Compensation

NON-EMPLOYEE DIRECTOR DEFERRED COMPENSATION PLAN – In March 2019, the Board adopted a deferred compensation plan for our non-employee directors. Under this plan, our non-employee directors may defer up to 100% of their cash and equity compensation.

Participants in the Non-Employee Director Deferred Compensation Plan may elect to receive payment of their account balances in either two to five annual installments or a lump sum upon a fixed date, separation from service, or up to five years following separation from service, subject to any federal tax rules governing deferred compensation.

All cash amounts deferred under this plan by non-employee directors are allocated among deemed investments that follow the performance of a broad array of funds and are reflected in the market value of each participant's account. Distribution amounts will include investment returns (positive or negative).

If a non-employee director elects to defer all or a portion of the director's annual equity award under this plan, as noted above, the portion of the award subject to the deferral election will be issued as restricted stock units instead of shares of restricted stock.

Five of our current directors, Ms. Bejar and Messrs. Allen, Chilton, Glenn and Roberts, participate in this plan.

LEGACY QWEST DEFERRED COMPENSATION PLAN – CLOSED TO NEW PARTICIPANTS AND CONTRIBUTIONS – In connection with our 2011 merger with Qwest, we assumed the Qwest Deferred Compensation Plan for Non-Employee Directors. Under this plan, Qwest outside directors could elect to defer all or a portion of their cash directors' fees, which were then converted to a number of "phantom units" based on the value of a share of Qwest stock, with credit for dividends paid to shareholders "reinvested" in additional phantom units. Plan balances attributable to amounts deferred on or after January 1, 2005, by Qwest directors who joined our Board following the merger were converted, based on the merger exchange ratio, to phantom units based on the value of one of our Common Shares. Other than the crediting and "reinvestment" of dividends for outstanding phantom units, the Company does not make any contributions to and no additional elective deferrals are permitted under this plan. Subject to the terms of the plan, each participant's account will be distributed as a lump sum in cash as soon as practicable following the end of his or her service as a director. As of December 31, 2022, Michael J. Roberts was the only remaining participant in this plan, with a balance of 9,569 phantom units with an aggregate value of approximately $49,949.

Other Benefits

Each outside director is entitled to be reimbursed: (i) for expenses incurred in attending Board and committee meetings, (ii) for expenses incurred in attending director education programs and (iii) up to $5,000 per year for the cost of an annual physical examination, plus related travel expenses. We supply company-owned tablets to certain of our outside directors for use in reviewing materials posted to a dedicated portal that permits management to communicate with the Board.

Directors may use our aircraft in connection with company-related business. However, we generally do not permit either our directors or their family members to use our aircraft for personal trips.

Our Bylaws require us to indemnify our directors and officers so that they will be free from undue concern about personal liability in connection with their service to the Company. We have signed agreements with each of those individuals contractually obligating us to provide these indemnification rights. We also provide our directors with customary directors and officers liability insurance.

ITEM 2

Ratify KPMG as Our 2023 Independent Auditor

The Audit Committee of the Board has appointed KPMG LLP as our independent auditor for the fiscal year ending December 31, 2023 and we are submitting that appointment to our shareholders for ratification on an advisory basis at the meeting. Although shareholder ratification of KPMG's appointment is not legally required, we are submitting this matter to the shareholders, as in the past, as a matter of good corporate practice.

If the shareholders fail to vote on an advisory basis in favor of the appointment, the Audit Committee will reconsider whether to retain KPMG and may appoint that firm or another without re-submitting the matter to the shareholders. Even if the shareholders ratify the appointment, the Audit Committee may, in its discretion, select a different independent auditor at any time during the year if it determines that such a change would be in the Company's best interests.

In connection with the audit of the 2022 financial statements, we entered into an engagement letter with KPMG which sets forth the terms by which KPMG provided audit services to us. Any future disputes between KPMG and us under that letter will be subject to certain specified alternative dispute resolution procedures, none of which are intended to restrict the remedies that our shareholders might independently pursue against KPMG.

KPMG has advised us that one or more of its partners plan to participate in the meeting. We understand that these representatives will be available to respond to appropriate questions and will have an opportunity to make a statement if they desire to do so.

For a discussion of factors the Audit Committee considered in connection with re-appointing KPMG for the 2023 audit, see "-Annual Evaluation and Selection of Independent Auditors."

Ratification of KPMG's appointment as our independent auditor for 2023 will require the affirmative vote of a majority of the votes cast on the proposal at the meeting.

The Board unanimously recommends a vote **FOR** this proposal.

Annual Evaluation and Selection of Independent Auditors

The Audit Committee annually evaluates the performance of the Company's independent auditors, including the senior audit engagement team, and determines whether to re-engage the current independent auditors or consider other audit firms. KPMG has served as our independent auditors since 1977. In deciding to re-engage KPMG as the Company's independent auditors for 2023, the Audit Committee considered a number of factors, including:

- KPMG's global capabilities;
- KPMG's technical expertise and knowledge of the Company's global operations and industry;
- The quality and candor of KPMG's communications with the Audit Committee and management;
- KPMG's independence;
- The quality and efficiency of the services provided by KPMG, including input from management on KPMG's performance and how effectively KPMG demonstrated its independent judgment, objectivity and professional skepticism;
- External data on audit quality and performance, including recent PCAOB reports on KPMG and its peer firms; and
- The appropriateness of KPMG's fees, KPMG's tenure as independent auditors (including the advantages and disadvantages of a longer tenure) and the controls and processes in place that help ensure KPMG's continued independence.

Over the last several years, the Audit Committee has attempted to strike an appropriate balance between auditor rotation and retention. Over the past few years, KPMG's engagement partner for our audit has been rotated more frequently than required. In addition, since the Level 3 Combination, not only has the engagement partner been rotated multiple times but the KPMG office charged with the audit has alternated between Shreveport, Louisiana and Denver, Colorado. The factors that the Audit Committee considered that favored the retention of KPMG as the Company's independent auditors included:

- **Enhanced audit quality** – KPMG's significant institutional knowledge and deep expertise of the Company's global business, accounting policies and practices, recent divestiture transactions and internal control over financial reporting enhance audit quality.
- **Competitive fees** – Because of KPMG's familiarity with the Company and the communications industry, audit and other fees are competitive with peer companies.
- **Avoid costs associated with a new auditor** – Bringing on new independent auditors would be costly and require a significant time commitment, which could lead to management distractions.

Audit and Other Fees

The following table lists the aggregate fees and costs billed to us by KPMG and its affiliates for the 2021 and 2022 services identified below:

Fees	2021	2022
Audit Fees[(1)]	$13,206,340	$12,596,575
Audit-Related Fees[(2)]	1,768,278	2,079,152
Tax Fees[(3)]	96,160	283,650
Other	—	—
Total Fees	$15,070,778	$14,959,377

1 Includes the cost of services rendered in connection with (i) auditing our annual consolidated financial statements, (ii) auditing our internal control over financial reporting in accordance with Section 404 of the Sarbanes-Oxley Act of 2002, (iii) reviewing our quarterly financial statements, (iv) auditing the financial statements of several of our subsidiaries, (v) statutory audits for certain of our foreign subsidiaries and (vi) consultations regarding accounting standards.

2 Includes (i) the cost of preparing agreed upon procedures reports and providing general accounting consulting services, for both years, (ii) 2021 audit-related fees from the divestitures of the Latin American business and 20-state incumbent local exchange business and (iii) 2022 audit-related fees from the divestitures of the Latin American business and incumbent local exchange business, and the planned divestiture of the EMEA business.

3 Reflects costs associated with general tax planning, consultation and compliance.

The Audit Committee maintains written procedures that require it to annually review and pre-approve the scope of all services to be performed by our independent auditor. This review includes an evaluation of whether the provision of non-audit services by our independent auditor is compatible with maintaining the auditor's independence in providing audit and audit-related services. The Committee's procedures prohibit the independent auditor from providing any non-audit services unless the service is permitted under applicable law and is pre-approved by the Audit Committee or its Chairman. The Chairman is authorized to pre-approve projects if the total anticipated cost of all projects pre-approved by him during any fiscal quarter does not exceed $250,000. The Audit Committee has pre-approved the Company's independent auditor to provide up to $75,000 per quarter of miscellaneous permitted tax services that do not constitute discrete and separate projects. The Chairman and the Chief Financial Officer are required periodically to advise the full Committee of the scope and cost of services not pre-approved by the full Committee. Although applicable regulations permit us to waive these pre-approval requirements in certain limited circumstances, the Audit Committee did not use these waiver provisions in either 2021 or 2022.

Audit Committee Report

Our Audit Committee has oversight authority over Lumen's financial reporting function, including our internal controls over financial reporting ("ICFR") and our external independent audit process. In carrying out its oversight responsibilities, the Audit Committee:

- monitors management's responsibility for fairly presenting our financial statements in conformity with U.S. generally accepted accounting principles ("GAAP") by maintaining accurate and reliable financial information through our ICFR processes;
- appoints our independent auditor; and
- regularly communicates with our independent auditor regarding the scope and status of its annual audit of our consolidated financial statements, including our ICFR.

As part of the Committee's oversight of the Company's financial statements, the Committee reviews and discusses with the Company's management, and internal and external auditors, management's key initiatives and programs aimed at maintaining and improving ICFR, the effectiveness of the Company's internal and disclosure control structure and the scope and adequacy of the Company's internal auditing program.

The Committee met eight times in 2022 and included executive sessions in which the Committee met separately with KPMG, our independent auditor, as well as representatives of our Internal Audit group and management. During 2022, the Committee discussed with KPMG: (i) those matters required to be discussed by the applicable requirements of the SEC and the Public Company Accounting Oversight Board ("PCAOB"), including the quality of the Company's accounting principles, the reasonableness of significant judgments and the clarity of disclosures in the financial statements; (ii) the written disclosures required by PCAOB regarding the independent auditor's communications with audit committees concerning independence; (iii) KPMG's independence and the effects that the provision of non-audit services might have on KPMG's independence; and (iv) various other matters pertaining to the audit and other matters handled by KPMG. Moreover, the Committee emphasized the continued importance of an environment supporting the integrity of the financial reporting process; oversaw the implementation of new accounting standards and appropriate related internal controls; and coordinated with other committees of the Board to oversee the Company's risk management function, especially with respect to matters that could impact the Company's financial results or financial position.

Among other matters, over the course of the past year, the Committee also:

- reviewed the scope of and overall plans and progress for the annual audit and the internal audit program, including a review of critical accounting estimates and significant unusual transactions;
- reviewed and discussed each quarterly and annual financial statements and related earnings press releases before issuance, including reviewing the Company's issuance of guidance and use of non-GAAP financial information, the adequacy of disclosures and management's ICFR report and discussion and analysis;
- discussed our 2022 critical accounting policies with KPMG;
- discussed SEC regulatory changes;
- received quarterly reports from the Director of Internal Audit, including the Company's work regarding ICFR and met with other members of the Internal Audit staff;
- received and discussed reports each quarter on the Company's significant litigation issues;
- received periodic reports pursuant to our policy for the submission of confidential communications from employees and others about accounting, internal controls and auditing matters and conducted certain follow-up inquiries as necessary;
- discussed Company capital allocation, investment, and tax planning strategies;
- reviewed the performance of KPMG and KPMG's lead engagement partner and planned for the future rotation of the lead engagement partner should KPMG be retained as the Company's auditor;
- reviewed and discussed the effectiveness of our disclosure controls and procedures;
- reviewed the Company's debt compliance process, including primary debt covenants, debt agreement restrictions, maintenance covenant calculations and liquidity implications;
- received reports on the Company's goodwill impairment testing;
- received and evaluated a report concerning the Company's major financial risks along with the Company's mitigating actions;
- reviewed the Company's accounting for income taxes;
- reviewed the Company's accounting for pension assets and liabilities; and
- received an annual report with regard to any hiring of former employees of KPMG.

Taking all of these reviews and discussions into account and subject to the limitations on the role and responsibilities of the Committee referred to in its charter, the undersigned Committee members recommended that the Board include the Company's audited consolidated financial statements in our Annual Report on Form 10-K for the year ended December 31, 2022.

In addition to the Company's corporate compliance program and integrity line, the Audit Committee has established procedures for the receipt and evaluation, on a confidential basis, of any complaints or concerns regarding our accounting, auditing, financial reporting or related matters. To report such matters, please send written correspondence to Audit Committee Chair, c/o Post Office Box 4364, Monroe, Louisiana 71211.

Submitted by the Audit Committee of the Board of Directors.

W. Bruce Hanks (CHAIR) | **Quincy L. Allen** | **Peter C. Brown** | **Kevin P. Chilton** | **Hal Stanley Jones**

ITEM 3

Approval of Our Second Amended and Restated 2018 Equity Incentive Plan

Our growth depends upon the efforts of our officers, directors, employees, consultants, and advisors. We believe that our current equity compensation plan, the 2018 Equity Incentive Plan, as amended and restated in 2020 (the "2018 Plan"), provides an effective means of attracting, retaining, and motivating qualified key personnel while encouraging long-term focus on maximizing shareholder value.

A maximum of 34,600,000 Common Shares were initially reserved for issuance under the 2018 Plan as approved by our shareholders at our 2018 annual meeting. A subsequent increase to 75,600,000 Common Shares was approved by our shareholders at our 2020 annual meeting. As noted in the chart on page 66, we had 15,608,107 Common Shares available for grant under the 2018 Plan as of March 23, 2023, which we do not believe will be sufficient for future grants.

At the meeting, we will ask the shareholders to approve our Second Amended and Restated 2018 Equity Plan (the "Amended and Restated Plan"), which would:

- increase the maximum number of Common Shares reserved for issuance thereunder to 77,600,000, which reflects an increase of 2,000,000 Common Shares;
- remove an annual limit on the maximum number of Common Shares covered by any award granted under the 2018 Plan to any individual, for the reasons discussed below; and
- reflect our new corporate name by changing each reference to the company from "CenturyLink" to "Lumen".

We have carefully reviewed the provisions of the 2018 Plan in its entirety, and we feel that the plan still reflects good equity compensation practices and is in line with shareholder interests. Other than the three changes listed above, we are not proposing any other changes to the terms of the 2018 Plan.

Our Board, on the recommendation of its Human Resources and Compensation Committee, has unanimously approved the Amended and Restated Plan, subject to approval by our shareholders at the meeting.

The principal features of the Amended and Restated Plan are summarized below. However, this summary is qualified in its entirety by reference to the full text of the Amended and Restated Plan, as attached to this proxy statement as Appendix C. Because this is a summary, it may not contain all the information that you may consider to be important. Therefore, we recommend that you read Appendix C carefully before you decide how to vote on this proposal.

The Board unanimously recommends a vote **FOR** this proposal.

Purpose of the Proposal

We believe that providing officers, directors, employees, consultants and advisors with a proprietary interest in the growth and performance of our Company is crucial to stimulating individual performance while at the same time enhancing shareholder value. While we believe that employee equity ownership is a significant contributing factor in achieving strong corporate performance, we recognize that increasing the number of available shares under incentive plans may potentially dilute the equity ownership of our current shareholders, as further discussed below and under “Compensation Discussion & Analysis - Section Four - 2022 Long-Term Incentive Compensation - Share Dilution, Burn Rate and Stock-Based Compensation Expense.” However, given the limited number of Common Shares remaining available for issuance under the 2018 Plan (as noted above), coupled with the current trading price of our Common Shares, we believe that adoption of the Amended and Restated Plan is integral to our continued ability to attract, retain, and motivate key stakeholders in a manner aligned with the interests of our shareholders. We expect that the increased share reserve under the Amended and Restated Plan, if this proposal is approved by our shareholders, will be sufficient for awards for one year. Expectations regarding future share usage could be impacted by a number of factors such as award type mix, hiring and promotion activity at the executive level, the rate at which shares are returned to the Amended and Restated Plan’s reserve under permitted addbacks, the future performance of our stock price, and other factors. While we believe that the assumptions we used are reasonable, future share usage may differ from current expectations.

We also propose to remove the 2018 Plan’s current annual per person share limit, which provides that the maximum number of Common Shares that may be covered by awards to any individual in any calendar year cannot exceed 1.5 million. This limit was originally included in our equity plans to comply with the “qualified performance-based compensation” exception under Section 162(m) of the Internal Revenue Code. Since then, the U.S. Congress has eliminated this exception, thereby negating the need for the limit. For more information on this change in the law, see “Compensation Discussion & Analysis—Section Five—HRCC Engagement and Compensation Governance—Deductibility of Executive Compensation.” In addition, due to the decrease in the trading price of our Common Shares, this limit is currently interfering with our ability to grant awards to our top senior officers with market values sufficient to provide market-based compensation. The HRCC has determined that a failure to remove this limit could adversely impact our ability to attract and retain top senior leaders.

If shareholders do not approve the Amended and Restated Plan at the annual meeting, we will continue to use our 2018 Plan but, given the limited number of Common Shares remaining available for issuance, we will be required to re-evaluate our compensation structure to ensure that it remains competitive. Specifically, if the Amended and Restated Plan is not approved, we will likely increase our use of cash-based employee compensation, which could reduce the alignment of employee and shareholder interests.

Good Governance Provisions in Our Amended and Restated Plan

The Amended and Restated Plan incorporates numerous governance best practices, including:

- **Minimum one-year vesting requirement.** All Incentives must be granted with a minimum vesting period of at least one year;
- **No Dividends Payable on Awards Prior to Vesting.** Prohibits payment of dividends or dividend equivalents on an award until it vests, although dividends or dividend equivalents may accrue on unvested awards;
- **Responsible share recycling.** Any shares surrendered or withheld to satisfy tax withholding on options and stock appreciation rights (“SARs”) or to pay the exercise price of any option will not be added back (recycled) to the plan. The plan also provides that the gross number of SARs exercised or settled, and not just the net shares issued, will count against the aggregate limit that may be issued under the Plan;
- **No discounted options or SARs.** Minimum 100% fair market value exercise price for options and SARs;
- **No repricing or cash buyouts.** No repricing of options or SARs and no cash buyout of underwater options and SARs without shareholder approval;
- **Limitation on annual director awards**. The value of non-employee director annual equity awards may not exceed $500,000;

- **No excise tax gross-ups.** Does not provide for excise tax gross-ups in the event of a change of control;
- **Double-trigger change of control provision.** Participants must experience an involuntary termination of employment for an award to vest as a result of a change of control (a "double trigger");
- **No evergreen.** No "evergreen" share increases or automatic "reload" awards; and
- **Administered by an independent committee.** The Amended and Restated Plan is administered by an independent committee, and is benchmarked against Lumen's peers with the assistance of an independent compensation consultant.

Burn Rate, Dilution and Overhang

Our burn rate, dilution and overhang measurements below are calculated with respect to our equity compensation plans. During each of the last three years, we granted equity awards to an average of approximately 1,700 officers and employees and 10 outside directors comprised of a mix of time-based restricted shares or units (TBRS) that generally vest ratably over three years and performance-based restricted shares or units (PBRS) that generally cliff vest at the end of three years.

We measure our net burn rate as (a) the number of shares subject to issuance under our equity-based awards (with PBRS reflected at the maximum performance level) granted in a fiscal year (net of cancellations and forfeitures), divided by (b) the weighted average number of shares of common stock outstanding for that fiscal year. Our average annual net burn rate over the past three fiscal years is approximately 1.35%. If we exclude the effects of cancellations and forfeitures, our three-year average annual gross burn rate is approximately 1.61%.

We measure dilution as (a) the total number of shares issuable under our unvested and outstanding equity based awards (with PBRS reflected at the maximum performance level) at the end of the fiscal year, divided by (b) the total shares of common stock outstanding at the end of the fiscal year. Our average dilution over the last three fiscal years is approximately 5.48%.

(Share Amounts in Thousands)	2022	2021	2020	3-Year Average
For the years ending December 31				
TBRS and PBRS Granted	18,788	13,908	17,812	
Gross Burn Rate	1.86%	1.31%	1.65%	1.61%
TBRS and PBRS Cancelled/Forfeited	4,524	1,828	1,836	
Net Burn Rate	1.42%	1.14%	1.48%	1.35%
Unvested TBRS and PBRS	27,279	22,427	21,508	
As of December 31				
Total shares available for grant	18,549	35,706	48,595	
Dilution	4.55%	5.49%	6.39%	5.48%
Weighted-average common stock outstanding	1,007,517	1,059,541	1,079,130	
Common stock outstanding	1,001,688	1,023,512	1,096,921	

We also monitor "overhang" to measure the cumulative impact of our equity compensation plans. We measure overhang as (a) the number of full-value shares subject to equity awards outstanding (with PBRS reflected at the maximum performance level) plus the number of shares available for grant, divided by (b) the total shares of common stock outstanding at the end of the year. As of March 23, 2023, our overhang was approximately 5.22%. However, assuming the Amended and Restated Plan had been approved as of March 23, 2023, our overhang would have been approximately 5.42% as of such date.

(Share Amounts in Thousands)	As of March 23, 2023	Adjusted for Plan Increase as of March 23, 2023
Total full-value awards outstanding	36,826	36,826
Total shares available for grant	15,608	17,608
Common stock outstanding	1,004,873	1,004,873
Overhang	5.22%	5.42%

Summary of the Amended and Restated Plan

Administration of the Amended and Restated Plan. The Human Resources and Compensation Committee (or a subcommittee of this committee; in either case, referred to as the "Committee" in this Item 3) will generally administer the Amended and Restated Plan and has the authority to make awards under the Amended and Restated Plan, including setting the terms of the awards. The Committee also generally has the authority to interpret the Amended and Restated Plan, to establish any rules or regulations relating to the Amended and Restated Plan, and to make any other determination that it believes necessary or advisable for proper administration of the Amended and Restated Plan. Subject to the limitations specified in the Amended and Restated Plan, the Committee may delegate its authority to our Chief Executive Officer or his or her designee with respect to grants to employees or consultants who are not subject to Section 16 of the Exchange Act.

Eligibility. Key employees, officers, and directors of Lumen and our consultants or advisors are eligible to receive awards ("Incentives") under the Amended and Restated Plan. Based on current estimates, we anticipate that approximately 1,375 officers and employees and 10 outside directors would be eligible to receive Incentives under the Amended and Restated Plan, noting there are currently approximately 1,350 officers and employees and outside directors with outstanding awards under the 2018 Plan. Incentives may be granted in any one or a combination of the following forms: incentive stock options under Section 422 of the Internal Revenue Code of 1986, as amended (the "Code"), non-qualified stock options, SARs, restricted stock, restricted stock units ("RSUs"), and other stock-based awards ("Other Stock-Based Awards"). Each of these types of Incentives is discussed in more detail in "Types of Incentives" below.

Shares Issuable under the Amended and Restated Plan. If the Amended and Restated Plan is approved by the shareholders at the meeting, a total of 77,600,000 of our Common Shares are authorized for issuance under the Amended and Restated Plan (giving effect to the share increase). The closing price of a Common Share on the record date, as quoted on the NYSE, was $2.47.

Limitations on Shares Issuable under the Amended and Restated Plan. Under the Amended and Restated Plan, a maximum of 34,600,000 Common Shares may be issued upon exercise of options intended to qualify as incentive stock options under the Code. The maximum value of Incentives that may be granted under the Amended and Restated Plan to each non-employee director of Lumen during a single calendar year is $500,000.

Share Counting. For purposes of determining the maximum number of Common Shares available for delivery under the Amended and Restated Plan, shares that are not delivered because an Incentive is forfeited, canceled, or expired will return to the Amended and Restated Plan and be available for reissuance. However, Common Shares subject to an Incentive will not be recycled if (a) they are tendered in payment of exercise or base price of a stock option or stock-settled SAR; (b) they were covered by, but not issued upon settlement of, stock-settled SARs; or (c) they were delivered or withheld by the Company to satisfy any tax withholding obligation related to stock options or stock-settled SARs. If an Incentive, by its terms, may only be settled in cash, it will not impact the number of Common Shares available for issuance under the Amended and Restated Plan.

Adjustments to Shares Issuable under the Amended and Restated Plan. Proportionate adjustments will be made to all of the share limitations provided in the Amended and Restated Plan, including shares subject to outstanding Incentives, in the event of any recapitalization, reclassification, stock dividend, stock split, combination of shares, or other comparable change in our Common Shares, and the terms of any Incentive will be adjusted to the extent appropriate to provide participants with the same relative rights before and after the occurrence of any such event.

Minimum Vesting Periods. Except for any Incentives that are issued in payment of cash amounts earned under our short-term incentive program, all Incentives must be granted with a minimum vesting period of at least one year without providing for incremental vesting during that first year.

Dividends and Dividend Equivalents. The Amended and Restated Plan provides that the Committee may grant dividends or dividend equivalent rights on certain types of awards (restricted stock, RSUs, and Other Stock-Based Awards). If the Committee elects to grant such rights, any such rights must vest and pay out or be forfeited in tandem with underlying Incentives rather than during the vesting period.

Amendments to the Amended and Restated Plan. Our Board may amend or discontinue the Amended and Restated Plan at any time. However, our shareholders must approve any amendment to the Amended and Restated Plan that would:

- materially increase the number of Common Shares that may be issued through the Amended and Restated Plan;
- materially increase the benefits accruing to participants;

- materially expand the classes of persons eligible to participate;
- expand the types of awards available for grant;
- materially extend the term of the Amended and Restated Plan;
- materially reduce the price at which Common Shares may be offered through the Amended and Restated Plan; or
- permit the repricing of an option or stock appreciation right.

Duration of the Amended and Restated Plan. No Incentives may be granted under the Amended and Restated Plan after May 23, 2028 (the tenth anniversary of the date on which the 2018 Plan was initially approved by our shareholders).

Types of Incentives. Each type of Incentive that may be granted under the Amended and Restated Plan is described below.

Stock Options. A stock option is a right to purchase Common Shares from Lumen. The Committee will determine the number and exercise price of the options, and the time or times that the options become exercisable, provided that the option exercise price may not be less than the fair market value of a Common Share on the date of grant, except for an option granted in substitution of an outstanding award in an acquisition. The term of an option will also be determined by the Committee, but may not exceed ten years. The Committee may accelerate the exercisability of any stock option at any time. As noted above, the Committee may not, without the prior approval of our shareholders, decrease the exercise price for any outstanding option after the date of grant. In addition, an outstanding option may not, as of any date that the option has a per share exercise price that is greater than the then-current fair market value of a Common Share, be surrendered to us as consideration for the grant of a new option with a lower exercise price, another Incentive, a cash payment, or Common Shares, unless approved by our shareholders. Incentive stock options will be subject to certain additional requirements necessary in order to qualify as incentive stock options under Section 422 of the Code.

The option exercise price may be paid:

- in cash or by check;
- in Common shares;
- through a “cashless” exercise arrangement with a broker approved by Lumen;
- through a net exercise procedure if approved by the Committee; or
- in any other manner authorized by the Committee.

Stock Appreciation Rights. A stock appreciation right, or SAR, is a right to receive, without payment to Lumen, a number of Common Shares determined by dividing the product of the number of shares as to which the stock appreciation right is exercised and the amount of the appreciation in each share by the fair market value of a share on the date of exercise of the right. The Committee will determine the base price used to measure share appreciation (which may not be less than the fair market value of a Common Share on the date of grant), whether the right may be paid in cash, and the number and term of stock appreciation rights, provided that the term of a SAR may not exceed ten years. The Committee may accelerate the exercisability of any SAR at any time. The Amended and Restated Plan restricts decreases in the base price and certain exchanges of SARs on terms similar to the restrictions described above for options.

Restricted Stock. The Committee may grant Common Shares subject to restrictions on sale, pledge, or other transfer by the recipient for a certain restricted period. All shares of restricted stock will be subject to such restrictions as the Committee may provide in an agreement with the participant, including provisions that may obligate the participant to forfeit the shares to us in the event of termination of employment or if specified performance goals or targets are not met. Subject to restrictions provided in the participant’s incentive agreement and the Amended and Restated Plan, a participant receiving restricted stock shall have all of the rights of a shareholder as to such shares, including the right to receive dividends although, as noted above, any such dividends would not be paid currently but would vest or be forfeited in tandem with the related shares of restricted stock.

Restricted Stock Units. A restricted stock unit, or RSU, represents the right to receive from Lumen one Common Share on a specific future vesting or payment date. All RSUs will be subject to such restrictions as the

Committee may provide in an agreement with the participant, including provisions that may obligate the participant to forfeit the RSUs in the event of termination of employment or if specified performance goals or targets are not met. Subject to the restrictions provided in the incentive agreement and the Amended and Restated Plan, a participant receiving RSUs has no rights of a shareholder until Common Shares are issued to him or her. RSUs may be granted with dividend equivalent rights. Any such dividend equivalent rights would not be paid currently but would vest or be forfeited in tandem with the related RSUs.

Other Stock-Based Awards. The Amended and Restated Plan also permits the Committee to grant to participants awards of Common Shares and other awards that are denominated in, payable in, valued in whole or in part by reference to, or are otherwise based on the value of, or the appreciation in value of, Common Shares (other stock-based awards). The Committee has discretion to determine the times at which such awards are to be made, the size of such awards, the form of payment, and all other conditions of such awards, including any restrictions, deferral periods, or performance requirements.

Termination of Employment. In the event that a participant ceases to be an employee of Lumen or its subsidiaries or to provide services to us for any reason, including death, disability, early retirement, or normal retirement, any Incentives may be exercised, shall vest, or shall expire at such times as provided in the applicable incentive agreement or as may be otherwise determined by the Committee.

Change of Control. Upon a change of control of Lumen, as defined in the Amended and Restated Plan or the applicable incentive agreement, the vesting of time-based Incentives will only occur if the participant has a contemporaneous or subsequent termination of employment. In addition, the payout of any performance-based Incentives upon a change of control may not exceed the greater of a pro-rata payout based on target performance or payout of the Incentive based on actual performance. However, within certain time periods and under certain conditions, the Committee may:

- require that all outstanding Incentives be exercised by a certain date;
- require the surrender to Lumen of some or all outstanding Incentives in exchange for a stock or cash payment for each Incentive equal in value to the per share change of control value, calculated as described in the Amended and Restated Plan, over the exercise or base price;
- make any equitable adjustment to outstanding Incentives as the Committee deems necessary to reflect our corporate changes; or
- provide that an Incentive shall become an Incentive relating to the number and class of shares of stock or other securities or property (including cash) to which the participant would have been entitled in connection with the change of control transaction if the participant had been a shareholder.

Transferability of Incentives. No Incentives granted under the Amended and Restated Plan may be transferred, pledged, assigned, or otherwise encumbered by a participant except: (a) by will; (b) by the laws of descent and distribution; (c) if permitted by the Committee and so provided in the applicable incentive agreement, pursuant to a domestic relations order, as defined in the Code; or (d) as to options only, if permitted by the Committee and so provided in the applicable incentive agreement, to immediate family members or to a partnership, limited liability company or trust for which the sole owners, members or beneficiaries are the participant or immediate family members.

Tax Withholding. We may withhold from any payments or share issuances under the Amended and Restated Plan, or collect as a condition of payment, any taxes required by law to be withheld. The participant may, but is not required to, satisfy his or her withholding tax obligation by electing to deliver currently-owned Common Shares, or to have us withhold shares from the shares the participant would otherwise receive, in either case having a value equal to the maximum amount required to be withheld. This election must be made prior to the date on which the amount of tax to be withheld is determined. The Committee has the right to disapprove of any such election, except for participants who are subject to Section 16 of the Exchange Act.

Purchase of Incentives. The Committee may approve the repurchase by Lumen of an unexercised or unvested Incentive from the holder by mutual agreement, so long as the repurchase would not constitute the repricing of an option or SAR.

Federal Income Tax Consequences

The federal income tax consequences related to the issuance of the different types of Incentives that may be awarded under the Amended and Restated Plan are summarized below. Participants who are granted Incentives under Amended and Restated Plan should consult their own tax advisors to determine the tax consequences based on their particular circumstances.

Stock Options. A participant who is granted a stock option normally will not realize any income, nor will we normally receive any deduction for federal income tax purposes, in the year the option is granted.

When a non-qualified stock option granted under the Amended and Restated Plan is exercised, the participant will realize ordinary income measured by the difference between the aggregate purchase price of the shares acquired and the aggregate fair market value of the shares acquired on the exercise date and, subject to the limitations of Section 162(m) (as described below), we will be entitled to a deduction in the year the option is exercised equal to the amount the participant is required to treat as ordinary income.

Incentive stock options may only be granted to employees. An employee generally will not recognize any income upon the exercise of any incentive stock option, but the excess of the fair market value of the shares at the time of exercise over the option price will be an item of tax preference, which may, depending on particular factors relating to the employee, subject the employee to the alternative minimum tax imposed by Section 55 of the Code. The alternative minimum tax is imposed in addition to the federal individual income tax, and it is intended to ensure that individual taxpayers do not completely avoid federal income tax by using preference items. An employee will recognize capital gain or loss in the amount of the difference between the exercise price and the sale price on the sale or exchange of shares acquired pursuant to the exercise of an incentive stock option, provided the employee does not dispose of such shares within two years from the date of grant and one year from the date of exercise of the incentive stock option (the holding periods). An employee disposing of such shares before the expiration of the holding periods will recognize ordinary income generally equal to the difference between the option price and the fair market value of the shares on the date of exercise. The remaining gain, if any, will be capital gain. We will not be entitled to a federal income tax deduction in connection with the exercise of an incentive stock option, except where the employee disposes of the shares received upon exercise before the expiration of the holding periods.

If the exercise price of a non-qualified option is paid by the surrender of previously-owned shares, the basis and the holding period of the previously-owned shares carry over to the same number of shares received in exchange for the previously-owned shares. The compensation income recognized on exercise of these options is added to the basis of the shares received. If the exercised option is an incentive stock option and the shares surrendered were acquired through the exercise of an incentive stock option and have not been held for the holding periods, the optionee will recognize income on such exchange, and the basis of the shares received will be equal to the fair market value of the shares surrendered. If the applicable holding period has been met on the date of exercise, there will be no income recognition and the basis and the holding period of the previously owned shares will carry over to the same number of shares received in exchange, and the remaining shares will begin a new holding period and have a zero basis.

Stock Appreciation Rights. Generally, a participant who is granted a SAR under the Amended and Restated Plan will not recognize any taxable income at the time of the grant. The participant will recognize ordinary income upon exercise equal to the amount of cash or the fair market value of the shares received on the day they are received.

In general, there are no federal income tax deductions allowed to Lumen upon the grant of SAR. Upon the exercise of the SAR, however, we will be entitled to a deduction equal to the amount of ordinary income that the participant is required to recognize as a result of the exercise, provided that the deduction is not otherwise disallowed under Section 162(m).

Restricted Stock. Unless the participant makes an election to accelerate recognition of the income to the date of grant under Section 83(b) of the Code (as described below), the participant will not recognize income, and we will not be allowed a tax deduction, at the time the restricted stock award is granted. When the restrictions lapse, the participant will recognize ordinary income equal to the fair market value of the shares as of that date, and we will be allowed a corresponding federal income tax deduction at that time, subject to any applicable limitations under Section 162(m). If the participant files an election under Section 83(b) of the Code within 30 days of the date of grant of restricted stock, the participant will recognize ordinary income as of the date of the grant equal to the fair market value of the shares as of that date, and we will be allowed a corresponding federal income tax deduction at that time, subject to any applicable limitations under Section 162(m). Any future appreciation in the shares will be taxable to the participant at capital gains rates. If the shares are later forfeited, however, the participant will not be able to recover the tax previously paid pursuant to a Section 83(b) election.

Restricted Stock Units. A participant will not be deemed to have received taxable income upon the grant of RSUs. The participant will be deemed to have received taxable ordinary income at such time as shares are distributed with respect to the RSUs in an amount equal to the fair market value of the shares distributed to the participant. Upon the distribution of shares to a participant with respect to RSUs, we will ordinarily be entitled to a deduction for federal income tax purposes in an amount equal to the taxable ordinary income of the participant, subject to any applicable limitations under Section 162(m). The basis of the shares received will equal the amount of taxable ordinary income recognized by the participant upon receipt of such shares.

Other Stock-Based Awards. Generally, a participant who is granted an Other Stock-Based Award under the Amended and Restated Plan will recognize ordinary income at the time the cash or Common Shares associated with the award are received. If shares are received, the ordinary income will be equal to the excess of the fair market value of the shares received over any amount paid by the participant in exchange for the shares.

In the year that the participant recognizes ordinary taxable income in respect of such Incentive, we will be entitled to a deduction for federal income tax purposes equal to the amount of ordinary income that the participant is required to recognize, provided that the deduction is not otherwise disallowed under Section162(m).

Section 162(m). Section 162(m) of the Code limits the amount of compensation paid to certain covered employees that we may deduct for federal income tax purposes to $1 million per employee per year. Under Section 162(m), “covered employees” consist of any individual who served as our CEO or CFO at any time during the taxable year plus the three other most highly-compensated officers (other than the CEO and CFO) for the taxable year. Once an individual becomes a covered employee for any taxable year beginning after December 31, 2016, that individual will remain a covered employee for all future years, including after termination of employment or even death. As a result, compensation payable to a covered employee under the Amended and Restated Plan that might otherwise be deductible may not be deductible if all compensation paid to the employee for the taxable year exceeds $1 million.

Section 409A of the Code. If any Incentive constitutes non-qualified deferred compensation under Section 409A, it will be necessary that the Incentive be structured to comply with Section 409A to avoid the imposition of additional tax, penalties, and interest on the participant.

Tax Consequences of a Change of Control. If, upon a change of control of Lumen, the exercisability, vesting, or payout of an Incentive is accelerated, any excess on the date of the change of control of the fair market value of the shares or cash issued under accelerated Incentives over the purchase price of such shares, if any, may be characterized as “parachute payments” (within the meaning of Section 280G of the Code) if the sum of such amounts and any other such contingent payments received by the employee exceeds an amount equal to three times the “base amount” for such employee. The base amount generally is the average of the annual compensation of the employee for the five years preceding such change in ownership or control. An “excess parachute payment,” with respect to any employee, is the excess of the parachute payments to such person, in the aggregate, over and above such person’s base amount. If the amounts received by an employee upon a change of control are characterized as parachute payments, the employee will be subject to a 20% excise tax on the excess parachute payment and we will be denied any deduction with respect to such excess parachute payment.

The foregoing discussion summarizes the federal income tax consequences of Incentives that may be granted under the Amended and Restated Plan based on current provisions of the Code, which are subject to change. This summary does not cover any foreign, state, or local tax consequences.

Plan Benefits. Awards under the Amended and Restated Plan are subject to the discretion of the Committee and, except as noted below, no determinations have been made by the Committee as to any awards that may be granted in the future pursuant to the Amended and Restated Plan. Therefore, it is not possible to determine the benefits that will be received in the future by participants in the Amended and Restated Plan.

Certain tables below, under “Compensation—Compensation Tables,” including the Summary Compensation Table, Grants of Plan-Based Awards table, Outstanding Equity Awards table, and Stock Vesting Table, set forth information with respect to prior awards granted to our NEOs under our stock incentive plans.

In early 2023, the Committee approved the following awards under the 2018 Plan to the individuals and groups noted below, and approved certain PBRS awards to our Chief Executive Officer and Chief Financial Officer that will become effective if the Amended and Restated Plan is approved at the meeting, as described in the table below:

Name and Position/Group	Number of PBRSs[1]	Number of TBRSs
Kate Johnson, President and CEO	4,379,562[2]	1,459,854
Chris Stansbury, EVP and CFO	2,305,034[2]	768,344
Stacey W. Goff , EVP, General Counsel and Secretary	691,510	230,503
Scott A. Trezise, EVP, Human Resources	922,014	307,337
Shaun C. Andrews, EVP, Chief Marketing Officer[3]	—	—
Jeffrey K. Storey, Former President and CEO	—	—
Indraneel Dev, Former EVP and CFO	—	—
Executive Officer Group (5 persons)	9,066,466	3,022,152
Non-Employee Director Group	—	—
Non-Executive Officer Employee Group	3,565,122	1,544,770

1 Represents the maximum number of Common Shares that may be earned if the stretch targets of the PBRS awards are met.

2 This award will be from the Amended and Restated Plan and not become effective unless and until the Amended and Restated Plan is approved by our shareholders.

3 Mr. Andrews' was involuntarily terminated and his employment with Lumen ended on March 3, 2023.

Vote Required

Approval of the Amended and Restated Plan requires the affirmative vote of the holders of a majority of the votes cast on the proposal at the meeting.

Equity Compensation Plan Information

The following tables provide information as of December 31, 2022, and March 23, 2023, about our equity compensation plans under which Common Shares are authorized for issuance.

1. **As of December 31, 2022**

Plan Category	Number of securities to be issued upon exercise of outstanding options and rights (a)[1]	Weighted-average exercise price of outstanding options and rights (b)[2]	Number of securities remaining available for future issuance under plans (excluding securities reflected in column (a)) (c)
Equity Compensation Plans approved by shareholders	16,264,108	$—	18,548,542
Equity Compensation Plans not approved by shareholders[3]	–	$—	–
Totals	**16,264,108[4]**	**$—**	**18,548,542[5]**

1 These amounts include restricted stock units, some of which represent the difference between the number of shares of restricted stock subject to market conditions granted at target and the maximum possible payout for these awards. Depending on performance, the actual share payout of these awards may range between zero to 200% of target.

2 The amounts in column (a) include restricted stock units, which do not have an exercise price.

3 These amounts represent Common Shares to be issued upon exercise or vesting of equity awards that were assumed in connection with certain acquisitions or issued under plans that were assumed in those acquisitions.

4 This figure consists of 16,264,108 Common Shares subject to restricted stock units (RSUs). In addition, as of December 31, 2022, we had 22,555,720 unvested shares of restricted stock outstanding (which, when combined with the Common Shares subject to RSUs in the prior sentence, yields a total of 38,819,828 full-value awards outstanding). These were the only types of equity awards outstanding as of December 31, 2022.

5 Represents the number of shares remaining available for issuance as new awards under our 2018 Plan as of December 31, 2022.

2. As of March 23, 2023

Plan Category	Number of securities to be issued upon exercise of outstanding options and rights (a)[1]	Weighted-average exercise price of outstanding options and rights (b)[2]	Number of securities remaining available for future issuance under plans (excluding securities reflected in column (a)) (c)
Equity Compensation Plans approved by shareholders	14,197,949	$—	15,608,107
Equity Compensation Plans not approved by shareholders[3]	–	$—	–
Totals	**14,197,949**[4]	**$—**	**15,608,107**[5]

1 These amounts include restricted stock units, some of which represent the difference between the number of shares of restricted stock subject to market conditions granted at target and the maximum possible payout for these awards. Depending on performance, the actual share payout of these awards may range between zero to 200% of target.

2 The amounts in column (a) include restricted stock units, which do not have an exercise price.

3 These amounts represent Common Shares to be issued upon exercise or vesting of equity awards that were assumed in connection with certain acquisitions or issued under plans that were assumed in those acquisitions.

4 This figure consists of 14,197,949 Common Shares subject to restricted stock units (RSUs). In addition, as of March 23, 2023, we had 22,627,625 unvested shares of restricted stock outstanding (which, when combined with the Common Shares subject to RSUs in the prior sentence, yields a total of 36,825,574 full-value awards outstanding). These were the only types of equity awards outstanding as of March 23, 2023.

5 Represents the number of shares remaining available for issuance as new awards under our 2018 Plan as of March 23, 2023.

Our Executive Officers

We currently have five executive officers. Biographical information for each of them (other than Ms. Johnson, who also serves as a director and whose biography may be found under “Board of Directors and Governance – Our Director Nominees”) is found below:

Sham Chotai

58 years old

Executive Vice President, Product and Technology

- Sham Chotai has served as Lumen’s Executive Vice President, Product and Technology since February 2023.
- With nearly 35 years of technology experience, Mr. Chotai is responsible for Lumen’s product and technology strategy.
- He also has oversight of product and strategy, planning and transformation.
- In December 2018, Mr. Chotai founded JWM Advisors, LLC, a digital technology advisory firm, and served as a managing partner thereof through February 2023, while also serving as a general manager or advisor with respect to technology start-ups during portions of this period. Mr. Chotai served as Senior Vice President, Chief Information and Digital Officer, of Barrick Gold Corporation between August 2017 and November 2018. Prior to then, Mr. Chotai held technology or engineering positions at several technology companies, including GE Power, Hewlett-Packard and KANA Software.

Stacey W. Goff

57 years old

Executive Vice President, General Counsel and Secretary

- Stacey W. Goff is Executive Vice President, General Counsel and Secretary for Lumen.
- Mr. Goff is responsible for Lumen’s legal function, as well as the communications, community relations and public policy functions.
- Mr. Goff joined Lumen in 1998 and has served as General Counsel since 2009.

Christopher Stansbury

57 years old

Executive Vice President, Chief Financial Officer

- Christopher Stansbury has served as Lumen’s Executive Vice President, Chief Financial Officer since April 2022.
- Mr. Stansbury has global responsibility for financial planning, accounting, tax, treasury, investor relations, procurement and supply chain management and the global real estate portfolio.
- Mr. Stansbury previously served as the Senior Vice President and Chief Financial Officer of Arrow Electronics, Inc. from May 2016 through March 2022. Prior to that, Mr. Stansbury served as Vice President, Finance, and Chief Accounting Officer of Arrow Electronics, Inc. beginning in August 2014.
- Prior to joining Arrow Electronics, Inc., Mr. Stansbury held finance positions at Hewlett-Packard, Inc. and PepsiCo, Inc.

Scott Trezise

54 years old

Executive Vice President,

- Scott Trezise is Lumen’s Executive Vice President, Human Resources.
- In this role, Mr. Trezise is responsible for the global employee experience, including talent acquisition, employee engagement, recognition, training and development, compensation and benefits, payroll, labor relations for represented employees and contingent labor.
- Mr. Trezise joined Lumen in 2013 in his current role, and was named an executive officer in 2013.
- Prior to joining Lumen, Mr. Trezise held human resources positions at The Shaw Group Inc. and Honeywell International Inc.

ITEM 4

Advisory Vote on Executive Compensation – "Say-on-Pay"

Each year, we provide our shareholders the opportunity to vote on a non-binding, advisory resolution to approve the compensation of our named executive officers (NEOs) as disclosed in our annual proxy statements in accordance with SEC rules.

Under our executive compensation programs, our NEOs are rewarded for achieving specific annual and long-term goals, as well as increased shareholder value. We believe this structure aligns executive pay with our financial performance and the creation of sustainable shareholder value. The Human Resources and Compensation Committee of our Board (HRCC) continually reviews our executive compensation programs to ensure they achieve the goals of aligning our compensation with both current market practices and your interests as shareholders.

As discussed in greater detail elsewhere in this proxy statement, the HRCC spends considerable time and effort to ensure that not only do we have the right leadership in place, but also that our executive compensation programs continue to appropriately incentivize and reward each key member of the team in a manner that aligns with shareholder interests. In recent years, the HRCC has also placed a significant emphasis on shareholder outreach and taking action in response to the input we received from shareholders. For additional information on our executive compensation programs generally and our recent compensation actions specifically, we urge you to read the "Compensation Discussion & Analysis" and "Compensation Tables" sections of this proxy statement.

At the meeting, we will ask you to vote, in an advisory manner, to approve the overall compensation of our NEOs, as described in this proxy statement, including the Compensation Discussion & Analysis, the Summary Compensation Table and the other related tables and disclosures. This proposal, commonly known as a

"say-on-pay" proposal, gives you the opportunity to express your views. This advisory vote is not intended to address any specific element of compensation, but rather relates to the overall compensation of our NEOs and our executive compensation policies and practices as described in this proxy statement. Accordingly, your vote will not directly affect or otherwise limit any existing compensation or award arrangement of any of our NEOs.

While this "say-on-pay" vote is advisory and will not be binding on our Company or the Board, it will provide valuable information for future use by our HRCC regarding shareholder sentiment about our executive compensation. We understand that executive compensation is an important matter for our shareholders.

Accordingly, we invite shareholders who wish to communicate with our Board on executive compensation or any other matters to contact us as provided under "Board of Directors and Governance–Shareholder Engagement."

Approval of this proposal will require the affirmative vote of the holders of a majority of the votes cast on the proposal at the meeting.

The Board unanimously recommends a vote FOR this proposal.

Compensation Discussion & Analysis

The CD&A is divided into five sections: (1) Executive Summary; (2) Compensation Philosophy and Oversight; (3) Pay and Performance Alignment; (4) Compensation Design, Awards and Payouts for 2022; and (5) HRCC Engagement and Compensation Governance. Please refer to the roadmap below in order to navigate this portion of the proxy statement.

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Section One - Executive Summary

As described in our Board Committee section above, the HRCC oversees our executive compensation program. More broadly, the HRCC provides direction to management on compensation programs for all employees with the goal of retaining the skilled talent needed for Lumen to reach its strategic objectives. The HRCC seeks to continuously improve our compensation programs based on changing market conditions, the evolving business environment, and feedback from our shareholders. This CD&A reflects the HRCC's overall philosophy on employee compensation with a focus on compensation for our seven NEOs during the last fiscal year.

NEOs of December 31, 2022:

Kate Johnson

President & Chief Executive Officer

Chris Stansbury

Executive Vice President, Chief Financial Officer

Stacey W. Goff

Executive Vice President, General Counsel & Secretary

Shaun C. Andrews

Executive Vice President, Chief Marketing Officer[1]

Scott A. Trezise

Executive Vice President, Human Resources

Former Executives (or Former NEOs):

Jeff Storey, Former President & Chief Executive Officer

As previously disclosed and described elsewhere herein, Mr. Storey retired and his employment with Lumen ended effective December 31, 2022.

Indraneel Dev, Former Executive Vice President & Chief Financial Officer

As previously disclosed and described elsewhere herein, Mr. Dev's was involuntarily terminated and his employment with Lumen ended effective April 1, 2022.

[1] Mr. Andrews' was involuntarily terminated and his employment with Lumen ended on March 3, 2023.

Executive Summary

As a result of the decline in Lumen's stock price, our shareholders experienced a substantial loss in the value of their Lumen stock in 2022. Our executive officers' personal wealth were similarly affected by the decline in our stock price, but they also experienced a significant decline in their total compensation due to receiving no payout under their 2020 performance-based equity awards. As such, on March 1, 2023, five of our current or former NEOs forfeited their 2020 performance-based restricted shares (units) that had a fair market value at the time of grant ranging from $0.5 to $6.9 million. These 2020 performance-based awards represented 38-42% of our NEO's target compensation for 2020.

Clearly, 2022 was a very significant year for our Company. We brought in a new CEO and CFO and completed two divestitures and announced a third. The changes are consistent with our Company's focus on transforming itself from a traditional telecom company and pivoting to growth as a technology company. As is often seen in such periods of leadership team transformations, there were on-boarding payments associated with new hire packages, retention of key executives during transition and severance payments to departing executives. While we are committed to limiting the use of on-boarding payments and adhering to best practices when doing so, we believe our 2022 transition payments were essential to pursuing our long-term strategy to transform our Company and building the leadership team required for the challenges and opportunities ahead. In early 2023, we continued our leadership transformation with three new senior executives and announced our new mission and core priorities, described as our North Star project further below.

What's New

Lumen plans to pivot to growth with an energized new leadership team that includes three new executive officers, including our CEO, CFO and EVP, Product and Technology, and two new senior officers, including EVP, Enterprise Sales and Public Sector, EVP, Customer Experience Officer, Wholesale and International and are in the process of conducting a search for EVP, Enterprise Operations.

2022 Leadership Transition

As described below and elsewhere in this CD&A, we hired a new CEO and CFO during 2022.

CEO Succession

As part of our succession planning and executive talent development initiatives, the Board retained Spencer Stuart, a global executive search and leadership consulting firm, in 2018 to assist with various matters, including long-range planning with respect to identifying potential successors to the CEO. During 2022, the Board executed on our CEO succession plan.

For more information on our Board's responsibilities, see further discussion under the heading "Item 1 —Our Board's Responsibilities & Engagement."

Compensation for Kate Johnson, our current CEO

Ms. Johnson succeeded Mr. Storey as CEO on November 7, 2022 (the "CEO Transition Date"). As discussed elsewhere herein, Ms. Johnson's offer letter dated September 12, 2022 (the "Offer Letter") provides for an annual compensation targeted near the 25th percentile of our peer group, 93% of which was at-risk.

Ms. Johnson joined the Company at a critical time of transformation and was recruited specifically for her significant leadership and experience with technology, enterprise customers, growth initiatives and cultural and business transformation. She held key leadership roles across a variety of Fortune 100 companies including Oracle, General Electric and Microsoft Corporation, having served most recently as President of Microsoft U.S., a division of Microsoft Corporation.

The HRCC, after consultation with its independent compensation consultant Semler Brossy, determined that the annual compensation package and on-boarding payments (i) were consistent with our philosophy and customary for CEO on-boarding pay packages, (ii) were necessary to attract high caliber talent to transform our Company, (iii) were necessary to induce Ms. Johnson to join us, and (iv) provided total compensation that is below median levels for comparable CEOs.

Ms. Johnson's annual compensation package consists of:

- Base salary of $1,200,000,
- Target annual short-term incentive (STI) opportunity of 200% of salary[(1)],
- Target annual long-term incentive (LTI) opportunity of $14,250,000, beginning in 2023[(2)],
- Personal usage of Company aircraft not to exceed $200,000 in a single calendar year[(3)], and
- Retirement and welfare benefits generally available to all employees.

1 Ms. Johnson received a pro-rated annual short-term incentive award based on actual Company performance for 2022. For more information see "Section Four - 2022 Short-Term Incentive Program" below.

2 For 2022, Ms. Johnson received a pro-rated long-term incentive award of $2,375,000, which is one-sixth of target annual LTI opportunity, of time-based restricted stock, which will vest in equal installments on the first three anniversaries of the grant date, subject to continued service and other customary terms. For more information see "Section four - 2022 Long-Term Incentive Compensation" below.

3 For more information see "Compensation Tables — Summary Compensation Table — All Other Compensation."

In addition, the HRCC approved the following on-boarding payments to Ms. Johnson:

- Cash award of $1,000,000, subject to a two-year "clawback" feature if Ms. Johnson resigns or is terminated by the Company for cause before the 2-year anniversary of her start date. Based on information provided by its compensation consultant, the HRCC determined that such cash award is customary for CEO on-boarding pay packages and, in this case, was necessary to induce Ms. Johnson to join the Company.
- Equity award of $1,000,000 of time-based restricted stock[(1)], all of which will vest on the first anniversary of the grant date, subject to continued service and other customary terms, and which is subject to a one-year "clawback" feature following the vesting date. Based on information provided by its compensation consultant, the HRCC determined that such an equity award is customary for CEO on-boarding pay packages and, in this case, it was in the best interest of the Company and its shareholders for her to have an equity stake in the Company immediately.
- One-time reimbursement of legal fees incurred in connection with negotiating the Offer Letter, not to exceed $50,000[(2)].
- Relocation benefits generally available to all employees[(2)].

1 For more information see "Section Four - 2022 Long-Term Incentive Compensation" below.

2 For more information on reimbursement of legal fees and relocation benefits for 2022, see "Compensation Tables — Summary Compensation Table — All Other Compensation"

The HRCC approved the following change of control payments and qualifying separation benefits for Ms. Johnson:

- Ms. Johnson entered into a change of control agreement which entitles her to receive, under certain specified circumstances following a change of control of Lumen, (i) a lump sum payment equal to two and one-half times the sum of (1) her base salary in effect at the date of termination plus (2) her target STI amount for the year in which the date of termination occurs; (ii) a pro-rata bonus for the year of termination paid in the ordinary course based on actual performance; (iii) two years of continued life insurance, disability, medical, dental and hospitalization benefits (or an equivalent lump-sum payment where necessary to comply with plan terms); and (iv) outplacement assistance for one year.
- Certain Qualifying Separation benefits, as defined in Sections 6 of the Offer Letter, which entitles her to receive, under certain specified circumstances prior to the third anniversary of her start date, pro-rated accelerated vesting for outstanding, unvested time-based and performance-based restricted shares as of the separation date.

For more information on Ms. Johnson's personal usage of the Company aircraft, reimbursement of legal fees and relocation benefits for 2022, see "Compensation Tables — Summary Compensation Table — All Other Compensation." For more information on Ms. Johnson's change of control arrangement, including our rationale for providing these benefits, see "— Section Four — Compensation Design, Awards and Payouts for 2022 — Other Benefits — Severance Benefits" and "Compensation Tables — Potential Termination Payments — Payments Made Upon a Change of Control."

Retirement Compensation Paid to Jeff Storey, our former CEO

As planned, after a distinguished 40-year career and upon Ms. Johnson's succession as CEO, Mr. Storey retired as CEO and member of the Board of Directors and remained on as Special Advisor to the Board and CEO through December 31, 2022 to provide continuity to the Board and Ms. Johnson during the management transition and continued to receive compensation and benefits at an undiminished rate through such date. Mr. Storey retired and his employment ended on December 31, 2022. Mr. Storey did not receive any severance benefits following his retirement from the Company on December 31, 2022.

Consistent with the terms of Mr. Storey's 2018 offer letter and existing broad-based programs that apply to our employees, upon Mr. Storey's retirement he was entitled to:

- Accelerated vesting of his outstanding time-based RSUs, granted in 2020, 2021 and 2022, effective December 31, 2022[(1)],
- Continue to hold all of his outstanding performance-based RSUs granted in 2020, 2021 and 2022 subject to their original performance conditions and vesting dates[(2)],
- Pro-rated annual bonus for 2022 based on actual company performance payout[(3)], and

- Retirement benefits payable to him under existing broad-based programs that apply to our eligible retirees.

Consistent with Section 409(A) of Internal Revenue Service Code, the time-based RSUs accelerated vesting as of Mr. Storey's retirement date, but their release was deferred until the earlier of the original vest date (417,170 shares vested on March 1, 2023) and six-months following his retirement date (455,292 shares). For more information see "— Deferred Compensation" below.

1 On March 1, 2023, 538,159 performance-based RSUs granted in 2020 were forfeited due to below threshold performance. For more information see "— LTI Linkage to Performance" below.

2 For more information see "Section four - 2022 Short-Term Incentive Program" below.

Additionally, in connection with Mr. Storey's retirement, the HRCC approved:

- Gift of artwork located in Mr. Storey's office, which was recently appraised at $3,000[(1)], and
- Extension of COBRA benefits for an additional 11 months beyond the plan maximum of 18 months of coverage, during which period Mr. Storey will pay the COBRA premiums.

1 For more information see "Compensation Tables — Summary Compensation Table — All Other Compensation"

CFO Succession

In early 2022, in connection with the Board's long-standing succession planning and executive talent development initiatives undertaken with the assistance of Spencer Stuart, we identified Mr. Stansbury as a strong external candidate for CFO who had the skills needed to implement Lumen's current strategies. Working with Spencer Stuart, Mr. Stansbury was evaluated and interviewed by our then CEO, Mr. Storey, Chairman of the Board, Chair of Audit Committee and key members of management. In March 2022, the Board announced its new CFO.

Mr. Stansbury brings more than 30 years of finance leadership at multinational corporations across several industries, most recently serving as CFO of Arrow Electronics, Inc. Mr. Stansbury joined the Company at a critical time of transformation and was recruited specifically for his significant experience in delivering growth and creating value during his prior roles.

Compensation for Chris Stansbury, our current CFO

Mr. Stansbury succeeded Mr. Dev as CFO effective upon his start date of April 4, 2022. As further discussed elsewhere herein, Mr. Stansbury's annual compensation package consists of:

- Base salary of $750,000,
- Target annual short-term incentive (STI) opportunity of 125% of salary[(1)],
- Target annual long-term incentive (LTI) opportunity of $4,350,000, beginning in 2022,[(2)] and
- Retirement and welfare benefits generally available to all employees.

1 For 2022, Mr. Stansbury received a pro-rated annual short-term incentive award based on actual Company performance. See "Section Four -2022 Short-Term Incentive Program" below.

2 At its November 2022 meeting, the HRCC increased Mr. Stansbury's target annual long-term incentive opportunity for 2023 to $5,000,000 in recognition of the excellent progress he has made in transforming the Company over his first seven months as CFO.

In addition, to partially offset amounts that Mr. Stansbury forfeited upon his departure from his then current employer, the HRCC approved on-boarding payments of:

- Cash award of $150,000, subject to a two-year "clawback" feature if Mr. Stansbury resigns or is terminated by the Company for cause before the second anniversary of his start date, and
- Equity award of $3,750,000 of time-based restricted stock which was awarded into two separate components. The first component of $750,000 will vest ratably over three years, with one-third vesting on each of the first, second and third anniversaries of the grant date. The second component of $3,000,000 will vest in two equal installments, with the first installment vesting on the fifth (5th) anniversary of the grant date and the second installment vesting on the seventh (7th) anniversary of the grant date. These equity awards offset equity and retirement benefits that Mr. Stansbury forfeited upon termination from his prior employer.

Severance Compensation Paid to Indraneel Dev, our former CFO

Mr. Dev's employment was involuntarily terminated on April 1, 2022.

Mr. Dev's departure resulted in the forfeiture of his annual 2022 equity award valued at $4,250,000 on its grant date.

As further discussed elsewhere herein, in exchange for Mr. Dev's delivery of a release of claims, he received upon termination the following compensation and benefits payments under our executive severance plan and existing broad-based programs that apply to our employees:

- Cash severance benefits of $1,687,500[(1)],
- COBRA benefits for 52 weeks[(1)], and
- Pro-rated annual bonus for 2022 based on actual company performance payout[(2)].

1 For more information see "-Other Benefits - Severance Benefits" below.

2 For more information see "Section four - 2022 Short-Term Incentive Program" below.

In addition, the HRCC approved:

- Accelerated vesting of his outstanding time-based restricted stock, granted in 2020 and 2021, effective April 1, 2022,
- Continuation of a pro-rated portion of his outstanding performance-based restricted stock granted in 2020 and 2021 subject to their original performance conditions and vesting dates[(1)] with the remaining portion of these stock awards granted in 2020 and 2021 being forfeited.

1 On March 1, 2023, 128,133 performance-based restricted stock granted in 2020 were forfeited due to below threshold performance. For more information see "— LTI Linkage to Performance" below.

Lumen Business Highlights

During 2022, we accomplished several significant financial milestones. Specifically, we:

- Completed or announced value-accretive business divestitures expected to generate a total of $12 billion in gross proceeds
- Completed the $2.7 billion divestiture of our Latin American business to Stonepeak on Aug. 1
  - Completed the $7.5 billion divestiture of our 20-state ILEC business to Apollo on Oct. 3
  - Announced the proposed sale of our EMEA business to Colt Technology Services for $1.8 billion on Nov. 2
- Reduced Estimated Net Debt by $9.9 billion in 2022[1]
- Authorized an up to $1.5 billion, two-year share repurchase program and repurchased 33 million shares of common stock for a total purchase price of $200 million
- Enabled of approximately 600 thousand Quantum Fiber units in 2022[2]
- Added approximately 100 thousand Quantum Fiber subscribers in 2022 and improved Quantum Fiber ARPU on a year-over-year basis consecutively for every quarter in 2022

$9.9B	$10.2B	$1.8B	$200M
Reduction in Estimated Net Debt[1]	**Gross Proceeds from Business Divestitures**	**Expected Gross Proceeds from the Announced EMEA Business Divestiture**	**Common Stock Repurchased**

See Appendix A for definitions of the terms used above, a reconciliation of our non-GAAP metrics used above to GAAP measures, and a description of our special items. For more complete information on Lumen and our recent performance, see the remainder of this proxy statement, including Appendix B.

1 During the first half of 2023, we expect to pay approximately $900 million to $1 billion of cash taxes related to the 2022 divestitures of our Latin American and 20-state ILEC businesses. To provide comparability to prior periods, Estimated Net Debt reflects the payment of those cash taxes as though it had occurred on or prior to December 31, 2022.

2 Represents the total number of units capable of receiving our services at period end.

Business Transformation

In August and October 2022, we completed the sale of our Latin American business and part of our incumbent local exchange carrier (ILEC) business in 20 Midwestern, Southern and Eastern states, respectively, for aggregate gross consideration of $10.2 billion.

In November 2022, we agreed to sell our European, Middle Eastern, and African ("EMEA") business to Colt Technology Services for aggregate gross consideration of $1.8 billion. We currently anticipate that this transaction will close during late 2023 or early 2024.

	Q1 2022	Q2 2022
CEO Succession	In early 2022, the Board formed a special CEO Succession Committee to evaluate internal and external candidates to succeed Mr. Storey upon his retirement.	The CEO Succession Committee met on a regular basis and evaluated (i) several internal candidates, and interviewed and assessed two of them and (ii) evaluated dozens of external candidates and interviewed eight of them.
CFO Succession	In late 2021, we engaged an external search firm to conduct a search of the market for CFO candidates with certain skill sets. After reviewing the potential candidates, we engaged in further discussions with Mr. Stansbury. In February 2022, Semler Brossy advised the HRCC with respect to market rates of compensation for potential incoming CFO candidates. In March 2022, the Board announced its new CFO.	Mr. Dev's employment was involuntarily terminated on April 1, 2022. Mr. Stansbury succeeded Mr. Dev as CFO effective upon his start date of April 4, 2022.

	Q3 2022	Q4 2022
Business Highlights	In August 2022, we completed the sale of our Latin American business for pre-tax proceeds of $2.7 billion. In October 2022, we completed the sale of our 20-state ILEC business for pre-tax cash proceeds of $5.6 billion and $1.5 billion of debt assumption.	Announced elimination of dividend and adoption of stock purchase program Announced transaction with Colt Technology Services to sell our Europe, the Middle East, and Africa ("EMEA") business for aggregate gross consideration of $1.8 billion
CEO Succession	The CEO Succession Committee selected three final CEO candidates for in-person presentations to the independent directors. The independent directors internally discussed each candidate and elected to engage in further discussions with Ms. Johnson. Semler Brossy advised the CEO Succession Committee and the HRCC with respect to market rates of compensation for potential incoming CEO candidates. In September 2022, the Board announced its new CEO.	Ms. Johnson succeeded Mr. Storey as CEO on November 7, 2022 (the "CEO Transition Date") Mr. Storey resigned as CEO a member of the Board, but remained employed by the Company as its Senior Advisor to the Board and CEO until December 31, 2022. Mr. Storey retired and his employment ended on December 31, 2022.

What's New

"In 2023, we will be investing in and optimizing Lumen as we drive our five core priorities of developing customer obsession, innovating and investing for growth, building a reliable execution engine, radically simplifying Lumen, and further developing our culture," said Kate Johnson, President and CEO.

2022 Executive Compensation Aligned with Business Performance

As discussed in greater detail in this CD&A, our incentive programs are aligned with our corporate strategy and are paid out based on our performance. In 2022, we fell short of our Adjusted EBITDA goal and our STI plan was funded at 91%. In addition, the three-year performance period for our 2020 LTI awards ended on December 31, 2022, and we did not achieve threshold performance for our Cumulative Adjusted EBITDA target, resulting in a 0% payout.

2022 STI Payout of 91%

Adjusted EBITDA: As we continued to focus on profitable revenue growth while executing on cost transformation initiatives, we achieved Adjusted EBITDA margins of 38.4 basis points and generated Adjusted EBITDA of $6.8 billion, which was below our target.

Revenue: Improving the revenue trajectory of our business is critical to achieving our strategy, and our objective is to reach top-line growth through our Quantum Fiber buildout and Lumen Platform initiatives. In 2022, we achieved $17.5 billion of Revenue, slightly above our target.

Free Cash Flow: A comprehensive measure of our overall financial position. Performance is impacted by several items, including:

- capital investment to drive growth
- planning to stay relatively net leverage neutral through the full investment phase

Customer experience: During 2022, we achieved slight gains for most of our Customer Experience categories and outperformed the average for our industry, which was negative for the year.

The chart below shows our overall level of achievement for the financial and qualitative metrics in our 2022 STI plan:

Dollars in Millions

Performance Metrics	Threshold	Target	Maximum	Actual	Actual vs. Target	Payout %	Weighting	Weighted Payout %
Adjusted EBITDA	$6,766	$6,997	$7,382	$6,849	97.9%	74.1%	50%	37.0%
Revenue	$16,759	$17,457	$18,155	$17,533	100.4%	102.2%	25%	25.6%
Free Cash Flow	$1,632	$2,040	$2,448	$2,260	110.8%	122.4%	15%	18.4%
Customer Experience					Met Expectations	100.0%	10%	10.0%
					Weighted Payout Percent			**91.0%**

2020 LTI Payout of 0%

Cumulative Adjusted EBITDA: We generated cumulative Adjusted EBITDA[1] of $23,495 million for 2020, 2021 and 2022, which was below our threshold of $24,500 million.	**Relative TSR Modifier:** Our stock performance for three-year period ending December 31, 2022 was -50.06%, which was the 31st percentile relative to our peers.

1 Cumulative Adjusted EBITDA is the sum of our Adjusted EBITDA, excluding special items and certain adjustments for our incentive plans that are necessary to measure results in the same manner the targets were set, for 2020, 2021 and 2022. See Appendix A for more information.

Shareholder Engagement and 2022 Compensation Enhancements

At our 2022 annual meeting, we received support from the holders of approximately 85% of the shares voted on our say-on-pay proposal.

Each year we solicit shareholder feedback throughout the year on a wide range of topics, including executive compensation. Our Chairman of the Board (who is also a member of the HRCC), HRCC Chair, NCG Committee Chair and, as appropriate, members of management typically participate in these engagements. These conversations have enabled us to receive input from our shareholders on how best to align the interests of management and the shareholders and enabled many of our shareholders to gain a better understanding of the challenges of recruiting, retaining and motivating top executive talent in a complex, rapidly changing industry that continues to face the challenges of replacing high-margin declining legacy services with lower-margin growing digital services.

During our 2022 shareholder engagement, we invited shareholders representing 60% of our outstanding shares to engage, resulting in 5 meetings in the spring and 9 meetings in the fall, and overall we met with holders representing 17.4% of our outstanding shares and the remaining invited holders either declining our meeting request or not responding.

In the spring 2022 shareholder engagement, we received valuable input on executive compensation, in addition to governance and ESG matters. We were encouraged by both the constructive feedback and positive support we received regarding our compensation program changes over the last couple of years.

In our fall 2022 shareholder engagement, these discussions were focused on our CEO transition, ESG, diversity, cyber-security, board diversity and composition, capital allocation and the impact these topics have on our strategic priorities and how we design executive compensation to incentivize our long-term success. These discussions helped to inform our 2023 executive compensation decisions which include, continued inclusion of relative TSR in our LTI program, elimination of Free Cash Flow as a metric in our STI program, addition of ESG goals for our executive officers' individual performance scorecard as part of our STI program and revisions to compensation benchmarking and TSR peer groups.

We look forward to continuing to engage in productive dialogue with our stakeholders on all governance and stewardship, including compensation.

Section Two - Compensation Philosophy and Oversight

Compensation is a critical element in Lumen's overall business strategy for attracting, developing, motivating and retaining executives and key employees who possess the right skills and leadership expertise to execute our corporate strategies. Our transition towards providing more adaptive digital transmission services has placed a greater premium on attracting and retaining personnel with cutting-edge technical skills and experience with implementing transformational change. We design our compensation programs to reward executives and employees who are critical to our success.

Compensation Objectives and Design

Our compensation programs are designed to be market competitive and fiscally responsible. Providing incentive compensation opportunities linked to our corporate performance is a key part of our compensation programs, especially for our senior leaders. But our STI and LTI programs extend much further into our organization. For 2022, approximately 20,000 employees participated in our STI program and approximately 1,600 employees received equity grants under our LTI program. For each participant in our incentive programs, including our NEOs, his or her target compensation and performance metrics are determined based on the availability of talent, the criticality of skills, market compensation benchmarks and internal equity considerations.

Aligning Performance Objectives with Strategy

The HRCC selects short-term and long-term plan performance objectives designed to drive execution of our overall business strategies. This process includes (i) engaging with the HRCC's independent compensation consultant, (ii) reviewing compensation trends at peer companies, (iii) measuring our performance against peers and (iv) receiving feedback from shareholders regarding executive compensation and incentive design. Key design considerations include:

Incentive Compensation Design

- Aligning performance objectives and metrics with our short- and long-term strategies
- Setting ambitious short-and long-term targets at challenging but reasonably achievable levels that reflect priorities and drive progress toward our long-term vision
- Assessing effectiveness of prior year design and targets
- Ensuring that performance-based compensation rewards performance over multiple time horizons and aligns with the goal of creating long-term shareholder value while discouraging excessive risk taking
- Being responsive to shareholder feedback
- Allowing for the flexibility to make limited adjustments, positive or negative, as may be appropriate
- Monitoring share expense rate and dilution

Target Compensation

- Balancing between cash and equity incentive compensation
- Targeting total compensation at the 50th percentile to remain competitive against peers
- Balancing individual contribution and Company performance
- Retaining employees with essential expertise and skill
- Targeting internal equity by offering comparable pay to employees who make similar contributions and have comparable skill sets and expertise

Rigorous Design and Target Setting Process

Each year over the course of several meetings, the HRCC evaluates our incentive designs for the upcoming plan year and establishes rigorous threshold, target and maximum performance levels for the selected objectives that are rooted in our annual budget, public guidance and long-range strategic plan.

Our incentive design and targets are influenced by:

- Board approved annual and long-range financial and operational plans, which are used to set our STI and LTI targets and inform our external outlook, including:
  - Detailed financial and operational goals and timelines
  - Anticipated timing for execution of our strategic initiatives, new product launches and completion of our pending divestitures
  - Cash flow plan to execute on our capital allocation priorities
  - Prior year strategic goals and actual financial performance
  - Industry and competitive trends
  - Other Company-specific and external factors that influence our business
- Declines in residential voice and copper-based wireline revenue outweigh the customer demand for digital services and new products, which puts increased pressure on both revenue and Adjusted EBITDA as follows:
  - Revenue is weighted 25% in our 2022 STI plan and we believe revenue that is flat or slightly negative year over year is a rigorous goal while we continue to transform from telecom to technology
  - Adjusted EBITDA, which incentivizes management to maximize profitability, is our primary financial metric, weighted 50% in both our STI and LTI plans, with performance measured over different time horizons
  - Telecom services' margins are significantly greater and demand for these services are declining at a faster pace than demand for technology services at lower margins – requiring us to simultaneously expand our customer base and services portfolio while also protecting the value of the declining residual legacy voice and copper-based wireline revenue and adapt and adjust our cost structure in response to the pace our revenue declines
- The Board's careful review of the degree of difficulty of our compensation goals
- Shareholder feedback and independent compensation consultant observations

Our Pay Elements

The three core elements of our executive compensation program are base salary, annual STI bonus opportunity (typically paid in cash); and annual LTI grants (typically in equity awards). Our LTI awards are structured as mix of performance-based restricted stock or RSUs (PBRS) and time-based restricted stock or RSUs (TBRS), with a heavier use of PBRSs for our senior leadership team. Each element is described below and includes the performance metrics selected for our 2022 incentive programs.

	CEO	Element and Description	Performance Objectives Aligned with Strategy	Metrics and Weighting 2022
Fixed	**Base Salary**	**Base Salary** As with most companies, base salary is annual fixed cash compensation that provides a competitively set and stable component of income to our executives.		
At-Risk	**Short-Term Incentive Bonus**	**STI Program** STI bonus is annual variable cash compensation based on the achievement of annual performance measures. **Alignment to Compensation Philosophy** STI provides competitive short-term incentive opportunities for our executives to earn annual bonuses, typically paid in cash, based on performance objectives that, if attained, can reasonably be expected to (i) promote our business and strategic objectives and (ii) correspond to those paid to similarly situated and comparably-skilled executives at peer companies. The HRCC retains discretionary authority over determining any and all amounts to be paid under the STI plan.	For 2022, the HRCC maintained the same STI design and elements as the prior year, which remain aligned with our telecom to tech transitioning strategies, and increased Revenue weighting by 10% and decreased Free Cash Flow weighting by 10% from prior year.	**Adjusted EBITDA** measures the operational performance and profitability of our businesses and is commonly used by industry investors to evaluate our total enterprise value. **(50%)** **Revenue** generation is critical to our goal of transitioning to growth**.** **(25%)** **Free Cash Flow** is a comprehensive measure of our overall financial position and ability to service our debt. **(15%)** **Customer Experience** is critical to maintain and grow our revenue base. **(10%)** A positive or negative adjustment for **individual performance** based on "line of sight" for their specific areas of responsibility and individual objectives. Any positive adjustments for a NEO's individual performance are capped at 20% of the STI amount otherwise payable based on Company performance. **(Individual Performance modifier)**
	Long-Term Incentive Compensation 	**LTI Program** LTI is variable compensation historically awarded annually in equity that vests over three years from the date of grant, with at least 60% of the award based on the achievement measured against pre-established performance measures for a three-year period. **Alignment to Compensation Philosophy** LTI fosters a culture of ownership, aligns the long-term interests of our executives with our shareholders and helps to retain executives through stock price growth and the creation of long-term value. In addition, the number of shares vesting under our performance-based awards is dependent upon our performance measured against key business objectives over a multi-year period, further strengthening the alignment between executive pay, Company performance and shareholder value creation. The amount of LTI compensation that is ultimately realized depends on how successfully we execute our strategic goals and our overall stock performance.	**Time-Vested LTI Awards (TBRS):** Our grants of TBRS are intended to reinforce the link of interests between our executives and our shareholders by focusing on the long-term value of our common stock. **Performance-Based LTI Awards (PBRS):** For 2022, the HRCC maintained the same PBRS design and elements as the prior year, with two-equally weighted metrics (i) Cumulative Adjusted EBITDA and (ii) relative TSR.	**Cumulative Adjusted EBITDA** measures sustained operational performance and profitability of our businesses over a three- year period. Commonly used by industry investors to evaluate our total enterprise value. **(50%)** **Relative Total Shareholder Return or TSR** rewards for achieving stock price growth relative to our TSR peer group over a three-year period. Further strengthens the alignment of executive and shareholder interests. **(50%)**

For a discussion of how the HRCC allocates compensation between these three key components, see section below entitled "Pay and Performance Alignment."

Section Three - Pay and Performance Alignment

In allocating NEO target pay opportunities among the different compensation elements, the HRCC does not adhere to a prescribed formula but generally emphasizes performance-based and at-risk elements. The total target cash compensation opportunity (base salary plus target STI) represents less of each NEO's total target compensation than the total target LTI opportunity, in order to increase alignment with shareholders' interests and motivate performance that creates sustainable long-term shareholder value.

Goal Setting

As noted above, STI and performance-based LTI payouts are determined at the end of a performance period based on our achievement of pre-established goals. In order to ensure compensation elements are aligned with both company performance and our evolving corporate strategies, incentive goals and targets are not automatically carried forward from one year to the next. Rather, the HRCC reevaluates performance goals annually, in order to establish goals that are:

- challenging and sufficiently rigorous, based on the information available to us at the time, including the Company's publicly-disseminated annual outlook;
- appropriately tailored to our current business conditions as well as the prevailing business environment more broadly;
- aligned with shareholder interests and recent shareholder input; and
- designed to incentivize our executives to drive our key strategic objectives over the relevant performance period.

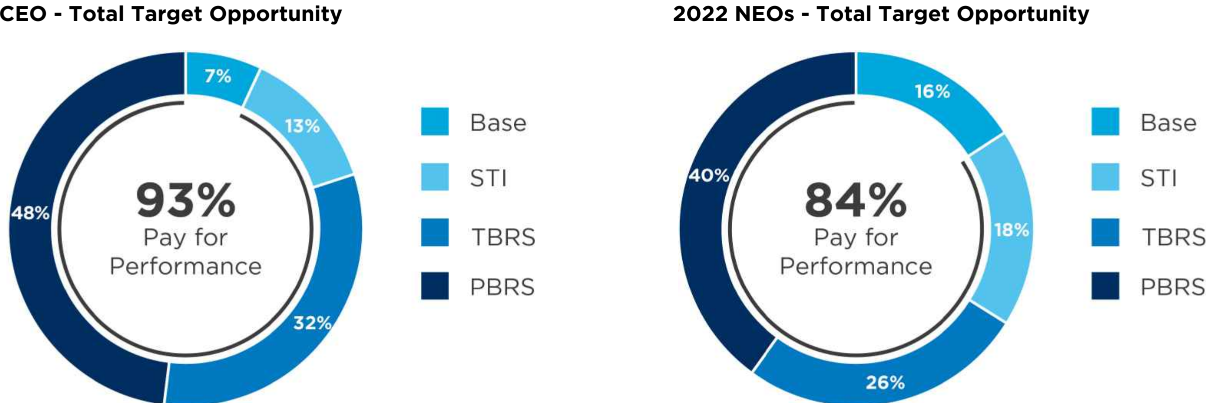
Incentive Program Guidelines

While our incentive goals, targets and payout criteria are designed to measure objective performance over a specified period of time, the HRCC does have the ability to make certain adjustments to our performance calculations. To provide structure and promote consistency in addressing such situations, the HRCC has adopted Guidelines on Administering Incentive Plans (the Guidelines) to aid its goal of reaching balanced STI and LTI payout decisions that align performance with our targets and corporate strategy. As described in the table below, the Guidelines provide four types of potential adjustments to our STI or LTI metrics that can affect the overall payout.

Types of Adjustments Under Our Incentive Program Guidelines	STI	LTI	2022 Adjustments Under Our Incentive Program Guidelines
Mandatory Adjustments to Results. The first type of adjustment occurs after completion of each performance period and in conjunction with our annual external reporting process when the HRCC reviews the financial information and assumptions in order to make certain adjustments mandated under our Guidelines to STI and LTI performance results to eliminate the effects of certain unanticipated, material and special events specified in the Guidelines. Generally, these adjustments have corresponded closely, but not exactly, with the "Non-GAAP Special Items" supplemental schedule included in our earnings release for the corresponding performance period.	●	●	For our 2022 STI Plan and 2020 LTI Awards: ■ See "Appendix A - Non-GAAP Reconciliation" for details on the Non-GAAP Special Items previously reported in our February 7, 2023 earnings release. ■ We also adjusted the three-year Cumulative Adjusted EBITDA target in our 2020 LTI awards to reflect the net impact of charges and credits related to the change in the closing date for the sale of our Latin American and 20-state ILEC business from the date estimated when targets were originally set.
Discretionary Adjustments to Results. The second type of adjustment provides the HRCC with discretionary authority to adjust STI and LTI performance results based on any other "extraordinary, unusual, or non-recurring transactions or items" to prevent award payouts from being unfairly impacted by such items. In either case, the adjustments may be positive or negative but will only be made if the events were not known on the date the performance goals were established or were not reflected in the forward-looking financial information used to set such goals.	●	●	For our 2022 STI Plan: ■ Adjustments for 2022 included the elimination of the effect of foreign currency fluctuations and true-up of bonus accruals for 2022 STI. ■ These adjustments were not included in adjustments we publicly reported in connection with reporting earnings.
Discretionary Adjustments to STI Payout Percentages. The third type of adjustment, as discussed in greater detail below under "Short Term Incentive Bonuses," provides the HRCC with additional discretionary authority under the terms of the STI plan to adjust STI payouts. These discretionary adjustments may be made as either a specific feature of a given year's STI plan established in advance (for example, the capped individual performance modifier included in our 2022 plan design) or as equitable adjustments made in arrears pursuant to the HRCC's overall authority to authorize final STI payouts.	●		For our 2022 STI Plan: ■ None for 2022.
Mandatory Adjustments to LTI Targets. The final type of adjustment, adopted in early 2022, requires the HRCC to adjust our three-year Cumulative Adjusted EBITDA targets as applied to the performance-based portion of our annual LTI grants to eliminate the effects of changes in tax law, changes in accounting standards and certain specified extraordinary items or events.		●	For our 2022 LTI Plan: ■ We adjusted the three-year Cumulative Adjusted EBITDA targets in our 2022 LTI awards to reflect the net impact of charges and credits related to the change in the closing date for the sale of our Latin American and 20-state ILEC business from the date estimated when targets were originally set.

Pay Mix

The following chart illustrates the approximate allocation of the total target compensation opportunity, as of December 31, 2022, for our current CEO and the named executive officers, respectively, between elements that are fixed and variable or performance-based pay that is "at risk." As a result, the actual (or take home) pay that our CEO realizes in a given year may be more or less than her total target compensation for that year, as illustrated in the "Pay Versus Performance" below.



A fixed annual salary (base salary) represents 7% of our CEO's total target compensation and 16% of our other NEOs' average target total compensation.

Variable pay, consisting of an STI bonus opportunity and LTI awards, represents 93% of our CEO's total target compensation and 84% of our other NEOs' average target total compensation. This portion of pay is considered at-risk since the receipt or value of the award is subject to the attainment of certain performance goals, vesting requirements and overall stock performance. LTI performance-based compensation is the largest component, representing 48% of our CEO's and 40% of our other NEOs target total compensation, and provides the greatest alignment between our NEO compensation and the interests of our shareholders.

Section Four - Compensation Design, Awards and Payouts for 2022

Our fiscal 2022 executive compensation program was generally similar to our 2021 program, except for a recalibration of our STI program metrics and changes related to our executive transitions.

Target Compensation

As noted previously, the three key elements of our executive compensation program are base salary, STI bonus opportunity and LTI awards (60% of which are PBRS). The HRCC has established target compensation levels for each of our senior officers on each of these three elements, reviewing the pay mix and pay levels at least annually. As of December 31, 2022, the total target compensation opportunities for our NEOs were as follows:

Total 2022 Target Compensation as of December 31, 2022[1]

NEO	Base Salary	STI Target Bonus %	STI Target Bonus Opportunity	Total Target Cash	LTI Target[2]	Total Target Compensation[3]
Ms. Johnson	$1,200,000	200%	$2,400,000	$3,600,000	$14,250,000	$17,850,000
Mr. Stansbury	800,000	125%	1,000,000	1,800,000	5,000,000	6,800,000
Mr. Goff	700,000	120%	840,000	1,540,000	2,250,000	3,790,000
Mr. Andrews	650,000	100%	650,000	1,300,000	2,000,000	3,300,000
Mr. Trezise	575,000	100%	575,000	1,150,000	2,000,000	3,150,000

1 For more complete information presented in accordance with the SEC's rules, see the Summary Compensation Table below.

2 The LTI target in this table represents the value of the target levels of equity awards as of December 31, 2022, which differ from 2022 annual LTI award amounts in "—2022 Annual LTI Grants" below and reported in "Compensation Tables—Summary Compensation Table", which are calculated in accordance with FASB ASC Topic 718, .

3 Based on our compensation benchmarking data, the Total Target Compensation for Messrs. Andrews, Goff, Stansbury and Trezise was near the 50th percentile of compensation paid to comparable executives, and near the 25th percentile for Ms. Johnson.

Each of these elements is discussed in greater detail below. For more information on how we determined specific pay levels in 2022, see further discussion under the heading "—Compensation Benchmarking Peer Group."

Base Salary

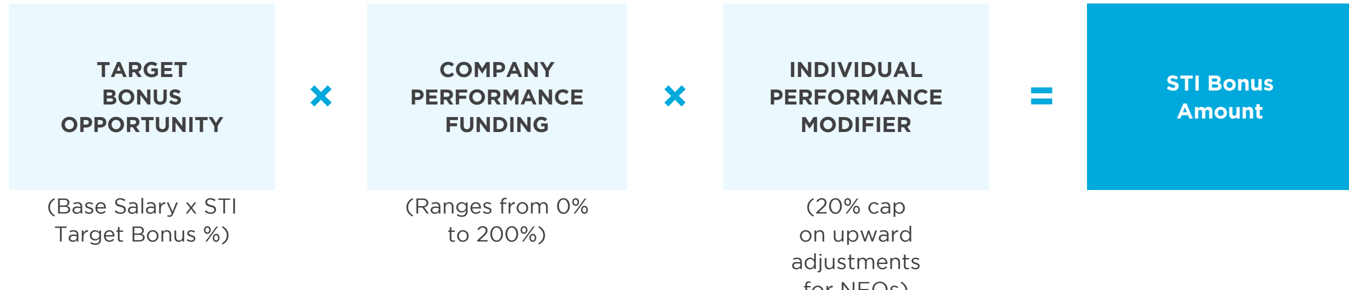
Early each year, the HRCC takes a number of steps in connection with setting annual base salaries, including the review of (i) compensation tally sheets and benchmarking data, (ii) each senior officer's pay and performance relative to other senior officers, (iii) the scope and complexity of the officer's role, (iv) the officer's experience and proficiency and the criticality and skill set needed to execute the officer's role and (v) when the officer last received a pay increase.

Annual Review Process (February 2022). During its annual review of executive compensation in February 2022, the HRCC reviewed the compensation benchmarking data for each senior officer, comparing the officer's pay to our peer group. Following this review and discussion, the HRCC increased Mr. Goff's annual base salary to $660,000 and left unchanged the base salaries for our other NEOs employed at the time.

Mid-Year Actions (November 2022). In November 2022, the HRCC reviewed updated compensation benchmarking data for all executive officers and increased the salary of Mr. Andrews to $650,000, Mr. Goff to $700,000, Mr. Stansbury to $800,000 and Mr. Trezise to $575,000.

2022 Short-Term Incentive Program

As described below, the 2022 STI design incorporates three components in determining the calculated STI bonus amount (payout) for our NEOs:



2022 STI Performance Metrics

As discussed in detail below, for 2022, the HRCC maintained the same STI design and metrics as the prior year, and increased Revenue weighting by 10% and decreased Free Cash Flow weighting by 10% from the prior year. This aligns with our strategy of pursuing profitable growth.

As described further below, 90% of our 2022 STI was based on three financial metrics, two of which are non-GAAP measures that exclude special items as described in Appendix A, and all three include certain adjustments for our incentive plans described further below in this section. The remaining 10% was based on qualitative metrics measuring Customer Experience.

In February 2022, the HRCC approved the 2022 STI Plan metrics and set the following "threshold," "target" and "maximum" target goals for each metric:

- **2022 Target:** In February 2022, the HRCC approved the below described targets, which were subsequently increased to reflect the impact of the delay in closing the sales of our Latin American and 20-state ILEC business.
- **Consistent with Publicly Disclosed Guidance and Board-Approved Annual Budget:** In February 2022, we disclosed Adjusted EBITDA and Free Cash Flow guidance of $6.5 to $6.7 billion and $1.6 to $1.8 billion, respectively, which included the accounting impacts of assets and liabilities held for sale and assumed a mid-year 2022 sale of our Latin American and 20-state ILEC business.
- **Year Over Year:** Targets for 2022 were set at a lower level than 2021 results. The HRCC nonetheless believes these 2022 performance targets were rigorously set at challenging levels, after taking into consideration, but not limited to, the impact of the following:
  - our 2022 divestitures and dis-synergies related to those transactions and the planned divestiture of the EMEA business;
  - the COVID-19 pandemic and the ensuing macroeconomic environment, as described further in our periodic reports filed with the U.S. Securities and Exchange Commission; and
  - trends impacting our operations that exerts significant pressure on achieving the same or higher year-over-year performance, which include, but are not limited to a prolonged systemic decline in demand for our legacy copper-based wireline mass market services, weaker demand for certain older enterprise services, changing customer preferences, increasing pricing pressures and higher inflation.

For additional information on Lumen and our recent performance, see Item 7. Management's Discussion and Analysis of the Financial Condition and Results of Operations included in Appendix B.

Adjusted EBITDA (weighted 50%)

Alignment to Strategy

Adjusted EBITDA remains our most heavily-weighted STI financial performance objective at 50% for 2022. We believe this metric is aligned with our shareholders' best interests and our corporate strategy of pursing profitable growth. As described elsewhere herein, in light of the systemic revenue decline for our higher-margin legacy services, we continuously need to adjust our cost structure - requiring a disciplined focus on Adjusted EBITDA and margins. The metric of Adjusted EBITDA is designed to incentivize and reward our senior officers to focus on both cost savings and profitable revenue growth.

Payout as a % of Target Award	Threshold 50%	Target[(2)] 100%	Maximum 200%	Results[(3)]
Target Amount of Adjusted EBITDA[(1)] (in millions)	$6,766	$6,997	$7,382	Below target
				ACHIEVED PAYOUT OF 74.1%[(4)]

1 As used in our 2022 STI plan, adjusted earnings before interest, taxes, depreciation, amortization and stock-based compensation expense ("Adjusted EBITDA") is a non-GAAP metric that excludes certain one time or non-recurring charges or credits and eliminates the effects of certain unanticipated, extraordinary, unusual, or non-recurring transactions or items. See Appendix A for more information.

2 Target includes a $423 million increase to Adjusted EBITDA target approved by the HRCC in February 2022 to reflect the positive impacts of (i) Latin American divestiture closing approximately one month later than originally projected in the budget and (ii) the 20-state ILEC divestiture closing approximately three months later than originally projected in the budget. See "Section Three - Incentive Program Guidelines" for more information.

3 As used in our 2022 STI plan, results include $9 million of reduced Adjusted EBITDA to reflect the net effect of certain charges or credits to eliminate the impact of certain unanticipated, extraordinary, unusual, or non-recurring transactions or items not reflected in Appendix A. See "Section Three - Incentive Program Guidelines" for more information.

4 The achieved payout percentage is calculated for each financial performance objective based on a corresponding payout scale approved by the HRCC. If the threshold performance level with respect to any particular financial performance objective under our STI program is not attained, the bonus payable to the participating officer with respect to that portion of his or her targeted bonus opportunity will be calculated as zero. If threshold performance is met on any particular metric, each participating officer will earn a reduced portion of his or her target bonus amount for that portion of the award. If the maximum performance level with respect to any particular metric is met or exceeded, each participating officer will earn a maximum of 200% of his or her target bonus amount for that portion of the award. Measurement of the attainment of any particular metric is interpolated if actual performance is between (i) the "threshold" and the "target" performance levels or (ii) the "target" and the "maximum" performance levels.

Revenue (Weighted 25%)

Alignment to Strategy

The generation of revenue is critical to our goal of increasing revenue from our growth products in amounts sufficient to offset our continuing and systemic legacy revenue losses. Thus, we included revenue as a metric and increased its weighting from 15% to 25% for our 2022 STI plan.

The HRCC believes our senior officers are appropriately incentivized to achieve our 2022 revenue targets with a balanced approach, since the majority of our 2022 STI is based on Adjusted EBITDA and free cash flow, which rewards our senior officers for achieving profitable revenue growth.

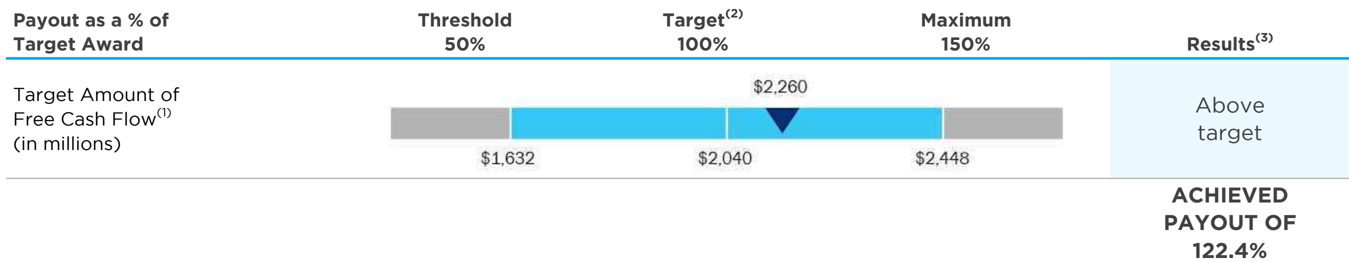
1 Target includes $584 million increase to Revenue target approved by HRCC in February 2022 to reflect the positive impacts of (i) the Latin American divestiture closing approximately one month later than originally projected in the budget and (ii) the ILEC divestiture closing approximately three months later than originally projected in the budget. See "Section Three - Incentive Program Guidelines" for more information.

2 As used in our 2022 STI plan, results include $55 million of additional revenue to reflect the net effect of certain charges or credits to eliminate the impact of certain unanticipated, extraordinary, unusual, or non-recurring transactions or items not reflected in Appendix A. See "Section Three - Incentive Program Guidelines" for more information.

Free Cash Flow (Weighted 15%)

Alignment to Strategy

Free Cash Flow is important to supporting our ability to pay our debt when due and reduce our consolidated indebtedness. We continued to include Free Cash Flow as a metric, but decreased its weighting from 25% to 15% for our 2022 STI plan to place more emphasis on revenue growth.



1 As used in our 2022 STI plan, Free Cash Flow is a non-GAAP measure of net cash from operating activities less capital expenditures, adjusted for certain one-time or non-recurring charges or credits and eliminates the effects of certain unanticipated, extraordinary, unusual, or non-recurring transactions or items. See Appendix A for more information.

2 Target includes $319 million increase to Adjusted EBITDA target approved by HRCC in February 2022 to reflect the positive impacts of (i) the Latin American divestiture closing approximately one month later than originally projected in the budget and (ii) the 20-state ILEC divestiture closing approximately three months later than originally projected in the budget. See "Section Three - Incentive Program Guidelines" for more information.

3 As used in our 2022 STI plan, results include $0.8 million of additional Free Cash Flow to reflect the net effect of certain charges or credits to eliminate the impact of certain unanticipated, extraordinary, unusual, or non-recurring transactions or items not reflected in Appendix A. See "Section Three - Incentive Program Guidelines" for more information.

Customer Experience (Weighted 10%)

Alignment to Strategy

We are committed to meeting the needs of all our customers. Improving customer satisfaction and service scores, reducing customer inconveniences and decreasing repair times are critical to supporting our goal of attracting business and improving our revenue trajectories.

We believe the ease of doing business with the Company is a top driver of customer loyalty, which will be reflected in Net Promoter Score (NPS). Customer experience research suggests increased promoter scores will generate increased customer spending within 24 months. As such, the primary measures for Customer Experience performance are NPS and Customer Ease Score (CES).

2022 Goals

Although there are quantitative metrics that we use to measure our Customer Experience, the overall metric is qualitative in nature. Each business unit is charged with improving relationships with our customers and is part of the annual planning process. Our customer experience goals and transformation programs are informed and prioritized using customer data trends and insights. Using regression analysis, we can model which programs drive the greatest improvements for the greatest number of customers. For goal setting, we consider historical Lumen performance trends and industry benchmarks to ensure that we are setting appropriate growth targets by segment.

Targets

In February 2022, as part of a bold ambition to improve customer experience, the HRCC approved the following aspirational goals and objectives for our 2022 STI plan:

- Execute Company-wide on transformative programs that truly improve the way we operate in order to improve relationship NPS and CES for each of our business units
- Improve relationship NPS (rNPS) and CES for each of our business units

Performance Highlights

Based on macro-economic pressures our industry averaged a score of -4 rNPS, a loss of 4pts, that was not predicted. During 2022, we still achieved year over year improvement and outperformed our industry with slight gains in rNPS in most categories rather than losses.

As a result of these factors, the HRCC approved 100% funding for our 2022 customer experience goal.

ENTERPRISE RESULTS

- Relationship NPS +0.6
- Relationship CES +0
- Transactional scores up year over year

MASS MARKETS RESULTS

- Relationship NPS +2.5
- Relationship CES +1
- Transactional scores up year over year

QUANTUM FIBER RESULTS

- Relationship NPS -6.6
- Relationship CES -1
- Transactional scores are mixed year over year

NETWORK OPERATIONS PERFORMANCE

- Exceeded Enterprise transactional goals
- Exceeded Consumer transactional goals

ACHIEVED PAYOUT OF 100%

HRCC STI Award Oversight

In February 2023, the HRCC reviewed audited results of the Company's performance as compared to the financial and operational performance targets and respective weighting for the established metrics for our 2022 STI plan and determined that the calculated STI payout based on Company performance was 91% (as confirmed by our Internal Auditors), based on the financial metrics detailed above, before considering each NEO's individual performance modifier as discussed below.

For the individual performance multiplier, the HRCC has adopted a cap on upward adjustments of 20% of the STI amount otherwise payable based on Company performance. For 2022, no individual adjustment exceeded this percentage.

Bonus Amounts

As contemplated by the STI plan and the Guidelines, the HRCC reserves the right to increase or decrease the STI bonus payout level based on their qualitative assessments for each senior officer's performance against certain specific objectives and benchmarks, as well as overall company and individual performance during the year. For 2022, these adjustments are indicated in the "Individual Performance Modifier" heading in the table below. In certain circumstances, the HRCC may apply discretion to modify senior officer compensation, with any upward adjustments for NEOs capped at 20% (or 120% of company performance funding). The HRCC discussed each NEO's 2022 performance and leadership accomplishments and approved the following Individual Performance Modifiers, as quantified in the table below.

NEO	Individual Performance Scorecard	Individual Performance Modifier
Current NEOs		
Ms. Johnson	■ Quickly hired three world-class executive and senior officers to position the company for growth ■ Launched our "North Star" project to bring clarity around Lumen's strategy ■ Reorganized internal product and technology teams to deliver customer solutions with improved speed and agility	100%
Mr. Stansbury	■ Provided significant support for successful divestitures of our Latin American and 20-state ILEC businesses ■ Focused leadership on investments for growth and long-term success and revising our capital allocation priorities	100%
Mr. Goff	■ Provided significant support for successful divestitures of our Latin American and 20-state ILEC businesses ■ Enabled Quantum Fiber rollout ■ Legal oversight to exit business operations in Russia	100%
Mr. Andrews	■ Because Mr. Andrews was terminated without cause after year-end, he was entitled under our STI plan to receive a 2022 STI bonus and an individual performance multiplier of 90%	90%
Mr. Trezise	■ Successfully transitioned 5,300 employees as part of the divestitures of our Latin American and 20-state ILEC businesses ■ Supported the HRCC in the transition of our CEO and CFO and another executive officer, plus three senior officers ■ Successfully negotiated the CWA labor agreement ahead of schedule for significant costs savings and avoidance of labor disruptions	100%
Former NEOs		
Mr. Storey	■ In accordance with the terms of our STI plan and Mr. Storey's amended and restated offer letter, and having met the retirement age and service requirements upon his retirement on December 31, 2022, Mr. Storey was contractually entitled to receive a 2022 STI bonus and individual performance multiplier of 100%	100%
Mr. Dev	■ Because Mr. Dev was terminated without cause in the second quarter of 2022, he was entitled under our STI plan to receive a pro-rated 2022 STI bonus and an individual performance multiplier of 90%	90%

The HRCC approved each NEO's STI bonus as summarized in the table below.

2022 STI Bonus Amounts

NEO	Target Bonus Opportunity[(1)]		Company Performance Funding[(2)]		Individual Performance Modifier[(3)]		Calculated STI Bonus Amount
Current NEOs							
Ms. Johnson	$ 361,680	X	91%	X	100%	=	$ 329,129
Mr. Stansbury	706,500	X	91%	X	100%	=	642,915
Mr. Goff	787,605	X	91%	X	100%	=	716,721
Mr. Andrews	562,600	X	91%	X	90%	=	460,769
Mr. Trezise	531,293	X	91%	X	100%	=	483,477
Former NEOs							
Mr. Storey	$3,600,022	X	91%	X	100%	=	$ 3,276,020
Mr. Dev	233,719	X	91%	X	90%	=	191,416

1 Determined based on earned salary and applicable STI target bonus percentage during 2022. The amount for Ms. Johnson reflects a pro-rated amount based on 55 days of employment during 2022 (from hire date of November 7, 2022). The amount for Mr. Stansbury reflects a pro-rated amount based on 272 days of employment during 2022 (from hire date of April 4, 2022) and also an increase in salary (from $750,000 to $800,000), effective as of November 16, 2022. The amount for Mr. Goff reflects a pro-rated amount based on salary increase (from $600,017 to $660,000 and from $660,000 to $700,000), effective as of February 23, 2022 and November 16, 2022, respectively. The amount for Mr. Andrews reflects a pro-rated amount based on an increase in salary (from $550,000 to $650,000), effective as of November 16, 2022. The amount for Mr. Trezise reflects a pro-rated amount based an increase in salary (from $524,992 to $575,000), effective as of November 16, 2022. The amount for Mr. Dev reflects a pro-rated amount based on 91 days of employment during 2022 (through termination date of April 1, 2022).

2 Calculated and adjusted as discussed above.

3 See "Bonus amounts" above.

2022 Long-Term Incentive Compensation

For 2022, our annual LTI grants consisted of a mix of time- and performance-based equity awards, as described below.

Form of LTI Award	Mix: Former CEO	Mix: Current CEO and NEOs	Vesting and Performance Period
Time-Based Restricted Stock or RSUs (TBRS)	36%	40%	One-third vesting each year over three-years; subject to continued service on vesting date.
Performance-Based Restricted Stock or RSUs (PBRS)	64%	60%	Three-year performance period with vesting on March 1, 2024 with payout ranging from 0% to 200% based on achievement as measured against performance metrics subject to continued service through vesting date.

2022 LTI Grants

The HRCC granted annual LTI awards to our then-current NEOs on February 25, 2022 at their respective LTI target grant values with the same mix as the awards granted to them in 2021. In February 2022, the HRCC reviewed the compensation benchmarking data for all executive officers and left unchanged the LTI target grant values from prior year. See further discussion under the heading "Role of Peer Companies" below.

Effective upon Mr. Stansbury's start date on April 4, 2022 and in accordance with his offer letter dated March 24, 2022, the HRCC granted a 2022 LTI award at his LTI target grant value of $4,350,000, with a mix of 40% TBRS and 60% PBRS with performance measured against the same metrics as other 2022 LTI awards granted to our other executives in February 2022.

Effective upon Ms. Johnson's start date on November 7, 2022 and in accordance with her offer letter dated September 12, 2022, the HRCC granted a pro-rated 2022 LTI award of $2,375,000, which is one sixth (representing approximately 2 months of employment during 2022) of her LTI target of $14,250,000, all of which consisted of TBRS with graded-vesting on the first, second and third anniversary of the grant date.

No performance-based restricted shares were awarded since ten months of the performance period had already lapsed. In March 2023, Ms. Johnson received a 2023 annual LTI award at her LTI target of $14,250,000, with a mix of 40% TBRS and 60% PBRS, which PBRS awards remain subject to the approval of the Amended and Restated Plan at the meeting.

2022 Annual LTI Grants

	Time-Vested Restricted Shares or RSUs		Performance-Based Restricted Shares or RSUs		
Named Officer	No. of Shares(1)(3)	Grant Value(4)	No. of Shares(2)(3)	Grant Value(4)	Total Grant Value(4)
Current NEOs					
Ms. Johnson(5)	351,118	$ 2,375,000	—	$ —	$ 2,375,000
Mr. Stansbury	157,622	1,740,000	236,435	2,610,000	4,350,000
Mr. Goff	84,488	900,000	126,734	1,350,000	2,250,000
Mr. Andrews(6)	60,080	640,000	90,122	960,000	1,600,000
Mr. Trezise	56,326	600,000	84,489	900,000	1,500,000
Former NEOs					
Mr. Storey(7)	473,137	5,040,000	841,133	8,960,000	14,000,000
Mr. Dev(8)	159,590	1,700,000	239,385	2,550,000	4,250,000

1 For Mr. Stansbury, represents the number of restricted shares granted April 4, 2022 with graded vesting on April 4, 2023, 2024, 2025. For Messrs. Dev, Goff, Andrews and Trezise, represents the number of restricted shares and for Mr. Storey represents the number of RSUs, all granted on February 25, 2022 with graded-vesting on March 1, 2023, 2024 and 2025.

2 For Messrs. Dev, Goff, Andrews and Trezise, represents the target number of performance-based restricted shares and for Mr. Storey represents the target number of performance-based RSUs, all granted on February 25, 2022 with three-year cliff vesting on March 1, 2025. For Mr. Stansbury, reflects the performance-based restricted shares granted on April 4, 2022 with three-year cliff vesting on April 4, 2025. As discussed under “2022 LTI Performance Metrics” below, the actual number of shares that vest in the future may be lower or higher, depending on the level of performance achieved.

3 Dividends on the shares of restricted stock (or, with respect to RSUs, dividend equivalents) will not be paid on unvested awards but will accrue and be paid or be forfeited in tandem with the vesting of the related shares or RSUs.

4 For purposes of these grants, we determined both the number of time-vested and target performance-based restricted shares or RSUs granted by dividing the total grant value approved for the executive by the volume-weighted average closing price of a share of our common stock over the 15-trading-day period ending one trading day prior to the grant date, rounding to the nearest whole share. However, as noted previously, for purposes of reporting these awards in the Summary Compensation Table, our shares of time-vested restricted stock or RSUs are valued based on the closing price of our common stock on the date of grant and our shares of performance-based restricted stock or RSUs are valued as of the grant date based on probable outcomes, as required by applicable accounting and SEC disclosure rules. See footnote 1 to the Summary Compensation Table for more information.

5 Represents the number of restricted shares for Ms. Johnson granted on November 7, 2022 with graded-vesting on November 7, 2023, 2024 and 2025. If Ms. Johnson is terminated without Cause or terminated with Good Reason before the third anniversary of her start date, a prorated number of outstanding awards (based on number of days from the grant date to the separation date) will accelerate, with the remaining outstanding shares being forfeited.

6 Mr. Andrews’ 2022 LTI grant was forfeited in its entirety upon his termination on March 3, 2023.

7 Mr. Storey’s 2022 LTI grant was accelerated in its entirety upon his retirement on December 31, 2022, in accordance with his amended and restated offer letter.

8 Mr. Dev’s 2022 LTI grant was forfeited in its entirety upon his termination on April 1, 2022.

2022 LTI Performance Metrics

The 2022 metrics approved by the HRCC in early 2022 were consistent to those used in 2021 and, as described further below, align with our corporate strategy and are designed to strike the right balance between performance incentives and long-term shareholder interests.

- **Cumulative Adjusted EBITDA** – Weighted at 50%. Adjusted EBITDA measures the operational performance and profitability of our businesses as we continue to make progress on our telecommunications to technology transformation strategy.
- **Relative TSR** – Weighted at 50%. We believe this metric best aligns the interests of our shareholders with those of our executives.

Following the end of the three-year performance period, the number of shares vesting under the PBRS granted in 2022 will be calculated by: (i) determining achievement of the three-year Cumulative Adjusted EBITDA target and (ii) determining achievement of Lumen's TSR performance relative to our TSR Peer Group, each of which is described further below. Each metric is calculated independently with the ultimate payout ranging between zero to 200% of the target number granted. Any shares earned under the PBRS will vest in full on March 1, 2025, subject to the holder's continued employment through that date (except as otherwise provided in the applicable award agreement).

Cumulative Adjusted EBITDA Metric (weighted 50%)

Alignment to Strategy

As noted in our discussion of STI metrics above, in light of the revenue systemic decline for our high-margin, legacy voice and copper wireline services, we annually adjust our cost structure, requiring a disciplined focus on Adjusted EBITDA and margins. The metric of Adjusted EBITDA incentivizes our senior officers to focus on both cost savings and profitable revenue growth. For this reason, the HRCC elected to use Adjusted EBITDA as a performance metric for both 2022 STI and LTI awards, albeit measured over different periods.

Rigor of Goal Setting

The HRCC based the three-year Cumulative Adjusted EBITDA targets on our long-range plan, which we believe included significant stretch goals and aligned with market consensus.

The HRCC believes that these targets were set at levels that were both appropriate and sufficiently rigorous, particularly when viewed in light of (i) our industry operating environment, (ii) wireline industry trends, (iii) the competitive landscape, (iv) product lifecycles, (v) our operational initiatives, (vi) our capital allocation priorities and (vii) several other Company-specific items that influence our business.

Performance Level Attainment	Target Amount of Cumulative Adjusted EBITDA[1]	Payout as a % of this Component of Target Award[2]
Maximum	≥ Maximum Amount	200%
Target	Target Amount[3]	100%
Threshold	Threshold Amount	50%
Below Threshold	< Threshold	0%

1 Cumulative Adjusted EBITDA is the sum of our Adjusted EBITDA excluding special items (except with adjustments to reflect a 100% bonus accrual for each year) for 2022, 2023 and 2024. See Appendix A for more information.

2 Payouts interpolated between defined performance levels.

3 We do not feel it is appropriate to disclose our Cumulative Adjusted EBITDA target as it would constitute competitively sensitive forward-looking guidance.

Relative TSR Metric (Weighted 50%)

Alignment to Strategy

The HRCC believes a relative metric is an important way to ensure that Lumen's performance is measured appropriately relative to peers. Our Relative TSR performance shares are measured on our percentile rank versus the other 15 companies in our TSR peer group over the three-year period, which could result in a payout of zero to 200% of this component of the target award. However, if Lumen's TSR is negative over the three-year period, the payout cannot exceed target regardless of our TSR performance relative to our peers. We believe this cap better aligns the LTI payout with the interests of our shareholders if our TSR is negative over the three-year performance period.

Rigor of Goal Setting

With the aid of its compensation consultant, the HRCC set a TSR peer group that is focused principally on broader universe of companies we believe investors are considering when they decide whether to invest in us or our industry. As a result, our TSR peer group is comprised of telecommunications, cable and other communications companies that are generally comparable to us in terms of size, markets and operations. For information regarding our TSR peer group, see further discussion under the heading "— TSR Peer Group" below.

	Target	Payout as a % of this Component of Target Award[(1)]
Maximum	≥ 75th Percentile	200%
Target	50th Percentile	100%
Threshold	25th Percentile	50%
Below Threshold	< 25th Percentile	0%

1 Payouts interpolated between defined performance levels.

Outstanding Performance-Based LTI Awards

As of December 31, 2022 and illustrated in the table below, we had three outstanding tranches of LTI awards, granted in 2020, 2021 and 2022, with overlapping three-year performance periods and performances metrics of Cumulative Adjusted EBITDA and Relative TSR.

Grant Year	Performance Period	Metric Weighting	2020	2021	2022[(1)]	2023	2024
2020[(2)]	2020-2022	100%	3-YR Cumulative Adjusted EBITDA[(4)] +/- 20% Relative TSR Modifier				
2021[(2)]	2021-2023	50%		3-YR Cumulative Adjusted EBITDA			
		50%		3-YR Relative TSR			
2022[(3)]	2022-2024	50%			3-YR Cumulative Adjusted EBITDA		
		50%			3-YR Relative TSR		

1 The sale our Latin American and 20-state ILEC business, which were completed in August 2022 and October 2022, respectively, occurred during the third, second and first year of each three-year performance period for our outstanding 2020, 2021 and 2022 LTI awards, respectively.

2 For our 2020 and 2021 PBRS, the Cumulative Adjusted EBITDA targets were set in the first quarter of their respective three-year performance period and we had not yet entered into definitive agreements for these divestitures. As such, the targets assumed our continued operations of those businesses throughout the full three-year performance period. As discussed in further detail below (under the heading "LTI Linkage to Performance"), in February 2023, the HRCC approved adjustments to measure our performance results to prevent holders of PBRS Awards from being penalized by the impact of these transactions.

3 When the three-year Cumulative Adjusted EBITDA target was set in the first quarter of 2022, the Company expected its pending divestitures of both its Latin American and 20-state ILEC business to close in 2022, but did not know the actual closing date. For purposes of setting this target, the HRCC assumed both divestitures would close on July 1, 2022. The sale our Latin American and 20-state ILEC business were actually completed in August 2022 and October 2022, respectively. The HRCC plans to make adjustments to targets to prevent holders of PBRS from receiving an unintended benefit from these delays.

4 For more information on below threshold 0% payout for our 2020 PBRS, see "LTI Linkage to Performance" below.

LTI Linkage to Performance - No Payouts Under 2020 PBRS Awards

The three-year performance period for our 2020 PBRS ended on December 31, 2022 and was based on performance against Cumulative Adjusted EBITDA target and a relative TSR modifier. The number of shares vesting were calculated in two-steps: (i) determining achievement of the three-year Cumulative Adjusted EBITDA target and (ii) applying the Relative TSR modifier, with the ultimate payout ranging between 0%-200% of the number granted. Any shares earned under the PBRS were scheduled to vest in full on March 1, 2023, subject to the holder's continued employment through that date (except as otherwise provided in the applicable award agreement).

Our 2020 Cumulative Adjusted EBITDA targets were set in the first quarter of 2020 based on our long-range plan, before the COVID-19 global pandemic was known. Within the first few months of the three-year performance period, as the pandemic spread across the world, the Company, in real time, adjusted our operational priorities while continuing to focus on the long-term execution of our business. Many of our existing and potential enterprise customers were affected by uncertainty related to the pandemic, resulting in some delayed decision making which extended sales cycles. Despite this challenging backdrop, we achieved results of $8,105, $7,843 and $7,547 million for 2020, 2021 and 2022, respectively, achieving $23,495 million Cumulative Adjusted EBITDA for the three-year period ending December 31, 2022. The HRCC made no adjustments to our targets or results for any of the impacts the COVID-19 global pandemic had on our performance.

	Target Amount of Adjusted EBITDA[1]	Payout as a % of Target Award	Results:	
Maximum	≥ $26,000 million	200%	**$23,495 million[2] (Below threshold)**	**ACHIEVED PAYOUT OF 0%[3]**
Target	$25,500 million	100%		
Threshold	$24,500 million	50%		
Below Threshold	< $24,500 million	0%		

1 As used in our 2020 STI plan, adjusted earnings before interest, taxes, depreciation, amortization and stock-based compensation expense ("Adjusted EBITDA") is a non-GAAP metric that excludes certain one time or non-recurring charges or credits and eliminates the effects of certain unanticipated, extraordinary, unusual, or non-recurring transactions or items. See Appendix A for more information.

2 As used in our 2020 LTI plan, results include an increase of $535 million Adjusted EBITDA (not reflected in Appendix A) to reflect the sale our Latin American and 20-state ILEC business, which were completed in August 2022 and October 2022, respectively. The targets for our 2020 Cumulative Adjusted EBITDA were set before we entered into these definitive agreements and thus the targets assumed our continued operations of those businesses during the entire three-year performance period. These adjustments were necessary to measure our performance results in the same manner the targets were set in the first quarter of 2020. (i.e. reflect the net effect of certain charges or credits to eliminate the impact of certain unanticipated, extraordinary, unusual, or non-recurring transactions or items. See "Section Three - Incentive Program Guidelines - Mandatory Adjustments to Results."

3 The achieved payout percentage is calculated for each financial performance objective based on a corresponding payout scale approved by the HRCC. If the threshold performance level with respect to any particular financial performance objective under our STI program is not attained, the bonus payable to the participating officer with respect to that portion of his or her targeted bonus opportunity will be calculated as zero. If threshold performance is met on any particular metric, each participating officer will earn a reduced portion of his or her target bonus amount for that portion of the award. If the maximum performance level with respect to any particular metric is met or exceeded, each participating officer will earn a maximum of 200% of his or her target bonus amount. Measurement of the attainment of any particular metric is interpolated if actual performance is between (i) the "threshold" and the "target" performance levels or (ii) the "target" and the "maximum" performance levels.

No Earned 2020 PBRS Payout:

Our Cumulative Adjusted EBITDA performance of $23.5 billion was below threshold of $24.5 billion, resulting in 0% payout of the 2020 PBRS awards. As such, no relative TSR modifier was applied and all performance-based restricted shares or RSUs, as well as the related accrued dividends or dividend equivalents, granted to our executive officers, as well as approximately 1,130 employees who participated in our 2020 LTI program, were forfeited on March 1, 2023.

2022 On-Boarding Equity Grants

As part of negotiating their offer packages, Ms. Johnson and Mr. Stansbury received on-boarding equity awards. In the case of both, the HRCC's independent compensation consultant advised that these awards were customary in connection with recruiting new CEOs and CFOs, and the HRCC Committee determined that such grants were necessary to induce each to accept. The HRCC further believed that for Mr. Stansbury, his on-boarding grant was appropriate to partially offset equity and pension benefits that he forfeited upon his departure from his then current employer and for Ms. Johnson, her award aided in transition costs. See further discussion under the heading "—2022 Leadership Transition" above.

2022 On-Boarding Equity Grants

	Time-Vested Restricted Shares	
Named Officer	No. of Shares[3]	Grant Value[4]
Ms. Johnson[1]	147,839	$ 1,000,000
Mr. Stansbury[2]	339,705	$ 3,750,000

1 Represents the number of time-based restricted shares granted to Ms. Johnson on November 7, 2022 with cliff vesting on first anniversary and subsequent holding requirement until the second anniversary of the grant date. If Ms. Johnson is terminated without Cause or terminated with Good Reason before the third anniversary of her start date, a prorated number of outstanding awards (based on number of days from the grant date to the separation date) will accelerate, with the remaining outstanding shares being forfeited.

2 Represents the number of time-based restricted shares granted to Mr. Stansbury on April 4, 2022. (i) 67,941 which have graded-vesting on April 4, 2023, 2024 and 2025 and (ii) 271,764 which have graded-vesting on April 4, 2027 and 2029.

3 Dividends on the shares of restricted stock will not be paid on unvested awards but will accrue and be paid or be forfeited in tandem with the vesting or forfeiture of the related shares.

4 For purposes of these grants, we determined the number of time-vested restricted shares by dividing the total grant value granted to the executive by the volume-weighted average closing price of a share of our common stock over the 15-trading-day period ending one trading day prior to the grant date, rounding to the nearest whole share. However, as noted previously, for purposes of reporting these awards in the Summary Compensation Table, our shares of time-vested restricted stock are valued based on the closing price of our common stock on the date of grant. See footnote 1 to the Summary Compensation Table for more information.

Share Dilution, Burn Rate and Stock-Based Compensation Expense

As part of their governance and oversight function, the HRCC approves the LTI grant values for our officers and, under delegated authority, approximately 1,580 eligible employees who participated in our 2022 annual LTI program. The HRCC also closely monitors our share usage, burn rate, dilution and overhang levels.

As noted herein under the heading “Item 3 - Approval of Our Amended and Restated 2018 Equity Incentive Plan,” as of December 31, 2022, we had approximately 18.5 million shares authorized for future issuance. Our stock-based compensation expense during any particular period reflects expense for outstanding awards during that period, generally covering three different annual LTI awards and, to a lesser degree, other awards for our LTI participants that were granted upon hire or promotion throughout the year.

On a quarterly basis, the HRCC reviews our share usage and burn rate projections. For 2020 and 2021, our burn rate, dilution and overhang levels were within or below industry benchmark levels. We experienced a slight increase in our 2022 burn rate, following the decline in our stock price after announcing the elimination of our dividend.

See “Item 3 - Approval of Our Amended and Restated 2018 Equity Incentive Plan” for more information.

What’s New

In 2023, to manage our share usage, burn rate, dilution and overhang levels, we granted 2023 annual LTI awards to approximately 1,400 employees below the executive level in the form of cash instead of equity. No changes were made to the historical grant practices for our executive officers. Cash-settled LTI awards are intended to be a temporary measure, which may continue until economic conditions allow for equity awards to be reinstated to employees below the executive level.

Other Benefits

As a final component of executive compensation, we provide certain benefits designed to be competitive, in the aggregate, with similar benefits provided by our peers. We summarize these additional benefits below.

Retirement Plans

We maintain traditional broad-based qualified defined benefit and defined contribution retirement plans for our employees who meet certain eligibility requirements. In addition to these qualified plans, we maintain nonqualified plans that permit our officers to receive or defer supplemental amounts in excess of contribution caps under the Code that limit the amount of benefits highly compensated employees are entitled to receive or contribute under qualified plans. Additional information regarding our retirement plans is provided in the tables and accompanying discussion included below under the heading "Compensation Tables."

Change of Control Arrangements

We have agreed to provide cash and other severance benefits to each of our executive officers who is terminated under certain specified circumstances following a change of control of Lumen.

Ms. Johnson entered into a change of control agreement which entitles her to receive, under certain specified circumstances following a change of control of Lumen, (i) a lump sum payment equal to two and one-half times the sum of (1) her base salary in effect at the date of termination plus (2) her target STI amount for the year in which the date of termination occurs; (ii) a pro-rata bonus for the year of termination paid in the ordinary course based on actual performance; (iii) two years of continued life insurance, disability, medical, dental and hospitalization benefits (or an equivalent lump-sum payment where necessary to comply with plan terms); and (iv) outplacement assistance for one year.For each of our other NEOs, if triggered, the benefits under these change of control agreements include payment of (i) a lump sum cash severance payment equal to a multiple of the officer's annual cash compensation, (ii) the officer's STI bonus, based on actual performance and the portion of the year served, (iii) certain welfare benefits for a limited period and (iv) the value or benefit of any LTI compensation, if and to the extent that the exercisability, vesting or payment thereof is accelerated or otherwise enhanced upon a change of control pursuant to the terms of any applicable long-term equity incentive compensation plan or agreement.

Under these agreements, change of control benefits are payable to our executive officers if within a certain specified period following a change in control (referred to as the "protected period"), the officer is terminated without cause or resigns with "good reason," which is defined to include a diminution of responsibilities, an assignment of inappropriate duties and a transfer of the officer exceeding 50 miles.

The table below shows (i) the length of the "protected period" afforded to officers following a change of control and (ii) the multiple of salary and bonus payment and years of welfare benefits to which officers will be entitled if change of control benefits become payable under our agreements and related policies:

	Protected Period	Multiple of Annual Cash Compensation	Years of Welfare Benefits
CEO	2 years	2.5 times	2.5 years
Other Executives	1.5 years	2 times	2 years
Other Officers	1 year	1 time	1 year

For more information on change of control arrangements applicable to our executives, including our rationale for providing these benefits, see "Compensation Tables — Potential Termination Payments — Payments Made Upon a Change of Control." For information on change of control severance benefits payable to our junior officers and managers, see "— Severance Benefits" in the next subsection below.

Severance Benefits

Our executive severance plan provides cash severance payments equal to two years of total targeted cash compensation (defined as salary plus the targeted amount of annual incentive bonus) for our CEO or one year of total targeted cash compensation for any other senior officer in the event that the senior officer is involuntarily terminated by us without cause in the absence of a change of control.

The table below shows (i) the multiple of salary and bonus payment and (ii) years of welfare benefits to which officers will be entitled if a senior officer is involuntarily terminated by us without cause in the absence of a change of control:

	Multiple of Annual Cash Compensation	Years of Welfare Benefits
CEO	2 times	2 years
Other Executives and Senior Officers	1 time	1 year

Under our executive severance plan, subject to certain conditions and exclusions, more junior officers or managers receive certain specified cash payments and other benefits if they are either (i) involuntarily terminated without cause in the absence of a change of control or (ii) involuntarily terminated without cause or resign with good reason in connection with a change of control. Our full-time non-represented employees not covered by our executive severance plan may, subject to certain conditions, be entitled to certain specified cash severance payments in connection with certain qualifying terminations.

Under a policy that we adopted in 2012, we have committed to seek shareholder approval of any future senior executive severance agreements providing for cash payments, perquisites and accelerated health or welfare benefits with a value greater than 2.99 times the sum of the executive's base salary plus target bonus.

Life Insurance Benefits

We sponsor a long-standing supplemental life insurance premium reimbursement plan that has been closed to new participants for nearly a decade. Only one of our current senior officers (Mr. Goff) holds supplemental life insurance policies for which we are obligated to pay the premiums. For 2022, we reimbursed Mr. Goff a total of $10,957 for these premiums.

Perquisites

Officers are entitled to be reimbursed for the cost of an annual physical examination, plus related travel expenses.

Our aircraft usage policy permits the CEO to use our aircraft for personal travel up to $200,000 per year ($250,000 per year for our former CEO) without reimbursing us and permits each other executive officer to use our aircraft for personal travel only if he or she pays for the cost of a flight in accordance with the terms of an Aircraft Timesharing Agreement. In all such cases, personal travel is permitted only if aircraft is available and not needed for superseding business purposes. Periodically, the HRCC reviews the cost associated with the personal use of aircraft by senior management and determines whether or not to alter our aircraft usage policy. In connection with electing to retain this policy, the HRCC has determined that the policy (i) provides valuable and cost-effective benefits to our executives that reside or frequently travel into our corporate headquarters that is located in a small city with limited commercial airline service, (ii) enables our executives to travel in a manner that we believe is more expeditious than commercial airline service and (iii) is being used responsibly by the executives.

For purposes of valuing and reporting the use of our aircraft, we determine the incremental cost of aircraft usage on an hourly basis, calculated in accordance with applicable guidelines of the SEC. The incremental cost of this usage, which may be substantially different than the cost as determined under alternative calculation methodologies, is reported in the Summary Compensation Table appearing below.

For more information on the items under this heading, see the Summary Compensation Table appearing below.

Other Employee Benefits

We maintain certain broad-based employee welfare benefit plans in which the executive officers are generally permitted to participate on terms that are either substantially similar to those provided to all other participants or which provide our executives with enhanced benefits upon their death or disability.

Special Transformation Awards

Our leadership team is experiencing recruitment, retention and motivational challenges following many years of revenue and adjusted EBITDA pressure, stock price decline, heavy workload to complete two divestitures in 2022 and a third pending divestiture. In November of 2022, following candid talent discussions with Ms. Johnson, the HRCC, with the assistance of its compensation consultant and management, approved transformation awards that were intended to incentivize the performance of certain key officers to complete two key transformation initiatives. Messrs. Andrews and Goff were selected to participate and the details of these awards are outlined below.In late 2022, given that Mr. Andrews was an internal candidate for the CEO position, the Company became concerned that he was a retention risk following the announcement of Mr. Storey's retirement and Ms. Johnson's appointment as CEO. Mr. Andrews had deep knowledge of our products and customers and was critical to the on-boarding of our new CEO. Additionally, within the first thirty days of Ms. Johnson's start date, she announced and selected Mr. Andrews to lead the North Star internal restructuring project ("North Star") that was targeted to be communicated in the first quarter of 2023 and used to define our long-term strategy and transformation. Mr. Andrews was uniquely qualified to lead this critical project.

The HRCC, in consultation with Ms. Johnson, other members of the Board and its compensation consultant, took two compensation actions to address this retention concern:

- First, as discussed elsewhere herein, in November 2022, the HRCC approved an increase in Mr. Andrew's salary and LTI target for 2023 (had he continued employment and received such award).
- Second, in December 2022, to further align Mr. Andrews' interests with the long-term strategy outlined by our new CEO, those of our shareholders and to incentivize him during the critical transformation period, the HRCC awarded him a special cash award of $1,000,000 ("Special Transformation Award") that was intended to vest in two equal installments (i) 50% ($500,000) would vest on April 1, 2023, provided that both (1) as of such date the North Star has been publicly announced by the Company, and (2) Mr. Andrews was continuously employed by the Company until and on April 1, 2023; and (ii) 50% ($500,000) would vest on December 31, 2023, provided that Mr. Andrews was continuously employed by the Company until and on December 31, 2023.

As discussed elsewhere herein, Mr. Andrews' employment was terminated without cause on March 3, 2023, which qualified him for payments under our executive severance plan and payment of his 2022 STI bonus under the terms of our STI program. In addition to these contractual arrangements, and conditioned upon Mr. Andrews' execution of a general release, the HRCC believed that it was appropriate and in the best interest of the Company and its shareholders to pay the first installment of Mr. Andrews' retention award in the amount of $500,000, due to vest and be payable on April 1, 2023, since Mr. Andrews had met the performance requirements for the first installment and assisted with successfully on-boarding our new CEO. All of Mr. Andrews' outstanding equity awards, including those granted to him in fiscal 2022, were forfeited upon his termination of employment.

Ms. Johnson also (i) quickly assessed the deep knowledge and leadership Mr. Goff provided in the value-accretive Latin American and ILEC divestitures in 2022 and (ii) determined that retaining Mr. Goff would be critical to successfully attaining the regulatory approvals necessary to complete the Company's pending EMEA divestiture (which is expected to close in late 2023 or early 2024).

The HRCC, in consultation with Ms. Johnson, other members of the Board and its compensation consultant, approved two compensation actions to incentivize Mr. Goff to continue as General Counsel through April 2024:

- First, and as discussed elsewhere herein, in November 2022, the HRCC approved an increase in his salary and increased his LTI target.
- Second, in December 2022, in order to further align Mr. Goff's interests with the Company's successful execution of the pending sale of our European operations, the HRCC awarded him a special cash award of $1,250,000 ("Special Transformation Award") that will vest in full (100%) on April 1, 2024 provided that both (1) on or before April 1, 2024, the Company's sale of its EMEA business to Colt Technology Services Group Limited has been completed or terminated by the Company's Board of Directors (and thus will not be completed) and (2) Mr. Goff remains continuously employed by the Company until April 1, 2024.

Section Five - HRCC Engagement and Compensation Governance

HRCC Human Capital Priorities

Our board recognized that a healthy culture, robust talent strategy, diverse workforce and engaged employee base are essential elements to our long-term success. As such, the HRCC has incorporated regular review and discussion of these topics into its charter. HRCC human capital resources priorities include:

Talent Management and Development

The HRCC is focused on growing and developing talent that is well positioned to meet the business' strategic priorities by supporting our success enablers to (i) be inclusive, (ii) own commitments and (iii) grow themselves, others and Lumen. Our success enablers are embedded in robust processes in the areas of goal setting, quarterly performance discussions, differentiated talent assessments, individual development and growth planning, and skills transformation. These processes are supported by a wide array of technical, sales, product and leadership training programs.

Culture Shaping and Engagement

The HRCC reviews management efforts and metrics to ensure that our culture fosters ethical behavior, promotes high levels of employee engagement and supports a high performance work environment. Our strategy strives to inspire employees with purpose as we demonstrate our many connections to furthering human progress through technology. At least twice a year a detailed engagement survey is completed to measure engagement and is reviewed with the HRCC. Our most recent engagement survey, completed in October 2022, yielded a substantial overall engagement score (71% positive) with a strong level of employee participation (67%).

Talent Acquisition

In 2022, we continued to raise the bar and focus on driving a culture of inclusion and diverse representation across our U.S. workforce resulted in positive changes through our talent selection and hiring processes. As a result of implementing these new processes the representation of diverse new hires increased by 3.4%, and our overall applicant traffic for diverse talent increased by 17.6% from the first to second half of the year despite a severe labor shortage throughout the nation.

The Lumen internship program continues to be best-in-class and is a critical diverse talent attraction effort and pipeline for our organization. For the fourth consecutive year, our internship program was recognized amongst the Top 100 internship programs. We also hired a record cohort for diversity with 47% female and more than 50% people of color. Over 60% of the university events we sponsored were minority servicing institutions inclusive of historically black, Asian, Hispanic and female Institutions.

Labor Relations

With 24% of our U.S. workforce unionized, it is important that proactive efforts are deployed to manage this strategic relationship. In 2022, we were able to negotiate ten expiring collective bargaining agreements, six of those contracts conveyed as part of the divestiture to Brightspeed and four remain with Lumen. Lumen constructively partners with union representatives where representation exists and aims to remain union-free where representation does not currently exist.

Diversity, Inclusion and Belonging

In 2022, we were proud to receive positive recognition for our efforts in the area of diversity and inclusion by being included in Forbes America's Best Employers for Diversity, Forbes World's Top Female Friendly Companies, and for once again receiving a 100% perfect score on the prominent Human Rights Campaign Foundation's Corporate Equality Index, which evaluates the LGBTQ climate in an organization. We also received a 100% perfect score on the Disability Equality Index from DisabilityIN, and we received several recognitions from diversity focused publications for our efforts in fostering a diverse and inclusive culture and environment. The HRCC continued its oversight on the expanded resource groups and ensuring that all management practices are positively impacting diversity, inclusion and belonging in the Lumen culture.

Health and Wellness

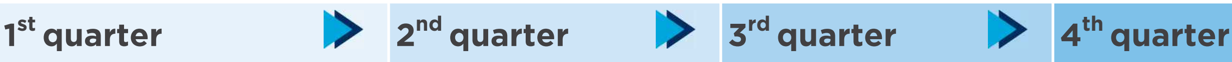
We have expanded our wellness programs and implemented strategic design changes to our benefit programs that have enabled Lumen to keep employee premiums flat for the last five years. In 2023, we added comprehensive women's virtual health care, virtual weight loss and alcohol addiction care, and expanded voluntary lifestyle benefits to the full suite of wellness and benefit offerings available to our employees.

Role of Human Resources and Compensation Committee

Our highly competitive business requires attracting, developing and retaining a motivated team inspired by leadership, engaged in meaningful work, motivated by growth opportunities and thriving in a culture that embraces diversity, inclusion and belonging. Understanding and anticipating the priorities of our current and future employees is important to realizing our purpose to further human progress through technology. As described above, the HRCC is responsible for overseeing Lumen's human resources strategies, prioritizing Lumen's efforts to attract and retain employees and leaders with the skills and experience needed to achieve our strategic objectives in dynamic market conditions and creating an environment promoting equity and diversity. During 2022, the HRCC engaged with management on several issues impacting Lumen's human capital strategy, including: effective employee engagement; diversity, inclusion and belonging; positive corporate culture, pay equity, executive and employee succession and recruiting and retention.

Year-round Engagement Informs Compensation Design and Awards

The HRCC's processes to review and approve our executive compensation programs are both cyclical and ongoing.



- At-least quarterly engagement with its independent compensation consultant, discussing compensation trends, our performance against peers and market influences;
- Quarterly review of year-to-date results and projected payouts under the various eligible outstanding incentive programs; and
- Quarterly review of anticipated individual eligible award values, including individual NEO tally sheets.

1st quarter	2nd quarter	3rd quarter	4th quarter
■ Spring shareholder engagement discussing executive compensation (or more often if the opportunity arises) ■ Implement any program design changes in light of compensation trends, performance against peers, market influences and shareholder feedback, independent compensation consultant observations and current value of prior awards	■ Discussion of recent feedback from Annual Shareholders' Meeting and overall market trends	■ Fall shareholder engagement discussing executive compensation (or more often if the opportunity arises)	■ Discussions about possible program design changes for the following fiscal year in light of compensation trends, performance against peers, market influences and shareholder feedback, independent compensation consultant observations and current value of prior awards

HRCC Executive Compensation Review Process

The HRCC's annual process for compensation oversight, design and decisions includes

Performance objectives align with strategy

HRCC selects STI and LTI plan performance objectives designed to drive execution of our overall business strategy. This includes engaging an independent compensation consultant, discussing compensation trends, our performance against peers and market influences throughout the year as well as feedback from shareholder engagement regarding executive compensation and incentive design.

Rigorous design and target setting process

The HRCC establishes rigorous threshold, target and maximum performance levels for the selected objectives that are rooted in our annual budget, public guidance and long-range strategic plan. The HRCC takes into consideration various factors influencing our business, including but not limited to, the decline in our legacy wireline revenues, the pace at which revenues are growing for digital services and new products, and the continuous need to adjust our cost structure.

Monitor interim performance

On a quarterly basis, the HRCC monitors actual performance and projected payouts under our outstanding incentive awards.

Application of guidelines to administer incentive awards

After the end of the performance period, initial payout projections, as adjusted under the HRCC's long-standing Guidelines, are compared against Company performance for the entirety of the performance period. The HRCC may make further adjustments in accordance with the Guidelines, as discussed above in Section three. The HRCC reviews award values in light of the Guidelines and determines if positive or negative adjustments are necessary to mitigate the impact of extraordinary events.

Performance results and calculated payouts

Upon completion of each fiscal year, after our actual financial performance results are determined, including any adjustments or discretion applied under our Guidelines, the incentive payouts are calculated and reviewed by Lumen's Internal Audit. Then, individual bonus and equity payouts are determined for our officers based on our LTI and STI programs and the related performance and relevant individual performance considerations.

Role of CEO and Management

The HRCC regularly reviews the compensation programs for our senior leadership team including our NEOs and the broader range of participating employees to ensure they achieve our compensation objectives, including aligning executive compensation with our strategies and shareholder interests. The HRCC closely monitors the compensation programs and pay levels of executives from companies of similar size and complexity, to gauge our compensation programs against market practices and trends to support our efforts to retain and incentivize our executive talent.

The HRCC discusses directly with our CEO in executive session, as appropriate, (i) the HRCC's assessment of the performance of our CEO and the senior leadership team and (ii) the CEO's recommendations regarding the compensation of each member of the senor leadership team (including adjustments to base salary, target STI and LTI levels).

Role of Compensation Consultants

The HRCC engages an independent compensation consultant to assist in the design and review of executive compensation programs, to determine whether the HRCC's philosophy and practices are reasonable and compatible with prevailing practices and to provide guidance on specific compensation levels based on industry trends and practices.

Since July 2021, Semler Brossy has served as the HRCC's independent compensation consultant and actively participated in the design and development of our 2022 executive compensation programs. During 2022, Semler Brossy supported the HRCC in developing the compensation packages for our incoming and outgoing CEOs and CFOs.

Semler Brossy does not provide any other services to the Company and does not have a prior relationship with any of our NEOs. As required by SEC rules and NYSE listing standards, the HRCC assessed the independence of Semler Brossy and concluded that their work has not raised any conflicts of interest.

Role of Peer Companies

In the second half of each year, with assistance from its independent consultant, the HRCC reviews "peer groups" of other companies comparable to Lumen for purposes of assessing the compensation for our senior officers (Compensation Benchmarking Peer Group) and our total shareholder return performance (TSR Peer Group) which will inform decisions regarding our executive pay programs and compensation decisions for the upcoming year.

Throughout August 2022 and February 2023, the HRCC engaged in extensive discussions with shareholders and, with the guidance of its compensation consultant, conducted a comprehensive review of peer practices. The HRCC's deliberate approach to setting pay, as described under "Role of Peer Companies," is intended to ensure that our executive compensation program is appropriately calibrated to achieving the complementary goals of delivering value to shareholders and attracting, rewarding and retaining the talent necessary to lead us through our ongoing corporate evolution.

Compensation Benchmarking Peer Group

Annually, with the assistance of its compensation consultant and management, the HRCC reviews and approves the Compensation Benchmarking Peer Group – a list of peer companies we use in the competitive market analyses of compensation for our NEOs and senior officers.

We believe that our Compensation Benchmarking Peer Group should reflect Lumen's industry, organizational complexity and market for executive talent. However, we believe the list of direct peers is limited because few, if any, other communications companies are similarly sized and similarly configured in terms of their lines of business, markets and customers.

Further, as we continue to evolve into a technology-focused company, our employee base, peer group, and compensation programs are also evolving. Although in the past we had considerable success in attracting and retaining talent with fiscally prudent market-based pay packages, we now compete with software and other technology-focused companies for a more limited pool of executive talent. As a result, the individuals in that limited candidate pool, who frequently have unique talents and expertise, are able to command much higher levels of compensation than what we have paid historically, making executive recruitment and retention more challenging.

To address these challenges, the HRCC reviews and approves the list of companies that compose our Compensation Benchmarking Peer Group during a two-step process.

In the first step, we have used the framework below to capture companies that are comparable in size, have similar business strategies and financial models, recognizing that there are very few, if any direct peers. The following attributes were reviewed and screened in order of importance:

Screening Process	Analysis of Screening Process	Outcomes from Screening Process

Primary Screen
■ Revenues (target between one-half and two times our revenue);
■ Market capitalization (target between one-third and three times our market cap);
Secondary Screen
■ Assets (target between one-third and three times our assets); and
■ Enterprise value (target between one-third and three times our enterprise value).
Qualitative Screen
■ Focus on companies with a growth strategy similar to Lumen as it transitions away from its traditional telecom business to its enterprise technology business.
■ Disclosed peer of peers;
■ Reverse peers; and
■ Peer group disclosed by proxy advisors.
	■ There are a limited number of potential peer companies with comparable revenues, so the annual revenue for some of our peers are more or less than our targeted multiple. Our revenue is well positioned at the 54th percentile compared to the peer company revenue. Additionally, each company in our Compensation Benchmarking Peer Group is engaged in a line of business conducted by us, and are included in the peer of peers and proxy advisor peer screens, which further supports their inclusion in such group.
	■ There are very few peers with market capitalization similar to ours. The HRCC, in agreement from its independent consultant, believe revenue is a more appropriate, stable and common metric for sizing and selecting peer groups.
	■ The HRCC believes the use of the median and not the average, for competitive market data mitigates the inclusion of both larger and smaller peer companies.
		2022 Compensation Benchmarking Peer Group
		In August 2021, as a result of the screening process and based on input from HRCC's independent consultant, the HRCC reviewed the 2021 Compensation Benchmarking Peer Group of 17 companies and approved the following changes and approval of the 18 peer companies in our 2022 Compensation Benchmarking Peer Group listed below.
		■ Replace 1 company:
		  ■ Remove HP Inc. and replace with Hewlett Packard Enterprise, a spin-off from HP Inc., which is a more compatible business fit with its focus on hybrid IT, cloud and security and met all four financial screens.
		■ Add 1 company:
		  ■ Add VMWare due to its compatible business fit and passed both the revenue and enterprise value screens and fell just below the assets screen and slightly above the market cap screen.
		2023 Compensation Benchmarking Peer Group
		In August 2022, as a result of the screening process and based on input from HRCC's independent consultant, the HRCC reviewed the 2022 Compensation Benchmarking Peer Group of 18 companies and approved the following changes and approval of the 14 peer companies in our 2023 Compensation Benchmarking Peer Group listed below.
		■ Remove 4 companies:
		  ■ Verizon Communications Inc. is a direct competitor in the cloud solutions business, but the other aspects of their business deviate from our business. Verizon Communications Inc. is considerably higher than us for all four financial screens.
		  ■ Comcast Corporation is a direct competitor in broadband business, but the other aspects of their business deviate from our business. Comcast Corporation lists us as one of their peers, but is considerably higher than us for all four financial screens.
		  ■ BCE Inc. is a direct competitor in the traditional fiber and telecommunications business in Canada, but the other aspects of their business deviate from our business. BCE Inc. meets our revenue, assets and enterprise value screens, but fails to meet our market cap screen.
		  ■ TELUS Corporation is a direct competitor in the traditional fiber and telecommunications business in Canada, but the other aspects their business deviate from our business. TELUS Corporation meets all four financial screens.

Compared to the 2022 and 2023 Compensation Benchmarking Peer Groups, Lumen's ranking is illustrated below:

Industry Screen	2022 Compensation Benchmarking Peer Group[(1)]	Changes	2023 Compensation Benchmarking Peer Group[(2)]
Revenue	54th percentile	=	54th percentile
Assets	65th percentile	▲	70th percentile
Enterprise Value	4th percentile	▲	53rd percentile
Market Capitalization	47th percentile	▼	16th percentile

1 In August 2021, the HRCC completed the above described screening process and approved the 2022 Compensation Benchmarking Peer Group summarized in the table following discussion of our TSR Peer Group below.

2 In August 2022, the HRCC completed the above described screening process and approved the 2023 Compensation Benchmarking Peer Group summarized in the table following discussion of our TSR Peer Group below.

In the second step, the HRCC's compensation consultant calculates median salaries for our senior officer positions using compensation data publicly disclosed by members of the Compensation Benchmarking Peer Group and, for executive positions with no publicly disclosed compensation data, the HRCC reviews compensation survey data for companies in the telecommunications industry and general industry that are generally similar to us in size. Then, the HRCC compares the compensation of each of our senior officers to the median compensation of comparable officers derived from such market analysis to determine if our senior officers are being paid below, at or above "market" rates.

The HRCC used median compensation data derived from its analysis of pay by members of our 2022 Compensation Benchmarking Peer Group to inform its compensation decisions in February 2022. The HRCC used median compensation data derived from its analysis of pay by members of our 2023 Compensation Benchmarking Peer Group to inform its compensation decisions with respect to approving (i) Ms. Johnson's compensation in September 2022 and (ii) the compensation of our other senior officers in November 2022 and February 2023 (and plans to use such data for any remaining compensation decisions in 2023). For more information see "Section One - Executive Summary -2022 Leadership Transition" and "Section Four - Compensation, Design, Awards and Payouts for 2022" above.

Once established, we believe that a well-selected peer group for compensation benchmarking should remain fairly stable for several years to help inform reliable and consistent market positioning, longer-term pay trends and market practices. Our Compensation Benchmarking Peer Group is summarized in the table following discussion of our TSR Peer Group below.

TSR Peer Group

We separately maintain a TSR Peer Group for purposes of measuring our relative stock price performance, which impacts payouts under our most recent LTI grants. As discussed above, our Compensation Benchmarking Peer Group is somewhat constrained by the number of companies based on revenue, enterprise value and market cap size. However, our TSR Peer Group is composed of a broader universe of companies we believe investors are considering when evaluating whether to invest in Lumen or our industry because profiles of investment opportunity and risk are likely to be more important to an investor than company size.

During the second half of 2021, in preparation for the 2022 LTI grant, the HRCC's independent consultant led an evaluation process to identify and screen relevant public companies to determine our TSR Peer Group, with the desired result of at least 15 to 20 peer companies, as follows:

Screening Process

Primary Screen

- The primary consideration when selecting our TSR Peer Group for 2021 was the need to have peers with similar industry, business and risk profiles as ours.
- Start with a universe of potential similar industry peers with technology, telecommunications, cable and satellite services and various technology industries within our GICS industry and sub-industry;

Secondary Screen

- Conduct a historical stock price correlation between Lumen and a potential peer universe based on the industry sectors identified; and
- Perform back-testing on historical stock performance (including TSR and Beta and impacts of macroeconomic factors that would impact all companies similarly).
- **Qualitative Screen**
  - Focus on companies with a growth strategy similar to Lumen as it transitions away from its traditional Telecom business to Enterprise Technology.
  - Disclosed peer of peers;
  - Reverse peers; and
  - Disclosed compensation peer group by proxy advisors.

Analysis of Screening Process

- Our 2022 TSR Peer Group is comprised of:
  - 12 TSR peers from U.S. technology and telecom industry; and
  - 3 large international integrated telco companies based outside the U.S. (BT Group plc, Orange S.A. and Telefonica S.A.).
- The three non-U.S. companies were selected to maintain a robust sample of peers (of at least 15 to 20 peer companies) and because the companies are large, complex and provide services similar to ours.

Outcomes from Screening Process

2022 Compensation Benchmarking Peer Group

In August 2021, as a result of the screening process and based on input from HRCC's independent consultant, the HRCC reviewed and approved:

- No companies to be added or removed from our 2021 TSR Peer Group.
- Therefore, the HRCC deemed it was appropriate to continue to include all 15 peer companies in our 2022 TSR Peer Group listed below.

2023 Compensation Benchmarking Peer Group

In August 2022, as a result of the screening process and based on input from HRCC's independent consultant, the HRCC reviewed and approved the following changes:

- Remove 1 US and 4 non-US companies due to recently completed and pending divestitures of our Latin American and EMEA business that make their inclusion less relevant going forward:
  - BT Group, plc
  - Orange S.A.
  - Telefonica S.A.
  - TELUS Corporation
  - United States Cellular Corporation
- Add 5 companies in the Communications Services sector:
  - 4 of the 5 were highly correlated for historical stock price and Beta screens
    - Cable One, Inc.
    - Charter Communications, Inc.
    - Cogent Communications Holding, Inc.
    - Consolidated Communications Holding, Inc.
  - Frontier Communications Parent, Inc. recently emerged from bankruptcy
- Therefore, the HRCC approved the 15 peer companies in our 2023 TSR Peer Group listed below.

Compared to the 2022 and 2023 TSR Peer Groups, Lumen's ranking is illustrated below:

Industry Screen	2022 TSR Peer Group[(1)]	Changes	2023 TSR Peer Group[(2)]
Historical Stock Price Correlation	48th percentile	▼	31st percentile
3-Year Leveraged Beta	73rd percentile	▼	42nd percentile

1 In November 2021, the HRCC completed the above described screening process and approved the 2022 TSR Peer Group summarized below.

2 In February 2023, the HRCC completed the above described screening process and approved the 2023 TSR Peer Group summarized in the table below.

The 2022 Compensation Benchmarking and TSR Peer Groups are summarized in the table below.

Our Compensation Benchmarking Peer Group	Common to both peer groups	Our TSR Peer Group
BCE Inc.[(1)] Charter Communications Cognizant Technology Solutions Corp DXC Technology Corp Hewlett Packard Enterprise Oracle Corp QUALCOMM Inc. Seagate Technology plc T-Mobile US, Inc. VMWare Western Digital Corp	CISCO Systems Inc. Comcast Corporation[(1)] DISH Network Corp. Liberty Global plc Motorola Solutions, Inc. TELUS Corporation[(1)(2)] Verizon Communications Inc.[(1)]	AT&T, Inc. BT Group, plc[(2)] EchoStar Corporation Orange, S.A.[(2)] Telefonica S.A.[(2)] Telephone & Data Systems Inc. United States Cellular Corporation Viasat, Inc.

18 Compensation Benchmarking peers

15 TSR peers

1 In August 2022, the HRCC completed the above described screening process and removed Verizon, Comcast Corporation, BCE Inc. and TELUS Corporation for the 2023 Compensation Benchmarking Peer Group.

2 In February 2023, the HRCC completed the above described screening process and removed BT Group plc, Orange S.A, Telefonica, S.A., TELUS Corporation and United States Cellular Corporation and added Cable One, Inc., Charter Communications, Inc., Cogent Communications Holdings, Inc., Consolidated Communications Holdings, Inc. and Frontier Communications Parent, Inc. for the 2023 TSR Peer Group.

Stock Ownership Guidelines

Under our current stock ownership guidelines, our executive officers are required to beneficially own Lumen stock in market value equal to a multiple of their annual salary, as outlined in the table below and each outside director must beneficially own Lumen stock equal in market value to five times the annual cash retainer payable to outside directors.

Stock Ownership Guidelines

Party	Guideline	Value[(1)(2)]
CEO	6X Base Salary	$7,200,000
Other Executive Officers	3X Base Salary	$ 2,043,750
Outside Directors	5X Annual Cash Retainer	$ 500,000

1 Value for CEO of $7.2M is based on Ms. Johnson's annual salary as of December 31, 2022.

2 Value for our other executive officers is based on the average annual salary for such officers as of December 31, 2022.

Each executive officer and outside director has three and five years, respectively, to attain these targets. For any year during which an executive or outside director does not meet his or her ownership target, the executive or director is required to hold 65% of the Lumen stock that he or she acquires through our equity compensation programs, excluding shares sold to pay related taxes.

Other than as noted below, as of December 31, 2022, all of our executive officers and all of our outside directors were in compliance with and in most cases significantly exceeded, our stock ownership guidelines. The three exceptions are Ms. Johnson, Mr. Allen and Mr. Jones. Ms. Johnson, who joined Lumen on November 7, 2022, has until November 7, 2025 to comply with these guidelines. Mr. Allen, who joined our Board on February 25, 2021, has until February 25, 2026 to comply with these guidelines. Mr. Jones, who joined our Board on January 1, 2020, has until January 1, 2025 to comply with these guidelines.

Due to the decline in the trading price of the Common Shares after December 31, 2022, six of our directors who were in compliance with the guidelines at year-end (Ms. Bejar, Mr. Brown, Mr. Chilton, Mr. Hanks, Mr. Roberts and Ms. Siegel) were no longer in compliance with these guidelines as of the record date. In accordance with the guidelines, each of these six directors will be required to hold 65% of the Common Shares that he or she acquires through Lumen's equity compensation programs, excluding shares sold to pay related taxes, until they are once again in compliance.

Our Governance of Executive Compensation

The HRCC and management stay abreast of market trends and best practices through regular consultation with the HRCC's independent consultant and by attending various training programs and forums. In addition to other practices described elsewhere in this proxy statement, below are a summary and brief descriptions of certain compensation policies and practices.

What We Do

- ✔ Focus on performance-based compensation weighted heavily towards long-term incentive awards
- ✔ Benchmark generally against 50th percentile peer compensation levels
- ✔ Maintain robust stock ownership guidelines applicable to our executive officers and outside directors
- ✔ Annually review our compensation programs to avoid encouraging excessive risk taking
- ✔ Conduct an annual succession planning process for our CEO
- ✔ Conduct an annual "say-on-pay" vote
- ✔ Discuss our executive compensation program during shareholder engagement
- ✔ Maintain a compensation "clawback" policy
- ✔ Impose compensation forfeiture covenants broader than those mandated by law
- ✔ Review the composition of our peer groups at least annually
- ✔ Conduct independent and intensive performance reviews of our senior officers
- ✔ Cap the number of relative TSR performance-based shares that may vest if our own absolute TSR is negative
- ✔ Review realizable pay of our senior officers and total compensation "tally" sheets
- ✔ Require shareholders to approve any future severance agreements valued at more than 2.99 times the executive's target cash compensation

What We Don't Do

- ✖ Maintain a supplemental executive retirement plan
- ✖ Permit our directors or employees to hedge our stock, or our directors or senior officers to pledge our stock
- ✖ Pay dividends on unvested restricted stock or RSUs
- ✖ Permit the HRCC's compensation consultant to provide other services to Lumen
- ✖ Pay, provide or permit:
  - (i) *excessive perquisites,*
  - (ii) *excise tax "gross-up" payments, or*
  - (iii) *single-trigger change of control equity acceleration benefits.*

Forfeiture and Clawback of Incentive Compensation

All incentive compensation earned by our executive officers and other incentive compensation plan participants are subject to certain forfeiture and clawback provisions in accordance with any applicable conditions set forth in the policies. The HRCC is authorized to waive these forfeiture and clawback provisions if it determines in its sole discretion that such action is in our best interests.

Equity Compensation. For approximately 20 years, all recipients of our LTI grants have been required to contractually agree to forfeit certain of their awards if at any time during their employment with us or within 18 months after termination of employment they engage in activity contrary or harmful to our interests, as described further below. For unvested equity compensation, the recipient would forfeit any rights to future vestings of certain equity awards. We can clawback previously vested equity by requiring the recipient to return to us any cash, securities or other assets received by them upon the sale of Common Shares they acquired through certain prior equity awards.

Short-Term Incentive Compensation. Our STI plan contains substantially similar forfeiture provisions, under which the recipient would forfeit any rights to future payments of certain STI awards if at any time during their employment with us (or after termination of employment and prior to STI bonus payment) they engage in activity contrary or harmful to our interests, as described further below.

Additional Clawback Provisions for Executive Officers. Our Corporate Governance Guidelines authorize the Board to recover, or "clawback," compensation from an executive officer if the Board determines that any bonus, incentive payment, equity award or other compensation received by the executive was based on any financial or operating result that was impacted by the executive's knowing or intentional fraudulent or illegal conduct. Certain provisions of the Sarbanes-Oxley Act of 2002 would require our CEO and CFO to reimburse us for incentive compensation paid or trading profits earned following the release of financial statements that are subsequently restated due to material noncompliance with SEC reporting requirements caused by misconduct. Finally, during 2023, we will be updating our clawback policies to incorporate the additional requirements reflected in the new NYSE listing standards mandated by the Dodd Frank Act that will become effective later in 2023.

Use of Employment Agreements

We have a long-standing practice of not providing traditional employment agreements to our officers and none of our executives has an employment agreement. However, we do from time to time enter into initial employment offer letters with prospective new employees, including executive officers, some of which include future commitments on our part. Mr. Storey's offer letter, as amended and restated in 2018, contained certain commitments by the Company and Ms. Johnson's offer letter, dated September 12, 2022, contains certain commitments by the Company that end after three-year anniversary of her start date, both of which are described in greater detail under "Potential Termination Payments."

Anti-Hedging and Anti-Pledging Policies

Under our insider trading policy, our employees and directors may not:

- purchase or sell short-term options with respect to Lumen shares,
- engage in "short sales" of Lumen shares; or
- engage in hedging transactions involving Lumen shares which allow employees to fix the value of their Lumen shareholdings without all the risks of ownership or cause them to no longer have the same interests or objectives as our other shareholders (including, but not limited to, financial instruments such as prepaid variable forward contracts, equity swaps, collars and exchange funds).

In addition, under our insider trading policy, our senior officers and directors are prohibited from holding our securities in a margin account or otherwise pledging our securities as collateral.

To our knowledge, all of our senior officers and directors are currently in compliance with our anti-hedging and anti-pledging policies.

Deductibility of Executive Compensation

Section 162(m) of the Code disallows a deduction to public companies for annual compensation over $1 million paid to a chief executive officer and certain other executive officers (covered employees). Prior to 2018, compensation paid to our covered employees that met the Section 162(m) requirements of “qualified performance-based compensation” was not subject to this deduction limitation. Effective for our taxable year beginning January 1, 2018, Section 162(m) was amended to eliminate the exception for qualified performance-based compensation, subject to transition relief for certain grandfathered arrangements in effect as of November 2, 2017. Although the deductibility of compensation is a consideration evaluated by the HRCC, the HRCC believes it is important to preserve flexibility in designing compensation programs and that the lost deduction on compensation payable in excess of the $1-million limitation for the NEOs who are covered employees does not outweigh the benefit of being able to attract and retain talented management. Accordingly, the HRCC will continue to retain the discretion to approve compensation that exceeds the $1-million deductibility limit.

Human Resources and Compensation Committee Report

The HRCC has reviewed and discussed with management the report included above under the heading “Compensation Discussion & Analysis.” Based on this review and discussion, the HRCC recommended to the Board that the Compensation Discussion & Analysis report be included in this proxy statement and incorporated into our Annual Report on Form 10-K for the year ended December 31, 2022.

Submitted by the Human Resources and Compensation Committee of the Board of Directors.

Laurie A. Siegel (Chair)

Martha H. Bejar

Steven T. Clontz

T. Michael Glenn

Michael J. Roberts

Compensation Tables

Summary Compensation Table

The following table sets forth the compensation paid to each of our NEOs in all capacities in which they served for fiscal years 2020, 2021 and 2022.

Summary Compensation Table

Name and Principal Position	Year	Salary	Other Bonus[1]	Stock Awards[2]	Non-equity Incentive Plan Compensation[3]	Change in Pension Value[4]	All Other Compensation[5]	Total
Current NEOs								
Kate Johnson President and CEO	2022	$ 180,840	$1,000,000	$ 3,013,700	$ 329,129	$ —	$ 254,461	$ 4,778,130
Chris Stansbury EVP and CFO	2022	$ 565,200	$ 150,000	$ 8,792,466	$ 642,915	$ —	$ 10,854	$ 10,161,435
Stacey W. Goff EVP, General Counsel and Secretary	2022	$ 656,338	$ —	$ 2,336,539	$ 716,721	$ —	$ 44,653	$ 3,754,251
	2021	600,018	—	2,444,501	720,021	—	22,557	3,787,097
	2020	600,018	—	1,815,218	674,876	138,543	22,657	3,251,312
Shaun C. Andrews[6] EVP, Chief Marketing Officer	2022	$ 562,600	$ —	$ 1,661,535	$ 460,769	$ —	$ 14,150	$ 2,699,054
	2021	546,301	—	1,955,599	518,986	—	11,600	3,032,486
	2020	525,000	—	1,270,652	492,083	—	11,400	2,299,135
Scott A. Trezise EVP, Human Resources	2022	$ 531,293	$ —	$ 1,557,694	$ 483,477	$ —	$ 14,150	$ 2,586,614
	2021	503,091	—	1,466,698	495,694	—	11,600	2,477,083
	2020	500,011	—	907,609	429,985	—	11,400	1,849,005
Former NEOs								
Jeffrey K. Storey Former President and CEO	2022	$1,800,011	$ —	$14,594,705	$ 3,276,020	$ —	$ 146,070	$19,816,806
	2021	1,800,011	—	17,120,198	3,600,022	—	134,550	22,654,781
	2020	1,800,011	—	11,435,870	3,600,022	—	123,330	16,959,233
Indraneel Dev Former EVP and CFO	2022	$ 186,975	$ —	$ 4,413,460	$ 191,416	$ —	$1,733,077	$ 6,524,928
	2021	750,000	—	5,194,548	937,500	—	53,073	6,935,121
	2020	734,700	—	3,630,435	872,756	—	11,400	5,249,291

1 On-boarding bonus paid following start date and subject to 2-year clawback if resign or termed for Cause before 2-year anniversary of start date.

2 For 2022, the amounts shown in this column reflect the fair value of annual grants of restricted stock or restricted stock unit awards made to our named executives under our LTI program. For additional information about these equity grants, see the section entitled, "Long-Term Incentive Compensation" in our CD&A. The fair value of the time-vested and performance-based awards presented in the table above has been determined in accordance with FASB ASC Topic 718, based on the closing trading price of our Common Shares on the day of grant. See Note 12 titled "Stock-based Compensation" of the notes to our audited financial statements included in our Annual Report on. Form 10-K for the fiscal year ended December 31, 2022 for an explanation of material assumptions that we used to calculate the fair value of these stock awards. The aggregate value of the LTI awards granted to each named executive in 2022, assuming maximum payout of his or her performance-based award, would be as follows: Ms. Johnson, $3,013,700, Mr. Stansbury, $11,850,751, Mr. Goff, $3,792,712, Mr. Andrews, $2,697,037, Mr. Trezise, $2,528,472, Mr. Storey, $24,259,326 and Mr. Dev, $7,163,993.

3 The amounts shown in this column reflect cash payments made under our short-term incentive program for actual performance in the respective years. For additional information, see the section entitled, "2022 STI Program" in our CD&A.

4 Reflects the net change during each of the years reflected in the present value of Mr. Goff's accumulated benefits under the defined benefit plans discussed below under the heading "—Pension Benefits."

5 For fiscal 2022, the amounts shown in this column are comprised of (i) personal use of our aircraft; (ii) Company contributions or other allocations to our defined contribution plans; (iii) payments of life insurance premiums under a legacy reimbursement plan; (iv) personal identity theft protection service; (v) for Ms. Johnson, reimbursement of legal fees as part of her offer letter; (vi) reimbursement for the cost of an annual physical examination; (vii) for Ms. Johnson, costs related to her relocation from Seattle, Washington to Denver, Colorado, including temporary housing, the cost of moving goods, and a related tax gross-up payment, all as provided under the terms of our broad-based employee relocation policy; (viii) the fair market value of a sentimental piece of art our Board gifted to Mr. Storey upon his retirement; and (ix) for Mr. Dev, cash severance payments and other post-employment benefits pursuant to our executive severance plan, in each case for and on behalf of the named executives as follows:

All Other Compensation - 2022

NEO	Aircraft Use	Contributions to Plans	Insurance Premiums	Identity Theft Protection	Legal Fees	Physical Exam	Relocation Cost	Tax Gross-Up on Relocation Costs	Retirement Gift	Severance Benefits	Total 2022 All Other Compensation
Current NEOs											
Ms. Johnson	$ 21,120	$ —	$ —	$ 5,750	$42,613	$ —	$124,071	$60,907	$ —	$ —	$ 254,461
Mr. Stansbury	—	1,354	—	9,500	—	—	—	—	—	—	10,854
Mr. Goff	—	33,696	10,957	—	—		—	—	—	—	44,653
Mr. Andrews[6]	—	12,200	—	—	—	1,950	—	—	—	—	14,150
Mr. Trezise	—	12,200	—	—	—	1,950	—	—	—	—	14,150
Former NEOs											
Mr. Storey	122,370	12,200	—	8,500	—	—	—	—	3,000	—	146,070
Mr. Dev	—	45,577	—	—	—	—	—	—	—	1,687,500	1,733,077

For additional information regarding perquisites, see "Compensation Discussion & Analysis."

6 Mr. Andrews' employment with Lumen ended effective March 3, 2023.

Grant of Plan Based Awards

The following table presents additional information regarding all equity and non-equity incentive plan awards granted to our NEOs in fiscal 2022.

Grants of Plan-Based Awards

NEO	Type of Award and Grant Date[3]	Range of Payouts Under Non-Equity Incentive Plan Awards[1] Threshold ($)	Target ($)	Maximum ($)	Estimated Future Share Payouts Under Equity Incentive Plan Awards[2] Threshold (#)	Target (#)	Maximum (#)	All other Stock Awards: Unvested Shares[4] (#)	Grant Date Fair Value Awards[5]
Current NEOs									
Ms. Johnson	Bonus	$180,840	$ 361,680	$723,360	—	—	—	—	—
	TBRS - Prorated Annual	—	—	—	—	—	—	351,118	$2,120,753
	TBRS - Initial	—	—	—	—	—	—	147,839	892,948
	PBRS - Relative TSR	—	—	—	—	—	—	—	—
Mr. Stansbury	Bonus	$353,250	$706,500	$1,413,000	—	—	—	—	—
	TBRS - Annual	—	—	—	—	—	—	157,622	$1,817,382
	TBRS - Initial	—	—	—	—	—	—	339,705	3,916,799
	PBRS - EBITDA	—	—	—	59,109	118,218	236,436	—	1,363,054
	PBRS - Relative TSR	—	—	—	59,109	118,217	236,434	—	1,695,232
Mr. Goff	Bonus	$393,803	$787,605	$1,575,211	—	—	—	—	—
	TBRS - Annual	—	—	—	—	—	—	84,488	$ 880,365
	PBRS - EBITDA	—	—	—	31,684	63,367	126,734	—	660,284
	PBRS - Relative TSR	—	—	—	31,684	63,367	126,734	—	795,890
Mr. Andrews[6]	Bonus	$281,300	$562,600	$1,125,200	—	—	—	—	—
	TBRS - Annual	—	—	—	—	—	—	60,080	$ 626,034
	PBRS - EBITDA	—	—	—	22,531	45,061	90,122	—	469,536
	PBRS - Relative TSR	—	—	—	22,531	45,061	90,122	—	565,966

NEO	Type of Award and Grant Date[3]	Range of Payouts Under Non-Equity Incentive Plan Awards[1]			Estimated Future Share Payouts Under Equity Incentive Plan Awards[2]			All other Stock Awards: Unvested Shares[4]	Grant Date Fair Value Awards[5]
		Threshold ($)	Target ($)	Maximum ($)	Threshold (#)	Target (#)	Maximum (#)	(#)	
Mr. Trezise	Bonus	$ 265,647	$ 531,293	$ 1,062,586	—	—	—	—	—
	TBRS - Annual	—	—	—	—	—	—	56,326	$ 586,917
	PBRS - EBITDA	—	—	—	21,123	42,245	84,490	—	440,193
	PBRS - Relative TSR	—	—	—	21,122	42,244	84,488	—	530,585
Former NEOs									
Mr. Storey[7]	Bonus	$1,800,011	$3,600,022	$7,200,045	—	—	—	—	—
	TBRS - Annual	—	—	—	—	—	—	473,137	$4,930,088
	PBRS - EBITDA	—	—	—	210,284	420,567	841,134	—	4,382,308
	PBRS - Relative TSR	—	—	—	210,283	420,566	841,132	—	5,282,309
Mr. Dev[8]	Bonus	$ 116,859	$ 233,719	$ 467,438	—	—	—	—	—
	TBRS - Annual	—	—	—	—	—	—	159,590	$ 1,662,928
	PBRS - EBITDA	—	—	—	59,847	119,693	239,386	—	1,247,201
	PBRS - Relative TSR	—	—	—	59,846	119,692	239,384	—	1,503,332

1 Represents potential payouts under the annual STI bonus program for 2022 for our named executives. The actual amounts paid for 2022 performance are reported in the "Non-Equity Incentive Plan Compensation" column of the Summary Compensation Table. Failure to meet the "threshold" level of performance would result in no payout to the executive.

2 Represents the performance-based portion of our annual LTI grants, which were issued on April 4, 2022 to Mr. Stansbury, and on February 25, 2022 to all other NEOs, except Ms. Johnson. Ms. Johnson did not receive annual performance since she was hired on November 7, 2022. Payout under these awards (restricted stock or RSUs) may range between zero to 200%. For information regarding the performance metrics on which vesting is contingent, please see note 6 to the "Outstanding Equity Awards" table.

3 Definitions of these terms and information on the grant dates appear elsewhere herein.

4 Represents the time-based portion of our annual LTI grants to our NEOs, except Ms. Johnson, and initial awards to Ms. Johnson and Mr. Stansbury. On November 7, 2022, Ms. Johnson was issued a pro-rated annual LTI award that will vest one-third per year on November 7 of 2023, 2024, 2025 and an on-boarding LTI grant that will vest on November 7, 2023 and is subject to clawback through November 7, 2024. On April 4, 2022, Mr. Stansbury was issued the time-based portion of his annual LTI grant that will vest one-third per year on April 4 of 2023, 2024, 2025 and an on-boarding LTI grant that will vest 50% on April 4, 2025 and 50% on April 4, 2029. On February 25, 2022, all other NEOs were issued the time-based portion of their annual LTI grants (restricted stock or RSUs) that will vest on March 1 of 2023, 2024, and 2025. All of the aforementioned time-based restricted stock or RSUs are subject to the executive's continued employment through the vesting date or as otherwise provided in the award agreement.

5 Calculated in accordance with FASB ASC Topic 718 in the manner described in Note 1 to the Summary Compensation Table above.

6 Mr. Andrews' 2022 annual LTI grant was forfeited in its entirety upon his termination on March 3, 2023.

7 Mr. Storey's 2022 annual LTI grant was accelerated in its entirety upon his retirement on December 31, 2022, in accordance with his amended and restated offer letter.

8 Mr. Dev's 2022 annual LTI grant was forfeited in its entirety upon his termination on April 1, 2022.

For more information, see Compensation Discussion & Analysis—Section Four—Compensation Design, Awards and Payouts for 2022" and "—Potential Termination Payments."

Outstanding Equity Awards

The following table summarizes information about all outstanding unvested equity awards held by our named executives as of December 31, 2022.

Outstanding Awards at December 31, 2022

		Stock Awards		Equity Incentive Awards[1]	
Name	Grant Date	Number of Unvested Shares or Units (#)[2]	Market Value of Shares that Have Not Vested ($)	Number of Unvested Shares or Units (#)	Market Value of Unvested Shares or Units ($)
Current NEOs					
Ms. Johnson	11/7/2022	498,957 [3]	$ 2,604,556	—	—
Mr. Stansbury	4/4/2022	497,327 [4]	$ 2,596,047	236,435 [8]	$ 1,234,191
Mr. Goff	2/26/2020	18,983	$ 99,091	85,422 [6]	$ 445,903
	2/24/2021	44,768	233,689	100,728 [7]	525,800
	2/25/2022	84,488	441,027	126,734 [8]	661,551
Mr. Andrews	2/26/2020	13,288	$ 69,363	59,796 [6]	$ 312,135
	2/24/2021	35,814	186,949	80,583 [7]	420,643
	2/25/2022	60,080	313,618	90,122 [8]	470,437
Mr. Trezise	2/26/2020	9,492	$ 49,548	42,711 [6]	$ 222,951
	2/24/2021	26,861	140,214	60,437 [7]	315,481
	2/25/2022	56,326	294,022	84,489 [8]	441,033
Former NEOs					
Mr. Storey	2/26/2020	— [5]	$ —	538,159 [6]	$2,809,190
	2/26/2021	— [5]	—	745,958 [7]	3,893,901
	2/25/2022	— [5]	—	841,133 [8]	4,390,714
Mr. Dev	2/26/2020	—	—	128,133 [6]	$ 668,854
	2/24/2021	—	—	89,186 [7]	465,551

1 Represents performance-based equity awards, payouts of which may range between zero to 200%. The table above assumes that, as of December 31, 2022, we would perform at "target" levels for our annual 2021 and 2022 awards, such that all performance-based shares granted to each named executive would vest at 100%. With respect to our 2020 performance-based equity awards, the number of shares earned is based on actual performance at "below threshold" (see note 6 below).

2 Represents an annual grant of time-vested restricted stock (for Messrs. Andrews, Goff and Trezise) that will vest in three equal installments on March 1 of each of the first three years following the grant date, subject to the executive's continued employment through the applicable vesting date.

Vesting Dates

Grant Date	Vesting Date
February 26, 2020 for Messrs. Goff, Andrews and Trezise	March 1, 2023
February 24, 2021 for Messrs. Goff, Andrews, and Trezise	Two equal installments on March 1 of 2023 & 2024
February 25, 2022 for Messrs. Goff, Andrews and Trezise	Three equal installments on March 1 of 2023, 2024, & 2025

3 Ms. Johnson's was issued pro-rated annual grant of time-vested restricted stock (351,118 restricted shares) that will vest in three equal installments on November 7 of each of the first three years following the grant date, and a new hire grant (147,839 restricted shares) that will vest 100% on November 7th of the first year following the grant date and is subject to clawback through November 7, 2024. Both grants of time-vested restricted stock are subject to the executive's continued employment through the applicable vesting date. If termed without Cause or Good Reason before the third anniversary of start date, prorated number of outstanding awards (based on number of days from grant date to separation date) will accelerate (time-based) or remain outstanding, subject to original terms (performance-based); remaining outstanding shares will be forfeited. After the third anniversary, standard treatment per award agreements and standard practice for LTI acceleration to similar situated executive officers.

4 Mr. Stansbury's annual grant of time-vested restricted stock (157,622 restricted shares) will vest in three equal installments on April 4 of each of the first three years following the grant date, and a new hire grant (339,705 restricted shares) with half to vest on April 4th in the fifth year and the other half on the seventh year following the grant date, subject to the executive's continued employment through the applicable vesting date.

5 Does not include time-vested RSUs held by Mr. Storey that vested upon his retirement but were not payable until 2023. See "Compensation Tables—Deferred Compensation-Deferred RSUs for Mr. Storey."

[6] Represents the performance-based portion of our 2020 annual restricted stock or restricted stock unit awards. The number of shares earned will range between zero to 200% of the number granted, with the number earned determined using a two-step process: (1) between zero to 200% of target will be earned depending on the Company's cumulative Adjusted EBITDA results for the three-year period from 2020 to 2022 and (2) provided that threshold performance is met or exceeded under step (1), the executives may earn a positive or negative adjustment (+/-20%) based on the Company's relative total shareholder return over the same period against the performance of a peer group of companies in the telecommunications industry. The three-year performance period for the 2020 performance-based awards (the amounts reported in the table above) ended on December 31, 2022 and our Cumulative Adjusted EBITDA performance was below threshold, resulting in 0% payout. As such, no relative TSR modifier was applied and all performance-based restricted stock or restricted stock units, as well as the related accrued dividends or dividend equivalents were forfeited on March 1, 2023.

[7] Represents the performance-based portion of our 2021 annual restricted stock or restricted stock unit awards. The number of shares earned will range between 0 to 200% of the number granted, with the number earned determined depending on the Company's achievement of two separate performance targets for the three-year period from 2021 to 2023: (1) 50% of the total target shares granted will be earned depending on the Company's cumulative Adjusted EBITDA results and (2) 50% of the total target shares granted will be based on the Company's relative total shareholder return against the performance of a peer group of companies in the telecommunications industry. If Lumen's TSR is negative over the three-year period, the payout cannot exceed target regardless of our TSR performance relative to our peers. These awards will vest on March 1, 2024, subject to continued employment through the vesting date.

[8] Represents the performance-based portion of our 2022 annual restricted stock or restricted stock unit awards. The number of shares earned will range between 0 to 200% of the number granted, with the number earned determined depending on the Company's achievement of two separate performance targets for the three-year period from 2022 to 2024: (1) 50% of the total target shares granted will be earned depending on the Company's cumulative Adjusted EBITDA results and (2) 50% of the total target shares granted will be based on the Company's relative total shareholder return against the performance of a peer group of companies in the telecommunications industry. If Lumen's TSR is negative over the three-year period, the payout cannot exceed target regardless of our TSR performance relative to our peers. These awards will vest on March 1, 2025, subject to continued employment through the vesting date.

Stock Vesting Table

The following table provides details regarding the equity awards held by our named executives that vested during 2022. Restricted stock or restricted stock units were the only equity awards held by our named executives during 2022.

Stock Vested During 2022

Name	Number of Shares Acquired on Vesting[(1)]	Value Realized on Vesting[(2)]
Current NEOs		
Ms. Johnson	—	$ —
Mr. Stansbury	—	—
Mr. Goff	124,400	1,296,248
Mr. Andrews	62,332	649,499
Mr. Trezise	56,134	584,916
Former NEOs		
Mr. Storey[(3)]	782,562	8,154,296
Mr. Dev	330,722	3,591,200

[1] Represents both time-vested and performance-based equity awards that vested during 2022.

[2] Based on the closing trading price of the Common Shares on the applicable vesting date.

[3] Does not include RSUs held by Mr. Storey that vested upon his retirement but were not payable until certain specified dates in 2023. See "Compensation Tables—Deferred Compensation-Deferred RSUs for Mr. Storey."

Pension Benefits

The following table and discussion summarize pension benefits payable to one of our named executives under (i) the Lumen Combined Pension Plan, a qualified retirement plan under Code Section 401(a), which permits eligible participants (including officers) who have completed at least five years of service to receive a pension benefit upon attaining early or normal retirement age and (ii) our non-qualified supplemental defined benefit plan, which is designed to pay supplemental retirement benefits to certain officers in amounts equal to the benefits such officers would otherwise forego due to Code limitations on compensation and benefits under qualified plans. We refer to these particular defined benefit plans below as our "Qualified Plan" and our "Supplemental Plan," respectively and as our "Pension Plans," collectively.

Pension Benefits

NEOs[1]	Plan Name	Number of Years of Credited Service	Present Value of Accumulated Benefit as of 12/31/22	Payments During Last Fiscal Year
Mr. Goff	Qualified Plan	24	$740,773	$—
	Supplemental Plan	24	451,011	—

1 None of Ms. Johnson or Messrs. Andrews, Dev, Stansbury, Storey or Trezise are eligible to participate in these plans since they joined the company after both of our Pension Plans were closed to new participants.

2 These figures represent accumulated benefits as of December 31, 2022 based on several assumptions, including the assumption that the executive remains employed by us and begins receiving retirement benefits at the normal retirement age of 65, with such accumulated benefits being discounted from the normal retirement age to December 31, 2022 using discount rates ranging between 5.56% and 5.60%. See Note 11 titled "Employee Benefits" of the notes to our audited financial statements included in Appendix B for additional information.

PENSION PLANS. With limited exceptions specified in the Pension Plans, we "froze" our Qualified Plan and Supplemental Plan as of December 31, 2010, which means that no additional monthly pension benefits have accrued under such plans since that date (although service after that date continues to count towards vesting and benefit eligibility and a limited transitional benefit for eligible participants continued to accrue through 2015).

Prior to this freezing of benefit accruals, the aggregate amount of each senior officer's total monthly pension benefit under the Qualified Plan and Supplemental Plan was equal to his or her years of service since 1999 (up to a maximum of 30 years) multiplied by the sum of (i) 0.5% of his or her final average pay plus (ii) 0.5% of his or her final average pay in excess of his or her Social Security covered compensation, where "final average pay" was defined as his or her average monthly compensation during the 60 consecutive month period within his or her last ten years of employment in which he received his or her highest compensation. Effective December 31, 2010, the Pension Plans were amended to cease all future benefit accruals under the above formula (except where a collective bargaining agreement provides otherwise). In lieu of additional accruals under the above-described formula, each affected participant's accrued benefit as of December 31, 2010 were increased 4% per year, compounded annually through the earlier of December 31, 2015 or the termination of the participant's employment.

Under both Pension Plans, "average monthly compensation" is determined based on the participant's salary plus annual cash incentive bonus. Although the retirement benefits described above are provided through separate plans, we have in the past transferred benefits from the Supplemental Plan to the Qualified Plan and reserve the right to make further similar transfers to the extent allowed under applicable law. The value of benefits transferred to the Qualified Plan, which directly offset the value of benefits in the Supplemental Plan, will be payable to the recipients in the form of enhanced annuities or supplemental benefits and are reflected in the table above under the "Present Value of Accumulated Benefits" column.

The normal form of benefit payment under both of our Pension Plans is (i) in the case of unmarried participants, a monthly annuity payable for the life of the participant and (ii) in the case of married participants, an actuarially equivalent monthly annuity payable for the lifetime of the participant and a survivor annuity payable for the lifetime of the spouse upon the participant's death. Participants may elect optional forms of annuity benefits under each Pension Plan and, in the case of the Qualified Plan, an annuity that guarantees ten years of benefits, all of which are actuarially equivalent in value to the normal form of benefit. The enhanced annuities described in the prior paragraph may be paid in the form of a lump sum, at the participant's election.

The normal retirement age is 65 under both of the Pension Plans. Participants may receive benefits under both of these plans upon "early retirement," which is defined as attaining age 55 with five years of service. Under both of these plans, the benefit payable upon early termination is calculated under formulas that pay between 60% to 100% of the base plan benefit and 48% to 92% of the excess plan benefit, in each case with the lowest percentage applying to early retirement at age 55 and proportionately higher percentages applying to early retirement after age 55. For additional information on early retirement benefits, please see the applicable early retirement provisions of the Pension Plans, copies of which are filed with the SEC.

Deferred Compensation

The following table and discussion provide information on our (i) Supplemental Savings Plan, under which certain named officers may elect to defer a portion of their salary in excess of the amounts that may be deferred under our qualified 401(k) plans, and (ii) the deferred compensation arrangements we have with each of Messrs. Andrews, Goff and Storey, which are described in more detail in the text following the table below. Only three of our named executives (Messrs. Dev, Goff and Andrews) have elected to participate in the Supplemental Savings Plan, and of these three, only Mr. Goff and Mr. Dev made contributions to the plan during 2022.

Deferred Compensation

Executive	Aggregate Balance at December 31, 2021[1]	Executive Contributions in 2022[2]	Company Contributions in 2022[3]	Aggregate Earnings in 2022[4]	Aggregate Withdrawals/ Distributions	Aggregate Balance at December 31, 2022[1]
Current NEOs						
Mr. Goff	$3,422,827	$32,243	$21,496	$ (606,874)	$ —	$2,869,692
Mr. Andrews	27,877	—	—	(5,219)	—	22,658
Former NEOs						
Mr. Storey	—	—	4,554,252	—	—	4,554,252
Mr. Dev	196,174	64,904	43,269	(271,519)	—	32,828

1 For each of Messrs. Goff, Andrews and Dev, this figure represents the aggregate balance of each NEO's Supplemental Savings Plan account. For Mr. Storey, this figure represents the value of RSUs that accelerated immediately following is retirement, in accordance with is amended and restated offer letter, but which will payout in Common Shares during 2023 in accordance with Section 409(A) of the Internal Revenue Service Code (the "Deferred RSUs").

2 The amounts in this column reflect contributions under the Supplemental Savings Plan by the officer of salary paid in 2022 and reported as 2022 salary compensation in the Summary Compensation Table.

3 This column includes our partial match of the officer's contribution under the terms of the Supplemental Savings Plan, all of which were included as 2022 compensation in the column of the Summary Compensation Table labeled "All Other Compensation."

4 This column represents aggregate earnings in 2022 including interest, dividends and distributions earned with respect to deferred compensation invested by the officers in the manner described in the text below.

Supplemental Savings Plan

Under our Supplemental Savings Plan, certain of our senior officers may defer up to 50% of their salary in excess of the Code limit on annual contributions to a qualified 401(k) plan. For every dollar that an eligible participant contributes to this plan up to 6% of his or her excess salary, we add an amount equal to the total matching percentage then in effect for matching contributions made by us under our qualified 401(k) plan (which for 2022 equaled the sum of all of the initial 1% contributed and half of the next 5% contributed). All amounts contributed under this supplemental plan by the participants or us are allocated among deemed investments that follow the performance of the same broad array of funds offered under our qualified 401(k) plan. This is reflected in the market value of each participant's account. Participants may change their deemed investments in these funds at any time. We reserve the right to transfer benefits from the Supplemental Savings Plan to our qualified 401(k) or retirement plans to the extent allowed under Treasury regulations and other guidance. The value of benefits transferred to our qualified plans directly offsets the value of benefits in the Supplemental Savings Plan. Participants in the Supplemental Savings Plan normally receive payment of their account balances in a lump sum once they cease working full-time for us, subject to any deferrals mandated by federal law.

Deferred RSUs for Mr. Storey

As provided in Mr. Storey's 2018 offer letter, as amended and restated, upon his retirement on December 31, 2022, we accelerated the vesting of his outstanding time-based RSUs. Consistent with Section 409A of Internal Revenue Service Code, the time-based RSUs shall not be released until the earlier of original vest date or six-months following termination date. As such, the following vested and deferred RSUs held by Mr. Storey settled or will settle in Common Shares on the following dates: 417,170 RSUs on March 1, 2023 and 455,292 RSUs on July 1, 2023.

Potential Termination Payments

The materials below discuss payments and benefits that our officers are eligible to receive if they: (i) resign or retire, (ii) are terminated by us, with or without cause, (iii) die or become disabled, or (iv) become entitled to termination benefits following a change of control of Lumen.

Notwithstanding the information appearing below, you should be aware that our officers have agreed to forfeit their equity compensation awards (and profits derived therefrom) if they compete with us or engage in other activity harmful to our interests while employed with us or within 18 months after termination. Certain other compensation might also be recoverable by us under certain circumstances after termination of employment. See "Compensation Discussion & Analysis—Our Governance of Executive Compensation—Forfeiture of Prior Compensation" for more information.

Payments Made Upon All Terminations

Regardless of the manner in which our employees' employment terminates prior to a change of control, they are entitled to receive amounts earned during their term of employment (subject to the potential forfeitures discussed above). With respect to each such terminated employee, such amounts include his or her:

- salary through the date of termination, payable immediately following termination in cash;
- annual incentive bonus, but only if such employee served for the entire bonus period or through the date such bonus is payable (unless this service requirement is waived, or more favorable treatment is applicable in the case of retirement, death or disability);
- equity awards that have vested;
- benefits accrued and vested under our qualified and supplemental defined benefit pension plans, with payouts generally occurring at early or normal retirement age;
- vested account balance held in our qualified and supplemental defined contribution plans, which the employee is generally free to receive at the time of termination; and
- rights to continued health care benefits to the extent required by law.

Payments Made Upon Involuntary Terminations

In addition to benefits described under the heading immediately above, employees involuntarily terminated by us without cause prior to a change of control are also entitled, subject to certain conditions, to:

- payment of their annual incentive bonus or a pro rata portion thereof, depending on their termination date;
- if approved by the HRCC in its discretion, the terminated employee will (i) receive accelerated vesting of all, or a portion of, unvested time-vested equity awards, (ii) be permitted to retain all or a portion of his or her unvested performance-based restricted stock for the remainder of the applicable performance period or (iii) a combination of both; and
- a cash severance payment in the amount described under "Compensation Discussion & Analysis—Section Four—Compensation Design, Awards and Payouts for 2022—Other Benefits—Severance Benefits" plus the receipt of any short-term incentive bonus payable under their applicable bonus plan, continued health coverage for the covered executive and his/her covered dependents for the shorter of 12 months following cessation of employment and the period for which the individuals are eligible for and elect such coverage and outplacement assistance benefits.

None of the benefits listed immediately above are payable if the employee resigns or is terminated for cause.

Payments Made Upon Retirement

Employees who retire in conformity with our retirement plans and policies are entitled, subject to certain conditions, to:

- payment of their annual incentive bonus or a pro rata portion thereof, depending on their retirement date;
- post-retirement life, health and welfare benefits; and
- all of the benefits described under the heading "—Payments Made Upon All Terminations."

In addition, the HRCC has discretion to accelerate the vesting of all, or a portion of, unvested time-vested equity awards or to permit an employee who retires from the Company to retain all or a portion of his or her unvested performance-based equity awards for the remainder of the applicable performance period.

Payments Made Upon Death or Disability

Upon death or disability, officers (or their estates) are generally entitled to (without duplication of benefits):

- payments under our disability or life insurance plans, as applicable;
- keep all of their time-vested equity awards, whether vested or unvested;
- vesting of their performance-based equity awards, with performance deemed achieved at target;
- payment of their annual incentive bonus or a pro rata portion thereof, depending on their date of death or disability;
- continued rights to receive (i) life, health and welfare benefits at early or normal retirement age, in the event of disabilities of employees with ten years of prior service, or (ii) health and welfare benefits payable to surviving eligible dependents, in the event of death of employees meeting certain age and service requirements; and
- all of the benefits described under the heading "—Payments Made Upon All Terminations," except that (i) death benefits under our retirement plans are generally available only to surviving spouses and (ii) benefits payable to mentally disabled employees under our nonqualified defined benefit retirement plans may be paid prior to retirement age.

Equity Acceleration Provisions of Mr. Storey's Amended and Restated Offer Letter

In conjunction with appointing Mr. Storey as our CEO in 2018, we amended and restated our offer letter with him to include provisions defining his rights with respect to his outstanding equity awards upon certain events of termination. Under these provisions, upon Mr. Storey's retirement (provided that he has given us 90 days' notice of his intent to retire), Mr. Storey is entitled to receive full-service vesting with respect to his annual LTI grants with any performance-based awards remaining subject to their original performance and vesting conditions.

Equity Acceleration Provisions of Ms. Johnson's Offer Letter

In conjunction with appointing Ms. Johnson as our CEO in 2022, our Offer Letter with her provides that certain outstanding, unvested equity awards will accelerate upon a "qualifying termination" within three years following her start date. A "qualifying termination" is defined in her Offer Letter to include termination by us without "cause" (as defined in our Executive Severance Plan) or termination by Ms. Johnson with "good reason" (as defined in her Offer Letter). Upon a qualifying termination, vesting of a pro-rated portion of unvested time-vested awards is accelerated and, with respect to performance-based awards, Ms. Johnson will be permitted to retain a pro-rated portion of such awards although they will remain subject to their original performance conditions and payout schedule (except upon her death, when the awards would pay out at target).

Payments Made Upon a Change of Control

We have entered into agreements that entitle each of our executive officers who are terminated without cause or resign under certain specified circumstances within certain specified periods following any change in control of Lumen to receive (i) a lump sum cash severance payment equal to a multiple of such officer's annual cash compensation (defined as salary plus the average annual incentive bonus over the past three years) and (ii) the other benefits described under "Compensation Discussion and Analysis—Section Four—Compensation Design, Awards and Payouts for 2022—Other Benefits—Change of Control Arrangements."

Under Lumen's above-referenced agreements, a "change in control" of Lumen would be deemed to occur upon: (i) any person (as defined in the Securities Exchange Act of 1934) becoming the beneficial owner of 30% or more of the outstanding Common Shares, (ii) a majority of our directors being replaced, (iii) consummation of certain mergers, substantial asset sales or similar business combinations, or (iv) approval by the shareholders of a liquidation or dissolution of Lumen.

The above-referenced agreements provide the benefits described above if we terminate the officer's employment without cause or the officer resigns with "good reason," which we describe further under the heading "Compensation Discussion & Analysis—Our Compensation Program and Components of Pay—Other Benefits–Change of Control Arrangements." We have filed copies or forms of these agreements with the SEC.

Participants in our supplemental defined benefit plan whose service is terminated within two years of the change in control of Lumen will receive a cash payment equal to the present value of their plan benefits (after providing age and service credits of up to three years if the participant is terminated by us without cause or resigns with "good reason"), determined in accordance with actuarial assumptions specified in the plan. Certain account balances under our qualified retirement plans will also fully vest upon a change of control of Lumen.

Under the terms of our equity incentive plans, incentives granted under those plans will not vest, accelerate, become exercisable or be deemed fully paid unless otherwise provided in a separate agreement, plan or instrument. None of our equity award agreements provide for any such accelerated recognition of benefits solely upon a change of control. Instead, our award agreements provide that any holder of incentives who is terminated by us or our successor without cause or resigns with good reason following a change of control will be entitled to receive full vesting of his or her time-vested restricted shares and continued rights under his or her performance-based restricted shares (on the same terms as if he or she had not been terminated).

We believe the above-described change of control benefits enhance shareholder value because:

- prior to a takeover, these protections help us to recruit and retain talented officers and to help maintain the productivity of our workforce by alleviating concerns over economic security and
- during or after a takeover, these protections (i) help our personnel, when evaluating a possible business combination, to focus on the best interests of Lumen and its shareholders and (ii) reduce the risk that personnel will accept job offers from competitors during takeover discussions.

Estimated Potential Termination Payments

The table below provides estimates of the value of payments and benefits that would become payable if our named executives were terminated in the manner described below, in each case based on various assumptions, the most significant of which are described in the table's notes.

Potential Termination Payments

		Type of Termination of Employment[(1)]				
Name	**Type of Termination Payment[(2)]**	**Involuntary Termination Without Cause[(3)]**	**Retirement[(4)]**	**Disability**	**Death**	**Termination Upon a Change of Control[(5)]**
Ms. Johnson	Annual Bonus	$ 329,129	n/a	$ 329,129	$ 329,129	$ 329,129
	Equity Awards[(6)]	2,400,010	n/a	2,604,556	2,604,556	2,604,556
	Pension and Welfare[(7)]	60,200	n/a	—	—	174,600
	Cash Severance[(8)]	7,200,000	n/a	—	—	10,800,000
		$ 9,989,339	n/a	$ 2,933,685	$ 2,933,685	$ 13,908,285
Mr. Stansbury	Annual Bonus	$ 642,915	n/a	$ 642,915	$ 642,915	$ 642,915
	Equity Awards[(6)]	—	n/a	3,830,238	3,830,238	3,830,238
	Pension and Welfare[(7)]	33,800	n/a	—	—	64,600
	Cash Severance[(8)]	1,800,000	n/a	—	—	3,600,000
		$ 2,476,715	n/a	$ 4,473,153	$ 4,473,153	$ 8,137,753
Mr. Goff	Annual Bonus	$ 716,721	$ 716,721	$ 716,721	$ 716,721	$ 703,873
	Equity Awards[(6)]	—	—	2,076,286	2,076,286	2,076,286
	Pension and Welfare[(7)]	33,800	n/a	—	—	64,600
	Cash Severance[(8)]	1,540,000	n/a	—	—	3,080,000
		$ 2,290,521	$ 716,721	$ 2,793,007	$ 2,793,007	$ 5,924,759
Mr. Andrews	Annual Bonus	$ 460,769	n/a	$ 460,769	$ 460,769	$ 490,613
	Equity Awards[(6)]	—	n/a	1,302,708	1,302,708	1,302,708
	Pension and Welfare[(7)]	31,000	n/a	—	—	59,000
	Cash Severance[(8)]	1,300,000	n/a	—	—	2,600,000
		$ 1,791,769	n/a	$ 1,763,477	$ 1,763,477	$ 4,452,321
Mr. Trezise	Annual Bonus	$ 483,477	n/a	$ 483,477	$ 483,477	$ 469,719
	Equity Awards[(6)]	—	n/a	1,242,731	1,242,731	1,242,731
	Pension and Welfare[(7)]	31,000	n/a	—	—	59,000
	Cash Severance[(8)]	1,150,000	n/a	—	—	2,300,000
		$ 1,664,477	n/a	$ 1,726,208	$ 1,726,208	$ 4,071,450

1 All data in the table reflects our estimates of the value of payments and benefits assuming the named officer was terminated on December 31, 2022. The closing price of the Common Shares on such date was $5.22. The table reflects only estimates of amounts earned or payable through or at such date based on various assumptions. Actual amounts can be determined only at the time of termination. If a named officer voluntarily resigns or is terminated with cause, he will not be entitled to any special or accelerated benefits but will be entitled to receive various payments or benefits that vested before the termination date. The table reflects potential payments based upon a physical disability; additional benefits may be payable in the event of a mental disability.

2 As further described above, upon termination of employment, the named officers may become entitled to receive certain special, accelerated or enhanced benefits, including, subject to certain exceptions, the right to receive payment of their annual cash incentive bonus, an acceleration under certain circumstances of the vesting of their outstanding equity awards, current or enhanced pension and welfare benefits, or cash severance payments. The table excludes (i) payments or benefits made under broad-based plans or arrangements generally available to all salaried full-time employees and (ii) benefits, awards or amounts that the officer was entitled to receive prior to termination of employment.

3 The amounts listed in this column reflect payments to which the named officer would be entitled to under our executive severance plan if involuntarily terminated by us without cause prior to a change of control. The amounts listed in this column would not be payable if the officer voluntarily resigns or is terminated for cause.

4 The amounts listed in this column reflect payments to which Mr. Goff would be entitled to under the provisions our STI plan. Mr. Goff is eligible to retire early under Lumen's defined benefit pension plans described above under the heading "Executive Compensation —Pension Benefits." The amounts reflected in this column do not reflect the amount of lifetime annuity payments payable upon early retirement, which as of December 31, 2022, Mr. Goff would have been entitled to monthly annuity payments of approximately $7,932 over his lifetime.

5 The information in this column assumes each named officer became entitled on December 31, 2022 to the benefits under Lumen's agreements in existence on such date described above under "—Payments Made Upon a Change of Control" upon an involuntary termination without cause or resignation with good reason. All amounts are based on several assumptions.

[6] The information in this row (i) reflects the benefit to the named officer arising out of the accelerated vesting of some or all of his restricted stock or RSUs triggered by the termination of employment and (ii) assumes that the HRCC would not approve the acceleration of the restricted stock or RSUs of any named officer in the event of an involuntary termination.

[7] The information in this row reflects only the incremental benefits that accrue upon an event of termination and excludes benefits that were vested on December 31, 2022. For information on the present value of the named officers' accumulated benefits under our defined benefit pension plans, see "—Pension Benefits," and for information on the aggregate balances of the named officers' non-qualified deferred compensation, see "—Deferred Compensation." As indicated above, the named officer would also be entitled to receive a distribution of his or her 401(k) benefits and various other broad-based benefits.

[8] The information in this row excludes, in the case of disability or death, payments made by insurance companies.

Amounts Paid to Former Executives

Two of our NEOs terminated employment with us on or prior to December 31, 2022, and therefore neither of them (Messrs. Dev and Storey) are included in the above table. The amounts paid or payable to these officers upon their termination are detailed in "Compensation Discussion & Analysis–2022 Leadership Transition."

As noted previously, Mr. Andrews' employment with us was involuntarily terminated effective March 3, 2023. The HRCC determined that Mr. Andrews qualified for payments under our executive severance plan. Under that plan, Mr. Andrews received a cash severance payment equal to one year of total target compensation ($1,300,000) and approximately $23,000 to cover COBRA premium payments during the applicable severance period. In addition to these contractual arrangements, and conditioned upon Mr. Andrews' execution of a general release, the HRCC believed that it was appropriate and in the best interest of the Company to pay the first installment of Mr. Andrews' retention award in the amount of $500,000, due to vest and be payable on April 1, 2023 for the reasons discussed under the heading "Compensation Discussion & Analysis–Section Four–Compensation Design, Awards and Payouts for 2022–Special Transformation Awards." All of Mr. Andrews' outstanding equity awards, including those granted to him in fiscal 2022, were forfeited upon his termination of employment.

CEO Pay Ratio Disclosure

As mandated by federal law and related SEC rules, we are required to disclose a ratio of the pay of our CEO to that of our median employee. For 2022, the total compensation of our CEO, Ms. Johnson (as reported in the Summary Compensation Table but annualized as noted below) was $4,778,130, while the annual total compensation for our median employee was $79,220. As a result, the ratio of CEO pay to median employee pay was approximately 60 to 1.

We calculated our 2022 pay ratio using the following assumptions:

- Median employee determination. The median employee was determined by reviewing the annual total target compensation (the sum of base salary, target short-term incentive and target long-term incentive awards) as of December 31, 2022 for approximately 29,500 active employees employed on that date, excluding our CEO.
- Median employee identification. The median employee was identified as a Buyer II, located in the U.S. and with the Company for 8 years.
- Median employee total compensation calculation. To determine the median pay ratio, we calculated the median employee's pay using the same pay elements and calculation methodology as used in determining the CEO's pay for purposes of disclosure in the Summary Compensation Table.

Because Ms. Johnson was not serving as CEO for the full year, we annualized certain compensation items that she received for her services as CEO during 2022 (specifically, using her salary for the full year and for calculation of her STI payout). As a result, the compensation figure we used for purposes of calculating our pay ratio differs from the total of her 2022 compensation as reported in the Summary Compensation Table, as detailed in the table below, which yielded a ratio of CEO pay to median employee pay of approximately 238 to 1.

Compensation Components	Amount Reported in Summary Compensation Table	Annualized Amount Used for Pay Ratio Calculation
Salary	$180,840	$1,200,000 (1)
Bonus	1,000,000	1,000,000
Stock Awards	3,013,700	14,250,000 (2)
Non-Equity Incentive Plan Compensation	329,129	2,184,000 (3)
All Other Compensation	254,461	254,461
Total	$4,778,130	$18,888,461

1 Represents Ms. Johnson's salary for a full twelve months.

2 Represents Ms. Johnson's target annual LTI award for 2022.

3 Represents the product of Ms. Johnson's target STI percentage (200%) and her annualized salary, multiplied by the product of the actual STI payout percentage and Ms. Johnson's individual modifier as approved by the HRCC (91% * 100%).

The SEC rules permit companies to choose between different methodologies for median pay calculations. Other public companies may calculate their pay ratio using a different methodology than ours, and you should not assume our ratio data is comparable to that of other companies.

Pay Versus Performance

In accordance with rules adopted by the Securities and Exchange Commission pursuant to the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, we provide the following disclosure regarding executive compensation for our principal executive officers ("PEOs") and Non-PEO NEOs and Company performance for the fiscal years listed below. The Human Resources and Compensation Committee did not consider the pay versus performance disclosure below in making its pay decisions for any of the years shown.

Year	Summary Compensation Table Total for Mr. Storey[1] ($)	Summary Compensation Table Total for Ms. Johnson[1] ($)	Compensation Actually Paid to Mr. Storey[1,2,3] ($)	Compensation Actually Paid to Ms. Johnson[1,2,3] ($)	Average Summary Compensation Table Total for Non-PEO NEOs[1] ($)	Average Compensation Actually Paid to Non-PEO NEOs[1,2,3] ($)	Value of Initial Fixed $100 Investment based on:[4] TSR ($)	Peer Group TSR ($)	Net Income ($ Millions)	Adjusted EBITDA[5] ($ Millions)
(a)	(b)	(b)	(c)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
2022	$19,816,806	$ 4,778,130	$ (5,200,491)	$ 4,368,986	$ 5,145,256	$ 511,978	$ 50	$ 90	$ (1,548)	$ 6,703
2021	22,654,781	—	32,390,881	—	4,057,947	5,127,580	112	150	2,033	8,424
2020	16,959,233	—	10,189,461	—	3,162,186	2,308,534	81	124	(1,232)	8,489

1 Mr. Storey was our PEO from May 24, 2018 to November 7, 2022. Ms. Johnson has been our PEO since November 7, 2022. The individuals comprising the Non-PEO NEOs for each year presented are listed below.

2020	2021	2022
Indraneel Dev	Indraneel Dev	Stacey W. Goff
Stacey W. Goff	Stacey W. Goff	Chris Stansbury
Shaun C. Andrews	Shaun C. Andrews	Shaun C. Andrews
Scott A. Trezise	Scott A. Trezise	Scott A. Trezise
		Indraneel Dev

2 The amounts shown for Compensation Actually Paid have been calculated in accordance with Item 402(v) of Regulation S-K and do not reflect compensation actually earned, realized, or received by the Company's NEOs. These amounts reflect the Summary Compensation Table Total with certain adjustments as described in footnote 3 below.

3 Compensation Actually Paid reflects the exclusions and inclusions of certain amounts for the PEOs and the Non-PEO NEOs as set forth below. Equity values are calculated in accordance with FASB ASC Topic 718 and include the probable performance as of the respective fair value measurement dates. Amounts in the Exclusion of Stock Awards column are the totals from the Stock Awards column set forth in the Summary Compensation Table. Amounts in the Exclusion of Change in Pension Value column reflect the amounts, if any, attributable to the Change in Pension Value reported in the Summary Compensation Table. There are no amounts reported in the Inclusion of Pension Service Cost because with limited exceptions specified in the Pension Plans, we "froze" our defined benefit pension plans as of December 31, 2010, as described under the heading " – Pension Benefits".

Year	Summary Compensation Table Total for Mr. Storey ($)	Exclusion of Change in Pension Value for Mr. Storey ($)	Exclusion of Stock Awards for Mr. Storey ($)	Inclusion of Pension Service Cost for Mr. Storey ($)	Inclusion of Equity Values for Mr. Storey ($)	Compensation Actually Paid to Mr. Storey ($)
2022	$ 19,816,806	$ —	$ (14,594,705)	$ —	$ (10,422,592)	$ (5,200,491)
2021	22,654,781	—	(17,120,198)	—	26,856,298	32,390,881
2020	16,959,233	—	(11,435,870)	—	4,666,098	10,189,461

Year	Summary Compensation Table Total for Ms. Johnson ($)	Exclusion of Change in Pension Value for Ms. Johnson ($)	Exclusion of Stock Awards for Ms. Johnson ($)	Inclusion of Pension Service Cost for Ms. Johnson ($)	Inclusion of Equity Values for Ms. Johnson ($)	Compensation Actually Paid to Ms. Johnson ($)
2022	$ 4,778,130	$ —	$ (3,013,700)	$ —	$ 2,604,556	$ 4,368,986

Year	Average Summary Compensation Table Total for Non-PEO NEOs ($)	Average Exclusion of Change in Pension Value for Non-PEO NEOs ($)	Average Exclusion of Stock Awards for Non-PEO NEOs ($)	Average Inclusion of Pension Service Cost for Non-PEO NEOs ($)	Average Inclusion of Equity Values for Non-PEO NEOs ($)	Average Compensation Actually Paid to Non-PEO NEOs ($)
2022	$ 5,145,256	$ —	$ (3,752,339)	$ —	$ (880,939)	$ 511,978
2021	4,057,947	—	(2,765,337)	—	3,834,970	5,127,580
2020	3,162,186	(34,636)	(1,905,979)	—	1,086,963	2,308,534

The amounts in the Inclusion of Equity Values in the tables above are derived from adding or deducting the amounts set forth in the following tables:

Year	Year-End Fair Value of Equity Awards Granted During Year That Remained Unvested as of Last Day of Year for Mr. Storey ($)	Change in Fair Value from Last Day of Prior Year to Last Day of Year of Unvested Equity Awards for Mr. Storey ($)	Vesting-Date Fair Value of Equity Awards Granted During Year that Vested During Year for Mr. Storey ($)	Change in Fair Value from Last Day of Prior Year to Vesting Date of Unvested Equity Awards that Vested During Year for Mr. Storey ($)	Fair Value at Last Day of Prior Year of Equity Awards Forfeited During Year for Mr. Storey ($)	Total - Inclusion of Equity Values for Mr. Storey ($)
2022	$ 4,014,058	$ (15,055,425)	$ 2,824,628	$ (2,205,853)	$ —	$ (10,422,592)
2021	19,352,105	1,820,468	—	5,683,725	—	26,856,298
2020	7,004,367	(2,769,223)	—	430,954	—	4,666,098

Year	Year-End Fair Value of Equity Awards Granted During Year That Remained Unvested as of Last Day of Year for Ms. Johnson ($)	Change in Fair Value from Last Day of Prior Year to Last Day of Year of Unvested Equity Awards for Ms. Johnson ($)	Vesting-Date Fair Value of Equity Awards Granted During Year that Vested During Year for Ms. Johnson ($)	Change in Fair Value from Last Day of Prior Year to Vesting Date of Unvested Equity Awards that Vested During Year for Ms. Johnson ($)	Fair Value at Last Day of Prior Year of Equity Awards Forfeited During Year for Ms. Johnson ($)	Total - Inclusion of Equity Values for Ms. Johnson ($)
2022	$ 2,604,556	$ —	$ —	$ —	$ —	$ 2,604,556

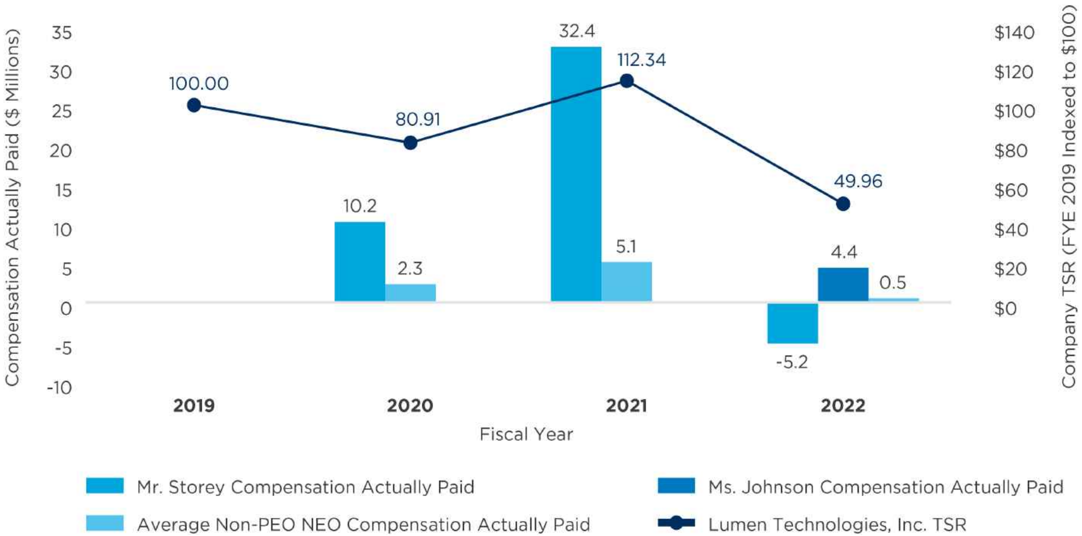
Year	Average Year-End Fair Value of Equity Awards Granted During Year That Remained Unvested as of Last Day of Year for Non-PEO NEOs ($)	Average Change in Fair Value from Last Day of Prior Year to Last Day of Year of Unvested Equity Awards for Non-PEO NEOs ($)	Average Vesting-Date Fair Value of Equity Awards Granted During Year that Vested During Year for Non-PEO NEOs ($)	Average Change in Fair Value from Last Day of Prior Year to Vesting Date of Unvested Equity Awards that Vested During Year for Non-PEO NEOs ($)	Average Fair Value at Last Day of Prior Year of Equity Awards Forfeited During Year for Non-PEO NEOs ($)	Total - Average Inclusion of Equity Values for Non-PEO NEOs ($)
2022	$ 1,316,385	$ (1,664,976)	$ —	$ (1,479)	$ (530,869)	$ (880,939)
2021	3,116,955	327,410	—	390,605	—	3,834,970
2020	1,167,394	(82,944)	—	2,513	—	1,086,963

4 The Peer Group TSR set forth in this table utilizes the S&P 500 Communication Services Sector Index, which we also utilize in the stock performance graph appearing herein under the heading "Other Items-Lumen Performance History.". The comparison assumes $100 was invested for the period starting December 31, 2019, through the end of the listed year in the Company and in the S&P 500 Communication Services Sector Index, respectively. Historical stock performance is not necessarily indicative of future stock performance.

5 We determined Adjusted EBITDA to be the most important financial performance measure used to link Company performance to Compensation Actually Paid to our PEO and Non-PEO NEOs in 2022. As described in the CD&A, Adjusted EBITDA measures the operational performance and profitability of our businesses, and we use this measure in our compensation programs to incentivize and reward our senior officers to focus on the combination of cost savings and profitable revenue growth. Adjusted EBITDA, which is described in further detail in Appendix A – Non-GAAP Reconciliations, is a non-GAAP metric that excludes certain one time or non-recurring charges or credits and eliminates the effects of certain unanticipated, extraordinary, unusual, or non-recurring transactions or items. We may determine a different financial performance measure to be the most important financial performance measure in future years.

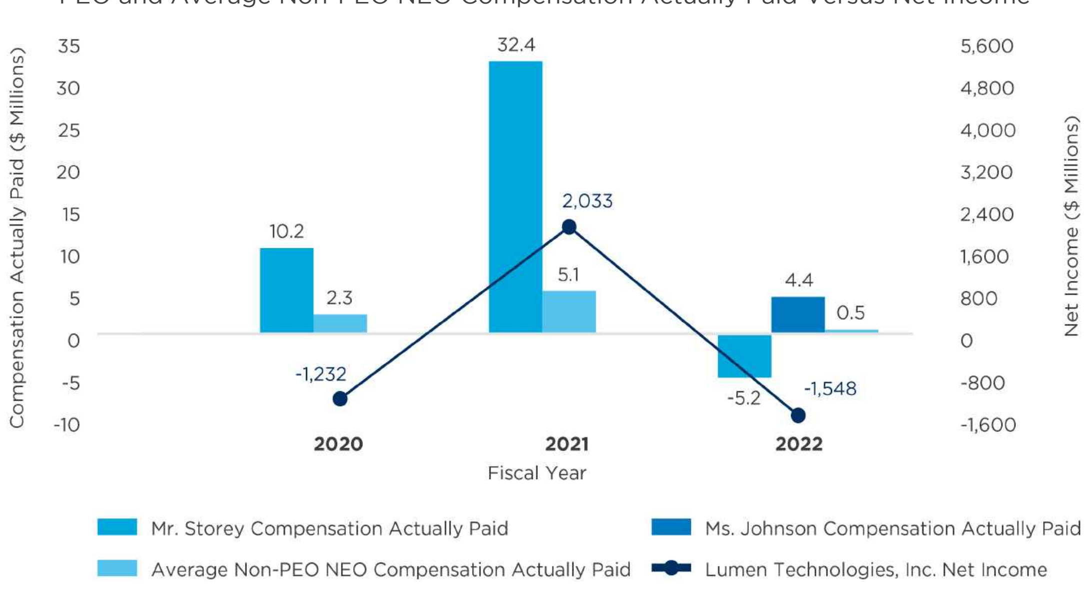
Relationship Between PEOs and Non-PEO NEO Compensation Actually Paid and Company Total Shareholder Return (“TSR”)

The following chart sets forth the relationship between Compensation Actually Paid to our PEOs, the average of Compensation Actually Paid to our Non-PEO NEOs, and the Company’s cumulative TSR over the three most recently completed fiscal years.



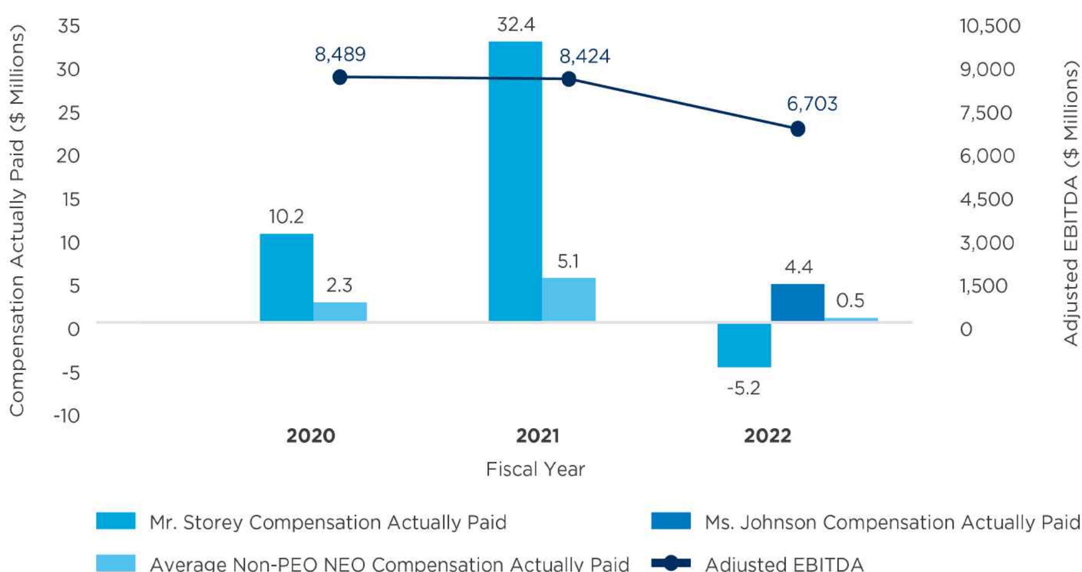
Relationship Between PEOs and Non-PEO NEO Compensation Actually Paid and Net Income

The following chart sets forth the relationship between Compensation Actually Paid to our PEOs, the average of Compensation Actually Paid to our Non-PEO NEOs, and our Net Income during the three most recently completed fiscal years.



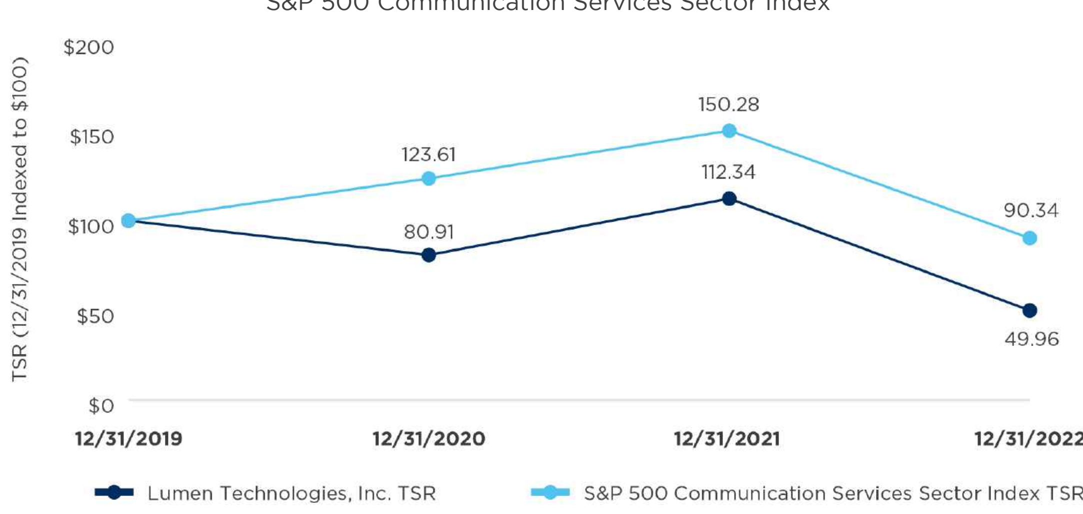
Relationship Between PEOs and Non-PEO NEO Compensation Actually Paid and Adjusted EBITDA

The following chart sets forth the relationship between Compensation Actually Paid to our PEOs, the average of Compensation Actually Paid to our Non-PEO NEOs, and our Adjusted EBITDA during the three most recently completed fiscal years.



Relationship Between Company TSR and Peer Group TSR

The following chart compares our cumulative TSR over the three most recently completed fiscal years to that of the S&P 500 Communication Services Sector Index over the same period.



Tabular List of Most Important Financial Performance Measures

The following table presents the financial performance measures that the Company considers to have been the most important in linking Compensation Actually Paid to our PEOs and other NEOs for 2022 to Company performance. The measures in this table are not ranked.

Most Important Financial Performance Measures
Adjusted EBITDA
Free Cash Flow
Revenue

Other Matters

Stock Ownership

The following table sets forth information regarding ownership of our Common Shares by the persons known to us to have beneficially owned more than 5% of the outstanding Common Shares on December 31, 2022 (the "investors"), unless otherwise noted.

Stock Ownership

Name and Address	Amount and Nature of Beneficial Ownership of Common Shares[(1)]	Percent of Outstanding Common Shares[(1)]
The Vanguard Group 100 Vanguard Blvd. Malvern, PA 19355	115,778,437[(2)]	11.2%
Blackrock, Inc. 55 East 52nd Street New York, NY 10055	77,854,525[(3)]	7.5%
State Street Corporation State Street Financial Center One Lincoln Street Boston, MA 02111	53,903,325[(4)]	5.2%

1 The figures and percentages in the table above have been determined in accordance with Rule 13d-3 of the SEC based upon information furnished by the investors, except that we have calculated the percentages in the table based on the actual number of Common Shares outstanding as of the record date, as opposed to the estimated percentages set forth in the reports of such investors referred to below in such notes. In addition to Common Shares, we have outstanding Preferred Shares that vote together with the Common Shares as a single class on all matters. One or more persons beneficially own more than 5% of the Preferred Shares; however, the percentage of total voting power held by such persons is immaterial. For additional information regarding the Preferred Shares, see "Frequently Asked Questions — How many votes may I cast?"

2 Based on information contained in a Schedule 13G/A Report dated as of February 9, 2023, that this investor filed with the SEC. In this report, the investor indicated that, as of December 31, 2022, it (i) held sole voting power with respect to none of these shares, (ii) shared voting power with respect to 1,316,825 of these shares, (iii) held sole dispositive power with respect to 111,672,031 of these shares and (iv) shared dispositive power with respect to 4,106,406 of these shares.

3 Based on information contained in a Schedule 13G Report dated as of January 31, 2023, that this investor filed with the SEC. In this report, the investor indicated that, as of December 31, 2022, it (i) shared voting power with respect to none of these shares, (ii) held sole voting power with respect to 70,088,681 of these shares and (iii) held sole dispositive power with respect to all of the above-listed shares.

4 Based on information contained in a Schedule 13G/A Report dated as of February 6, 2023, that this investor filed with the SEC. In this report, the investor indicated that, as of December 31, 2022, it (i) held sole voting power with respect to none of these shares, (ii) shared voting power with respect to 39,016,252 of these shares, (iii) held sole dispositive power with respect to none of these shares and (iv) shared dispositive power with respect to 53,895,888 of these shares.

Ownership of Executive Officers & Directors

The following table sets forth information, as of the record date, regarding the beneficial ownership of our common stock by our executive officers and directors. It also includes any shares subject to restricted stock units that are scheduled to be issued within sixty days of our record date. Except as otherwise noted, all beneficially owned shares are held with sole voting and investment power and are not pledged to third parties.

Ownership of Executive Officers & Directors

	Components of Total Shares Beneficially Owned			
	Unrestricted Shares Beneficially Owned[1]	Unvested Restricted Stock[2]	Total Shares Beneficially Owned[3][4]	Vested Deferred Stock Units[5]
Named Executive Officers				
Ms. Johnson	—	1,958,811	1,958,811	—
Mr. Stansbury	—	1,502,106	1,502,106	—
Mr. Goff	379,639	882,430	1,262,069	—
Mr. Trezise	188,625	964,252	1,152,877	—
Former Named Executive Officers				
Mr. Storey[6]	3,809,266	—	3,809,266	455,292
Mr. Dev[7]	620,180	214,047	837,227	—
Mr. Andrews[8]	143,236	—	143,236	—
Outside Directors				
Mr. Allen	—	—	0	14,536
Ms. Bejar	57,308	—	57,308	25,608
Mr. Brown[9]	84,604	18,514	103,118	0
Mr. Chilton	85,335	—	85,335	13,152
Mr. Clontz	321,515	18,514	340,029	0
Mr. Glenn[10]	149,362	—	149,362	64,195
Mr. Hanks	133,147	18,514	151,661	—
Mr. Jones	42,475	18,514	60,989	0
Mr. Roberts	80,231	18,514	98,745	14,706
Ms. Siegel	90,333	18,514	108,847	0
All current executive officers and directors as a group (15 persons)[11]				
Overall Total	1,612,572	6,058,970	7,671,542	132,197

1 This column includes 4,002 shares allocated to Mr. Goff's account under one of our qualified 401(k) plans. Participants in these plans are entitled to direct the voting of their plan shares, as described in greater detail elsewhere herein.

2 Reflects (i) for all shares listed, unvested shares of restricted stock over which the person holds sole voting power but no investment power and (ii) with respect to our performance-based restricted stock granted to our executive officers, the number of shares that will vest if we attain target levels of performance.

3 Excludes (i) restricted stock units that do not vest and settle in shares within 60 days and (ii) "phantom units" held by Mr. Roberts that are payable in cash upon the termination of his service as a director, as described further under "Item No. 1 – Election of Directors — Director Compensation — Other Benefits."

4 None of the persons named in the table beneficially owns more than 1% of the outstanding Common Shares. The shares beneficially owned by all directors and executive officers as a group constituted 0.76% of the outstanding Common Shares as of the record date.

5 This column reflects vested equity awards deferred by outside directors that will settle in shares at a future date according to the directors election, including 18,514 of deferred stock units scheduled to vest on May 18, 2023, but will not settle in shares until the director's elected deferral date for Ms. Bejar and Messrs. Allen, Chilton and Glenn.

6 Reflects Mr. Storey's last reported holdings as of his retirement on December 31, 2022, including 282,786 time-based restricted stock units that vested, net of shares withheld for taxes, on March 1, 2023 and excluding 1,131,799 unvested performance-based restricted stock units.

7 Reflects Mr. Dev's last reported holdings as of April 1, 2022 when his employment with us ended.

8 Reflects Mr. Andrews' last reported holdings as of March 3, 2023 when his employment with us ended.

9 Includes 24,297 shares held by a tax-exempt charitable foundation, as to which Mr. Brown has voting and dispositive powers by virtue of his control of the foundation.

10 Includes 77,143 shares held indirectly by Mr. Glenn in a trust.

11 As described further in the notes above, includes (i) 24,297 shares held beneficially through a foundation and (ii) 77,143 shares held indirectly by trust.

Transactions with Related Parties

Review Procedures. Early each year, our management distributes to the Audit and NCG Committees a written report listing payments that exceed a materiality threshold involving parties that have been identified as related parties by our officers and directors through their completion of an annual questionnaire. These transactions do not include regular compensation paid to the officers and directors but would include any payments to the officers and directors outside of regular compensation arrangements. This annual report permits the independent directors to evaluate our material related party transactions.

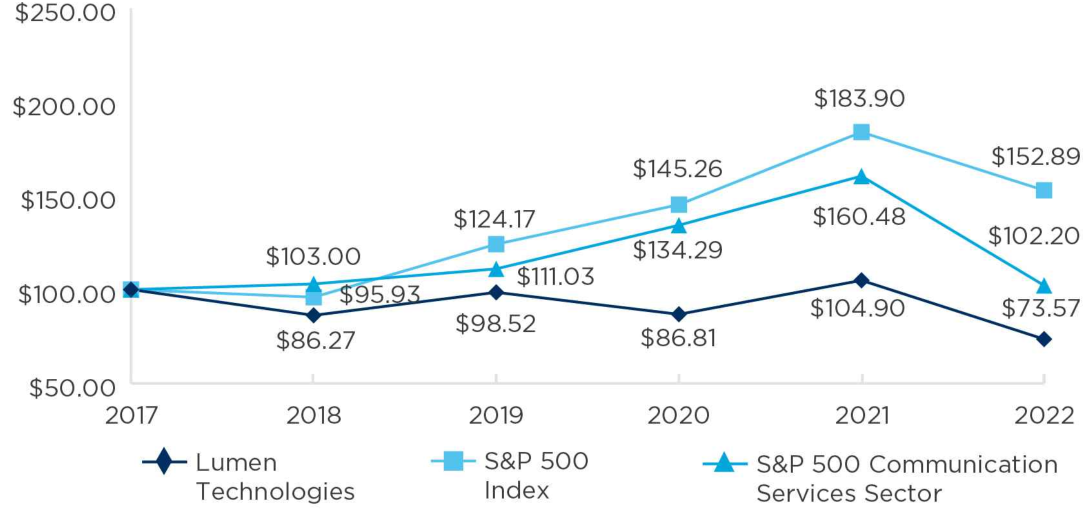
Recent Transactions. There were no related party transactions identified for 2022.

Compensation Committee Interlocks and Insider Participation

During the last fiscal year, our HRCC included Laurie Siegel, Martha H. Bejar, Steven T. "Terry" Clontz, T. Michael Glenn, and Michael Roberts. No member of the HRCC served as an officer or employee of the Company or any of our subsidiaries prior to or while serving on the HRCC.

Lumen Performance History

The graph below compares the cumulative total shareholder return on our Common Shares with the cumulative total return of the S&P 500 Index and the S&P 500 Communication Services Sector Index for the period from December 31, 2017 to December 30, 2022, in each case assuming (i) the investment of $100 on January 1, 2018, at closing prices on December 31, 2017 and (ii) reinvestment of dividends.



	December 31,					
	2017	2018	2019	2020	2021	2022
Lumen	$100.00	$103.00	$ 98.52	$ 86.81	$104.90	$ 73.57
S&P 500 Index	$100.00	$ 95.93	$124.17	$145.26	$ 183.90	$ 152.89
S&P 500 Communication Services Sector Index[1]	$100.00	$ 86.27	$ 111.03	$134.29	$ 160.48	$102.20

[1] As of December 31, 2022, the S&P 500 Communications Service Sector Index consisted of Omnicom Group, Inc., Verizon Communications, Inc., The Walt Disney Company, Alphabet Inc., AT&T Inc., Charter Communications Inc., Match Group Inc., Netflix Inc., Warner Bros Discovery Inc., Comcast Corp., Activision Blizzard Inc., Paramount Global, Electronic Arts Inc., Meta Platforms Inc.., Take-Two Interactive Software Inc., Interpublic Group, T-Mobile US, Inc. and Fox Corp.

ITEM 5

Advisory Vote Regarding the Frequency of Our Executive Compensation Votes

This year we are once again providing our shareholders with the opportunity to cast an advisory vote regarding the frequency of our advisory votes on executive compensation, commonly known as "say-on-pay" votes. Shareholders may vote on whether our say-on-pay votes should occur every one, two, or three years.

We are required to provide our shareholders with an advisory vote on the frequency of our say-on-pay votes at least every six years. In 2017, the last time we held such a vote, a majority of our shareholders voted in favor of an annual say-on-pay vote, which was the frequency recommended by the Board at that time. Following that vote, the Board adopted annual say-on-pay votes as its standard.

We believe that say-on-pay votes should be conducted annually so that you may express your views on our executive compensation programs each year. An annual advisory vote is consistent with our policy of seeking input from you on corporate governance and executive compensation matters. We understand you may have different views as to what is the best compensation approach for our executives, and we believe annual advisory votes will facilitate a continued dialogue. For additional information about our say-on-pay votes, see "—Advisory Vote to Approve Our Executive Compensation" elsewhere herein.

The proxy card provides four choices for this frequency vote: shareholders may indicate a preference for say-on-pay votes to be held every one, two, or three years, or may abstain from voting. The frequency that receives the highest number of votes cast will be the frequency approved by our shareholders. Please be advised that this vote is advisory only, and the Board may ultimately decide that it is in the best interests of our shareholders to hold an advisory vote on executive compensation more or less frequently than the option selected by our shareholders. However, the Board intends to take into consideration the outcome of the vote when making future decisions about how frequently to schedule our say-on-pay votes.

The Board unanimously recommends that you vote to hold an advisory vote on executive compensation **EVERY YEAR**.

Frequently Asked Questions About Voting and the Annual Meeting

Q Why am I receiving these proxy materials?

A Our Board of Directors is soliciting your proxy to vote at our 2023 annual meeting of shareholders because you owned shares of our stock at the close of business on March 23, 2023, the record date for the meeting and are entitled to vote those shares at the annual meeting. This proxy statement and our annual report were first made available to shareholders on or about April 5, 2023. This proxy statement is furnished in connection with the solicitation of proxies by our Board to be voted during the annual meeting for the purposes set forth in the accompanying Notice of 2023 Annual Shareholders Meeting.

Q When and how will the meeting be held?

A Date: May 17, 2023

Time: 12:00 noon Central Time

Virtual Meeting Location: virtualshareholdermeeting.com/LUMN2023

Q How may I access these materials?

A We are furnishing proxy materials to our shareholders primarily via the Internet instead of mailing printed copies of those materials to each shareholder. By doing so, we save costs and reduce the environmental impact of our annual meeting. On or about April 5, 2023, we commenced mailing a Notice of Internet Availability of Proxy Materials to most of our shareholders. The Notice contains instructions about how to access our proxy materials online and submit your proxy online or by telephone. If you previously chose to receive our proxy materials electronically, you will continue to receive access to these materials via email unless you elect otherwise. If you would like to receive a paper copy of our proxy materials, please follow the instructions included in the Notice of Internet Availability of Proxy Materials.

Q What matters will be considered at the meeting and what vote will be required?

A The following table summarizes the proposals being considered at the meeting, the votes required for passage of each proposal and the effect of abstentions and uninstructed shares held by brokers.

Items For Consideration

Item	Board Voting Recommendation	Vote Required for Approval	Effect of Abstentions	Effect of Uninstructed Shares[1]	Page Reference
ITEM 1 Election of the 10 director nominees named herein	✓ **FOR**	Affirmative vote of a majority of the votes cast	Not cast	Not cast	17
ITEM 2 Ratify KPMG LLP as our independent auditor for 2023	✓ **FOR**	Affirmative vote of a majority of the votes cast	Not cast	Discretionary voting	52
ITEM 3 Approval of our Second Amended and Restated 2018 Equity Incentive Plan	✓ **FOR**	Affirmative vote of a majority of the votes cast	Not cast	Not cast	57
ITEM 4 Non-binding advisory vote to approve our executive compensation	✓ **FOR**	Affirmative vote of a majority of the votes cast	Not cast	Not cast	68
ITEM 5 Non-binding advisory vote regarding the frequency of our executive compensation votes	✓ **ONE YEAR**	Alternative receiving the highest number of votes	Not cast	Not cast	133

[1] "Uninstructed Shares" refers to shares as to which a broker or custodian receives no voting instructions from the shares' beneficial owner and which, other than as noted below for Item 2, cannot be voted under applicable NYSE standards. Because brokers will have discretionary authority to vote with respect to Item 2, there should be no uninstructed shares for this item.

Q What vote is required to approve these matters?

A For each proposal submitted to the shareholders for a vote, approval requires a vote of the majority of the votes cast. A majority of votes cast means the number of shares cast "for" a proposal exceeds the number of votes cast "against" that proposal. Abstentions will not be counted as votes cast. Uninstructed shares will not be counted as votes cast except with respect to Item #2, Ratifying KPMG as our Independent Auditor for 2023, for which brokers and custodians have discretion to vote.

Additionally, unless otherwise directed, all votes attributable to Voting Shares represented by each duly executed and delivered proxy will be cast for the election of each of the above-named nominees. If you wish to give specific instructions with respect to voting for directors, you may do so by indicating your instructions on your proxy or voting instruction card. Under our Bylaws nominating procedures, these nominees are the only individuals who may be elected at the meeting. If for any reason any such nominee should decline or become unable to stand for election as a director, which we do not anticipate, the persons named as proxies may vote instead for another candidate designated by the Board, without re-soliciting proxies.

Q How many votes may I cast?

A You may cast one vote for every share of our Common Stock or Series L Preferred Stock that you owned on the record date, which vote together as a single class on all matters. In this proxy statement, we refer to these shares as our "Common Shares" and "Preferred Shares," respectively and as our "Voting Shares," collectively. As of the Record Date, we had 1,004,873,297 Common Shares and 7,018 Preferred Shares issued and outstanding.

Q What is the difference between holding shares as a shareholder of record and as a beneficial owner?

A If shares are registered in your name with our transfer agent, Computershare Investor Services L.L.C., you are the "shareholder of record" of those shares and you may directly vote these shares, together with any shares credited to your account if you are a participant in our automatic dividend reinvestment and stock purchase service.

If your shares are held on your behalf in a stock brokerage account or by a bank or other nominee, you are the "beneficial owner" of shares held in "street name." We have requested that our proxy materials be made available to you by your broker, bank or nominee, who is considered the shareholder of record of those shares.

Q If I am a shareholder of record, how do I vote?

A Regardless of whether you plan to join the annual meeting, please promptly submit your proxy and voting instructions via the Internet, or by phone or mail as described herein. Shareholders are encouraged to submit proxies and voting instructions in advance of the meeting as early as possible to avoid any possible delays. If you are a shareholder of record, you may vote yourself or by proxy in any of the following four ways:

- By Internet: visit proxyvote.com and follow the instructions at that site
- By phone: call 1-800-690-6903 and follow the instructions provided;
- By mail: if you have received printed proxy materials, mark, sign and date your proxy or voting instructions card and return it to Broadridge Financial Solutions Inc.; if you have not received printed proxy materials but would like to, you can request a paper copy of our proxy materials and, following receipt thereof, mark, sign and date your proxy or voting instructions card and return it to Broadridge Financial Solutions, Inc.
- By Live virtual meeting: vote electronically at the virtual annual meeting – virtualshareholdersmeeting.com/ LUMN2023

Prior to the live meeting, if you need additional help with voting, please call proxy support at 866-232-3037 (Toll-free) or 720- 358-3640 (International Toll). If you encounter any difficulties accessing the virtual Meeting webcast, please call the technical support number that will be posted on the annual meeting website log-in page.

Unless otherwise noted below, you may vote by telephone or the Internet up until 11:59 p.m. Eastern Time on May 16, 2023, but not thereafter.

Q If I am a beneficial owner of shares held in street name, how do I vote?

A As the beneficial owner, you have the right to instruct your broker, bank or nominee how to vote your shares by using any voting instruction card supplied by them or by following their instructions for voting by telephone, the Internet, or live during the virtual meeting.

Q If I am a benefit plan participant, how do I vote?

A If you beneficially own any of our Common Shares by virtue of participating in our retirement plan, then you will receive separate voting instructions that will enable you to direct the voting of these shares. You are entitled, on a confidential basis, to instruct the trustees how to vote the shares allocated to your plan account. The plan requires you to act as a "named fiduciary," which requires you to exercise your voting rights prudently and in the interests of all plan participants. Plan participants who wish to vote should instruct the trustees how to vote the shares allocated to their plan accounts in accordance with the voting instructions. If you elect not to vote the shares allocated to your accounts, your shares will be voted in the same proportion as voted shares regarding each of the items submitted to a vote at the meeting. Plan participants that wish to revoke their voting instructions must contact the trustee and follow its procedures.

To be counted, your voting instructions for shares held in our retirement plan must be received by 11:59 p.m. Eastern Time on May 14, 2023, but not thereafter.

Q How do I participate in the annual meeting?

A This year's annual meeting will be held in a virtual format through a live webcast.

You are entitled to participate in the annual meeting if you were a record shareholder as of the close of business on March 23, 2023, the record date, or hold a valid proxy for the meeting. To be admitted to the annual meeting at proxyvote.com, you must enter the 16-digit control number found next to the label "Control Number" on your Notice of Internet Availability, proxy card, or voting instruction form, or in the email sending you the proxy statement. If you are a beneficial shareholder, you may contact the broker, bank or other institution with whom you hold your account if you have questions about obtaining your Control Number.

The question and answer session of the meeting will include questions submitted in advance of and questions submitted live during the annual meeting. You may submit a question in advance of the meeting at proxyvote.com after logging in with your Control Number. Questions may be submitted during the live virtual annual meeting by following the instructions on your log-in screen.

We encourage you to access the annual meeting before it begins. Online check-in will start approximately 15 minutes before the meeting on May 17, 2023.

Q What can I do if I need technical assistance during the annual meeting?

A The virtual meeting platform is fully supported across browsers (Internet Explorer, Firefox, Chrome and Safari) and devices (desktops, laptops, tablets and cell phones) running the most updated version of applicable software and plugins. If you encounter any difficulties accessing the virtual Meeting webcast, please call the technical support number that will be posted on the annual meeting website log-in page.

Q Who sets the rules regarding conduct at the meeting?

A Under our Bylaws, the Chairman has broad responsibility and legal authority to conduct the meeting in an orderly and timely manner. This authority includes establishing rules for shareholders who wish to address the meeting. Copies of these rules will be available prior to the meeting in the "Events & Presentations" section of our website ir.lumen.com and during the meeting. The Chairman may also exercise broad discretion regarding (i) recognizing shareholders who wish to speak, (ii) determining the extent of discussion on each item of business and (iii) consolidating the Company's response to similar questions. In light of the need to conduct all necessary business and to conclude the meeting within a reasonable period of time, we cannot assure you that each question submitted will be addressed.

Q What is the quorum requirement for the meeting?

A Our Bylaws provide that the presence at the meeting, including by proxy, of a majority of the outstanding Voting Shares constitutes a quorum to organize the meeting. For these purposes, abstentions and uninstructed shares are counted as being present.

Q Can I revoke or change my voting instructions after I deliver them?

A Shareholders of record may revoke their proxy or change their votes at any time before their proxy is voted at the meeting by timely giving a written revocation notice to our secretary before the virtual meeting, by timely delivering a proxy bearing a later date or by voting during the virtual meeting. Joining the virtual meeting will not be enough to revoke your proxy. Beneficial shareholders may revoke or change their voting instructions by contacting the broker, bank or nominee that holds their shares.

Q Who pays the cost of soliciting proxies?

A The Board, on behalf of the Company, is soliciting the proxy accompanying this proxy statement. Proxies may be solicited by Lumen officers, directors and employees, none of whom will receive any additional compensation for their services. Alliance Advisors, LLC may solicit proxies at a cost we anticipate will not exceed $40,000. These solicitations may be made personally or by mail, telephone, messenger, email, or other electronic transmission. Lumen will pay persons holding shares of common stock in their names or in the names of nominees, but not owning such shares beneficially, such as brokerages, banks and other fiduciaries, for the expense of forwarding solicitation materials to their principals. Lumen will pay all proxy solicitation costs.

Q Could other matters be considered and voted upon at the meeting?

A Our Board does not expect to bring any matter before the meeting other than those listed in this proxy statement. Further, management has not timely received any notice that a shareholder desires to present any matter for action at the meeting in accordance with our Bylaws (which are described below under "Frequently Asked Questions — What is the deadline to propose actions for consideration at the 2024 annual meeting of shareholders or to nominate individuals to serve as directors?") and is otherwise unaware of any matter to be considered by shareholders at the meeting other than those matters specified in the accompanying notice of the meeting. Our proxy and voting instruction cards, however, will confer discretionary voting authority with respect to any other matter that may properly come before the meeting. It is the intention of the persons named therein to vote in accordance with their best judgment on any such matter.

Q What happens if the meeting is postponed or adjourned?

A The Chairman may postpone or adjourn the meeting. Unless a new record date is fixed, your proxy will still be valid and may be voted at the postponed or adjourned meeting. You will still be able to change or revoke your proxy until it is voted in the manner noted above.

Q What is the deadline to propose actions for consideration at the 2024 annual meeting of shareholders or to nominate individuals to serve as directors?

A You may submit proposals, including director nominations, for consideration at future annual meetings of shareholders.

Shareholder Proposals in the Proxy Statement. To be eligible for inclusion in our 2024 proxy materials, any shareholder proposal must be received by December 7, 2023 and must comply with Rule 14a-8 under the Exchange Act

Director Nominations in the Proxy Statement. Our Bylaws permit a shareholder or group of up to 10 shareholders who have owned at least 3% of our outstanding Common Shares continuously for at least the previous three years to submit director nominees for inclusion in our 2024 proxy materials if the nominating shareholder(s) satisfies the requirements specified in our Bylaws. The number of shareholder-nominated candidates appearing in any of our annual meeting proxy materials cannot exceed 20% of the number of directors then serving on the Board. Based on the 11 directors constituting our Board immediately following the meeting, two is the maximum number of proxy access candidates that we would be required to include in our 2024 proxy materials for the 2024 annual meeting. With respect to shareholder-nominated candidates as directors submitted for inclusion in our 2024 proxy materials, written notice of nominations must be provided by the shareholder proponent(s) to us in accordance with our Bylaws. The notice must be received by December 7, 2023.

Other Proposals and Nominations. In addition, our Bylaws require shareholders to furnish timely advance written notice of their intent to nominate a director or bring any other matter before a shareholders' meeting, whether or not they wish to include their candidate or proposal in our proxy materials. In general, notice must be received in writing by our Secretary, addressed in the manner specified below, between November 19, 2023 and February 17, 2024 and must contain various information and comply with all applicable provisions as specified in our Bylaws. (If the date of the 2024 annual meeting is more than 30 days before or more than 60 days after May 17, 2024, please consult our Bylaws to determine the applicable deadline.)

In addition to satisfying the foregoing requirements under our bylaws, to comply with the SEC's universal proxy rules, shareholders who intend to solicit proxies in support of director nominees other than our nominees must provide notice to our secretary at the address noted below that sets forth the information required by Rule 14a-19 under the Exchange Act no later than March 18, 2024.

Proxies granted by a shareholder will give discretionary authority to the proxy holders to vote on any matters introduced pursuant to the above-described advance notice bylaw provisions, subject to applicable rules of the SEC.

General. All proposals and nominations must be in writing and received by the applicable deadline(s) described above at our principal executive offices at 100 CenturyLink Drive, Monroe, Louisiana 71203, Attention: Stacey W. Goff, Secretary. If we do not receive a proposal or nomination by the deadline(s) described above or if any nomination or proposal fails to comply with our Bylaw procedures, we may exclude or disregard such proposal or nomination. The summaries above are qualified in their entirety by reference to the full text of Rule 14a-8, our Bylaws and Rule 14a-19. You may obtain a full copy of our Bylaws by reviewing our reports filed with the SEC, by accessing our website at lumen.com or by contacting our Secretary in the manner specified below.

Other Information

Proxy Materials

As described further above, shareholders will receive only a written notice of how to access our proxy materials and will not receive printed copies of the proxy materials unless requested. If you would like to receive a paper copy of our proxy materials, you should follow the instructions for requesting the materials in the notice.

The full set of our materials include:

- the notice and proxy statement for the meeting,
- a proxy or voting instruction card, and
- our 2022 annual report furnished in the following two parts: (1) our 2022 Annual Financial Report, which constitutes Appendix B to this proxy statement and (2) our CEO's letter appearing at the beginning of this document.

Annual Financial Report

Appendix B includes our 2022 Annual Financial Report, which is excerpted from portions of our Annual Report on Form 10-K for the year ended December 31, 2022, that we filed with the SEC on February 23, 2023. In addition, we have provided you with a copy of or access to our CEO's letter, which precedes this proxy statement at the beginning of this document. Neither of these documents is a part of our proxy soliciting materials.

You may obtain a copy of our Form 10-K report without charge by writing to Stacey W. Goff, Secretary, Lumen Technologies, Inc., 100 CenturyLink Drive, Monroe, Louisiana 71203, or by visiting our website at lumen.com.

You may view online this proxy statement and related materials at proxyvote.com.

By Order of the Board of Directors

Stacey W. Goff Secretary

April 5, 2023

Appendix A

Non-GAAP Reconciliations

Description of Non-GAAP Metrics

Pursuant to Regulation G, the company is hereby providing (i) definitions of non-GAAP financial metrics that are used in the sections of the proxy statement under the headings “About Lumen,” “Compensation Discussion & Analysis — Section One — Executive Summary — Lumen Business Highlights” and “Compensation Discussion & Analysis — Section Four — Compensation Design, Awards and Payouts for 2022” and (ii) reconciliations of these metrics to the most directly comparable GAAP measures.

The following describes and reconciles those financial measures as reported under accounting principles generally accepted in the United States (GAAP) with those financial measures as adjusted by the items detailed below. These calculations are not prepared in accordance with GAAP and should not be viewed as alternatives to GAAP.

We use the term *Special Items* as a non-GAAP measure to describe items that impacted a period’s statement of operations for which investors may want to give special consideration due to their magnitude, nature or both. We do not call these items non-recurring because, while some are infrequent, others may recur in future periods.

In connection with setting performance targets for purposes of executive compensation, the company from time to time uses modified versions of the non-GAAP metrics referred to below. For further information of such modifications, see “Compensation Discussion & Analysis — Section Three — Pay and Performance Alignment — Incentive program guidelines.”

Adjusted EBITDA ($) is defined as net income (loss) from the Statements of Operations before income tax (expense) benefit, total other income (expense), depreciation and amortization, stock-based compensation expense and impairments.

Adjusted EBITDA Margin (%) is defined as Adjusted EBITDA divided by total revenue.

Management believes that Adjusted EBITDA and Adjusted EBITDA Margin are relevant and useful metrics to provide to investors, as they are an important part of our internal reporting and are key measures used by management to evaluate profitability and operating performance of Lumen and to make resource allocation decisions. Management believes such measures are especially important in a capital-intensive industry such as telecommunications. Management also uses Adjusted EBITDA and Adjusted EBITDA Margin (and similarly uses these terms excluding Special Items) to compare our performance to that of our competitors and to eliminate certain non-cash and non-operating items in order to consistently measure from period to period our ability to fund capital expenditures, fund growth, service debt and determine bonuses. Adjusted EBITDA excludes non-cash stock compensation expense and impairments because of the non-cash nature of these items. Adjusted EBITDA also excludes interest income, interest expense and income taxes, and in our view constitutes an accrual-based measure that has the effect of excluding period-to-period changes in working capital and shows profitability without regard to the effects of capital or tax structure. Adjusted EBITDA also excludes depreciation and amortization expense because these non-cash expenses primarily reflect the impact of historical capital investments, as opposed to the cash impacts of capital expenditures made in recent periods, which may be evaluated through cash flow measures. Adjusted EBITDA further excludes the gain (or loss) on extinguishment and modification of debt and other income (expense), net, because these items are not related to the primary business operations of Lumen.

There are material limitations to using Adjusted EBITDA as a financial measure, including the difficulty associated with comparing companies that use similar performance measures whose calculations may differ from our calculations. Additionally, by excluding the above-listed items, Adjusted EBITDA may exclude items that investors believe are important components of our performance. Adjusted EBITDA and Adjusted EBITDA Margin (either with or without Special Items) should not be considered a substitute for other measures of financial performance reported in accordance with GAAP.

Free Cash Flow is defined as net cash provided by (used in) operating activities less capital expenditures as disclosed in the Statements of Cash Flows. Management believes that Free Cash Flow is a relevant metric to provide to investors, as it is an indicator of our ability to generate cash to service our debt. Free Cash Flow excludes cash used for acquisitions, principal repayments and the impact of exchange rate changes on cash and cash equivalents balances.

There are material limitations to using Free Cash Flow to measure our performance as it excludes certain material items that investors may believe are important components of our cash flows. Comparisons of our Free Cash Flow to that of some of its competitors may be of limited usefulness since Lumen does not currently pay a significant amount of income taxes due to net operating loss carryforwards, and therefore, generates higher cash flow than a comparable business that does pay income taxes. Additionally, this financial measure is subject to variability quarter over quarter as a result of the timing of payments related to interest expense, accounts receivable, accounts payable, payroll and capital expenditures. Free Cash Flow (either with or without Special Items) should not be used as a substitute for net change in cash, cash equivalents and restricted cash on the Consolidated Statements of Cash Flows.

Net Debt is defined as total long-term debt, excluding unamortized discounts, premiums and other, net and unamortized debt issuance costs, **minus** cash and cash equivalents.

Net Debt-to-Adjusted EBITDA Ratio is defined as Net Debt, divided by Adjusted EBITDA.

Non-GAAP Special Items

(Unaudited; $ in millions)

Special Items Impacting Adjusted EBITDA	**2022**	**2021**
Consumer and other litigation	$ (3)	16
Severance	12	3
Transaction and separation costs[1]	219	37
Real estate transactions[2]	—	(40)
Gain on sale of businesses[3]	(773)	—
Loss on disposal groups held for sale	700	—
Total Special Items impacting Adjusted EBITDA	**$ 155**	**16**

1 Reflects transaction and separation costs associated with (i) the sale of our Latin American business on August 1, 2022, (ii) the sale of our 20-state ILEC business on October 3, 2022, (iii) the exclusive arrangement to divest Lumen's operations in Europe, the Middle East and Africa (the "EMEA" business") announced on November 2, 2022 and (iv) our evaluation of other potential transactions.

2 Reflects the Q3 2021 (gain) on sale of real estate, net of other impairment or acceleration of costs associated with our real estate rationalization program.

3 Reflects (i) the pre-tax gain of $597 million recorded in operating income as a result of our Latin American business divestiture completed August 1, 2022 and (ii) the pre-tax gain of $176 million recorded in operating income as a result of our 20-state ILEC business divestiture completed October 3, 2022, subject to certain post-closing adjustments.

Adjusted EBITDA Non-GAAP Reconciliation

(Unaudited; $ in millions)

	2022	2021
Net income	$ (1,548)	2,033
Income tax expense	557	668
Total other expense, net	1,086	1,584
Depreciation and amortization expense	3,239	4,019
Stock-based compensation expense	98	120
Goodwill impairment	3,271	—
Adjusted EBITDA	**$ 6,703**	**8,424**
Add back: Severance[1]	$ 12	3
Add back: Consumer and other litigation[1]	(3)	16
Add back: Transaction and separation costs[1]	219	37
Add back: Real estate transactions[1]	—	(40)
Remove: Gain on sale of business[1]	(773)	—
Add back: Loss on disposal groups held for sale[1]	700	—
Adjusted EBITDA excluding Special Items	**$ 6,858**	**8,440**
Total revenue	**$17,478**	**19,687**
Adjusted EBITDA margin	**38.4%**	**42.8%**
Adjusted EBITDA margin excluding Special Items	**39.2%**	**42.9%**

1 Refer to Non-GAAP Special Items table for details of the Special Items included above.

Free Cash Flow Reconciliation

(Unaudited; $ in millions)

	2022	2021
Net cash provided by operating activities	$ 4,735	6,501
Capital expenditures	(3,016)	(2,900)
Free Cash Flow	**1,719**	**3,601**
Add back: Severance[1]	37	70
Add back: Consumer and other litigation[1]	—	47
Add back: Transaction and separation costs[1]	282	20
Add back: Real estate transactions[1]	—	4
Add back: Pension contributions[2]	319	—
Remove: Income from transition and separation services[3]	(97)	—
Free Cash Flow excluding cash Special Items	**$ 2,260**	**3,742**

1 Refer to Non-GAAP Special Items table for details of the Special Items impacting cash included above.

2 Reflects cash pension contribution following a revaluation of the pension obligation and pension assets for the Lumen Pension Plan, in connection with the closing of the sale of the 20-state ILEC business on October 3, 2022.

3 Reflects income from transition and separation services including charges we billed for transition services and IT professional services provided to the purchasers in connection with our divestitures.

Net Debt-to-Adjusted EBITDA Ratio Calculation

(Unaudited; $ in millions)

	2022	2021
Total long-term debt	$20,576	30,478
Exclude: unamortized discounts, premiums and other, net and unamortized debt issuance costs	176	199
Minus: cash and cash equivalents	(1,294)	(394)
Net debt	19,458	30,283
Adjusted EBITDA excluding Special Items	6,858	8,440
Net Debt-to-Adjusted EBITDA Ratio	2.8	3.6

Appendix B

Lumen Technologies, Inc.
Annual Financial Report
December 31, 2022

Index to Annual Financial Report
December 31, 2022

The materials included in this Appendix B are excerpted from Items 5, 7 and 8 of our Annual Report on Form 10-K for the year ended December 31, 2022. We filed the Form 10-K with the Securities and Exchange Commission on February 23, 2023, and have not updated any of the following excerpted materials for any changes or developments since such date. Please see the Form 10-K for additional information about our business and operations.

Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities	**B-2**
Management's Discussion and Analysis of Financial Condition and Results of Operations	**B-2**
Quantitative and Qualitative Disclosures about Market Risk	**B-23**
Consolidated Financial Statements and Supplementary Data	**B-24**
Report of Independent Registered Public Accounting Firm	B-24
Report of Independent Registered Public Accounting Firm	B-26
Consolidated Statements of Operations	B-27
Consolidated Statements of Comprehensive (Loss) Income	B-28
Consolidated Balance Sheets	B-29
Consolidated Statements of Cash Flows	B-30
Consolidated Statements of Stockholders' Equity	B-31
Notes to Consolidated Financial Statements*	B-32

* All references to "Notes" in this Appendix B refer to these Notes.

ITEM 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

Our common stock is listed on the New York Stock Exchange ("NYSE") and the Berlin Stock Exchange and is traded under the symbol LUMN and CYTH, respectively.

At February 21, 2023, there were approximately 81,600 stockholders of record, although there were significantly more beneficial holders of our common stock.

Issuer Purchases of Equity Securities

Effective November 2, 2022, our Board of Directors authorized a new two-year program to repurchase up to an aggregate of $1.5 billion of our outstanding common stock. During the three months ended December 31, 2022, we repurchased 33 million shares of our outstanding common stock in the open market. These shares were repurchased for an aggregate market price of $200 million, or an average purchase price of $6.07 per share. All repurchased common stock has been retired. For additional information, see Note 20—Repurchases of Lumen Common Stock to our consolidated financial statements included in Item 8 of Part II of our Annual Report on Form 10-K for the year ended December 31, 2022.

The following table contains information about shares of our previously-issued common stock that were repurchased under our above-described Stock Repurchase Program:

	Total Number of Shares Purchased	Average Price Paid Per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Approximate Dollar Value of Shares That May Yet Be Purchased Under the Plans or Programs
Period				
November 2022	28,413,768	$ 6.16	28,413,768	$ 1,325,011,442
December 2022	4,559,200	$ 5.48	4,559,200	$1,300,012,827

The following table contains information about shares of our previously-issued common stock that we withheld from employees upon vesting of their stock-based awards during the fourth quarter of 2022 to satisfy the related tax withholding obligations:

	Total Number of Shares Withheld for Taxes	Average Price Paid Per Share
Period		
October 2022	50,287	$ 7.02
November 2022	10,629	6.04
December 2022	24,553	5.58
Total	85,469	

Equity Compensation Plan Information

See Item 12 of our Annual Report on Form 10-K for the year ended December 31, 2022.

ITEM 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

All references to "Notes" in this Item 7 of Part II refer to the Notes to Consolidated Financial Statements included in Item 8 of Part II of our Annual Report on Form 10-K for the year ended December 31, 2022. Certain statements in such report constitute forward-looking statements. See "Special Note Regarding Forward-Looking Statements" immediately prior to Item 1 of Part I of such report for factors relating to these statements and "Risk Factors" in Item 1A of Part I of such report for a discussion of certain risk factors applicable to our business, financial condition, results of operations, liquidity or prospects.

Overview

We are an international facilities-based technology and communications company focused on providing our business and mass markets customers with a broad array of integrated products and services necessary to fully participate in our rapidly evolving digital world. We operate one of the world's most interconnected networks. Our platform empowers our customers to rapidly adjust digital programs to meet immediate demands, create efficiencies, accelerate market access, and reduce costs – allowing customers to rapidly evolve their IT programs to address dynamic changes. With approximately 160,000 on-net buildings and 400,000 route miles of fiber optic cable globally, we are among the largest providers of communications services to domestic and global enterprise customers. Our terrestrial and subsea fiber optic long-haul network throughout North America, Europe and Asia Pacific connects to metropolitan fiber networks that we operate. We provide services in over 60 countries, with most of our revenue being derived in the United States.

Divestitures of the Latin American and ILEC Businesses and Planned Divestiture of the EMEA Business

On August 1, 2022, affiliates of Level 3 Parent, LLC, an indirect wholly-owned subsidiary of Lumen Technologies, Inc., sold Lumen's Latin American business for pre-tax cash proceeds of approximately $2.7 billion.

On October 3, 2022, we and certain of our affiliates sold the portion of our ILEC business conducted primarily within 20 Midwestern and Southeastern states. In exchange, we received $7.5 billion of consideration, which was reduced by approximately $0.4 billion of closing adjustments and partially paid through purchaser's assumption of approximately $1.5 billion of our long-term consolidated indebtedness, resulting in pre-tax cash proceeds of approximately $5.6 billion, subject to certain post-closing adjustments and indemnities.

Under agreements entered into on November 2, 2022 and February 8, 2023, affiliates of Level 3 Parent, LLC, have agreed to divest certain operations in EMEA to Colt Technology Services Group Limited, a portfolio company of Fidelity Investments, in exchange for $1.8 billion in cash, subject to certain post-closing adjustments. Level 3 Parent, LLC expects to close the transaction as early as late 2023, following receipt of all requisite regulatory approvals in the U.S. and certain countries where the EMEA business operates, as well as the satisfaction of other customary conditions. The actual amount of our net after-tax proceeds from this divestiture could vary substantially from the amounts we currently estimate, particularly if we experience delays in completing the transaction or any of our other assumptions prove to be incorrect.

For more information, see (i) Note 2—Divestitures of the Latin American and ILEC Businesses and Planned Divestiture of the EMEA Business to our consolidated financial statements in Item 8 of Part II of our Annual Report on Form 10-K for the year ended December 31, 2022 and (ii) the risk factors included in Item 1A of Part I of such report.

Impact of COVID-19 Pandemic and the Macroeconomic Environment

Societal, governmental and macroeconomic changes arising out of the COVID-19 pandemic have impacted us, our customers and our business in several ways since March 2020. Beginning in the second half of 2020 and continuing into 2022, we rationalized our leased footprint and ceased using 39 leased property locations that were underutilized. We did not further rationalize our lease footprint or incur material accelerated lease costs during the year ended December 31, 2022. However, in conjunction with our plans to continue to reduce costs, we expect to continue our real estate rationalization efforts and expect to incur additional accelerated lease costs in future periods.

Additionally, as discussed further elsewhere herein, the pandemic and macroeconomic changes arising therefrom have resulted in (i) increases in certain revenue streams and decreases in others, (ii) increases in overtime expenses during 2020 and 2021, (iii) operational challenges resulting from shortages of certain components and other supplies that we use in our business, (iv) delays in our cost transformation initiatives, and (v) delayed decision-making by certain of our customers. None of these effects, individually or in the aggregate, have to date materially impacted our financial performance or financial position.

The COVID-19 pandemic and other factors have led to increased fiber construction demand combined with increased construction labor rates that have reduced the number of fiber buildout projects that met our internal payback requirement. Thus far, we believe these factors have contributed to a delay in our Quantum Fiber buildouts, but otherwise have not had a significant impact on our business results.

We reopened our offices in April 2022 under a "hybrid" working environment, which will permit some of our employees the flexibility to work remotely at least some of the time for the foreseeable future.

If any of the above-listed factors intensify, our financial results could be materially impacted in a variety of ways, including by increasing our expenses, decreasing our revenues, further delaying our network expansion plans or otherwise interfering with our ability to deliver products and services. For additional information on the impacts of the pandemic, see (i) the remainder of this item, including "—Liquidity and Capital Resources—Overview of Sources and Uses of Cash" and (ii) Item 1A of our Annual Report on Form 10-K for the year ended December 31, 2022.

Reporting Segments

Our reporting segments are currently organized as follows, by customer focus:

- *Business Segment:* Under our Business segment, we provide our products and services under four sales channels:
  - International and Global Accounts ("*IGAM*"): Our IGAM sales channel includes multinational and enterprise customers. We provide our products and services to global enterprise customers and carriers.
  - Large Enterprise: Under our large enterprise sales channel, we provide our products and services to large enterprises and the public sector, including the U.S. Federal government, state and local governments and research and education institutions.
  - Mid-Market Enterprise: Under our mid-market enterprise sales channel, we provide our products and services to medium-sized enterprises directly and through our indirect channel partners.
  - Wholesale: Under our wholesale sales channel, we provide our products and services to a wide range of other communication providers across the wireline, wireless, cable, voice and data center sectors.

  As we have previously disclosed, we plan to update these sales channels beginning with our first quarterly report filed after this annual report.
- *Mass Markets Segment.* Under our Mass Markets segment, we provide products and services to residential and small business customers. At December 31, 2022, we served 3.0 million broadband subscribers under our Mass Markets segment.

See Note 17—Segment Information to our consolidated financial statements in Item 8 of Part II of our Annual Report on Form 10-K for the year ended December 31, 2022 for additional information.

We categorize our Business segment revenue among the following products and services categories:

- *Compute and Application Services*, which include our Edge Cloud services, IT solutions, Unified Communications and Collaboration ("UC&C"), data center, content delivery network ("CDN") and managed security services;
- *IP and Data Services*, which include Ethernet, IP, and VPN data networks, including software-defined wide area networks ("SD WAN") based services, Dynamic Connections and Hyper WAN;
- *Fiber Infrastructure Services*, which include dark fiber, optical services and equipment; and
- *Voice and Other*, which include Time Division Multiplexing ("TDM") voice, private line, and other legacy services.

We categorize our Mass Markets products and services revenue among the following categories:

- *Fiber Broadband*, under which we provide high speed services to residential and small business customers utilizing our fiber-based network infrastructure;
- *Other Broadband*, under which we provide primarily lower speed broadband services to residential and small business customers utilizing our copper-based network infrastructure; and
- *Voice and Other*, under which we derive revenues from (i) providing local and long-distance services, professional services, and other ancillary services, and (ii) federal broadband and state support payments.

Trends Impacting Our Operations

In addition to the above-described impact of the pandemic and its aftermath, our consolidated operations have been, and will continue to be, impacted by the following company-wide trends:

- Customers' demand for automated products and services and competitive pressures will require that we continue to invest in new technologies and automated processes to improve the customer experience and reduce our operating expenses.
- The increasingly digital environment and the growth in online video and gaming require robust, scalable network services. We are continuing to enhance our product capabilities and simplify our product portfolio based on demand and profitability to enable customers to have access to greater bandwidth.
- Businesses continue to adopt distributed, global operating models. We are expanding and enhancing our fiber network, connecting more buildings to our network to generate revenue opportunities and reducing our reliance upon other carriers.
- Changes in customer preferences and in the regulatory, technological and competitive environment are (i) significantly reducing demand for our more mature service offerings, commoditizing certain of our other offerings, or resulting in volume or rate reductions for other of our offerings and (ii) also creating certain opportunities for us arising out of increased demand for lower latency provided by Edge computing and for faster and more secure data transmissions.
- The operating margins of several of our newer, more technologically advanced services, some of which may connect to customers through other carriers, are lower than the operating margins on our traditional, on-net wireline services.
- Our expenses will be impacted by higher vendor costs, reduced economies of scale and other dis-synergies due to our 2022 divestitures.
- Declines in our traditional wireline services and other more mature offerings have necessitated right-sizing our cost structures to remain competitive.

The amount of support payments we receive from governmental agencies has decreased substantially since December 31, 2021. Inflation during 2021 and 2022 placed downward pressure on our margins and likely contributed to delayed decision-making by certain of our customers, which are trends that will likely continue to impact us as long as inflation rates remain elevated. These and other developments and trends impacting our operations are discussed elsewhere in this Item 7.

Results of Operations

In this section, we discuss our overall results of operations and highlight special items that are not included in our segment results. In "Segment Results" we review the performance of our two reporting segments in more detail. Results in this section include the results of our Latin American and ILEC businesses prior to their sale on August 1, 2022 and October 3, 2022, respectively.

Revenue

The following table summarizes our consolidated operating revenue recorded under each of our two segments and in our four revenue sales channels within the Business segment described above:

	Years Ended December 31,			2022 vs 2021 % Change	2021 vs 2020 % Change
	2022	2021	2020		
	(Dollars in millions)				
Business Segment:					
International & Global Accounts	$ 3,645	4,083	4,137	(11)%	(1)%
Large Enterprise	3,409	3,771	3,961	(10)%	(5)%
Mid-Market Enterprise	2,465	2,649	2,901	(7)%	(9)%
Wholesale	3,520	3,616	3,809	(3)%	(5)%
Business Segment Revenue	13,039	14,119	14,808	(8)%	(5)%
Mass Markets Segment Revenue	4,439	5,568	5,904	(20)%	(6)%
Total operating revenue	$ 17,478	19,687	20,712	(11)%	(5)%

Our consolidated operating revenue decreased by $2.2 billion for the year ended December 31, 2022 as compared to the year ended December 31, 2021 due to revenue declines in all of our revenue categories listed above, in addition to the sale of our Latin American and ILEC businesses as of August 1, 2022 and October 3, 2022, respectively. Our consolidated revenue decreased by $1.0 billion for the year ended December 31, 2021 compared to the year ended December 31, 2020 due to revenue declines in all of our revenue categories listed above. See our segment results below for additional information.

Operating Expenses

The following table summarizes our operating expenses for the year ended December 31, 2022 and 2021. For information regarding expenses for the year ended December 31, 2020, see "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Item 7 of Part II of our Annual Report Form 10-K for the year ended December 31, 2021.

	Years Ended December 31,		
	2022	2021	
	(Dollars in millions)		% Change
Cost of services and products (exclusive of depreciation and amortization)	$ 7,868	8,488	(7)%
Selling, general and administrative	3,078	2,895	6%
Gain on sale of businesses	(773)	—	nm
Loss on disposal groups held for sale	700	—	nm
Depreciation and amortization	3,239	4,019	(19)%
Goodwill impairment	3,271	—	nm
Total operating expenses	$ 17,383	15,402	13%

nm Percentages greater than 200% and comparisons between positive and negative values or to/from zero values are considered not meaningful.

Cost of Services and Products (exclusive of depreciation and amortization)

Cost of services and products (exclusive of depreciation and amortization) decreased by $620 million for the year ended December 31, 2022 as compared to the year ended December 31, 2021. This decrease was primarily due to the sale of the Latin American and ILEC businesses, as well as reductions in employee-related expense from lower headcount and lower facility costs and network expenses.

Selling, General and Administrative

Selling, general and administrative expenses increased by $183 million for the year ended December 31, 2022 as compared to the year ended December 31, 2021. The increase in selling, general and administrative expenses was primarily due to gains on sales of assets during the year ended December 31, 2021 as well as higher professional fees during the year ended December 31, 2022 associated with facilitating the divestitures of our Latin American and ILEC businesses. These increases were partially offset by lower expenses due to the sale of the Latin American and ILEC businesses.

Gain on Sale of Businesses and Loss on Disposal Groups Held for Sale

For a discussion of the gain on the sale of the Latin American and ILEC businesses and the loss on disposal groups held for sale that we recognized for the year ended December 31, 2022, see Note 2—Divestitures of the Latin American and ILEC Businesses and Planned Divestiture of the EMEA Business.

Depreciation and Amortization

The following table provides detail of our depreciation and amortization expense:

	Years Ended December 31,		
	2022	2021	
	(Dollars in millions)		% Change
Depreciation	$ 2,133	2,671	(20)%
Amortization	1,106	1,348	(18)%
Total depreciation and amortization	$ 3,239	4,019	(19)%

Depreciation expense decreased by $538 million for the year ended December 31, 2022 as compared to the year ended December 31, 2021 primarily due to the discontinuation during the third quarter of 2021 of the depreciation of the tangible assets of our recently divested Latin American and ILEC businesses and the discontinuation during the fourth quarter of 2022 of the depreciation of the tangible assets of our planned divestiture of our EMEA business, resulting in an aggregate decrease of $359 million of depreciation expense during the year ended December 31, 2022 as compared to the year ended December 31, 2021. In addition, depreciation expense decreased $193 million due to the early retirement of certain copper-based infrastructure during the fourth quarter of 2021 and $38 million due to the impact of annual rate depreciable life changes, which was partially offset by higher depreciation expense of $61 million associated with net growth in depreciable assets.

Amortization expense decreased by $242 million for the year ended December 31, 2022 as compared to the year ended December 31, 2021. The decrease was primarily due to a decrease of $119 million resulting from certain customer relationship intangible assets becoming fully amortized at the end of the first quarter 2021, a decrease of $50 million associated with net reductions in amortizable assets, a decrease of $42 million due to the discontinuation during third quarter of 2021 of the amortization of the intangible assets of our recently divested Latin American and ILEC businesses and the discontinuation during the fourth quarter of 2022 of the amortization of the intangible assets of our planned divestiture of our EMEA business and a $16 million decrease due to accelerated amortization for decommissioned applications.

Further analysis of our segment operating expenses by segment is provided below in "Segment Results."

Goodwill Impairments

We are required to perform impairment tests related to our goodwill annually, which we perform as of October 31, or sooner if an indicator of impairment occurs.

We report under two segments: Business and Mass Markets. As of December 31, 2022, we have three reporting units for goodwill impairment testing, which are (i) Mass Markets, (ii) North America Business ("NA Business") and (iii) Asia Pacific ("APAC") region. Prior to the planned divestiture of the EMEA business, the EMEA region was also a reporting unit and was tested for impairment in the pre-classification test as of October 31, 2022 discussed below. Prior to its August 1, 2022 divestiture, the Latin American ("LATAM") region was also a reporting unit.

When we performed our impairment tests during the fourth quarter of 2022, we concluded that the estimated fair value of certain of our reporting units was less than our carrying value of equity as of our testing date. As a result, we recorded non-cash, non-tax-deductible goodwill impairment charges aggregating to $3.3 billion in the fourth quarter of 2022. When we performed our annual impairment test in the fourth quarter of 2021, we concluded it was more likely than not that the fair value of each of our reporting units exceeded the carrying value of equity of our reporting units. Therefore, we concluded no impairment existed as of our annual assessment date in the fourth quarter of 2021. When we performed our impairment tests during the fourth quarter of 2020, we concluded that the estimated fair value of certain of our reporting units was less than our carrying value of equity as of our testing date. As a result, we recorded non-cash, non-tax-deductible goodwill impairment charges aggregating to $2.6 billion in the fourth quarter of 2020.

See Note 3—Goodwill, Customer Relationships and Other Intangible Assets to our consolidated financial statements in Item 8 of Part II of our Annual Report on Form 10-K for the year ended December 31, 2022 for further details on these tests and impairment charges.

Other Consolidated Results

The following tables summarize our total other expense, net and income tax expense:

	Years Ended December 31,		
	2022	2021	
	(Dollars in millions)		% Change
Interest expense	$ (1,332)	(1,522)	(12)%
Other income (expense), net	246	(62)	nm
Total other expense, net	$ (1,086)	(1,584)	(31)%
Income tax expense	$ 557	668	(17)%

Interest Expense

Interest expense decreased by $190 million for the year ended December 31, 2022 as compared to the year ended December 31, 2021. The decrease was primarily due to the decrease in average long-term debt from $30.4 billion to $24.8 billion, which was partially offset by the increase in the average interest rate of 4.82% to 5.14%.

Other Income (Expense), Net

Other income (expense), net reflects certain items not directly related to our core operations, including (i) gains and losses on extinguishments of debt, (ii) components of net periodic pension and post-retirement benefit costs, (iii) foreign currency gains and losses, (iv) our share of income from partnerships we do not control, (v) interest income, (vi) gains and losses from non-operating asset dispositions, (vii) income from transition and separation services provided by us to the purchasers of our Latin American business and ILEC business, and (viii) other non-core items.

	Years Ended December 31,	
	2022	2021
	(Dollars in millions)	
Net gain on extinguishment of debt	$ 214	8
Pension and post-retirement net periodic income (expense)	1	(295)
Foreign currency gain (loss)	12	(28)
(Loss) gain on investment in limited partnership	(83)	138
Loss on investment in equity securities	(109)	—
Transition and separation services	152	—
Other	59	115
Total other income (expense), net	$ 246	(62)

The change of $296 million in pension and post-retirement net periodic income (expense) for the year ended December 31, 2022 as compared to the year ended December 31, 2021 is primarily driven by settlement charges in 2021 associated with the acceleration of the recognition of a portion of previously unrecognized actuarial losses in the Lumen Combined Pension Plan. Other income (expense), net for the year ended December 31, 2021 also included a distribution from a previously dissolved captive insurance company and other non-core items. See Note 14—Fair Value of Financial Instruments to our consolidated financial statements in Item 8 of Part II of our Annual Report on Form 10-K for the year ended December 31, 2022 for more information regarding the losses for the year ended December 31, 2022 and the gain for the year ended December 31, 2021 recognized on the investment in a limited partnership and investment in equity securities. The net gain on extinguishment of debt for the year ended December 31, 2022 was a result of multiple transactions in which our debt was reacquired below its carrying value. See Note 7—Long-Term Debt and Credit Facilities to our consolidated financial statements in Item 8 of Part II of our Annual Report on Form 10-K for the year ended December 31, 2022 for more information regarding our net gains on extinguishment of debt.

Income Tax Expense

For the years ended December 31, 2022 and 2021, our effective income tax rate was (56.2)% and 24.7%, respectively. The effective tax rate for the year ended December 31, 2022 includes a $682 million unfavorable impact of a non-deductible goodwill impairment and a $128 million unfavorable impact as a result of the sale of our Latin American business. See Note 16—Income Taxes to our consolidated financial statements in Item 8 of Part II of our Annual Report on Form 10-K for the year ended December 31, 2022 and "Critical Accounting Policies and Estimates—Income Taxes" below for additional information.

Segment Results

General

Reconciliation of segment revenue to total operating revenue is below. The results presented in this section include results of our Latin American and ILEC businesses prior to their sale on August 1, 2022 and October 3, 2022, respectively:

	Years Ended December 31,		
	2022	2021	2020
	(Dollars in millions)		
Operating revenue			
Business	$13,039	14,119	14,808
Mass Markets	4,439	5,568	5,904
Total operating revenue	$17,478	19,687	20,712

Reconciliation of segment EBITDA to total adjusted EBITDA is below:

	Years Ended December 31,		
	2022	2021	2020
	(Dollars in millions)		
Adjusted EBITDA			
Business	$ 8,678	9,453	9,885
Mass Markets	3,754	4,876	5,122
Total segment EBITDA	12,432	14,329	15,007
Operations and Other EBITDA	(5,729)	(5,905)	(6,518)
Total adjusted EBITDA	$ 6,703	8,424	8,489

For additional information on our reportable segments and product and services categories, see Note 4—Revenue Recognition and Note 17—Segment Information to our consolidated financial statements in Item 8 of Part II of our Annual Report on Form 10-K for the year ended December 31, 2022.

Business Segment

	Years Ended December 31,			Percent Change	
	2022	2021	2020	2022 vs 2021	2021 vs 2020
	(Dollars in millions)				
Business Segment Product Categories:					
Compute and Application Services	$ 1,665	1,742	1,735	(4)%	—%
IP and Data Services	5,771	6,207	6,422	(7)%	(3)%
Fiber Infrastructure Services	2,152	2,258	2,277	(5)%	(1)%
Voice and Other	3,451	3,912	4,374	(12)%	(11)%
Total Business Segment Revenue	13,039	14,119	14,808	(8)%	(5)%
Expenses:					
Total expense	4,361	4,666	4,923	(7)%	(5)%
Total adjusted EBITDA	$ 8,678	9,453	9,885	(8)%	(4)%

Year ended December 31, 2022 compared to the years ended December 31, 2021 and December 31, 2020

Business segment revenue decreased $1.1 billion for the year ended December 31, 2022 compared to December 31, 2021 and decreased $689 million for the year ended December 31, 2021 compared to December 31, 2020. The 2022 changes in all product categories were impacted negatively by both the sale of the Latin American business on August 1, 2022 and the sale of the ILEC business on October 3, 2022. In addition to the impact of these divestitures, the changes reflected in the table above were primarily due to the following factors:

- Compute and Application Services decreased for the year ended December 31, 2022 compared to December 31, 2021 due to a contract ending in the Public Sector within our Large Enterprise sales channel and lower colocation revenue in our Wholesale sales channel, which were partially offset by higher IT Solutions revenue in our Wholesale sales channel.
- Compute and Application Services increased for the year ended December 31, 2021 compared to December 31, 2020 driven by growth in Managed Security and IT Solutions services to Public Sector customers and an increase in colocation and data center services in our IGAM sales channel. These increases were partially offset by a large customer disconnect for IT Solutions, lower rates for content delivery network services within our IGAM sales channel and a decrease in Cloud Services within our Large Enterprise and IGAM sales channels.
- IP and Data Services decreased during both periods due to declines in traditional VPN networks and continued declines in Ethernet revenue across all our sales channels, partially offset by an increase in IP services across multiple sales channels.
- Fiber Infrastructure Services decreased for the year ended December 31, 2022 compared to December 31, 2021 due to lower equipment and dark fiber revenue in our Large Enterprise sales channel and lower wavelengths revenue in our IGAM sales channel, partially offset by growth in wavelengths revenue in our Wholesale sales channel.
- Fiber Infrastructure Services decreased for the year ended December 31, 2021 compared to December 31, 2020 due to lower equipment revenue in our Large Enterprise sales channel and lower broadband revenue in all sales channels, partially offset by growth in dark fiber and wavelengths revenue primarily from our IGAM and Wholesale sales channels.
- Voice and Other decreased during both periods due to continued decline of legacy voice, private line and other services to customers across all of our sales channels. Additionally, voice services revenue decreased for the year ended December 31, 2021 compared to December 31, 2020, which had in-part benefited from higher COVID-related demand.

The decrease in Business segment revenue for the year ended December 31, 2022 was also driven by $54 million of unfavorable foreign currency adjustments as compared to December 31, 2021. The decrease in Business segment revenue for the year ended December 31, 2021 was slightly offset by $16 million of favorable foreign currency adjustments for the year ended December 31, 2021 as compared to December 31, 2020.

Business segment expense decreased by $305 million for the year ended December 31, 2022 compared to December 31, 2021 primarily due to lower cost of sales and external commissions both due to the decline in revenue, lower employee costs from lower headcount and a decrease in expenses primarily from the divestiture of the Latin American business. Business segment expenses decreased by $257 million for the year ended December 31, 2021 compared to December 31, 2020, primarily due to lower cost of sales due to the decline in revenue and lower employee-related costs from lower headcount.

Business segment adjusted EBITDA as a percentage of revenue was 67% for the years ended December 31, 2022, 2021 and 2020.

Mass Markets Segment

	Years Ended December 31,			Percent Change	
	2022	2021	2020	2022 vs 2021	2021 vs 2020
	(Dollars in millions)				
Mass Markets Product Categories:					
Fiber Broadband	$ 604	524	427	15%	23%
Other Broadband	2,163	2,507	2,639	(14)%	(5)%
Voice and Other	1,672	2,537	2,838	(34)%	(11)%
Total Mass Markets Segment Revenue	4,439	5,568	5,904	(20)%	(6)%
Expenses:					
Total expense	685	692	782	(1)%	(12)%
Total adjusted EBITDA	$ 3,754	4,876	5,122	(23)%	(5)%

Year ended December 31, 2022 compared to the years ended December 31, 2021 and December 31, 2020

Mass Markets segment revenue decreased by $1.1 billion for the year ended December 31, 2022 compared to December 31, 2021 and decreased $336 million for the year ended December 31, 2021 compared to December 31, 2020. The 2022 changes in all product categories were impacted negatively by the sale of the ILEC business. In addition to the impact of this divestiture, the changes reflected in the table above were primarily due to the following factors:

- Fiber Broadband revenue increased for the year ended December 31, 2022 compared to December 31, 2021 and increased for the year ended December 31, 2021 compared to year ended December 31, 2020 driven by growth in fiber customers associated with our continued increase in enabled units from our Quantum Fiber buildout.
- Other Broadband revenue decreased during both periods as a result of customer losses in our lower speed copper-based broadband services.
- Voice and Other decreased for the year ended December 31, 2022 compared to December 31, 2021 due to (i) a net reduction in CAF II revenue due to the conclusion of the CAF II program on December 31, 2021 and (ii) the continued loss of legacy voice customers. The decrease for the year ended December 31, 2021 compared to year ended December 31, 2020 were primarily due to continued losses of legacy voice customers and our exit of the Prism video product.

Mass Markets segment expense decreased by $7 million for the year ended December 31, 2022 compared to December 31, 2021 and decreased $90 million for the year ended December 31, 2021 compared to December 31, 2020. Decreases in expenses for the year ended December 31, 2022 compared to December 31, 2021 were primarily due to the divestiture of the ILEC business and lower employee costs, offset by higher bad debt expense. Decreases for the year ended December 31, 2021 compared to December 31, 2020 were primarily due to lower employee-related costs from lower headcount, lower costs of sales driven by the decrease in Prism operating costs and lower overall revenue, and higher bad debt expense for the year ended December 31, 2020 due to the COVID-19 induced economic slowdown. These decreases were partially offset by higher network-related expenses for the year ended December 31, 2021.

Mass Markets segment adjusted EBITDA as a percentage of revenue was 85%, 88% and 87% for the years ended December 31, 2022, 2021 and 2020, respectively.

Critical Accounting Policies and Estimates

Our consolidated financial statements are prepared in accordance with accounting principles that are generally accepted in the United States. The preparation of these consolidated financial statements requires management to make estimates and assumptions that affect the reported amounts of our assets, liabilities, revenue and expenses. We have identified certain policies and estimates as critical to our business operations and the understanding of our past or present results of operations related to (i) goodwill, customer relationships and other intangible assets; (ii) pension and post-retirement benefits; (iii) loss contingencies and litigation reserves and (iv) income taxes. These policies and estimates are considered critical because they had a material impact, or they have the potential to have a material impact, on our consolidated financial statements and because they require us to make significant judgments, assumptions or estimates. We believe that our estimates, judgments and assumptions made when accounting for the items described below were reasonable, based on information available at the time they were made. However, actual results may differ from those estimates, and these differences may be material.

Goodwill, Customer Relationships and Other Intangible Assets

We have a significant amount of goodwill and indefinite-lived intangible assets that are assessed at least annually for impairment. At December 31, 2022, goodwill and intangible assets totaled $18.8 billion (excluding goodwill and other intangible assets classified as assets held for sale), or 41%, of our total assets. The impairment analyses of these assets are considered critical because of their significance to us and our segments and the subjective nature of certain assumptions used to estimate fair value.

We have assigned our goodwill balance to our segments at December 31, 2022 as follows:

	Business	Mass Markets	Total
	(Dollars in millions)		
As of December 31, 2022	$7,906	4,751	12,657

Intangible assets arising from business combinations, such as goodwill, customer relationships, capitalized software, trademarks and tradenames, are initially recorded at estimated fair value. We amortize customer relationships primarily over an estimated life of 7 to 14 years, using the straight-line method, depending on the customer. Certain customer relationship intangible assets became fully amortized at the end of the first quarter 2021 using the sum-of-years-digits method, which is no longer used for any of our remaining intangible assets. We amortize capitalized software using the straight-line method primarily over estimated lives ranging up to 7 years. We amortize our other intangible assets using the straight-line method over an estimated life of 9 to 20 years. Other intangible assets not arising from business combinations are initially recorded at cost. Where there are no legal, regulatory, contractual or other factors that would reasonably limit the useful life of an intangible asset, we classify the intangible asset as indefinite-lived and such intangible assets are not amortized.

Our long-lived intangible assets, other than goodwill, with indefinite lives are assessed for impairment annually, or, under certain circumstances, more frequently, such as when events or changes in circumstances indicate there may be an impairment. These assets are carried at the estimated fair value at the time of acquisition and assets not acquired in acquisitions are recorded at historical cost. However, if their estimated fair value is less than their carrying amount, we recognize an impairment charge for the amount by which the carrying amount of these assets exceeds their estimated fair value.

Our goodwill was derived from numerous acquisitions where the purchase price exceeded the fair value of the net assets acquired.

We are required to reassign goodwill to reporting units whenever reorganizations of our internal reporting structure changes the composition of our reporting units. Goodwill is reassigned to the reporting units using a relative fair value approach. When the fair value of a reporting unit is available, we allocate goodwill based on the relative fair value of the reporting units. When fair value is not available, we utilize an alternative allocation methodology that we believe represents a reasonable approximation of the fair value of the operations being reorganized. For additional information on our segments, see Note 17—Segment Information to our consolidated financial statements in Item 8 of Part II of our Annual Report on Form 10-K for the year ended December 31, 2022.

We are required to assess our goodwill for impairment annually, or more frequently if an event occurs or circumstances change that indicates it is more likely than not the fair values of any of our reporting units were less than their carrying values. In assessing goodwill for impairment, we may first assess qualitative factors to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying value.

Our annual impairment assessment date for goodwill is October 31, at which date we assess our reporting units. We report two segments: Business and Mass Markets. At October 31, 2022, under these segments, we had four reporting units for goodwill impairment testing, which are (i) Mass Markets (ii) North America Business ("NA Business"), (iii) Europe, Middle East and Africa ("EMEA") region and (iv) Asia Pacific ("APAC") region. Prior to its August 1, 2022 divestiture, the Latin American ("LATAM") region was also a reporting unit. At October 31, 2020, we used eight reporting units for goodwill impairment testing, which were consumer, small and medium business, enterprise, wholesale, North American global accounts ("NA GAM"), EMEA, LATAM and APAC.

Our reporting units are not discrete legal entities with discrete full financial statements. Our assets and liabilities are employed in and relate to the operations of multiple reporting units and are allocated to individual reporting units based on their relative revenue or earnings before interest, taxes depreciation and amortization ("EBITDA"). For each reporting unit, we compare its estimated fair value of equity to its carrying value of equity that we assign to the reporting unit. If the estimated fair value of the reporting unit is greater than its carrying value, we conclude that no impairment exists. If the estimated fair value of the reporting unit is less than the carrying value, we record a non-cash impairment charge equal to the excess amount. Depending on the facts and circumstances, we typically estimate the fair value of our reporting units by considering either or both of (i) a discounted cash flow method, which is based on the present value of projected cash flows over a discrete projection period and a terminal value, which is based on the expected normalized cash flows of the reporting units following the discrete projection period, and (ii) a market approach, which includes the use of multiples of publicly-traded companies whose services are comparable to ours. With respect to our analysis using the discounted cash flow method, the timing and amount of projected cash flows under these forecasts require estimates developed from our long-range plan, which is informed by wireline industry trends, the competitive landscape, product lifecycles, operational initiatives, capital allocation plans and other company-specific and external factors that influence our business. These projected cash flows consider recent historical results and are consistent with the Company's short-term financial forecasts and long-term business strategies. The development of these projected cash flows, and the discount rate applied to such cash flows, is subject to inherent uncertainties, and actual results could vary significantly from such estimates. Our determination of the discount rate is based on a weighted average cost of capital approach, which uses a market participant's cost of equity and after-tax cost of debt and reflects certain risks inherent in the projected cash flows. With respect to our analysis using the market approach, the fair value of a reporting unit is estimated based upon a market multiple applied to the reporting unit's revenue and EBITDA, adjusted for an appropriate control premium based on recent market transactions. The fair value of reporting units estimated using revenue and EBITDA market multiples are weighted depending on the characteristics of the individual reporting unit to determine the estimated fair value under the market approach. We also reconcile the estimated fair values of the reporting units to our market capitalization to conclude whether the indicated control premium is reasonable in comparison to recent transactions in the marketplace. Declines in our stock price have in the past caused an impairment of our goodwill, and future declines in our stock price could potentially cause additional impairments of our goodwill. Changes in the underlying assumptions that we use in allocating the assets and liabilities to reporting units under either the discounted cash flow or market approach method can result in materially different determinations of fair value. We performed sensitivity analyses that considered a range of discount rates and a range of EBITDA market multiples and we believe the estimates, judgments, assumptions and allocation methods used by us are reasonable, but changes in any of them can significantly affect whether we must incur impairment charges, as well as the size of such charges.

For additional information on our goodwill balances by segment and results of our impairment analyses, see Note 3—Goodwill, Customer Relationships and Other Intangible Assets to our consolidated financial statements in Item 8 of Part II of our Annual Report on Form 10-K for the year ended December 31, 2022.

Pension and Post-retirement Benefits

We sponsor a noncontributory qualified defined benefit pension plan (referred to herein as our qualified pension plan, the "Lumen Combined Pension Plan" or the "Combined Pension Plan") for a substantial portion of our current and former employees in the United States. As of January 1, 2022, we spun off a new pension plan (the "Lumen Pension Plan") from the Combined Pension Plan in anticipation of the sale of the ILEC business on October 3, 2022. We recognized pension costs related to both plans through the sale of the ILEC business, at which time balances related to the Lumen Pension Plan were reflected in the calculation of our gain on the sale of the ILEC business and the pension obligation and assets of the Lumen Pension Plan were transferred to the purchaser. We also maintain post-retirement benefit plans that provide health care and life insurance benefits for certain eligible retirees.

In addition to the Lumen Combined Pension Plan, we also maintain several non-qualified pension plans for certain eligible highly compensated employees. Due to the insignificant impact of these non-qualified plans on our consolidated financial statements, we have excluded them from the following pension and post-retirement benefits disclosures for 2022, 2021 and 2020. See Note 11—Employee Benefits for additional information.

In 2022, approximately 62% of the Combined Pension Plan's January 1, 2022 net actuarial loss balance of $2.2 billion was subject to amortization as a component of net periodic expense over the average remaining service period of 14 years for participating employees expected to receive benefits under the plan. The other 38% of the Combined Pension Plan's beginning net actuarial loss balance was treated as indefinitely deferred during 2022. Additionally, upon the sale of the ILEC business on October 3, 2022, we recognized $564 million of net actuarial loss, pre-tax, related to the Lumen Pension Plan, offsetting our gain on the sale of the business. The entire beginning net actuarial loss of $217 million for the post-retirement benefit plans was treated as indefinitely deferred during 2022.

As of January 1, 2021, our qualified pension plan had a net actuarial loss balance of approximately $3.0 billion. A portion of this balance was subject to amortization as a component of net periodic expense over the average remaining service period for participating employees expected to receive benefits under the plan. During 2021, our lump sum pension settlement payments exceeded the settlement threshold and as a result we recognized a non-cash settlement charge of $383 million, accelerating previously unrecognized actuarial losses from our net actuarial loss balance. For our post-retirement benefit plans, the majority of the beginning net actuarial loss balance of $346 million continued to be deferred during 2021.

In 2020, approximately 59% of the qualified pension plan's January 1, 2020 net actuarial loss balance of $3.0 billion was subject to amortization as a component of net periodic expense over the average remaining service period of 9 years for participating employees expected to receive benefits under the plan. The other 41% of the qualified pension plan's beginning net actuarial loss balance was treated as indefinitely deferred during 2020. The entire beginning net actuarial loss of $175 million for the post-retirement benefit plans was treated as indefinitely deferred during 2020.

In computing our pension and post-retirement health care and life insurance benefit obligations, our most significant assumptions are the discount rate and mortality rates. In computing our periodic pension expense, our most significant assumptions are the discount rate and the expected rate of return on plan assets. In computing our post-retirement benefit expense, our most significant assumption is the discount rate.

The discount rate for each plan is the rate at which we believe we could effectively settle the plan's benefit obligations as of the end of the year. We selected each plan's discount rate based on a cash flow matching analysis using hypothetical yield curves from high-quality U.S. corporate bonds and projections of the future benefit payments that constitute the projected benefit obligation for the plans. This process establishes the uniform discount rate that produces the same present value of the estimated future benefit payments as is generated by discounting each year's benefit payments by a spot rate applicable to that year. The spot rates used in this process were derived from a yield curve created from yields on the 60th to 90th percentile of U.S. high quality bonds.

The impacts of a hypothetical change in the discount rate on the benefit obligation for the qualified pension plan and the post-retirement benefit plans obligation are detailed in the table below.

	Percentage point change	Increase/(decrease) at December 31, 2022
		(Dollars in millions)
Combined Pension Plan discount rate	1%	$ (377)
	(1)%	458
Post-retirement benefit plans discount rate	1%	(163)
	(1)%	163

Published mortality rates help predict the expected life of plan participants and are based on historical demographic studies by the Society of Actuaries ("SOA"). The SOA publishes new mortality rates (mortality tables and projection scales) on a regular basis which reflect updates to projected life expectancies in North America. Historically, we have adopted the new projection tables immediately after publication. The SOA did not release any revised mortality tables or projection scales in 2022.

The expected rate of return on plan assets is the long-term rate of return we expect to earn on the plans' assets in the future, net of administrative expenses paid from plan assets. The rate of return is determined by the strategic allocation of plan assets and the long-term risk and return forecast for each asset class. The forecasts for each asset class are generated primarily from an analysis of the long-term expectations of various third-party investment management organizations, to which we then add a factor of 50 basis points to reflect the benefit we expect to result from our active management of the assets. The expected rate of return on plan assets is reviewed annually and revised, as necessary, to reflect changes in the financial markets and our investment strategy.

Changes in any of the above factors could significantly impact operating expenses in our consolidated statements of operations and other comprehensive loss in our consolidated statements of comprehensive income (loss), as well as the value of the liability and accumulated other comprehensive loss of stockholders' equity on our consolidated balance sheets.

Loss Contingencies and Litigation Reserves

We are involved in several potentially material legal proceedings, as described in more detail in Note 18—Commitments, Contingencies and Other Items. On a quarterly basis, we assess potential losses in relation to these and other pending or threatened tax and legal matters. For matters not related to income taxes, if a loss is considered probable and the amount can be reasonably estimated, we recognize an expense for the estimated loss. To the extent these estimates are more or less than the actual liability resulting from the resolution of these matters, our earnings will be increased or decreased accordingly. If the differences are material, our consolidated financial statements could be materially impacted.

For matters related to income taxes, if we determine in our judgment that the impact of an uncertain tax position is more likely than not to be sustained upon audit by the relevant taxing authority, then we recognize in our financial statements a benefit for the largest amount that is more likely than not to be sustained. No portion of an uncertain tax position will be recognized if we determine in our judgment that the position has less than a 50% likelihood of being sustained. Though the validity of any tax position is a matter of tax law, the body of statutory, regulatory and interpretive guidance on the application of the law is complex and often ambiguous, particularly in certain of the non-U.S. jurisdictions in which we operate. Because of this, whether a tax position will ultimately be sustained may be uncertain.

Income Taxes

Our provision for income taxes includes amounts for tax consequences deferred to future periods. We record deferred income tax assets and liabilities reflecting future tax consequences attributable to (i) tax credit carryforwards, (ii) differences between the financial statement carrying value of assets and liabilities and the tax basis of those assets and liabilities and (iii) tax NOLs. Deferred taxes are computed using enacted tax rates expected to apply in the year in which the differences are expected to affect taxable income. The effect of a change in tax rate on deferred income tax assets and liabilities is recognized in earnings in the period that includes the enactment date.

The measurement of deferred taxes often involves the exercise of considerable judgment related to the realization of tax basis. Our deferred tax assets and liabilities reflect our assessment that tax positions taken in filed tax returns and the resulting tax basis are more likely than not to be sustained if they are audited by taxing authorities. Assessing tax rates that we expect to apply and determining the years when the temporary differences are expected to affect taxable income requires judgment about the future apportionment of our income among the states in which we operate. Any changes in our practices or judgments involved in the measurement of deferred tax assets and liabilities could materially impact our financial condition or results of operations.

In connection with recording deferred income tax assets and liabilities, we establish valuation allowances when necessary to reduce deferred income tax assets to amounts that we believe are more likely than not to be realized. We evaluate our deferred tax assets quarterly to determine whether adjustments to our valuation allowances are appropriate in light of changes in facts or circumstances, such as changes in tax law, interactions with taxing authorities and developments in case law. In making this evaluation, we rely on our recent history of pre-tax earnings. We also rely on our forecasts of future earnings and the nature and timing of future deductions and benefits represented by the deferred tax assets, all of which involve the exercise of significant judgment. At December 31, 2022, we established a valuation allowance of $550 million primarily related to state NOLs, based on our determination that it was more likely than not that this amount of these NOLs would expire unused. If forecasts of future earnings and the nature and estimated timing of future deductions and benefits change in the future, we may determine that existing valuation allowances must be revised or eliminated or new valuation allowances created, any of which could materially impact our financial condition or results of operations. See Note 16—Income Taxes to our consolidated financial statements in Item 8 of Part II of our Annual Report on Form 10-K for the year ended December 31, 2022.

Liquidity and Capital Resources

Overview of Sources and Uses of Cash

We are a holding company that is dependent on the capital resources of our subsidiaries to satisfy our parent company liquidity requirements. Several of our significant operating subsidiaries have borrowed funds either on a standalone basis or as part of a separate restricted group with certain of its subsidiaries or affiliates. The terms of the instruments governing the indebtedness of these borrowers or borrowing groups may restrict our ability to access their accumulated cash. In addition, our ability to access the liquidity of these and other subsidiaries may be limited by tax, legal and other considerations.

At December 31, 2022, we held cash and cash equivalents of $1.3 billion, a small portion of which is classified as held for sale, and we also had $2.2 billion of borrowing capacity available under our revolving credit facility. We typically use our revolving credit facility as a source of liquidity for operating activities and our other cash requirements. We had approximately $97 million of cash and cash equivalents outside the United States at December 31, 2022. We currently believe that there are no material restrictions on our ability to repatriate cash and cash equivalents into the United States, and that we may do so without paying or accruing U.S. taxes. Other than transactions related to our EMEA divestiture, we do not currently intend to repatriate to the United States any of our foreign cash and cash equivalents from operating entities.

In response to COVID-19, the U.S. Congress passed the CARES Act on March 27, 2020. Under the CARES Act, we deferred $134 million of our 2020 payroll taxes, $61 million of which were repaid in 2022 and $67 million of which were repaid in 2021. We transferred $6 million of this deferred payment obligation to the purchasers of our ILEC business on October 3, 2022.

Our executive officers and our Board of Directors review our sources and potential uses of cash in connection with our annual budgeting process and whenever circumstances warrant. Generally speaking, our principal funding source is cash from operating activities, and our principal cash requirements include operating expenses, capital expenditures, income taxes, debt repayments, periodic securities repurchases, periodic pension contributions and other benefits payments. The impact of the sale of our Latin American and ILEC businesses and pending sale of the EMEA business is further described below.

Based on our current capital allocation objectives, during 2023 we project expending approximately $2.9 billion to $3.1 billion of capital expenditures.

For the 12 month period ending December 31, 2023, we project that our fixed commitments will include (i) $125 million of scheduled term loan amortization payments and (ii) $32 million of finance lease and other fixed payments (which includes $3 million of finance lease obligations that have been classified as held for sale). We will continue to monitor our future sources and uses of cash, and anticipate that we will make adjustments to our capital allocation strategies when, as and if determined by our Board of Directors. We may also draw on our revolving credit facility as a source of liquidity for operating activities and to give us additional flexibility to finance our capital investments, repayments of debt, pension contributions and other cash requirements.

For additional information, see "Risk Factors—Financial Risks" in Item 1A of Part I of our Annual Report on Form 10-K for the year ended December 31, 2022.

Impact of the Divestitures of the Latin American and ILEC Businesses and Planned Divestiture of the EMEA Business

As discussed in Note 2—Divestitures of the Latin American and ILEC Businesses and Planned Divestiture of the EMEA Business to our consolidated financial statements in Item 8 of Part II of our Annual Report on Form 10-K for the year ended December 31, 2022, we sold our Latin American and ILEC Businesses on August 1, 2022 and October 3, 2022, respectively. Additionally, we have agreed to divest our EMEA business subject to the receipt of various approvals and the satisfaction of other customary conditions. As further described elsewhere herein, these transactions have provided or are expected to provide us with a substantial amount of cash proceeds, but ultimately will reduce our base of income-generating assets that generate our recurring cash from operating activities. As a result of these divestitures, we have utilized all of our NOLs available for use in 2022. The estimated amount of cash taxes related to our 2022 divestitures is $900 million to $1 billion. See " —Net Operating Loss Carryforwards" below.

Capital Expenditures

We incur capital expenditures on an ongoing basis to expand and improve our service offerings, enhance and modernize our networks and compete effectively in our markets. We evaluate capital expenditure projects based on a variety of factors, including expected strategic impacts (such as forecasted impact on revenue growth, productivity, expenses, service levels and customer retention) and our expected return on investment. The amount of capital investment is influenced by, among other things, current and projected demand for our services and products, cash flow generated by operating activities, cash required for other purposes, regulatory considerations (such as governmentally-mandated infrastructure buildout requirements) and the availability of requisite supplies, labor and permits.

Our capital expenditures continue to be focused on enhancing network operating efficiencies, supporting new service developments, and expanding our fiber network, including our Quantum Fiber buildout plan. A portion of our 2023 capital expenditures will also be focused on restoring network assets destroyed or damaged by Hurricane Ian in Florida during 2022. For more information on our capital spending, see (i) "—Overview of Sources and Uses of Cash" above, (ii) "Cash Flow Activities—Investing Activities" below and (iii) Item 1 of Part 1 of our Annual Report on Form 10-K for the year ended December 31, 2022.

Debt Instruments and Financing Arrangements

Debt Instruments

At December 31, 2022, we had $10.4 billion of outstanding consolidated secured indebtedness, $10.1 billion of outstanding consolidated unsecured indebtedness (excluding (i) finance lease obligations, (ii) unamortized premiums, net and (iii) unamortized debt issuance costs) and $2.2 billion of unused borrowing capacity under our revolving credit facility, as discussed further below.

Under our amended and restated credit agreement dated as of January 31, 2020 (the “Amended Credit Agreement”), we maintained at December 31, 2022 (i) a $2.2 billion senior secured revolving credit facility, under which we owed nothing as of such date, and (ii) $5.2 billion of senior secured term loan facilities. For additional information, see (i) "—Overview of Sources and Uses of Cash," and (ii) Note 7—Long-Term Debt and Credit Facilities to our consolidated financial statements in Item 8 of Part II of our Annual Report on Form 10-K for the year ended December 31, 2022.

At December 31, 2022, we had $33 million of letters of credit outstanding under our $225 million uncommitted letter of credit facility. Additionally, under separate facilities, we had outstanding letters of credit, or other similar obligations, of approximately $61 million as of December 31, 2022, of which $3 million is collateralized by cash that is reflected on our consolidated balance sheets as restricted cash within other assets.

In addition to its indebtedness under our Amended Credit Agreement, Lumen Technologies is indebted under its outstanding senior notes, and several of its subsidiaries are indebted under separate credit facilities or senior notes. For information on the terms and conditions of other debt instruments of ours and our subsidiaries, including financial and operating covenants, see (i) Note 7—Long-Term Debt and Credit Facilities to our consolidated financial statements in Item 8 of Part II of our Annual Report on Form 10-K for the year ended December 31, 2022 and (ii) "—Other Matters" below.

Future Financings and Debt Reduction Transactions

Subject to market conditions, we expect to continue to issue debt securities from time to time in the future to refinance a substantial portion of our maturing debt, including issuing debt securities of certain of our subsidiaries to refinance their maturing debt to the extent permitted under our debt covenants and consistent with our capital allocation strategies. The availability, interest rate and other terms of any new borrowings will depend on the ratings assigned by credit rating agencies, among other factors.

As of the filing date of our Annual Report on Form 10-K for the year ended December 31, 2022, the credit ratings for the senior secured and unsecured debt of Lumen Technologies, Inc., Level 3 Financing, Inc. and Qwest Corporation were as follows:

Borrower	Moody's Investors Service, Inc.	Standard & Poor's	Fitch Ratings
Lumen Technologies, Inc.:			
Unsecured	B2	B	BB
Secured	Ba3	BB	BB+
Level 3 Financing, Inc.:			
Unsecured	Ba3	B+	BB
Secured	Ba1	BB	BBB-
Qwest Corporation:			
Unsecured	Ba2	BB	BB

Our credit ratings are reviewed and adjusted from time to time by the rating agencies. Any future changes in the senior unsecured or secured debt ratings of us or our subsidiaries could impact our access to capital or borrowing costs. With the recent downgrade of certain of our credit ratings we may find it more difficult to borrow on favorable terms, or at all. See "Risk Factors—Financial Risks" in Item 1A of Part I of our Annual Report on Form 10-K for the year ended December 31, 2022.

From time to time over the past couple of years, we have engaged in various refinancings, redemptions, tender offers, open market purchases and other transactions designed to reduce our consolidated indebtedness, lower our interest costs, improve our financial flexibility or otherwise enhance our debt profile. We plan to continue to pursue similar transactions in the future. Whether and when we implement any additional such transactions depends on a wide variety of factors, including without limitation market conditions, our upcoming debt maturities, and our cash requirements. There is no guarantee that we will be successful in implementing any such transactions or attaining our stated objectives. We may not disclose these transactions in advance, unless required by applicable law or material in nature or amount. See Note 7—Long-Term Debt and Credit Facilities to our consolidated financial statements in Item 8 of Part II of our Annual Report on Form 10-K for the year ended December 31, 2022 for additional information.

Net Operating Loss Carryforwards

As of December 31, 2022, Lumen Technologies had approximately $1.0 billion of federal net operating loss carryforwards ("NOLs"), which for U.S. federal income tax purposes can be used to offset future taxable income. These NOLs are primarily related to federal NOLs we acquired through the Level 3 acquisition on November 1, 2017 and are subject to limitations under Section 382. We maintain a Section 382 rights agreement designed to safeguard through late 2023 our ability to use those NOLs. We have utilized a substantial portion of our available NOLs to offset taxable gains generated by the completion of our 2022 divestitures. As a result, we anticipate that our cash income tax liabilities will increase substantially in future periods. The amounts of our near-term future tax payments will depend upon many factors, including our future earnings and tax circumstances and the impact of any corporate tax reform or taxable transactions. Based on current laws and our current assumptions and projections, we estimate our cash federal income tax liability related to the 2023 tax year will range from $200 million to $300 million.

Although we expect to use substantially all of our remaining NOLs in future periods in accordance with Section 382's annual limitations, we cannot assure this. See "Risk Factors—Financial Risks—We may not be able to fully utilize our NOLs" in Item 1A of Part I of our Annual Report on Form 10-K for the year ended December 31, 2022.

Dividends

Between the first quarter of 2019 and the third quarter of 2022, our Board of Directors declared quarterly cash dividends of $0.25 per share of our outstanding common stock. On November 2, 2022, we announced that our Board had terminated our quarterly cash dividend program. Under this revised capital allocation policy, the company plans to continue to invest in growth initiatives.

Stock Repurchases

Effective November 2, 2022, our Board of Directors authorized a new two-year program to repurchase up to an aggregate of $1.5 billion of our outstanding common stock (the "November 2022 stock repurchase program"). During the year ended December 31, 2022, we repurchased 33 million shares of our outstanding common stock in the open market for an aggregate market price of $200 million, or an average purchase price of $6.07 per share. All repurchased common stock has been retired. We expect repurchases made in 2023 and beyond to be subject to a non-deductible 1% excise tax on the fair market value of the stock under the Inflation Reduction Act of 2022.

Pension and Post-retirement Benefit Obligations

We are subject to material obligations under our existing defined benefit pension plans and post-retirement benefit plans. At December 31, 2022, the accounting unfunded status of our qualified and non-qualified defined benefit pension plans and our qualified post-retirement benefit plans was $615 million and $2.0 billion, respectively. For additional information about our pension and post-retirement benefit arrangements, see "Critical Accounting Policies and Estimates—Pension and Post-retirement Benefits" in Item 7 of Part II of our Annual Report on Form 10-K for the year ended December 31, 2022 and Note 11—Employee Benefits to our consolidated financial statements in Item 8 of Part II of such report.

On October 19, 2021, we, as sponsor of the Lumen Combined Pension Plan ("Combined Pension Plan"), along with the Plan's independent fiduciary, entered into an agreement committing the Plan to use a portion of its plan assets to purchase an annuity from an insurance company (the "Insurer") to transfer $1.4 billion of the Plan's pension liabilities. This agreement irrevocably transferred to the Insurer future Plan benefit obligations for approximately 22,600 U.S. Lumen participants ("Transferred Participants") effective on December 31, 2021. This annuity transaction was funded entirely by existing Plan assets and is intended to provide equivalent benefits to the Transferred Participants. The Insurer is committed to assume responsibility for administrative and customer service support, including distribution of payments to the Transferred Participants.

As of January 1, 2022, we spun off the Lumen Pension Plan from the Combined Pension Plan in anticipation of the sale of the ILEC business, as described further in Note 2—Divestitures of the Latin American and ILEC Businesses and Planned Divestiture of the EMEA Business to our consolidated financial statements in Item 1 of Part I of our Annual Report on Form 10-K for the year ended December 31, 2022. At the time of the spin-off we transferred $2.5 billion of pension benefit obligation and $2.2 billion of plan assets to the Lumen Pension Plan. Following a revaluation of the pension obligation and pension assets for the Lumen Pension Plan in preparation for the closing of the ILEC business divestiture, we contributed approximately $319 million of cash in September 2022 to satisfy our contractual obligations to the purchaser of the divested business. This plan was subsequently assumed by the purchaser as part of our divestiture of our ILEC business on October 3, 2022. Upon sale of the ILEC business, we recognized $403 million of net actuarial loss and prior service cost, net of tax impact, related to the Lumen Pension Plan, which offset our gain on sale of the business.

Benefits paid by our Combined Pension Plan are paid through the trust that holds the Combined Pension Plan's assets. Based on current laws and circumstances, we do not expect any contributions to be required for our Combined Pension Plan during 2023. The amount of required contributions to our Combined Pension Plan in 2024 and beyond will depend on a variety of factors, most of which are beyond our control, including earnings on plan investments, prevailing interest rates, demographic experience, changes in plan benefits and changes in funding laws and regulations. We occasionally make voluntary contributions to our plans in addition to required contributions and reserve the right to do so in the future. We last made a voluntary contribution to the trust for our Combined Pension Plan during 2018. We currently do not expect to make a voluntary contribution in 2023.

Substantially all of our post-retirement health care and life insurance benefits plans are unfunded and are paid by us with available cash. As described further in Note 11—Employee Benefits, aggregate benefits paid by us under these plans (net of participant contributions and direct subsidy receipts) were $210 million, $203 million and $211 million for the years ended December 31, 2022, 2021 and 2020, respectively. For additional information on our expected future benefits payments for our post-retirement benefit plans, see Note 11—Employee Benefits to our consolidated financial statements in Item 8 of Part II of our Annual Report on Form 10-K for the year ended December 31, 2022.

For 2022, our expected annual long-term rate of return on the pension plan assets, net of administrative expenses, was 5.5%. For 2023, our expected annual long-term rate of return on these assets is 6.5%. However, actual returns could be substantially different.

Our pension plan contains provisions that allow us, from time to time, to offer lump sum payment options to certain former employees in settlement of their future retirement benefits. We record an accounting settlement charge, consisting of the recognition of certain deferred costs of the pension plan, associated with these lump sum payments only if, in the aggregate, they exceed the sum of the annual service and interest costs for the plan's net periodic pension benefit cost, which represents the settlement accounting threshold. As of December 31, 2021, lump sum pension settlement payments exceeded the settlement threshold. As a result, for the year ended December 31, 2021 we recognized a non-cash settlement charge of $383 million to accelerate the recognition of a portion of the previously unrecognized actuarial losses in the qualified pension plan, which was allocated and reflected in other income (expense), net in our consolidated statement of operations for the year ended December 31, 2021. The settlement threshold was not exceeded for the year ended December 31, 2022. The amount of any future non-cash settlement charges will be dependent on several factors, including the total amount of our future lump sum benefit payments.

Future Contractual Obligations

Our estimated future obligations as of December 31, 2022 include both current and long term obligations. These amounts include liabilities that have been classified as liabilities held for sale on our consolidated balance sheet. We have a current obligation of $157 million and a long-term obligation of $20.6 billion of long-term debt (excluding unamortized premiums, net and unamortized debt issuance costs, inclusive of obligations that have been classified as held for sale). Under our operating leases, we have a current obligation of $449 million and a long-term obligation of $1.5 billion (inclusive of operating lease obligations classified as held for sale). We have current obligations related to right-of-way agreements and purchase commitments of $829 million and a long-term obligation of $1.7 billion. Additionally, we have a current obligation for asset retirement obligation of $30 million and a long-term obligation of $156 million. Finally, our pension and post-retirement benefit plans have an unfunded benefit obligation, of which $215 million is classified as current and $2.4 billion is classified as long-term. For additional information, see Note 7—Long-Term Debt and Credit Facilities, Note 5—Leases, Note 18—Commitments, Contingencies and Other Items, Note 9—Property, Plant and Equipment and Note 11—Employee Benefits, respectively.

Federal Broadband Support Programs

Between 2015 and 2021, we received approximately $500 million annually through the CAF II program, a program that ended on December 31, 2021. In connection with the CAF II funding, we were required to meet certain specified infrastructure buildout requirements in 33 states by the end of 2021, which required substantial capital expenditures. In the first quarter of 2022, we recognized $59 million of previously deferred revenue related to the conclusion of the CAF II program based upon our final buildout and filing submissions. The government has the right to audit our compliance with the CAF II program. The ultimate outcome of any remaining examinations is unknown, but could result in a liability to us in excess of our reserve accruals established for these matters.

In early 2020, the FCC created the Rural Digital Opportunity Fund (the "RDOF"), which is a federal support program designed to replace the CAF II program. On December 7, 2020, the FCC allocated in its RDOF Phase I auction $9.2 billion in support payments over 10 years to deploy high speed broadband to over 5.2 million unserved locations. We won bids to receive approximately $26 million of annual RDOF Phase I support payments approximately 36% of which is attributable to the ILEC business we divested on October 3, 2022. Our support payments under the RDOF Phase I program commenced during the second quarter of 2022.

For additional information on these programs, see (i) Note 4—Revenue Recognition to our consolidated financial statements in Item 8 of Part II of our Annual Report on Form 10-K for the year ended December 31, 2022, (ii) "Business—Regulation of Our Business" in Item 1 of Part I of such report and (iii) "Risk Factors—Legal and Regulatory Risks" in Item 1A of Part I of such report.

Federal officials have proposed changes to current programs and laws that could impact us, including proposals designed to increase broadband access, increase competition among broadband providers, lower broadband costs and re-adopt "net neutrality" rules similar to those adopted under the Obama Administration. In November 2021, the U.S. Congress enacted legislation that appropriated $65 billion to improve broadband affordability and access, primarily through federally funded state grants. As of the date of our Annual Report on Form 10-K for the year ended December 31, 2022, various state and federal agencies are continuing to take steps to make this funding available to eligible applicants, including us. It remains premature to speculate on the ultimate impact of this legislation on us.

Cash Flow Activities

The following table summarizes our consolidated cash flow activities for the year ended December 31, 2022 and 2021. For information regarding cash flow activities for the year ended December 31, 2020, see "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Item 7 of Part II of our Annual Report Form 10-K for the year ended December 31, 2021.

	Years Ended December 31,		
	2022	2021	(Decrease) / Increase
	(Dollars in millions)		
Net cash provided by operating activities	$ 4,735	6,501	(1,766)
Net cash provided by (used in) investing activities	5,476	(2,712)	8,188
Net cash used in financing activities	(9,313)	(3,807)	5,506

Operating Activities

Net cash provided by operating activities decreased by $1.8 billion for the year ended December 31, 2022 as compared to the year ended December 31, 2021 primarily due to lower net income adjusted for non-cash expenses and gains, as well as our pension contribution made in preparation for the closing of the ILEC business divestiture. Cash provided by operating activities is subject to variability period over period as a result of timing differences, including with respect to the collection of receivables and payments of interest expense, accounts payable, income taxes and bonuses.

For additional information about our operating results, see "Results of Operations" above.

Investing Activities

Net cash provided by (used in) investing activities increased by $8.2 billion for the year ended December 31, 2022 as compared to the year ended December 31, 2021 primarily due to pre-tax cash proceeds from the sales of our Latin American and ILEC businesses, which was partially offset by an increase in capital expenditures.

Financing Activities

Net cash used in financing activities increased by $5.5 billion for the year ended December 31, 2022 as compared to the year ended December 31, 2021 primarily due to substantially higher debt repayments and proceeds from the issuance of long-term debt in the prior year, partially offset by higher repurchases of common stock and payments of dividends in the prior year.

See Note 7—Long-Term Debt and Credit Facilities to our consolidated financial statements in Item 8 of Part II of our Annual Report on Form 10-K for the year ended December 31, 2022 for additional information on our outstanding debt securities.

Other Matters

We have cash management and loan arrangements with a majority of our income-generating subsidiaries, in which a substantial portion of the aggregate cash of those subsidiaries' is periodically advanced or loaned to us or our service company affiliate. Although we periodically repay these advances to fund the subsidiaries' cash requirements throughout the year, at any given point in time we may owe a substantial sum to our subsidiaries under these arrangements. In accordance with generally accepted accounting principles, these arrangements are reflected in the balance sheets of our subsidiaries, but are eliminated in consolidation and therefore not recognized on our consolidated balance sheets.

We are also involved in various legal proceedings that could substantially impact our financial position. See Note 18—Commitments, Contingencies and Other Items to our consolidated financial statements in Item 8 of Part II of our Annual Report on Form 10-K for the year ended December 31, 2022 for additional information.

Market Risk

As of December 31, 2022, we are exposed to market risk from changes in interest rates on our variable rate long-term debt obligations and fluctuations in certain foreign currencies.

Management periodically reviews our exposure to interest rate fluctuations and periodically implements strategies to manage the exposure. From time to time, we have used derivative instruments to swap our exposure to variable interest rates for fixed interest rates. We have established policies and procedures for risk assessment and the approval, reporting and monitoring of derivative instrument activities. As of December 31, 2022, we did not hold or issue derivative financial instruments for trading or speculative purposes.

As of December 31, 2022, we had approximately $7.8 billion floating rate debt, none of which is currently hedged. A hypothetical increase of 100 basis points in LIBOR relating to our $7.8 billion of unhedged floating rate debt would, among other things, decrease our annual pre-tax earnings by approximately $78 million. Additionally, our credit agreements contain language about a possible change from LIBOR to an alternative index.

We conduct a portion of our business in currencies other than the U.S. dollar, the currency in which our consolidated financial statements are reported. Our European subsidiaries use, and prior to the August 1, 2022 divestiture of our Latin American business, certain of our former Latin American subsidiaries used the local currency as their functional currency, as the majority of their sales and purchases are or were transacted in their local currencies. Although we continue to evaluate strategies to mitigate risks related to the effect of fluctuations in currency exchange rates, we will likely recognize gains or losses from international transactions. Accordingly, changes in foreign currency rates relative to the U.S. dollar could positively or negatively impact our operating results.

Certain shortcomings are inherent in the method of analysis presented in the computation of exposures to market risks. Actual values may differ materially from those disclosed by us from time to time if market conditions vary from the assumptions used in the analyses performed. These analyses only incorporate the risk exposures that existed at December 31, 2022.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

The information in "Management's Discussion and Analysis of Financial Condition and Results of Operations—Market Risk" in Item 7 of Part II of our Annual Report on Form 10-K for the year ended December 31, 2022 is incorporated herein by reference.

ITEM 8. CONSOLIDATED FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

Report of Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors
Lumen Technologies, Inc.:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of Lumen Technologies, Inc. and subsidiaries (the Company) as of December 31, 2022 and 2021, the related consolidated statements of operations, comprehensive (loss) income, cash flows, and stockholders' equity for each of the years in the three-year period ended December 31, 2022, and the related notes (collectively, the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2022 and 2021, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2022, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2022, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission, and our report dated February 23, 2023 expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the consolidated financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the consolidated financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Testing of revenue

As discussed in Note 4 to the consolidated financial statements, the Company recorded $17.5 billion of operating revenues for the year ended December 31, 2022. The processing and recording of revenue are reliant upon multiple information technology (IT) systems.

We identified the evaluation of the sufficiency of audit evidence over revenue as a critical audit matter. Complex auditor judgment was required in evaluating the sufficiency of audit evidence over revenue due to the large volume of data and the number and complexity of the revenue accounting systems. Specialized skills and knowledge were needed to test the IT systems used for the processing and recording of revenue.

The following are the primary procedures we performed to address this critical audit matter. We applied auditor judgment to determine the nature and extent of procedures to be performed over the processing and recording of revenue, including the IT systems tested. We evaluated the design and tested the operating effectiveness of certain internal controls related to the processing and recording of revenue. This included manual and automated controls over the IT systems used for the processing and recording of revenue. For a selection of transactions, we compared the amount of revenue recorded to a combination of Company internal data, executed contracts, and other relevant third-party data. In addition, we involved IT professionals with specialized skills and knowledge who assisted in the design and performance of audit procedures related to certain IT systems used by the Company for the processing and recording of revenue. We evaluated the sufficiency of audit evidence obtained by assessing the results of procedures performed, including the relevance and reliability of evidence obtained.

Goodwill impairment of North America Business reporting unit

As discussed in Note 3 to the consolidated financial statements, the goodwill balance at December 31, 2022 was $12.7 billion. The Company assesses goodwill for impairment at least annually, or more frequently, if events or circumstances indicate the carrying value of a reporting unit likely exceeds its fair value. On the annual goodwill impairment assessment date, the Company estimated the fair value of its reporting units by considering both a discounted cash flow method and a market approach. The annual impairment test determined the carrying value of the North America Business reporting unit exceeded its estimated fair value. As a result, the Company recorded a non-cash impairment charge of $3.2 billion to reduce the carrying value of goodwill for the North America Business reporting unit.

We identified the assessment of the Company's annual impairment testing related to the carrying value of goodwill of the North America Business reporting unit as a critical audit matter. Subjective auditor judgment was required in evaluating certain assumptions used to estimate the fair value of the reporting unit. Those assumptions included: projected cash flows, the discount rate, and the earnings before interest, taxes, depreciation, and amortization ("EBITDA") market multiple. The evaluation of these assumptions was challenging due to their subjective nature. Additionally, differences in judgment used to determine these assumptions could have had a significant effect on the reporting unit's estimated fair value. Specialized skills and knowledge were required in the assessment of the discount rate and the EBITDA market multiple.

The following are the primary procedures we performed to address this critical audit matter. We evaluated the design and tested the operating effectiveness of certain internal controls related to the annual impairment testing of goodwill. This included controls related to the Company's development of projected cash flows, and the determination of the discount rate and the EBITDA market multiple. We performed a sensitivity analysis over the projected cash flow assumptions to assess the impact on the Company's estimate of the fair value of the North America Business reporting unit. We assessed the Company's ability to accurately project cash flows by comparing the Company's historical projected cash flows to actual results. We also evaluated the Company's North America Business reporting unit's projected cash flows by comparing them to the Company's underlying business strategies, historic trends, and publicly available industry and analyst reports. We involved valuation professionals with specialized skills and knowledge, who assisted in:

- evaluating the discount rate by independently developing a discount rate range using publicly available market data for comparable entities
- evaluating the EBITDA market multiple by comparing to EBITDA market multiple range developed using publicly available market data for comparable entities
- performing sensitivity analyses that considered a range of discount rates and a range of EBITDA market multiples.

/s/ KPMG LLP

We have served as the Company's auditor since 1977.

Denver, Colorado
February 23, 2023

Report of Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors
Lumen Technologies, Inc.:

Opinion on Internal Control Over Financial Reporting

We have audited Lumen Technologies, Inc. and subsidiaries' (the Company) internal control over financial reporting as of December 31, 2022, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2022, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of December 31, 2022 and 2021, the related consolidated statements of operations, comprehensive (loss) income, cash flows, and stockholders' equity for each of the years in the three-year period ended December 31, 2022, and the related notes (collectively, the consolidated financial statements), and our report dated February 23, 2023 expressed an unqualified opinion on those consolidated financial statements.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ KPMG LLP

Denver, Colorado
February 23, 2023

Lumen Technologies, Inc.
Consolidated Statements of Operations

	Years Ended December 31,		
	2022	2021	2020
	(Dollars in millions, except per share amounts, and shares in thousands)		
OPERATING REVENUE	$ 17,478	19,687	20,712
OPERATING EXPENSES			
Cost of services and products (exclusive of depreciation and amortization)	7,868	8,488	8,934
Selling, general and administrative	3,078	2,895	3,464
Gain on sale of businesses	(773)	—	—
Loss on disposal groups held for sale	700	—	—
Depreciation and amortization	3,239	4,019	4,710
Goodwill impairment	3,271	—	2,642
Total operating expenses	17,383	15,402	19,750
OPERATING INCOME	95	4,285	962
OTHER EXPENSE			
Interest expense	(1,332)	(1,522)	(1,668)
Other income (expense), net	246	(62)	(76)
Total other expense, net	(1,086)	(1,584)	(1,744)
(LOSS) INCOME BEFORE INCOME TAXES	(991)	2,701	(782)
Income tax expense	557	668	450
NET (LOSS) INCOME	$ (1,548)	2,033	(1,232)
BASIC AND DILUTED EARNINGS (LOSS) PER COMMON SHARE			
BASIC	$ (1.54)	1.92	(1.14)
DILUTED	$ (1.54)	1.91	(1.14)
WEIGHTED AVERAGE COMMON SHARES OUTSTANDING			
BASIC	1,007,517	1,059,541	1,079,130
DILUTED	1,007,517	1,066,778	1,079,130

See accompanying notes to consolidated financial statements.

Lumen Technologies, Inc.
Consolidated Statements of Comprehensive (Loss) Income

	Years Ended December 31,		
	2022	**2021**	**2020**
	(Dollars in millions)		
NET (LOSS) INCOME	$ (1,548)	2,033	(1,232)
OTHER COMPREHENSIVE INCOME (LOSS):			
Items related to employee benefit plans:			
Change in net actuarial loss, net of $(205), $(134) and $26 tax	631	424	(92)
Reclassification of net actuarial loss to gain on the sale of business, net of $(142), $0 and $0 tax	422	—	—
Settlement charges recognized in net income (loss), net of $0, $(93) and $0 tax	—	290	—
Change in net prior service cost, net of $(9), $(5) and $(12) tax	30	14	33
Reclassification of prior service credit to gain on the sale of business, net of $6, $0 and $0 tax	(19)	—	—
Curtailment loss, net of $0, $0 and $(1) tax	—	—	3
Reclassification of realized loss on interest rate swaps to net (loss) income, net of $(5), $(20) and $(16) tax	17	63	46
Unrealized holding loss on interest rate swaps, net of $0, $0 and $29 tax	—	(1)	(86)
Reclassification of realized loss on foreign currency translation to gain on the sale of business, net of $0, $0 and $0 tax	112	—	—
Foreign currency translation adjustment, net of $58, $30 and $(43) tax	(134)	(135)	(37)
Other comprehensive income (loss)	1,059	655	(133)
COMPREHENSIVE (LOSS) INCOME	$ (489)	2,688	(1,365)

See accompanying notes to consolidated financial statements.

Lumen Technologies, Inc.
Consolidated Balance Sheets

	As of December 31,	
	2022	2021
	(Dollars in millions and shares in thousands)	
ASSETS		
CURRENT ASSETS		
Cash and cash equivalents	$ 1,251	354
Accounts receivable, less allowance of $85 and $114	1,477	1,544
Assets held for sale	1,889	8,809
Other	803	829
Total current assets	5,420	11,536
Property, plant and equipment, net of accumulated depreciation of $19,886 and $19,271	19,166	20,895
GOODWILL AND OTHER ASSETS		
Goodwill	12,657	15,986
Other intangible assets, net	6,166	6,970
Other, net	2,172	2,606
Total goodwill and other assets	20,995	25,562
TOTAL ASSETS	$ 45,581	57,993
LIABILITIES AND STOCKHOLDERS' EQUITY		
CURRENT LIABILITIES		
Current maturities of long-term debt	$ 154	1,554
Accounts payable	950	758
Accrued expenses and other liabilities		
Salaries and benefits	692	860
Income and other taxes	1,158	228
Current operating lease liabilities	344	385
Interest	181	278
Other	277	232
Liabilities held for sale	451	2,257
Current portion of deferred revenue	596	617
Total current liabilities	4,803	7,169
LONG-TERM DEBT	20,418	27,428
DEFERRED CREDITS AND OTHER LIABILITIES		
Deferred income taxes, net	3,163	4,049
Benefit plan obligations, net	2,391	3,710
Other	4,369	3,797
Total deferred credits and other liabilities	9,923	11,556
COMMITMENTS AND CONTINGENCIES (Note 18)		
STOCKHOLDERS' EQUITY		
Preferred stock — non-redeemable, $25.00 par value, authorized 2,000 and 2,000 shares, issued and outstanding 7 and 7 shares	—	—
Common stock, $1.00 par value, authorized 2,200,000 and 2,200,000 shares, issued and outstanding 1,001,688 and 1,023,512 shares	1,002	1,024
Additional paid-in capital	18,080	18,972
Accumulated other comprehensive loss	(1,099)	(2,158)
Accumulated deficit	(7,546)	(5,998)
Total stockholders' equity	10,437	11,840
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	$ 45,581	57,993

See accompanying notes to consolidated financial statements.

Lumen Technologies, Inc.
Consolidated Statements of Cash Flows

	Years Ended December 31,		
	2022	2021	2020
	(Dollars in millions)		
OPERATING ACTIVITIES			
Net (loss) income	$ (1,548)	2,033	(1,232)
Adjustments to reconcile net (loss) income to net cash provided by operating activities:			
Depreciation and amortization	3,239	4,019	4,710
Gain on sale of businesses	(773)	—	—
Loss on disposal groups held for sale	700	—	—
Goodwill impairment	3,271	—	2,642
Deferred income taxes	(1,230)	598	366
Provision for uncollectible accounts	133	105	189
Net (gain) loss on early retirement and modification of debt	(214)	(8)	105
Unrealized loss (gain) on investments	191	(138)	—
Stock-based compensation	98	120	175
Changes in current assets and liabilities:			
Accounts receivable	(158)	(8)	115
Accounts payable	98	(261)	(543)
Accrued income and other taxes	972	(69)	27
Other current assets and liabilities, net	(372)	(353)	(262)
Retirement benefits	46	163	(111)
Changes in other noncurrent assets and liabilities, net	258	283	246
Other, net	24	17	97
Net cash provided by operating activities	4,735	6,501	6,524
INVESTING ACTIVITIES			
Capital expenditures	(3,016)	(2,900)	(3,729)
Proceeds from sale of businesses	8,369	—	—
Proceeds from sale of property, plant and equipment and other assets	120	135	153
Other, net	3	53	12
Net cash provided by (used in) investing activities	5,476	(2,712)	(3,564)
FINANCING ACTIVITIES			
Net proceeds from issuance of long-term debt	—	1,881	4,361
Payments of long-term debt	(8,093)	(3,598)	(7,315)
Net (payments of) proceeds from revolving line of credit	(200)	50	(100)
Dividends paid	(780)	(1,087)	(1,109)
Repurchases of common stock	(200)	(1,000)	—
Other, net	(40)	(53)	(87)
Net cash used in financing activities	(9,313)	(3,807)	(4,250)
Net increase (decrease) in cash, cash equivalents and restricted cash	898	(18)	(1,290)
Cash, cash equivalents and restricted cash at beginning of period	409	427	1,717
Cash, cash equivalents and restricted cash at end of period	$ 1,307	409	427
Supplemental cash flow information:			
Income taxes (paid) refunded, net	$ (76)	(112)	28
Interest paid (net of capitalized interest of $66, $53 and $75)	$ (1,365)	(1,487)	(1,627)
Supplemental non-cash information regarding investing activities:			
Sale of property, plant and equipment in exchange for note receivable	—	56	—
Supplemental non-cash information regarding financing activities:			
Purchase of software subscription in exchange for installment debt	—	77	—
Cash, cash equivalents and restricted cash:			
Cash and cash equivalents	$ 1,251	354	406
Cash and cash equivalents and restricted cash included in Assets held for sale	44	40	—
Restricted cash included in Other current assets	—	2	3
Restricted cash included in Other, net noncurrent assets	12	13	18
Total	$ 1,307	409	427

See accompanying notes to consolidated financial statements.

Lumen Technologies, Inc.
Consolidated Statements of Stockholders' Equity

	Years Ended December 31,		
	2022	2021	2020
	(Dollars in millions except per share amounts)		
COMMON STOCK			
Balance at beginning of period	$ 1,024	1,097	1,090
Issuance of common stock through dividend reinvestment, incentive and benefit plans	11	8	7
Repurchases of common stock	(33)	(81)	—
Balance at end of period	1,002	1,024	1,097
ADDITIONAL PAID-IN CAPITAL			
Balance at beginning of period	18,972	20,909	21,874
Repurchases of common stock	(167)	(919)	—
Shares withheld to satisfy tax withholdings	(30)	(45)	(40)
Stock-based compensation and other, net	96	122	187
Dividends declared	(791)	(1,095)	(1,112)
Balance at end of period	18,080	18,972	20,909
ACCUMULATED OTHER COMPREHENSIVE LOSS			
Balance at beginning of period	(2,158)	(2,813)	(2,680)
Other comprehensive income (loss)	1,059	655	(133)
Balance at end of period	(1,099)	(2,158)	(2,813)
ACCUMULATED DEFICIT			
Balance at beginning of period	(5,998)	(8,031)	(6,814)
Net (loss) income	(1,548)	2,033	(1,232)
Cumulative effect of adoption of ASU 2016-13, Measurement of Credit Losses, net of $(2) tax	—	—	9
Other	—	—	6
Balance at end of period	(7,546)	(5,998)	(8,031)
TOTAL STOCKHOLDERS' EQUITY	$ 10,437	11,840	11,162
DIVIDENDS DECLARED PER COMMON SHARE	$ 0.75	1.00	1.00

See accompanying notes to consolidated financial statements.

Lumen Technologies, Inc.
Notes to Consolidated Financial Statements

References in the Notes to "Lumen Technologies" or "Lumen," "we," "us," the "Company," and "our" refer to Lumen Technologies, Inc. and its consolidated subsidiaries, unless the context otherwise requires. References in the Notes to "Level 3" refer to Level 3 Parent, LLC and its predecessor, Level 3 Communications, Inc., which we acquired on November 1, 2017.

(1) Background and Summary of Significant Accounting Policies

General

We are an international facilities-based technology and communications company engaged primarily in providing a broad array of integrated products and services to our business and mass markets customers. Our specific products and services are detailed in Note 4—Revenue Recognition.

Basis of Presentation

The accompanying consolidated financial statements include our accounts and the accounts of our subsidiaries in which we have a controlling interest. Intercompany amounts and transactions with our consolidated subsidiaries have been eliminated.

To simplify the overall presentation of our consolidated financial statements, we report immaterial amounts attributable to noncontrolling interests in certain of our subsidiaries as follows: (i) income attributable to noncontrolling interests in other income (expense), net, (ii) equity attributable to noncontrolling interests in additional paid-in capital and (iii) cash flows attributable to noncontrolling interests in other, net financing activities.

We reclassified certain prior period amounts to conform to the current period presentation, including the recategorization of our Mass Markets revenue by product category in our segment reporting for 2022, 2021 and 2020. See Note 17—Segment Information for additional information. These changes had no impact on total operating revenue, total operating expenses or net (loss) income for any period.

Operating Expenses

Our current definitions of operating expenses are as follows:

- *Cost of services and products (exclusive of depreciation and amortization)* are expenses incurred in providing products and services to our customers. These expenses include: employee-related expenses directly attributable to operating and maintaining our network (such as salaries, wages, benefits and professional fees); facilities expenses (which include third-party telecommunications expenses we incur for using other carriers' networks to provide services to our customers); rents and utilities expenses; equipment sales expenses (such as data integration and modem expenses); and other expenses directly related to our operations; and
- *Selling, general and administrative expenses* are corporate overhead and other operating expenses. These expenses include: employee-related expenses (such as salaries, wages, internal commissions, benefits and professional fees) directly attributable to selling products or services and employee-related expenses for administrative functions; marketing and advertising; property and other operating taxes and fees; external commissions; litigation expenses associated with general matters; bad debt expense; and other selling, general and administrative expenses.

These expense classifications may not be comparable to those of other companies.

Summary of Significant Accounting Policies

Use of Estimates

Our consolidated financial statements are prepared in accordance with U.S. generally accepted accounting principles. These accounting principles require us to make certain estimates, judgments and assumptions. We believe that the estimates, judgments and assumptions we make when accounting for specific items and matters are reasonable, based on information available at the time they are made. These estimates, judgments and assumptions can materially affect the reported amounts of assets, liabilities and components of stockholders' equity as of the dates of the consolidated balance sheets, as well as the reported amounts of revenue, expenses and components of cash flows during the periods presented in our other consolidated financial statements. We also make estimates in our assessments of potential losses in relation to threatened or pending tax and legal

matters. See Note 16—Income Taxes and Note 18—Commitments, Contingencies and Other Items for additional information.

For matters not related to income taxes, if a loss contingency is considered probable and the amount can be reasonably estimated, we recognize an expense for the estimated loss. If we have the potential to recover a portion of the estimated loss from a third party, we make a separate assessment of recoverability and reduce the estimated loss if recovery is also deemed probable.

For matters related to income taxes, if we determine that the impact of an uncertain tax position is more likely than not to be sustained upon audit by the relevant taxing authority, then we recognize a benefit for the largest amount that is more likely than not to be sustained. No portion of an uncertain tax position will be recognized if the position has less than a 50% likelihood of being sustained. Interest is recognized on the amount of unrecognized benefit from uncertain tax positions.

For all of these and other matters, actual results could differ materially from our estimates.

Assets Held for Sale

We classify assets and related liabilities as held for sale when: (i) management has committed to a plan to sell the assets, (ii) the net assets are available for immediate sale, (iii) there is an active program to locate a buyer and (iv) the sale and transfer of the net assets is probable within one year. Assets and liabilities held for sale are presented separately on our consolidated balance sheets with a valuation allowance, if necessary, to recognize the net carrying amount at the lower of cost or fair value, less costs to sell. Depreciation of property, plant and equipment and amortization of finite-lived intangible assets and right-of-use assets are not recorded while these assets are classified as held for sale. For each period that assets are classified as being held for sale, they are tested for recoverability. Unless otherwise specified, the amounts and information presented in the notes do not include assets and liabilities that have been classified as held for sale as of December 31, 2022. See Note 2—Divestitures of the Latin American and ILEC Businesses and Planned Divestiture of the EMEA Business for additional information.

Revenue Recognition

We earn most of our consolidated revenue from contracts with customers, primarily through the provision of communications and other services. Revenue from contracts with customers is accounted for under Accounting Standards Codification ("ASC") 606. We also earn revenue from leasing arrangements (primarily fiber capacity and colocation agreements) and governmental subsidy payments, which are not accounted for under ASC 606.

Revenue is recognized when control of the promised goods or services is transferred to our customers, in an amount that reflects the consideration we expect to be entitled to receive in exchange for those goods or services. Revenue is recognized based on the following five-step model:

- Identification of the contract with a customer;
- Identification of the performance obligations in the contract;
- Determination of the transaction price;
- Allocation of the transaction price to the performance obligations in the contract; and
- Recognition of revenue when, or as, we satisfy a performance obligation.

We provide an array of communications services to business and residential customers, including local voice, VPN, Ethernet, data, broadband, private line (including special access), network access, transport, voice, information technology, video and other ancillary services. We provide these services to a wide range of businesses, including global, enterprise, wholesale, government, and small and medium business customers. Certain contracts also include the sale of equipment, which is not significant to our business.

We recognize revenue for services when we provide the applicable service or when control of a product is transferred. Recognition of certain payments received in advance of services being provided is deferred. These advance payments may include certain activation and certain installation charges. If the activation and installation charges are not separate performance obligations, we recognize them as revenue over the actual or expected contract term using historical experience, which typically ranges from one to five years depending on the service. In most cases, termination fees or other fees on existing contracts that are negotiated in conjunction with new contracts are deferred and recognized over the new contract term.

For access services, we generally bill fixed monthly charges one month in advance to customers and recognize revenue as service is provided over the contract term in alignment with the customer's receipt of service. For usage and other ancillary services, we generally bill in arrears and recognize revenue as usage or delivery

occurs. In most cases, the amount invoiced for our service offerings constitutes the price that would be billed on a standalone basis.

In certain cases, customers may be permitted to modify their contracts. We evaluate the change in scope or price to identify whether the modification should be treated as a separate contract, whether the modification is a termination of the existing contract and creation of a new contract, or if it is a change to the existing contract.

Customer contracts are evaluated to determine whether the performance obligations are separable. If the performance obligations are deemed separable and separate earnings processes exist, the total transaction price that we expect to receive with the customer is allocated to each performance obligation based on its relative standalone selling price. The revenue associated with each performance obligation is then recognized as earned.

We periodically sell transmission capacity on our network. These transactions are generally structured as indefeasible rights of use, commonly referred to as IRUs, which are the exclusive right to use a specified amount of capacity or fiber for a specified term, typically 20 years. In most cases, we account for the cash consideration received on transfers of transmission capacity as ASC 606 revenue which is adjusted for the time value of money and is recognized ratably over the term of the agreement. Cash consideration received on transfers of dark fiber is accounted for as non-ASC 606 lease revenue, which we also recognize ratably over the term of the agreement. We do not recognize revenue on any contemporaneous exchanges of our transmission capacity assets for other non-owned transmission capacity assets.

In connection with offering products and services provided to the end user by third-party vendors, we review the relationship between us, the vendor and the end user to assess whether revenue should be reported on a gross or net basis. In assessing whether revenue should be reported on a gross or net basis, we consider whether we act as a principal in the transaction and control the goods and services used to fulfill the performance obligations associated with the transaction.

We have service level commitments pursuant to contracts with certain of our customers. To the extent that we determine that such service levels were not achieved or may not have been achieved, we estimate the amount of credits to be issued and record a corresponding reduction to revenue in the period that the service level commitment was not met or may not be met.

Customer payments are made based on billing schedules included in our customer contracts, which is typically on a monthly basis.

We defer (or capitalize) incremental contract acquisition and fulfillment costs and recognize (or amortize) such costs over the average contract life. Our deferred contract costs for our customers have average amortization periods of approximately 32 months for mass markets customers and 30 months for business customers. These deferred costs are periodically monitored to reflect any significant change in assumptions.

See Note 4—Revenue Recognition for additional information.

Advertising Costs
Costs related to advertising are expensed as incurred and included in selling, general and administrative expenses in our consolidated statements of operations. Our advertising expense was $62 million, $56 million and $56 million for the years ended December 31, 2022, 2021 and 2020, respectively.

Legal Costs
In the normal course of our business, we incur costs to hire and retain external legal counsel to advise us on regulatory, litigation and other matters. Subject to certain exceptions, we expense these costs as the related services are received.

Income Taxes
We file a consolidated federal income tax return with our eligible subsidiaries. The provision for income taxes reflects taxes currently payable, tax consequences deferred to future periods and adjustments to our liabilities for uncertain tax positions. We record deferred income tax assets and liabilities reflecting future tax consequences attributable to tax net operating loss carryforwards ("NOLs"), tax credit carryforwards and differences between the financial statement carrying value of assets and liabilities and the tax basis of those assets and liabilities. Deferred taxes are computed using enacted tax rates expected to apply in the year in which the differences are expected to affect taxable income. The effect on deferred income tax assets and liabilities of a change in tax rate is recognized in earnings in the period that includes the enactment date.

We establish valuation allowances when necessary to reduce deferred income tax assets to the amounts that we believe are more likely than not to be recovered. Each quarter we evaluate the need to retain or adjust each valuation allowance on our deferred tax assets. See Note 16—Income Taxes for additional information.

Cash and Cash Equivalents

Cash and cash equivalents include highly liquid investments that are readily convertible into cash and are not subject to significant risk from fluctuations in interest rates. As a result, the value at which cash and cash equivalents are reported in our consolidated financial statements approximates their fair value. In evaluating investments for classification as cash equivalents, we require that individual securities have original maturities of ninety days or less and that individual investment funds have dollar-weighted average maturities of ninety days or less. To preserve capital and maintain liquidity, we invest with financial institutions we deem to be of sound financial condition and in high quality and relatively risk-free investment products. Our cash investment policy limits the concentration of investments with specific financial institutions or among certain products and includes criteria related to credit worthiness of any particular financial institution.

Book overdrafts occur when we have issued checks but they have not yet been presented to our controlled disbursement bank accounts for payment. Disbursement bank accounts allow us to delay funding of issued checks until the checks are presented for payment. Until the issued checks are presented for payment, the book overdrafts are included in accounts payable on our consolidated balance sheets. This activity is included in the operating activities section in our consolidated statements of cash flows. There were no book overdrafts included in accounts payable at December 31, 2022 or 2021.

Restricted Cash

Restricted cash consists primarily of cash and investments that collateralize our outstanding letters of credit and certain performance and operating obligations. Restricted cash and securities are recorded as current or non-current assets in the consolidated balance sheets depending on the duration of the restriction and the purpose for which the restriction exists. Restricted securities are stated at cost which approximated their fair value as of December 31, 2022 and 2021.

Accounts Receivable and Allowance for Credit Losses

Accounts receivable are recognized based upon the amount due from customers for the services provided or at cost for purchased and other receivables, less an allowance for credit losses. We use a loss rate method to estimate our allowance for credit losses. For more information on our methodology for estimating our allowance for credit losses, see Note 6—Credit Losses on Financial Instruments.

We generally consider our accounts past due if they are outstanding over 30 days. Our past due accounts are written off against our allowance for credit losses when collection is considered to be not probable. Any recoveries of accounts previously written off are generally recognized as a reduction in bad debt expense in the period received. The carrying value of accounts receivable net of the allowance for credit losses approximates fair value. Accounts receivable balances acquired in a business combination are recorded at fair value for all balances receivable at the acquisition date and at the invoiced amount for those amounts invoiced after the acquisition date.

Property, Plant and Equipment

We record property, plant and equipment acquired in connection with our acquisitions based on its estimated fair value as of its acquisition date plus the estimated value of any associated legally or contractually required retirement obligations. We record purchased and constructed property, plant and equipment at cost, plus the estimated value of any associated legally or contractually required retirement obligations. We depreciate the majority of our property, plant and equipment using the straight-line group method over the estimated useful lives of groups of assets, but depreciate certain of our assets using the straight-line method over the estimated useful lives of the specific asset. Under the straight-line group method, assets dedicated to providing telecommunications services (which comprise the majority of our property, plant and equipment) that have similar physical characteristics, use and expected useful lives are pooled for purposes of depreciation and tracking. The equal life group procedure is used to establish each pool's average remaining useful life. Generally, under the straight-line group method, when an asset is sold or retired in the course of normal business activities, the cost is deducted from property, plant and equipment and charged to accumulated depreciation without recognition of a gain or loss. A gain or loss is recognized in our consolidated statements of operations only if a disposal is unusual. Leasehold improvements are amortized over the shorter of the useful lives of the assets or the expected lease term. Expenditures for maintenance and repairs are expensed as incurred. During the construction phase of network and other internal-use capital projects, we capitalize related employee and

interest costs. Property, plant and equipment supplies used internally are carried at average cost, except for significant individual items which are carried at actual cost.

We perform annual internal reviews to evaluate the reasonableness of the depreciable lives for our property, plant and equipment. Our reviews utilize models that take into account actual usage, physical wear and tear, replacement history, assumptions about technology evolution and, in certain instances, actuarially determined probabilities to estimate the remaining useful life of our asset base. Our remaining useful life assessments evaluate the possible loss in service value of assets that may precede the physical retirement. Assets shared among many customers may lose service value as those customers reduce their use of the asset. However, the asset is not retired until all customers no longer utilize the asset and we determine there is no alternative use for the asset.

We have asset retirement obligations associated with the legally or contractually required removal of a limited group of property, plant and equipment assets from leased properties and the disposal of certain hazardous materials present in our owned properties. When an asset retirement obligation is identified, usually in association with the acquisition of the asset, we record the fair value of the obligation as a liability. The fair value of the obligation is also capitalized as property, plant and equipment and then amortized over the estimated remaining useful life of the associated asset. Where the removal obligation is not legally binding, the net cost to remove assets is expensed in the period in which the costs are actually incurred.

We review long-lived tangible assets for impairment whenever facts and circumstances indicate that the carrying amounts of the assets may not be recoverable. For assessment purposes, long-lived assets are grouped with other assets and liabilities at the lowest identifiable level for which we generate cash flows independently of other groups of assets and liabilities, absent a material change in operations. An impairment loss is recognized only if the carrying amount of the asset group is not recoverable and exceeds its estimated fair value. Recoverability of the asset group to be held and used is assessed by comparing the carrying amount of the asset group to the estimated undiscounted future net cash flows expected to be generated by the asset group. If the asset group's carrying value is not recoverable, we recognize an impairment charge for the amount by which the carrying amount of the asset group exceeds its estimated fair value.

Goodwill, Customer Relationships and Other Intangible Assets
Intangible assets arising from business combinations, such as goodwill, customer relationships, capitalized software, trademarks and trade names, are initially recorded at estimated fair value. We amortize customer relationships primarily over an estimated life of 7 to 14 years, using the straight-line method, depending on the type of customer. Certain customer relationship intangible assets became fully amortized at the end of the first quarter 2021 using the sum-of-years-digits method, which is no longer used for any of our remaining intangible assets. We amortize capitalized software using the straight-line method primarily over estimated lives ranging up to 7 years. We amortize our other intangible assets using the straight-line method over an estimated life of 9 to 20 years. Other intangible assets not arising from business combinations are initially recorded at cost. Where there are no legal, regulatory, contractual or other factors that would reasonably limit the useful life of an intangible asset, we classify the intangible asset as indefinite-lived and such intangible assets are not amortized.

Internally used software, whether purchased or developed by us, is capitalized and amortized using the straight-line method over its estimated useful life. We have capitalized certain costs associated with software such as costs of employees devoted to software development and external direct costs for materials and services. Costs associated with software to be used for internal purposes are expensed until the point at which the project has reached the development stage. Subsequent additions, modifications or upgrades to internal-use software are capitalized only to the extent that they allow the software to perform a task it previously did not perform. Software maintenance, data conversion and training costs are expensed in the period in which they are incurred. We review the remaining economic lives of our capitalized software annually. Capitalized software is included in other intangible assets, net, in our consolidated balance sheets.

Our long-lived intangible assets, other than goodwill, with indefinite lives are assessed for impairment annually, or, under certain circumstances, more frequently, such as when events or changes in circumstances indicate there may be an impairment. These assets are carried at the estimated fair value at the time of acquisition and assets not acquired in acquisitions are recorded at historical cost. However, if their estimated fair value is less than the carrying amount, we recognize an impairment charge for the amount by which the carrying amount of these assets exceeds their estimated fair value.

We are required to assess our goodwill for impairment annually, or more frequently if an event occurs or circumstances change that indicates it is more likely than not the fair values of any of our reporting units were less than their carrying values. We are required to write-down the value of goodwill of our reporting units in periods in which the recorded carrying value of any such unit exceeds its fair value of equity. Our reporting units are not discrete legal entities with discrete full financial statements. Therefore, the equity carrying value and future cash flows are assessed each time a goodwill impairment assessment is performed on a reporting unit. To do so, we assign our assets, liabilities and cash flows to reporting units using allocation methodologies which we believe are reasonable and consistent. This process entails various estimates, judgments and assumptions.

We are required to reassign goodwill to reporting units whenever reorganizations of our internal reporting structure changes the composition of our reporting units. Goodwill is reassigned to the reporting units using a relative fair value approach. When the fair value of a reporting unit is available, we allocate goodwill based on the relative fair value of the reporting units. When fair value is not available, we utilize an alternative allocation methodology that we believe represents a reasonable approximation of the fair value of the operations being reorganized.

For more information, see Note 3—Goodwill, Customer Relationships and Other Intangible Assets.

Derivatives and Hedging

From time to time we have used derivative instruments to hedge exposure to interest rate risks arising from fluctuation in interest rates. We account for derivative instruments in accordance with ASC 815, *Derivatives and Hedging*, which establishes accounting and reporting standards for derivative instruments. We do not use derivative financial instruments for speculative purposes.

Derivatives are recognized in the consolidated balance sheets at their fair values. When we become a party to a derivative instrument and intend to apply hedge accounting, we formally document the hedge relationship and the risk management objective for undertaking the hedge, which includes designating the instrument for financial reporting purposes as a fair value hedge, a cash flow hedge, or a net investment hedge.

As of December 31, 2022, we held no swap agreements since all of our variable-to-fixed interest rate swap agreements in place at the beginning of the year expired during the first half of 2022. While we held these agreements, we evaluated the effectiveness as described in Note 15—Derivative Financial Instruments (designated as cash-flow hedges) qualitatively on a quarterly basis. The change in the fair value of the interest rate swaps was reflected in accumulated other comprehensive loss and subsequently reclassified into earnings in the period the hedged transaction affects earnings, by virtue of qualifying as effective cash flow hedges. For more information see Note 15—Derivative Financial Instruments.

Pension and Post-Retirement Benefits

We recognize the funded status of our defined benefit and post-retirement plans as an asset or a liability on our consolidated balance sheets. Each year's actuarial gains or losses are a component of our other comprehensive income (loss), which is then included in our accumulated other comprehensive loss. Pension and post-retirement benefit expenses are recognized over the period in which the employee renders service and becomes eligible to receive benefits. We make significant assumptions (including the discount rate, expected rate of return on plan assets, mortality and health care trend rates) in computing the pension and post-retirement benefits expense and obligations. See Note 11—Employee Benefits for additional information.

Foreign Currency

Local currencies of our foreign subsidiaries are the functional currencies for financial reporting purposes except for certain foreign subsidiaries, primarily in Latin America prior to the August 1, 2022 sale of our Latin American business. For operations outside the United States that have functional currencies other than the U.S. dollar, assets and liabilities are translated to U.S. dollars at period-end exchange rates, and revenue, expenses and cash flows are translated using average monthly exchange rates. A significant portion of our non-United States subsidiaries use either the British pound or the Euro, or used, prior to the August 1, 2022 sale of our Latin American business, the Brazilian Real, as their functional currency, each of which experienced significant fluctuations against the U.S. dollar during the years ended December 31, 2022, 2021 and 2020. We recognize foreign currency translation gains and losses as a component of accumulated other comprehensive loss in stockholders' equity and in our consolidated statements of comprehensive (loss) income in accordance with accounting guidance for foreign currency translation. Prior to the announcement of our divestitures as discussed in Note 2—Divestitures of the Latin American and ILEC Businesses and Planned Divestiture of the EMEA Business, we considered the majority of our investments in our foreign subsidiaries to be long-term in nature. Our foreign currency transaction gains (losses), including where transactions with our non-United States subsidiaries are not considered to be long-term in nature, are included within other income (expense), net on

our consolidated statements of operations. See the description of our Assets Held for Sale policy above for more information on assets in foreign subsidiaries to be divested.

Common Stock
As of December 31, 2022, we had 19 million shares authorized for future issuance under our equity incentive plans.

Preferred Stock
Holders of outstanding Lumen Technologies preferred stock are entitled to receive cumulative dividends, receive preferential distributions equal to $25 per share plus unpaid dividends upon Lumen's liquidation and vote as a single class with the holders of common stock.

Section 382 Rights Plan
We maintain a Section 382 Rights Plan to protect our U.S. federal net operating loss carryforwards from certain Internal Revenue Code Section 382 limitations. Under the plan, one preferred stock purchase right was distributed for each share of our outstanding common stock as of the close of business on February 25, 2019, and those rights currently trade in tandem with the common stock until they expire or detach under the plan. This plan was designed to deter trading that would result in a change of control (as defined in Code Section 382), and therefore protect our ability to use our historical federal NOLs in the future. The plan is scheduled to lapse in late 2023.

Dividends
The declaration and payment of dividends is at the discretion of our Board of Directors. On November 2, 2022, we announced that our Board had terminated our quarterly cash dividend program. Under this revised capital allocation policy, the company plans to continue to invest in growth initiatives.

Recently Adopted Accounting Pronouncements

During 2022, we adopted Accounting Standards Update ("ASU") 2021-10, "*Government Assistance (Topic 832): Disclosures by Business Entities about Government Assistance*" (“ASU 2021-10”) and ASU 2021-05, “*Leases (Topic 842): Lessors—Certain Leases with Variable Lease Payments*” (“ASU 2021-05”). During 2021, we adopted ASU 2020-09, "*Debt (Topic 470) Amendments to SEC Paragraphs Pursuant to SEC Release No. 33-10762*" ("ASU 2020-09"), ASU 2020-01, "*Investments - Equity Securities (Topic 321), Investments - Equity Method and Joint Ventures (Topic 323), and Derivatives and Hedging (Topic 815) - Clarifying the Interactions between Topic 321, Topic 323, and Topic 815)*" ("ASU 2020-01"), and ASU 2019-12, "*Simplifying the Accounting for Income Taxes (Topic 740)*" ("ASU 2019-12"). During 2020, we adopted ASU 2016-13, "*Measurement of Credit Losses on Financial Instruments*" ("ASU 2016-13").

Each of these is described further below.

Government Assistance
On January 1, 2022, we adopted ASU 2021-10. This ASU requires business entities to disclose information about certain types of government assistance they receive. Please refer to Note 4—Revenue Recognition for more information.

Leases
On January 1, 2022, we adopted ASU 2021-05. This ASU (i) amends the lease classification requirements for lessors to align them with practice under ASC Topic 840, (ii) provides criteria for lessors to classify and account for a lease with variable lease payments that do not depend on a reference index or a rate as an operating lease; and (iii) provides guidance with respect to net investments by lessors under operating leases and other related topics. The adoption of ASU 2021-05 did not have a material impact to our consolidated financial statements.

Debt
On January 1, 2021, we adopted ASU 2020-09. This ASU amends and supersedes various SEC guidance to reflect SEC Release No. 33-10762, which includes amendments to the financial disclosure requirements applicable to registered debt offerings that include credit enhancements, such as subsidiary guarantees. The adoption of ASU 2020-09 did not have a material impact to our consolidated financial statements.

Investments
On January 1, 2021, we adopted ASU 2020-01. This ASU, among other things, clarifies that a company should consider observable transactions that require a company to either apply or discontinue the equity method of accounting under Topic 323, Investments - Equity Method and Joint Ventures, for the purposes of applying the measurement alternative in accordance with Topic 321 immediately before applying or upon discontinuing the equity method. As of December 31, 2022, we determined there was no application or discontinuation of the equity method during the reporting periods covered in our Annual Report on Form 10-K for the year ended December 31, 2022. The adoption of ASU 2020-01 did not have a material impact to our consolidated financial statements.

Income Taxes
On January 1, 2021, we adopted ASU 2019-12. This ASU removes certain exceptions for investments, intra-period allocations and interim calculations, and adds guidance to reduce complexity in accounting for income taxes. The adoption of ASU 2019-12 did not have a material impact to our consolidated financial statements.

Measurement of Credit Losses on Financial Instruments
We adopted ASU 2016-13 on January 1, 2020 and recognized a cumulative adjustment to our accumulated deficit as of the date of adoption of $9 million, net of tax effect of $2 million. Please refer to Note 6—Credit Losses on Financial Instruments for more information.

Recently Issued Accounting Pronouncements

In December 2022, the Financial Accounting Standards Board ("FASB") issued ASU 2022-06, "*Reference Rate Reform (Topic 848) – Deferral of the Sunset Date of Topic 848*" ("ASU 2022-06"). These amendments extend the period of time preparers can utilize the reference rate reform relief guidance in Topic 848, which defers the sunset date from December 31, 2022, to December 31, 2024, after which entities will no longer be permitted to apply the relief in Topic 848. ASU 2022-06 is effective upon issuance. Based on our review of our key material contracts through December 31, 2022, ASU 2022-06 does not have a material impact to our consolidated financial statements.

In September 2022, the FASB issued ASU 2022-04, *"Liabilities-Supplier Finance Program (Subtopic 405-50): Disclosure of Supplier Finance Program Obligations*" ("ASU 2022-04"). These amendments require that a company that uses a supplier finance program in connection with the purchase of goods or services disclose sufficient information about the program to allow a user of financial statements to understand the program's nature, program activity during the period, changes from period to period and potential magnitude of program transactions. ASU 2022-04 will become effective for us in the first quarter of fiscal 2023. As of December 31, 2022, we are reviewing our supplier finance agreements to determine the impact to disclosures in our consolidated financial statements.

In June 2022, the FASB issued ASU 2022-03, "*Fair Value Measurement (Topic 820): Fair Value Measurement of Equity Securities Subject to Contractual Sale Restrictions*" ("ASU 2022-03"). These amendments clarify that a contractual restriction on the sales of an investment in equity security is not considered part of the unit of account of the equity security and, therefore, is not considered in measuring fair value. ASU 2022-03 will become effective for us in the first quarter of fiscal 2023 and early adoption is permitted. As of December 31, 2022, we do not expect ASU 2022-03 to have an impact to our consolidated financial statements.

In March 2022, the FASB issued ASU 2022-02, "*Financial Instruments-Credit Losses (Topic 326): Troubled Debt Restructurings ("TDR") and Vintage Disclosures*" ("ASU 2022-02"). These amendments eliminate the TDR recognition and measurement guidance, enhance existing disclosure requirements and introduce new requirements related to certain modifications of receivables made to borrowers experiencing financial difficulty. ASU 2022-02 will become effective for us in the first quarter of fiscal 2023 and early adoption is permitted. As of December 31, 2022, we do not expect ASU 2022-02 to have an impact to our consolidated financial statements.

In March 2022, the FASB issued ASU 2022-01, "*Derivatives and Hedging (Topic 815): Fair Value Hedging-Portfolio Layer Method*" ("ASU 2022-01"). The ASU expands the current single-layer method to allow multiple hedged layers of a single closed portfolio under the method. ASU 2022-01 will become effective for us in the first quarter of fiscal 2023 and early adoption is permitted. As of December 31, 2022, we do not expect ASU 2022-01 to have an impact to our consolidated financial statements.

In October 2021, the FASB issued ASU 2021-08, "*Business Combinations (Topic 805): Accounting for Contract Assets and Contract Liabilities from Contracts with Customers*" ("ASU 2021-08"), which requires entities to apply Topic 606 to recognize and measure contract assets and contract liabilities in a business combination. ASU 2021-08 will become effective for us in the first quarter of fiscal 2023 and early adoption is permitted. As of December 31, 2022, we do not expect ASU 2021-08 to have an impact to our consolidated financial statements.

In January 2021, the FASB issued ASU 2021-01, "*Reference Rate Reform (Topic 848): Scope*" ("ASU 2021-01"), which clarifies that certain optional expedients and exceptions in Topic 848 for contract modifications and hedge accounting apply to derivatives that are affected by the discounting transition. ASU 2021-01 also amends the expedients and exceptions in Topic 848 to capture the incremental consequences of the scope clarification and to tailor the existing guidance to derivative instruments affected by the discounting transition. These amendments may be applied prospectively to contract modifications made and hedging relationships entered into or evaluated on or before December 31, 2022. ASU 2021-01 provides optional expedients for a limited time to ease the potential burden in accounting for reference rate reform. Based on our review of our key material contracts through December 31, 2022, ASU 2021-01 will not have a material impact to our consolidated financial statements.

In March 2020, the FASB issued ASU 2020-04, "*Reference Rate Reform (Topic 848): Facilitation of the Effects of Reference Rate Reform on Financial Reporting*" ("ASU 2020-04" or "Reference Rate Reform"), designed to ease the burden of accounting for contract modifications related to the global market-wide reference rate transition period. Subject to certain criteria, ASU 2020-04 provides qualifying entities the option to apply expedients and exceptions to contract modifications and hedging accounting relationships made until December 31, 2022. 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. ASU 2020-04 provides optional guidance for a limited time to ease the potential burden in accounting for reference rate reform. Based on our review of our key material contracts through December 31, 2022, we do not expect ASU 2020-04 to have a material impact on the consolidated financial statements.

(2) Divestitures of the Latin American and ILEC Businesses and Planned Divestiture of the EMEA Business

Latin American Business

On August 1, 2022, affiliates of Level 3 Parent, LLC, an indirect wholly-owned subsidiary of Lumen Technologies, Inc., sold Lumen's Latin American business pursuant to a definitive agreement dated July 25, 2021, for pre-tax cash proceeds of approximately $2.7 billion.

For the year ended December 31, 2022, we recorded a $597 million net pre-tax gain on disposal associated with the sale of our Latin American business. This gain is reflected as operating income within the consolidated statements of operations.

In connection with the sale, we entered into a transition services agreement under which we provide the purchaser various support services. In addition, Lumen and the purchaser entered into commercial agreements whereby they provide each other various network and other commercial services. In addition, we agreed to indemnify the purchaser for certain matters for which future cash payments by Lumen could be required. Lumen has estimated the fair value of these indemnifications to be $86 million, which is included in other long-term liabilities in our consolidated balance sheet and has reduced our gain on the sale accordingly.

The Latin American business was included in our continuing operations and classified as assets and liabilities held for sale on our consolidated balance sheets through the closing of the transaction on August 1, 2022. As a result of closing the transaction, we derecognized net assets of $1.9 billion, primarily made up of (i) property, plant and equipment, net of accumulated depreciation, of $1.7 billion, (ii) goodwill of $245 million, (iii) other intangible assets, net of accumulated amortization, of $140 million, and (iv) deferred income tax liabilities, net, of $154 million. In addition, we reclassified $112 million of realized loss on foreign currency translation, net of tax, to partially offset the gain on sale of our Latin American business.

ILEC Business

On October 3, 2022, we and certain of our affiliates sold the portion of our incumbent local exchange ("ILEC") business primarily conducted within 20 Midwestern and Southeastern states to affiliates of funds advised by Apollo Global Management, Inc. In exchange, we received $7.5 billion of consideration, which was reduced by approximately $0.4 billion of closing adjustments and partially paid through purchaser's assumption of approximately $1.5 billion of our long-term consolidated indebtedness, resulting in pre-tax cash proceeds of approximately $5.6 billion, subject to certain post-closing adjustments and indemnities.

For the year ended December 31, 2022, we recorded a $176 million net pre-tax gain on disposal associated with the sale of our ILEC business. This gain is reflected as operating income within the consolidated statements of operations.

In connection with the sale, we have entered into a transition services agreement under which we provide the purchaser various support services. In addition, Lumen and the purchaser entered into commercial agreements whereby they provide each other various network and other commercial services. Under these agreements, we have committed to ordering services of approximately $373 million from the purchaser over a period of three years and the purchaser has committed to ordering services of approximately $67 million from us over a period of three years. We also agreed to indemnify the purchaser for certain matters for which future cash payments by Lumen are expected. Lumen has estimated the fair value of these indemnifications to be $89 million, which is included in other current liabilities in our consolidated balance sheet and has increased our income tax expense accordingly.

The ILEC business was included in our continuing operations and classified as assets and liabilities held for sale on our consolidated balance sheets through the closing of the transaction on October 3, 2022. As a result of closing the transaction, we derecognized net assets of $4.8 billion, primarily made up of (i) property, plant and equipment, net of accumulated depreciation, of $3.6 billion, (ii) goodwill of $2.6 billion and (iii) long-term debt, net of discounts, of $1.4 billion. In addition, we reclassified $403 million of net actuarial loss and prior service credit related to the Lumen Pension Plan, net of tax, conveyed to the purchaser to partially offset the gain on the sale of our ILEC business.

EMEA Business

On November 2, 2022, affiliates of Level 3 Parent, LLC, an indirect wholly-owned subsidiary of Lumen Technologies, Inc., granted an option to Colt Technology Services Group Limited, a portfolio company of Fidelity Investments, to purchase certain of their operations in Europe, the Middle East and Africa (the "EMEA business"), in exchange for $1.8 billion in cash, subject to certain working capital and other purchase price adjustments. Following the completion of a French consultative process, Colt exercised its option and on February 8, 2023, the parties entered into a definitive purchase agreement, which contains various customary covenants for transactions of this type including various indemnities. Level 3 Parent, LLC expects to close the transaction as early as late 2023, following receipt of all requisite regulatory approvals in the U.S. and certain countries where the EMEA business operates, as well as the satisfaction of other customary conditions.

The actual amount of our net after-tax proceeds from this divestiture could vary substantially from the amounts we currently estimate, particularly if we experience delays in completing the transaction or if any of our other assumptions prove to be incorrect.

We do not believe these divestiture transactions represent a strategic shift for Lumen. Therefore, neither of the divested businesses discussed above, nor the planned divestiture of the EMEA business meet the criteria to be classified as discontinued operations. As a result, we continued to report our operating results for the Latin American and ILEC businesses in our consolidated operating results through their respective disposal dates of August 1, 2022 and October 3, 2022, and we will continue to report our operating results for the EMEA business (the "disposal group") in our consolidated operating results until the transaction is closed.

As of December 31, 2022 in the accompanying consolidated balance sheet, the assets and liabilities of our EMEA business are classified as held for sale and measured at the lower of (i) the carrying value when we classified the disposal group as held for sale and (ii) the fair value of the disposal group, less costs to sell. Effective with the designation of the disposal group as held for sale on November 2, 2022, we suspended recording depreciation of property, plant and equipment and amortization of finite-lived intangible assets and right-of-use assets while these assets are classified as held for sale. We estimate that we would have recorded an additional $51 million of depreciation, intangible amortization, and amortization of right-of-use assets for the year ended December 31, 2022 if the EMEA business did not meet the held for sale criteria.

The classification of the EMEA business as held for sale was considered an event or change in circumstance which required an assessment of our goodwill for impairment. We performed a pre-classification and post-classification goodwill impairment test as described further in Note 3—Goodwill, Customer Relationships and Other Intangible Assets. As a result of our impairment tests, we determined the EMEA business disposal group was impaired resulting in a non-cash, non-tax-deductible goodwill impairment charge of $43 million. As a result of our evaluation of the recoverability of the carrying value of the assets and liabilities held for sale relative to the agreed upon sales price, adjusted for costs to sell, we recorded an estimated loss on disposal of $660 million during the year ended December 31, 2022 in the consolidated statement of operations and a valuation allowance included in assets held for sale on the consolidated balance sheet. We will perform this evaluation each reporting period until disposal and, based on subsequent remeasurements, we will adjust the valuation allowance in assets held for sale (including any gain, limited to the original value).

The principal components of the held for sale assets and liabilities of the EMEA business are as follows:

	December 31, 2022
	EMEA Business
	(Dollars in millions)
Assets held for sale	
Cash and cash equivalents	$ 43
Accounts receivable, less allowance of $5	76
Other current assets	59
Property, plant and equipment, net accumulated depreciation of $1,033	1,873
Goodwill[1]	—
Customer relationships and other intangibles, net	100
Operating lease assets	156
Valuation allowance on assets held for sale[2]	(660)
Deferred tax assets	138
Other non-current assets	38
Total assets held for sale	$ 1,823
Liabilities held for sale	
Accounts payable	$ 78
Salaries and benefits	23
Current portion of deferred revenue	28
Current operating lease liabilities	33
Other current liabilities	28
Deferred income taxes	38
Asset retirement obligations	30
Deferred revenue, non-current	85
Operating lease liabilities, non-current	103
Total liabilities held for sale	$ 446

1 The assignment of goodwill was based on the relative fair value of the applicable reporting unit prior to being classified as held for sale. Prior to classification as held for sale, the goodwill was fully impaired as described in Note 3—Goodwill, Customer Relationships and Other Intangible Assets.

2 Includes the impact of $365 million, primarily related to loss on foreign currency translation, expected to be reclassified out of accumulated other comprehensive loss upon close of the sale.

(3) Goodwill, Customer Relationships and Other Intangible Assets

Goodwill, customer relationships and other intangible assets consisted of the following:

	As of December 31,	
	2022[1]	2021[1]
	(Dollars in millions)	
Goodwill	$12,657	15,986
Indefinite-lived intangible assets	$ 9	9
Other intangible assets subject to amortization:		
Customer relationships, less accumulated amortization of $3,606 and $11,740[2]	4,574	5,365
Capitalized software, less accumulated amortization of $3,895 and $3,624	1,482	1,459
Trade names, patents and other, less accumulated amortization of $188 and $160	101	137
Total other intangible assets, net	$ 6,166	6,970

1 These values exclude assets classified as held for sale.

2 Certain customer relationships with a gross carrying value of $8.7 billion became fully amortized during 2021 and were retired during the first quarter of 2022.

As of December 31, 2022, the gross carrying amount of goodwill, customer relationships, indefinite-lived and other intangible assets was $26.5 billion.

Our goodwill was derived from numerous acquisitions where the purchase price exceeded the fair value of the net assets acquired.

We are required to assess our goodwill and other indefinite-lived intangible assets for impairment annually, or, under certain circumstances, more frequently, such as when events or changes in circumstances indicate there may be impairment. Our annual impairment assessment date for indefinite-lived intangible assets other than goodwill is December 31. We completed our qualitative assessment of our indefinite-lived intangible assets other than goodwill as of December 31, 2022 and 2021 and concluded it is more likely than not that our indefinite-lived intangible assets are not impaired; thus, no impairment charge for these assets was recorded in 2022 or 2021. We are required to write down the value of goodwill only when our assessment determines the carrying value of equity of any of our reporting units exceeds its fair value. Our annual impairment assessment date for goodwill is October 31, at which date we assess our reporting units.

We report our results within two segments: Business and Mass Markets. See Note 17—Segment Information for more information on these segments and the underlying sales channels. As of December 31, 2022, we had three reporting units for goodwill impairment testing, which are (i) Mass Markets, (ii) North America Business ("NA Business") and (iii) Asia Pacific ("APAC") region. Prior to the planned divestiture of the EMEA business, the EMEA region was also a reporting unit and was tested for impairment in the pre-classification test as of October 31, 2022 discussed below. Prior to its August 1, 2022 divestiture, the Latin American ("LATAM") region was also a reporting unit. At October 31, 2020 we used eight reporting units for goodwill impairment testing, which were consumer, small and medium business, enterprise, wholesale, North American global accounts ("NA GAM"), EMEA, LATAM and APAC.

Our reporting units are not discrete legal entities with discrete full financial statements. Our assets and liabilities are employed in and relate to the operations of multiple reporting units. For each reporting unit, we compare its estimated fair value of equity to its carrying value of equity that we assign to the reporting unit. If the estimated fair value of the reporting unit is greater than the carrying value, we conclude that no impairment exists. If the estimated fair value of the reporting unit is less than the carrying value, we record a non-cash impairment charge equal to the excess amount. Depending on the facts and circumstances, we typically estimate the fair value of our reporting units by considering either or both of (i) a discounted cash flow method, which is based on the present value of projected cash flows over a discrete projection period and a terminal value, which is based on the expected normalized cash flows of the reporting units following the discrete projection period, and (ii) a market approach, which includes the use of market multiples of publicly-traded companies whose services are comparable to ours.

2022 Goodwill Impairment Analyses

As of October 31, 2022, we estimated the fair value of our four above-mentioned reporting units by considering both a market approach and a discounted cash flow method. We discounted the projected cash flows for our Mass Markets, NA Business, EMEA and APAC reporting units using a rate that represented their weighted average cost of capital as of the assessment date, which comprised an after-tax cost of debt and a cost of equity, as disclosed in the table below. We utilized company comparisons and analyst reports within the telecommunications industry which at the time of assessment supported a range of fair values derived from annualized revenue and earnings before interest, taxes, depreciation and amortization ("EBITDA") multiples between 1.8x and 4.6x and 4.7x and 10.8x, respectively. We selected a revenue and EBITDA multiple for each of our reporting units, resulting in an overall company revenue and EBITDA multiple of 2.5x and 5.5x, respectively. We also reconciled the estimated fair values of the reporting units to our market capitalization as of October 31, 2022 and concluded that the indicated control premium of approximately 59% was reasonable based on recent market transactions, including our divestitures, and our depressed stock price. Due to the depressed trading price of our stock at October 31, 2022, and our assessment performed with respect to the reporting units described above, we concluded that the estimated fair value of our NA Business reporting unit was less than our carrying value of equity for that reporting unit, resulting in a non-cash, non-tax-deductible goodwill impairment charge of approximately $3.2 billion. See the goodwill rollforward by segment table below for the impairment charges by segment. As of October 31, 2022, the estimated fair value of equity exceeded the carrying value of equity for our Mass Markets, EMEA and APAC reporting units by 97%, 171% and 101%, respectively. Based on our assessments performed, we concluded that the goodwill assigned to our Mass Markets, EMEA and APAC reporting units was not impaired at October 31, 2022.

	As of October 31, 2022			
	Reporting Units			
	Mass Markets	NA Business	EMEA	APAC
Weighted average cost of capital	9.4%	9.4%	9.8%	11.3%
After-tax cost of debt	4.7%	4.7%	5.1%	6.3%
Cost of equity	14.0%	14.0%	14.4%	16.2%

The classification of held for sale related to the EMEA business as described in Note 2—Divestitures of the Latin American and ILEC Businesses and Planned Divestiture of the EMEA Business was considered an event or change in circumstance which required an assessment of our goodwill for impairment as of October 31, 2022. We performed a pre-announcement goodwill impairment test described above to determine whether there was an impairment prior to the classification of these assets as held for sale and to determine the November 2, 2022, fair values to be utilized for goodwill allocation regarding the disposal group to be classified as assets held for sale. We also performed a post-announcement goodwill impairment test using our estimated post-divestiture cash flows and carrying value of equity to evaluate whether the fair value of our NA Business, Mass Markets and APAC reporting units that will remain following the divestiture exceeds the carrying value of the equity of such reporting units after classification of assets held for sale. We concluded no impairment existed of our reporting units that remain following the divestiture.

Separate from the annual, pre-announcement and post-announcement goodwill assessments discussed above, we performed an assessment of our EMEA business disposal group for impairment using the purchase price compared to the carrying value of the EMEA business net assets. As a result, the EMEA business disposal group was impaired, resulting in a non-cash, non-tax-deductible goodwill impairment charge of $43 million. See Note 2—Divestitures of the Latin American and ILEC Businesses and Planned Divestiture of the EMEA Business for additional information regarding the purchase price, carrying value, and impairment for goodwill of the EMEA business. See the goodwill rollforward by segment table below for the impairment charges by segment.

2021 Goodwill Impairment Analyses

At October 31, 2021, we estimated the fair value of our five above-mentioned reporting units by considering both a market approach and a discounted cash flow method. As of October 31, 2021, we determined that the estimated fair value of equity exceeded the carrying value of equity for our Mass Markets, NA Business, EMEA, LATAM and APAC reporting units by 277%, 8%, 57%, 100% and 125%, respectively. Based on our assessments performed, we concluded it was more likely than not that the fair value of each of our reporting units exceeded the carrying value of equity of those reporting units at October 31, 2022. Therefore, we concluded no impairment existed as of our assessment date.

Our classification of held for sale assets related to the divestitures of the Latin American and ILEC businesses on August 1, 2022 and October 3, 2022, respectively, as described in Note 2—Divestitures of the Latin American and ILEC Businesses and Planned Divestiture of the EMEA Business, was considered an event or change in circumstance which required an assessment of our goodwill for impairment as of July 31, 2021. We performed a pre-classification goodwill impairment test to determine whether there was an impairment prior to the classification of these assets and to determine the July 31, 2021 fair values to be utilized for goodwill allocation regarding the Latin American and ILEC businesses classified as assets held for sale. We concluded it was more likely than not that the fair value of each of our reporting units exceeded the carrying value of equity of those reporting units at July 31, 2021. We also performed a post-classification goodwill impairment test using our estimated post-divestiture cash flows and carrying value of equity to evaluate whether the fair value of our reporting units that would remain following the divestitures exceeded the carrying value of the equity of such reporting units after classification of assets held for sale. At July 31, 2021, we estimated the fair value of our five above-mentioned reporting units by considering both a market approach and a discounted cash flow method. As of July 31, 2021, we determined that the estimated fair value of equity exceeded the carrying value of equity for our Mass Markets, NA Business, EMEA, LATAM and APAC reporting units by 150%, 24%, 58%,100% and 134%, respectively. Based on our assessments performed, we concluded it was more likely than not that the fair value of each of our reporting units exceeded the carrying value of equity of our reporting units at July 31, 2021. Therefore, we concluded no impairment existed as of our assessment date.

The January 2021 internal reorganization of our reporting structure was considered an event or change in circumstance which required an assessment of our goodwill for impairment. We performed a qualitative impairment assessment in the first quarter of 2021 and concluded it was more likely than not that the fair value of each of our reporting units exceeded the carrying value of equity of those reporting units at January 31, 2021. Therefore, we concluded no impairment existed as of our assessment date.

2020 Goodwill Impairment Analyses

At October 31, 2020, we estimated the fair value of our eight above-mentioned reporting units (prior to the January 2021 reorganization) by considering both a market approach and a discounted cash flow method. We discounted the projected cash flows for our consumer, enterprise, wholesale, small and medium business, NA GAM, EMEA, LATAM and APAC reporting units using a rate that represented their weighted average cost of capital as of the assessment date, which comprised an after-tax cost of debt and a cost of equity, as disclosed in the table below. We utilized company comparisons and analyst reports within the telecommunications industry which at the time of assessment supported a range of fair values derived from annualized revenue and EBITDA multiples between 2.0x and 5.5x and 4.8x and 12.5x, respectively. We selected a revenue and EBITDA multiple for each of our reporting units, resulting in an overall company revenue and EBITDA multiple of 2.3x and 5.7x, respectively. We also reconciled the estimated fair values of the reporting units to our market capitalization as of October 31, 2020 and concluded that the indicated control premium of approximately 33% was reasonable based on recent market transactions. Due to the depressed trading price of our stock at October 31, 2020 and our assessment performed with respect to the reporting units described above, we concluded that the estimated fair value of our consumer, wholesale, small and medium business and EMEA reporting units was less than our carrying value of equity for those reporting units. As a result, these reporting units were impaired, resulting in a non-cash, non-tax-deductible goodwill impairment charge of approximately $2.6 billion. As of October 31, 2020, the estimated fair value of equity exceeded the carrying value of equity for our enterprise, NA GAM, LATAM and APAC reporting units by 2%, 46%, 74% and 23%, respectively. Based on our assessments performed, we concluded that the goodwill assigned to our enterprise, NA GAM, LATAM and APAC reporting units was not impaired at October 31, 2020.

	As of October 31, 2020			
	Reporting Units			
	Consumer, Enterprise, Wholesale, Small and medium business, and NA GAM	EMEA	LATAM	APAC
Weighted average cost of capital	7.6%	8.0%	14.3%	10.1%
After-tax cost of debt	2.5%	2.9%	6.9%	3.9%
Cost of equity	10.7%	11.2%	18.8%	14.0%

The following table shows the rollforward of goodwill assigned to our reportable segments (including the January 2021 reorganization discussed above) from December 31, 2020 through December 31, 2022.

	International and Global Accounts	Enterprise	Small and Medium Business	Wholesale	Consumer	Business	Mass Markets	Total
	(Dollars in millions)							
As of December 31, 2020[1]	$ 2,555	4,738	2,808	3,114	5,655	—	—	18,870
January 2021 reorganization	(2,555)	(4,738)	(2,808)	(3,114)	(5,655)	12,173	6,697	—
Classified as held for sale	—	—	—	—	—	(913)	(1,946)	(2,859)
Effect of foreign currency exchange rate change and other	—	—	—	—	—	(25)	—	(25)
As of December 31, 2021[1]	$ —	—	—	—	—	11,235	4,751	15,986

	Business	Mass Markets	Total
	(Dollars in millions)		
As of December 31, 2021[1]	$11,235	4,751	15,986
Effect of foreign currency exchange rate change and other	(58)	—	(58)
Impairment	(3,271)	—	(3,271)
As of December 31, 2022[1]	$7,906	4,751	12,657

1 Goodwill at December 31, 2022, December 31, 2021 and December 31, 2020 is net of accumulated impairment losses of $11.0 billion, $7.7 billion and $12.9 billion, respectively. The change in accumulated impairment losses at December 31, 2021 is the result of amounts classified as held for sale related to the divestitures of our Latin American and ILEC business on August 1, 2022 and October 3, 2022, respectively. The change in accumulated impairment losses at December 31, 2022 is the result of the impairments discussed above.

For additional information on our segments, see Note 17—Segment Information.

As of December 31, 2022, the weighted average remaining useful lives of our finite-lived intangible assets were approximately 7 years in total, approximately 8 years for customer relationships and 4 years for capitalized software.

Total amortization expense for finite-lived intangible assets for the years ended December 31, 2022, 2021 and 2020 was $1.1 billion, $1.3 billion and $1.7 billion, respectively.

We estimate that total amortization expense for finite-lived intangible assets for the years ending December 31, 2023 through 2027 will be as provided in the table below. As a result of classifying our EMEA business as being held for sale on our December 31, 2022 consolidated balance sheet, the amounts presented below do not include future amortization expense for intangible assets of the business to be divested. See Note 2—Divestitures of the Latin American and ILEC Businesses and Planned Divestiture of the EMEA Business for more information.

	(Dollars in millions)
2023	$ 941
2024	871
2025	810
2026	765
2027	687

(4) Revenue Recognition

Product and Service Categories

We categorize our products and services revenue among the following categories for the Business segment:

- *Compute and Application Services,* which include our Edge Cloud services, IT solutions, Unified Communications and Collaboration ("UC&C"), data center, content delivery network ("CDN") and managed security services;
- *IP and Data Services,* which include Ethernet, IP, and VPN data networks, including software-defined wide area networks ("SD WAN") based services, Dynamic Connections and Hyper WAN;
- *Fiber Infrastructure Services,* which include dark fiber, optical services and equipment; and
- *Voice and Other*, which include Time Division Multiplexing ("TDM") voice, private line and other legacy services.

We categorize our products and services revenue among the following categories for the Mass Markets segment:

- *Fiber Broadband,* under which we provide high speed broadband services to residential and small business customers utilizing our fiber-based network infrastructure;
- *Other Broadband,* under which we provide primarily lower speed broadband services to residential and small business customers utilizing our copper-based network infrastructure; and
- *Voice and Other,* under which we derive revenues from (i) providing local and long-distance services, professional services, and other ancillary services, and (ii) federal broadband and state support payments.

Reconciliation of Total Revenue to Revenue from Contracts with Customers

The following tables provide total revenue by segment, sales channel and product category. They also provide the amount of revenue that is not subject to ASC 606, *"Revenue from Contracts with Customers"* ("ASC 606"), but is instead governed by other accounting standards. The amounts in the tables below include the Latin American and ILEC businesses revenues prior to their sales on August 1, 2022 and October 3, 2022, respectively:

	Year Ended December 31, 2022		
	Total Revenue	Adjustments for Non-ASC 606 Revenue[1]	Total Revenue from Contracts with Customers
	(Dollars in millions)		
Business Segment by Sales Channel and Product Category			
International and Global Accounts ("IGAM")			
Compute and Application Services	$ 667	(227)	440
IP and Data Services	1,510	—	1,510
Fiber Infrastructure	830	(136)	694
Voice and Other	638	—	638
Total IGAM Revenue	3,645	(363)	3,282
Large Enterprise			
Compute and Application Services	621	(60)	561
IP and Data Services	1,517	—	1,517
Fiber Infrastructure	478	(46)	432
Voice and Other	793	—	793
Total Large Enterprise Revenue	3,409	(106)	3,303
Mid-Market Enterprise			
Compute and Application Services	135	(29)	106
IP and Data Services	1,629	(4)	1,625
Fiber Infrastructure	192	(7)	185
Voice and Other	509	—	509
Total Mid-Market Enterprise Revenue	2,465	(40)	2,425
Wholesale			
Compute and Application Services	242	(157)	85
IP and Data Services	1,115	—	1,115
Fiber Infrastructure	652	(113)	539
Voice and Other	1,511	(239)	1,272
Total Wholesale Revenue	3,520	(509)	3,011
Business Segment by Product Category			
Compute and Application Services	1,665	(473)	1,192
IP and Data Services	5,771	(4)	5,767
Fiber Infrastructure	2,152	(302)	1,850
Voice and Other	3,451	(239)	3,212
Total Business Segment Revenue	13,039	(1,018)	12,021
Mass Markets Segment by Product Category			
Fiber Broadband	604	(18)	586
Other Broadband	2,163	(200)	1,963
Voice and Other	1,672	(134)	1,538
Total Mass Markets Revenue	4,439	(352)	4,087
Total Revenue	$17,478	(1,370)	16,108
Timing of revenue			
Goods and services transferred at a point in time			$ 154
Services performed over time			15,954
Total revenue from contracts with customers			$ 16,108

	Year Ended December 31, 2021		
	Total Revenue	Adjustments for Non-ASC 606 Revenue[1]	Total Revenue from Contracts with Customers
	(Dollars in millions)		
Business Segment by Sales Channel and Product Category			
International and Global Accounts ("IGAM")			
Compute and Application Services	$ 731	(279)	452
IP and Data Services	1,716	(1)	1,715
Fiber Infrastructure	889	(129)	760
Voice and Other	747	—	747
Total IGAM Revenue	4,083	(409)	3,674
Large Enterprise			
Compute and Application Services	696	(62)	634
IP and Data Services	1,583	—	1,583
Fiber Infrastructure	540	(50)	490
Voice and Other	952	(1)	951
Total Large Enterprise Revenue	3,771	(113)	3,658
Mid-Market Enterprise			
Compute and Application Services	127	(30)	97
IP and Data Services	1,710	(6)	1,704
Fiber Infrastructure	207	(8)	199
Voice and Other	605	—	605
Total Mid-Market Enterprise Revenue	2,649	(44)	2,605
Wholesale			
Compute and Application Services	188	(159)	29
IP and Data Services	1,198	—	1,198
Fiber Infrastructure	622	(118)	504
Voice and Other	1,608	(252)	1,356
Total Wholesale Revenue	3,616	(529)	3,087
Business Segment by Product Category			
Compute and Application Services	1,742	(530)	1,212
IP and Data Services	6,207	(7)	6,200
Fiber Infrastructure	2,258	(305)	1,953
Voice and Other	3,912	(253)	3,659
Total Business Segment Revenue	14,119	(1,095)	13,024
Mass Markets Segment by Product Category			
Fiber Broadband	524	—	524
Other Broadband	2,507	(227)	2,280
Voice and Other	2,537	(570)	1,967
Total Mass Markets Revenue	5,568	(797)	4,771
Total Revenue	$19,687	(1,892)	17,795
Timing of revenue			
Goods and services transferred at a point in time			$ 138
Services performed over time			17,657
Total revenue from contracts with customers			$ 17,795

	Year Ended December 31, 2020		
	Total Revenue	Adjustments for Non-ASC 606 Revenue[(1)]	Total Revenue from Contracts with Customers
	(Dollars in millions)		
Business Segment by Sales Channel and Product Category			
International and Global Accounts ("IGAM")			
Compute and Application Services	$ 759	(265)	494
IP and Data Services	1,736	—	1,736
Fiber Infrastructure	846	(110)	736
Voice and Other	796	—	796
Total IGAM Revenue	4,137	(375)	3,762
Large Enterprise			
Compute and Application Services	665	(82)	583
IP and Data Services	1,628	(2)	1,626
Fiber Infrastructure	601	(46)	555
Voice and Other	1,067	(2)	1,065
Total Large Enterprise Revenue	3,961	(132)	3,829
Mid-Market Enterprise			
Compute and Application Services	127	(16)	111
IP and Data Services	1,809	(6)	1,803
Fiber Infrastructure	212	(9)	203
Voice and Other	753	—	753
Total Mid-Market Enterprise Revenue	2,901	(31)	2,870
Wholesale			
Compute and Application Services	184	(161)	23
IP and Data Services	1,249	—	1,249
Fiber Infrastructure	618	(121)	497
Voice and Other	1,758	(258)	1,500
Total Wholesale Revenue	3,809	(540)	3,269
Business Segment by Product Category			
Compute and Application Services	1,735	(524)	1,211
IP and Data Services	6,422	(8)	6,414
Fiber Infrastructure	2,277	(286)	1,991
Voice and Other	4,374	(260)	4,114
Total Business Segment Revenue	14,808	(1,078)	13,730
Mass Markets Segment by Product Category			
Fiber Broadband	427	—	427
Other Broadband	2,639	(236)	2,403
Voice and Other	2,838	(601)	2,237
Total Mass Markets Revenue	5,904	(837)	5,067
Total Revenue	$20,712	(1,915)	18,797
Timing of revenue			
Goods and services transferred at a point in time			$ 250
Services performed over time			18,547
Total revenue from contracts with customers			$ 18,797

1 Includes regulatory revenue and lease revenue not within the scope of ASC 606.

Customer Receivables and Contract Balances

The following table provides balances of customer receivables, contract assets and contract liabilities, net of amounts classified as held for sale, as of December 31, 2022 and 2021:

	December 31, 2022	December 31, 2021
	(Dollars in millions)	
Customer receivables[1]	$ 1,424	1,493
Contract assets[2]	34	73
Contract liabilities[3]	656	680

1 Reflects gross customer receivables of $1.5 billion and $1.6 billion, net of allowance for credit losses of $73 million and $102 million, at December 31, 2022 and December 31, 2021, respectively. These amounts exclude customer receivables, net, classified as held for sale of $76 million at December 31, 2022 (related to the EMEA business) and $288 million at December 31, 2021 (related to both the Latin American business and the ILEC business).

2 These amounts exclude contract assets classified as held for sale of $16 million at December 31, 2022 (related to the EMEA business) and $9 million at December 31, 2021 (related to both the Latin American business and the ILEC business).

3 These amounts exclude contract liabilities classified as held for sale of $59 million at December 31, 2022 (related to the EMEA business) and $161 million at December 31, 2021 (related to both the Latin American business and the ILEC business).

Contract liabilities are consideration we have received from our customers or billed in advance of providing goods or services promised in the future. We defer recognizing this consideration as revenue until we have satisfied the related performance obligation to the customer. Contract liabilities include recurring services billed one month in advance and installation and maintenance charges that are deferred and recognized over the actual or expected contract term, which typically ranges from one to five years depending on the service. Contract liabilities are included within deferred revenue in our consolidated balance sheets. During the years ended December 31, 2022 and December 31, 2021, we recognized $539 million and $605 million, respectively, of revenue that was included in contract liabilities of $841 million and $950 million as of January 1, 2022 and 2021, respectively, including contract liabilities that were classified as held for sale.

Performance Obligations

As of December 31, 2022, we expect to recognize approximately $7.4 billion of revenue in the future related to performance obligations associated with existing customer contracts that are partially or wholly unsatisfied. We expect to recognize approximately 75% of this revenue through 2025, with the balance recognized thereafter.

These amounts exclude (i) the value of unsatisfied performance obligations for contracts for which we recognize revenue at the amount to which we have the right to invoice for services performed (for example, uncommitted usage or non-recurring charges associated with professional or technical services to be completed), (ii) contracts that are classified as leasing arrangements or government assistance that are not subject to ASC 606 and (iii) the value of unsatisfied performance obligations for contracts which relate to our planned divestiture of the EMEA business.

Contract Costs

The following tables provide changes in our contract acquisition costs and fulfillment costs:

	Year Ended December 31, 2022	
	Acquisition Costs	Fulfillment Costs
	(Dollars in millions)	
Beginning of period balance	$ 222	186
Costs incurred	172	158
Amortization	(192)	(149)
Classified as held for sale[1]	—	(3)
End of period balance	$ 202	192

	Year Ended December 31, 2021	
	Acquisition Costs	Fulfillment Costs
	(Dollars in millions)	
Beginning of period balance	$ 289	216
Costs incurred	176	151
Amortization	(209)	(149)
Classified as held for sale[2]	(34)	(32)
End of period balance	$ 222	$ 186

1 Represents changes in amounts classified as held for sale related to the divestitures of our Latin American and ILEC businesses on August 1, 2022 and October 3, 2022, respectively, and $6 million acquisition costs and no fulfillment costs classified as held for sale as of December 31, 2022 related to the planned divestiture of the EMEA business. See Note 2—Divestitures of the Latin American and ILEC Businesses and Planned Divestiture of the EMEA Business.

2 Represents the amounts classified as held for sale related to the divestitures of our Latin American and ILEC businesses on August 1, 2022 and October 3, 2022, respectively. See Note 2—Divestitures of the Latin American and ILEC Businesses and Planned Divestiture of the EMEA Business.

Acquisition costs include commission fees paid to employees as a result of obtaining contracts. Fulfillment costs include third party and internal costs associated with the provision, installation and activation of services to customers, including labor and materials consumed for these activities.

Deferred acquisition and fulfillment costs are amortized based on the transfer of services on a straight-line basis over the average contract life of approximately 32 months for mass markets customers and 30 months for business customers. Amortized fulfillment costs are included in cost of services and products and amortized acquisition costs are included in selling, general and administrative expenses in our consolidated statements of operations. The amount of these deferred costs that are anticipated to be amortized in the next 12 months are included in other current assets on our consolidated balance sheets. The amount of deferred costs expected to be amortized beyond the next twelve months is included in other non-current assets on our consolidated balance sheets. Deferred acquisition and fulfillment costs are assessed for impairment on a quarterly basis.

Governmental Funding

Lumen participates in various U.S. federal and state programs under which government support payments are received to offset costs associated with providing services in targeted locations such as unserved or underserved high-cost or rural areas, or for certain types of customers, including non-profit organizations, educational institutions and local governmental bodies. Support payments may be conditioned on specified infrastructure buildouts by milestone deadlines or provision of services at specified locations and speed requirements. Commitments may be made annually, on a multi-year basis ranging from one to ten years or be on-going subject to periodic change or termination. Consistent with customary practice and as referenced in ASC 832 Government Assistance, Lumen applies a grant model of accounting by which it accounts for these transactions as non-ASC 606 revenue over the periods in which the costs for which the funding is intended to compensate are incurred. This non-ASC 606 revenue is included in operating revenue in our consolidated statements of operations. Corresponding receivables are recorded when services have been provided to the customers and costs incurred, but the cash has not been received. These amounts are included in our accounts receivable, less allowance in our consolidated balance sheets. Certain programs are subject to audits of compliance with program commitments and, subject to the outcomes of those assessments, Lumen may be

required to reimburse the government entity for cash previously received, or, in some cases, pay a penalty. Lumen evaluates each program and establishes a liability under the principles of ASC 450 if it is probable support payments will be recaptured or a penalty will be imposed.

For the year ended December 31, 2022, Lumen recorded non-customer revenue of $190 million under government assistance programs, of which 31% was associated with state universal service fund support programs.

Between 2015 and 2021, we received approximately $500 million annually through the FCC's Connect America Fund II ("CAF II"), a federal multi-year recurring subsidy program for more extensive broadband deployment in price-cap ILEC territories. For this program, which ended on December 31, 2021, we were required to meet certain specified infrastructure buildout requirements in 33 states by the end of 2021, which required substantial capital expenditures. In the first quarter of 2022, we recognized $59 million of previously deferred revenue related to the conclusion of the CAF II program based upon our final buildout and filing submissions. The government has the right to audit our compliance with the CAF II program and the ultimate outcome of any remaining examinations is unknown, but could result in a liability to us in excess of our reserve accruals established for these matters.

In early 2020, the FCC created the Rural Digital Opportunity Fund (the “RDOF”), which is a federal support program designed to replace the CAF II program. On December 7, 2020, the FCC allocated in its RDOF Phase I auction $9.2 billion in support payments over 10 years to deploy high speed broadband to over 5.2 million unserved locations. We won bids to receive approximately $26 million of annual RDOF Phase I support payments approximately 36% of which is attributable to the ILEC business we divested on October 3, 2022. Our support payments under the RDOF Phase I program commenced during the second quarter of 2022.

Lumen participates in multiple state sponsored programs for broadband deployment in unserved and underserved areas for which the states have state universal service funds sourced from fees levied on telecommunications providers and passed on to consumers. During the year ending December 31, 2022, Lumen participated in these types of programs primarily in the states of Arkansas, California, Colorado, Maine, Nebraska, New Mexico, Oregon, Utah, Vermont, and Wisconsin.

(5) Leases

We primarily lease to or from third parties various office facilities, colocation facilities, equipment and transmission capacity. Leases with an initial term of 12 months or less are not recorded on our consolidated balance sheets; we recognize lease expense for these leases on a straight-line basis over the lease term.

We determine if an arrangement is a lease at inception and whether that lease meets the classification criteria of a finance or operating lease. Lease-related assets, or right-of-use assets, are recognized at the lease commencement date at amounts equal to the respective lease liabilities. Lease-related liabilities are recognized at the present value of the remaining contractual fixed lease payments, discounted using our incremental borrowing rates. As part of the present value calculation for the lease liabilities, we use an incremental borrowing rate as the rates implicit in the leases are not readily determinable. The incremental borrowing rates used for lease accounting are based on our unsecured rates, adjusted to approximate the rates at which we could borrow on a collateralized basis over a term similar to the recognized lease term. We apply the incremental borrowing rates to lease components using a portfolio approach based upon the length of the lease term and the reporting entity in which the lease resides. Operating lease expense is recognized on a straight-line basis over the lease term, while variable lease payments are expensed as incurred. Operating lease assets are included in other, net under goodwill and other assets on our consolidated balance sheets. Noncurrent operating lease liabilities are included in other under deferred credits and other liabilities on our consolidated balance sheets.

Some of our lease arrangements contain lease components, non-lease components (including common-area maintenance costs) and executory costs (including real estate taxes and insurance costs). We generally account for each component separately based on the estimated standalone price of each component. For colocation leases, we account for the lease and non-lease components as a single lease component.

Many of our lease agreements contain renewal options; however, we do not recognize right-of-use assets or lease liabilities for renewal periods unless we determine that we are reasonably certain of renewing the lease. Certain leases also include options to purchase the leased property. The depreciable life of assets and leasehold

improvements are limited by the expected lease term, unless there is a transfer of title or purchase option reasonably certain to be exercised. Our lease agreements do not generally contain any material residual value guarantees or material restrictive covenants.

Lease expense consisted of the following:

	Years Ended December 31,		
	2022	2021	2020
	(Dollars in millions)		
Operating and short-term lease cost	$ 451	535	729
Finance lease cost:			
Amortization of right-of-use assets	37	37	36
Interest on lease liability	15	16	12
Total finance lease cost	52	53	48
Total lease cost	$503	588	777

We primarily lease from third parties various equipment, office facilities, retail outlets, switching facilities and other network sites or components. These leases, with few exceptions, provide for renewal options and rent escalations that are either fixed or based on the consumer price index. Any rent abatements, along with rent escalations, are included in the computation of rent expense calculated on a straight-line basis over the lease term. The lease term for most leases includes the initial non-cancelable term plus any term under renewal options that we believe are reasonably assured.

During the years ended December 31, 2021 and 2020, we rationalized our lease footprint and ceased using 23 and 16 underutilized leased property locations, respectively. We determined that we no longer needed the leased space and, due to the limited remaining term on the contracts, concluded that we had neither the intent nor ability to sublease the properties. For the years ended December 31, 2021 and 2020, we incurred accelerated lease costs of approximately $35 million and $41 million, respectively. We did not further rationalize our lease footprint or incur material accelerated lease costs during the year ended December 31, 2022. However, in conjunction with our plans to continue to reduce costs, we expect to continue our real estate rationalization efforts and expect to incur additional accelerated lease costs in future periods.

For the years ended December 31, 2022, 2021 and 2020, our gross rental expense, including the accelerated lease costs discussed above, was $503 million, $588 million and $777 million, respectively. We also received sublease rental income of $25 million for each of the years ended December 31, 2022, 2021 and 2020.

Supplemental consolidated balance sheet information and other information related to leases is included below:

		As of December 31,	
Leases (Dollars in millions)	**Classification on the Balance Sheet**	**2022**	**2021**
Assets			
Operating lease assets	Other, net	$ 1,340	1,451
Finance lease assets	Property, plant and equipment, net of accumulated depreciation	317	314
Total leased assets		$ 1,657	1,765
Liabilities			
Current			
Operating	Current operating lease liabilities	$ 344	385
Finance	Current maturities of long-term debt	16	19
Noncurrent			
Operating	Other	1,088	1,171
Finance	Long-term debt	234	251
Total lease liabilities		$ 1,682	1,826
Weighted-average remaining lease term (years)			
Operating leases		7.7	6.8
Finance leases		12.0	13.1
Weighted-average discount rate			
Operating leases		5.98%	5.54%
Finance leases		4.96%	4.89%

At December 31, 2022, we classified certain operating and finance lease assets and liabilities related to the EMEA business as held for sale and discontinued recording amortization on the related right-of-use assets upon this classification. These operating and finance lease assets and liabilities held for sale are not reflected in the above or throughout the disclosures within this note. See Note 2—Divestitures of the Latin American and ILEC Businesses and Planned Divestiture of the EMEA Business for more information.

Supplemental consolidated cash flow statement information related to leases is included below:

	Years Ended December 31,	
	2022	2021
	(Dollars in millions)	
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flows for operating leases	$462	525
Operating cash flows for finance leases	15	15
Financing cash flows for finance leases	89	52
Supplemental lease cash flow disclosures:		
Operating lease right-of-use assets obtained in exchange for new operating lease liabilities	$ 381	165
Right-of-use assets obtained in exchange for new finance lease liabilities	94	94

As of December 31, 2022, maturities of lease liabilities were as follows:

	Operating Leases	Finance Leases
	(Dollars in millions)	
2023	$ 416	28
2024	282	27
2025	223	28
2026	174	28
2027	130	29
Thereafter	611	194
Total lease payments	1,836	334
Less: interest	(404)	(84)
Total	1,432	250
Less: current portion	(344)	(16)
Long-term portion	$ 1,088	234

As of December 31, 2022, we had no material operating or finance leases that had not yet commenced.

Operating Lease Income

Lumen Technologies leases various dark fiber, office facilities, colocation facilities, switching facilities, other network sites and service equipment to third parties under operating leases. Lease and sublease income are included in operating revenue in the consolidated statements of operations. See "Revenue Recognition" in Note 1—Background and Summary of Significant Accounting Policies.

For the years ended December 31, 2022, 2021 and 2020, our gross rental income was $1.2 billion, $1.2 billion and $1.3 billion, respectively, which represents 7%, 6% and 6% respectively, of our operating revenue for the years ended December 31, 2022, 2021 and 2020.

(6) Credit Losses on Financial Instruments

To assess our expected credit losses on financial instruments, we aggregate financial assets with similar risk characteristics to monitor their credit quality or deterioration over the life of such assets. We periodically monitor certain risk characteristics within our aggregated financial assets and revise their composition accordingly, to the extent internal and external risk factors change. We separately evaluate financial assets that do not share risk characteristics with other financial assets. Our financial assets measured at amortized cost primarily consist of accounts receivable.

We use a loss rate method to estimate our allowance for credit losses. Our determination of the current expected credit loss rate begins with our review of historical loss experience as a percentage of accounts receivable. We measure our historical loss period based on the average days to recognize accounts receivable as credit losses. When asset specific characteristics and current conditions change from those in the historical period, due to changes in our credit and collections strategy, certain classes of aged balances, or credit loss and recovery policies, we perform a qualitative and quantitative assessment to adjust our historical loss rate. We use regression analysis to develop an expected loss rate using historical experience and economic data over a forecast period. We measure our forecast period based on the average days to collect payment on billed accounts receivable. To determine our current allowance for credit losses, we combine the historical and expected credit loss rates and apply them to our period end accounts receivable.

If there is an unexpected deterioration of a customer's financial condition or an unexpected change in economic conditions, including macroeconomic events, we assess the need to adjust the allowance for credit losses. Any such resulting adjustments would affect earnings in the period that adjustments are made.

The assessment of the correlation between historical observed default rates, current conditions and forecasted economic conditions requires judgment. Alternative interpretations of these factors could have resulted in different conclusions regarding our allowance for credit losses. The amount of credit loss is sensitive to changes in circumstances and forecasted economic conditions. Our historical credit loss experience, current conditions and forecast of economic conditions may also not be representative of the customers' actual default experience in the future, and we may use methodologies that differ from those used by other companies.

The following table presents the activity of our allowance for credit losses by accounts receivable portfolio for the years ended December 31, 2022 and December 31, 2021:

	Business	Mass Markets	Total
	(Dollars in millions)		
Balance at January 1, 2021[(1)]	$ 109	82	191
Provision for expected losses	50	55	105
Write-offs charged against the allowance	(76)	(101)	(177)
Recoveries collected	13	6	19
Classified as assets held for sale[(2)]	(8)	(16)	(24)
Balance at December 31, 2021	$ 88	26	114
Provision for expected losses	25	108	133
Write-offs charged against the allowance	(61)	(114)	(175)
Recoveries collected	10	6	16
Change in allowance in assets held for sale[(3)]	(5)	2	(3)
Balance at December 31, 2022	$ 57	28	85

1 We completed an internal reorganization in January 2021. As a result of this change, the allowance for credit losses previously included in the Consumer and Business portfolio of $70 million related to consumer and $12 million related to our small business group, respectively, were reclassified to the Mass Markets allowance for credit losses on January 1, 2021.

2 Represents the amounts classified as held for sale related to the divestitures of our Latin American and ILEC businesses on August 1, 2022 and October 3, 2022, respectively. See Note 2—Divestitures of the Latin American and ILEC Businesses and Planned Divestiture of the EMEA Business.

3 Represents changes in amounts classified as held for sale related to the divestitures of our Latin American and ILEC businesses on August 1, 2022 and October 3, 2022, respectively, and the inclusion of a $5 million allowance for credit losses classified as held for sale as of December 31, 2022 related to the planned divestiture of the EMEA business. See Note 2—Divestitures of the Latin American and ILEC Businesses and Planned Divestiture of the EMEA Business.

For the year ended December 31, 2022, we decreased our allowance for credit losses for our business and mass markets accounts receivable portfolios primarily due to releasing COVID-19 related reserves during 2022.

For the year ended December 31, 2021, we decreased our allowance for credit losses for our business and mass markets accounts receivable portfolios primarily due to higher write-off activity during 2021, along with the easing of prior delays due to COVID-19 related restrictions from 2020 and lower receivable balances.

(7) Long-Term Debt and Credit Facilities

The following table reflects the consolidated long-term debt of Lumen Technologies, Inc. and its subsidiaries as of the dates indicated below, including unamortized discounts and premiums and unamortized debt issuance costs:

	Interest Rates[1]	Maturities[1]	As of December 31, 2022	2021
			(Dollars in millions)	
Senior Secured Debt: [2]				
Lumen Technologies, Inc.				
Revolving Credit Facility[3]	LIBOR + 2.00%	2025	$ —	200
Term Loan A[4]	LIBOR + 2.00%	2025	991	1,050
Term Loan A-1[4]	LIBOR + 2.00%	2025	283	300
Term Loan B[5]	LIBOR + 2.25%	2027	3,941	4,900
Senior notes	4.000%	2027	1,250	1,250
Subsidiaries:				
Level 3 Financing, Inc.				
Tranche B 2027 Term Loan[6]	LIBOR + 1.75%	2027	2,411	3,111
Senior notes	3.400% - 3.875%	2027 - 2029	1,500	1,500
Embarq Corporation subsidiaries				
First mortgage bonds	N/A	N/A	—	138
Senior Notes and Other Debt:[7]				
Lumen Technologies, Inc.				
Senior notes	4.500% - 7.650%	2023 - 2042	3,722	8,414
Subsidiaries:				
Level 3 Financing, Inc.				
Senior notes	3.625% - 4.625%	2027 - 2029	3,940	5,515
Qwest Corporation				
Senior notes	6.500% - 7.750%	2025 - 2057	1,986	1,986
Term loan[8]	LIBOR + 2.25%	2027	215	215
Qwest Capital Funding, Inc.				
Senior notes	6.875% - 7.750%	2028 - 2031	192	255
Finance lease and other obligations[9]	Various	Various	317	347
Unamortized (discounts) premiums, net			(7)	21
Unamortized debt issuance costs			(169)	(220)
Total long-term debt			20,572	28,982
Less current maturities			(154)	(1,554)
Long-term debt, excluding current maturities			$ 20,418	27,428

1 As of December 31, 2022.

2 See the remainder of this Note for a description of certain parent or subsidiary guarantees and liens securing this debt.

3 The Revolving Credit Facility had an interest rate of 2.103% as of December 31, 2021.

4 Term Loans A and A-1 had interest rates of 6.384% and 2.104% as of December 31, 2022 and December 31, 2021, respectively.

5 Term Loan B had interest rates of 6.634% and 2.354% as of December 31, 2022 and December 31, 2021, respectively.

6 The Level 3 Tranche B 2027 Term Loan had interest rates of 6.134% and 1.854% as of December 31, 2022 and December 31, 2021, respectively.

7 The table excludes $1.4 billion of indebtedness under Embarq Corporation's 7.995% senior notes maturing in 2036 that was classified as held for sale as of December 31, 2021 and was transferred as of October 3, 2022 concurrent with the sale of the ILEC business. See Note 2—Divestitures of the Latin American and ILEC Businesses and Planned Divestiture of the EMEA Business.

8 The Qwest Corporation Term Loan had interest rates of 6.640% and 2.110% as of December 31, 2022 and December 31, 2021, respectively.

9 The table excludes finance lease obligations that were classified as held for sale as of December 31, 2022 and December 31, 2021. See Note 2—Divestitures of the Latin American and ILEC Businesses and Planned Divestiture of the EMEA Business.

Long-Term Debt Maturities

Set forth below is the aggregate principal amount of our long-term debt as of December 31, 2022 (excluding unamortized (discounts) premiums, net, and unamortized debt issuance costs) maturing during the following years. As a result of classifying our EMEA business as held for sale on our December 31, 2022 consolidated balance sheet, the amounts presented below do not include maturities of the finance lease obligations of that business. See Note 2—Divestitures of the Latin American and ILEC Businesses and Planned Divestiture of the EMEA Business.

	(Dollars in millions)
2023	$ 154
2024	158
2025	1,743
2026	806
2027	9,387
2028 and thereafter	8,500
Total long-term debt	$ 20,748

Debt of Lumen Technologies, Inc. and its Subsidiaries

At December 31, 2022, most of our outstanding consolidated debt had been incurred by Lumen Technologies, Inc. or one of the following three other primary borrowers or “borrowing groups,” each of which has borrowed funds either on a standalone basis or as part of a separate restricted group with certain of its subsidiaries:

- Level 3 Financing, Inc., including its parent guarantor Level 3 Parent, LLC, and one or more subsidiary guarantors;
- Qwest Corporation; and
- Qwest Capital Funding, Inc., including its parent guarantor, Qwest Communications International Inc.

Each of these borrowers or borrowing groups has entered into one or more credit agreements with certain financial institutions or other institutional lenders, or issued senior notes. Certain of these debt instruments are described further below.

Amended and Restated Credit Agreement

On January 31, 2020, we amended and restated our credit agreement dated June 19, 2017 (as so amended and restated, the "Amended Credit Agreement"). At December 31, 2022, the Amended Credit Agreement consisted of the following facilities:

- a $2.2 billion senior secured revolving credit facility (“the Revolving Credit Facility”);
- a $991 million senior secured Term Loan A credit facility;
- a $283 million senior secured Term Loan A-1 credit facility with CoBank, ACB; and
- a $3.9 billion senior secured Term Loan B credit facility (the term loan facilities and the Revolving Credit Facility being referred to collectively as the "Amended Secured Credit Facilities").

Loans under the Term Loan A and A-1 facilities and the Revolving Credit Facility bear interest at a rate equal to, at our option, the Eurodollar rate or the alternative base rate (each as defined in the Amended Credit Agreement) plus an applicable margin between 1.50% to 2.25% per annum for Eurodollar loans and 0.50% to 1.25% per annum for alternative base rate loans, depending on our then current total leverage ratio. Loans under the Term Loan B facility bear interest at the Eurodollar rate plus 2.25% per annum or the alternative base rate plus 1.25% per annum. Loans under each of the term loan facilities require certain specified quarterly amortization payments and certain specified mandatory prepayments in connection with certain asset sales and debt issuances and out of excess cash flow, among other things, subject in each case to certain significant exceptions.

Borrowings under the Revolving Credit Facility and the Term Loan A and A-1 facilities mature on January 31, 2025. Borrowings under the Term Loan B facility mature on March 15, 2027.

All of Lumen's obligations under the Amended Secured Credit Facilities are guaranteed by certain of its subsidiaries. The guarantees by certain of those guarantors are secured by a first priority security interest in substantially all assets (including certain subsidiaries stock) directly owned by them, subject to certain exceptions and limitations.

A portion of the Revolving Credit Facility in an amount not to exceed $250 million is available for swingline loans, and a portion in an amount not to exceed $800 million is available for the issuance of letters of credit.

Lumen Technologies is permitted under the Amended Credit Agreement to request certain incremental borrowings subject to the satisfaction of various conditions and to certain other limitations. Any incremental borrowings would be subject to the same terms and conditions under the Amended Credit Agreement.

Term Loans and Certain Other Debt of Subsidiaries

Qwest Corporation

On October 23, 2020, Qwest Corporation borrowed $215 million under a variable-rate term loan with CoBank ACB. The outstanding unpaid principal amount of this term loan plus any accrued and unpaid interest is due on October 23, 2027. Interest is paid at least quarterly based upon either the London Interbank Offered Rate ("LIBOR") or the base rate (as defined in the credit agreement) plus an applicable margin between 1.50% to 2.50% per annum for LIBOR loans and 0.50% to 1.50% per annum for base rate loans depending on Qwest Corporation's then current senior unsecured long-term debt rating.

Level 3 Financing, Inc.

At December 31, 2022, Level 3 Financing, Inc. owed $2.4 billion under a senior secured Tranche B 2027 Term Loan, which matures on March 1, 2027. The Tranche B 2027 Term Loan carries an interest rate, in the case of base rate borrowings, equal to (i) the greater of the Prime Rate, the Federal Funds Effective Rate plus 50 basis points, or LIBOR plus 100 basis points (with all such terms and calculations as defined or further specified in the credit agreement) plus (ii) 0.75% per annum. Any Eurodollar borrowings under the Tranche B 2027 Term Loan bear interest at LIBOR plus 1.75% per annum.

The Tranche B 2027 Term Loan requires certain specified mandatory prepayments in connection with certain asset sales and other transactions, subject to certain significant exceptions. The obligations of Level 3 Financing, Inc. under the Tranche B 2027 Term Loan are, subject to certain exceptions, secured by certain assets of Level 3 Parent, LLC and certain of its material domestic telecommunication subsidiaries. Also, Level 3 Parent, LLC and certain of its subsidiaries have guaranteed the obligations of Level 3 Financing, Inc. under the Tranche B 2027 Term Loan.

Revolving Letters of Credit

We use various financial instruments in the normal course of business. These instruments include letters of credit, which are conditional commitments issued on our behalf in accordance with specified terms and conditions. Lumen Technologies maintains an uncommitted $225 million revolving letter of credit facility separate from the letter of credit facility included in the Revolving Credit Facility noted above. Letters of credit issued under this uncommitted facility are backed by credit enhancements in the form of secured guarantees issued by certain of our subsidiaries. As of December 31, 2022 and 2021, we had (i) $94 million and $88 million, respectively, of letters of credit outstanding under our committed facility and various other facilities and (ii) no letters of credit outstanding under our Revolving Credit Facility.

Senior Notes

Lumen's consolidated indebtedness at December 31, 2022 included (i) senior secured notes issued by Lumen Technologies, Inc. and Level 3 Financing, Inc. and (ii) senior unsecured notes issued by Lumen Technologies, Inc., Level 3 Financing, Inc., Qwest Corporation, and Qwest Capital Funding, Inc. All of these notes carry fixed interest rates and all principal is due on the notes' respective maturity dates, which rates and maturity dates are summarized in the table above. The Lumen Technologies, Inc. secured senior notes are guaranteed by the same domestic subsidiaries that guarantee the Amended Credit Agreement on substantially the same terms and conditions that govern the guarantees of the Amended Credit Agreement. The Level 3 Financing, Inc. secured senior notes are secured by a pledge of substantially all of its assets and guaranteed on a secured basis by the same domestic subsidiaries that guarantee its Term B 2027 Term Loan. The remaining senior notes issued by Level 3 Financing, Inc. are guaranteed on an unsecured basis by its parent, Level 3 Parent, LLC, and one of its subsidiaries. The senior notes issued by Qwest Capital Funding, Inc. are guaranteed by its parent, Qwest Communications International Inc. Except for a limited number of senior notes issued by Qwest Corporation, the issuer generally can redeem the notes, at its option, in whole or in part, (i) pursuant to a fixed schedule of pre-established redemption prices, (ii) pursuant to a "make whole" redemption price or (iii) under certain other specified limited conditions. Under certain circumstances in connection with a "change of control" of Lumen Technologies, it will be required to make an offer to repurchase each series of these senior notes (other than two of its older series of notes) at a price of 101% of the principal amount redeemed, plus accrued and unpaid interest. Also, under certain circumstances in connection with a "change of control" of Level 3 Parent, LLC or Level 3 Financing, Inc., Level 3 Financing will be required to make an offer to repurchase each series of its outstanding senior notes at a price of 101% of the principal amount redeemed, plus accrued and unpaid interest.

Borrowings and Repayments

2022

During 2022, Lumen borrowed $2.4 billion from, and made repayments of $2.6 billion to, its Revolving Credit Facility. We used our net revolving credit draws and available cash to repay the following aggregate principal amounts of indebtedness through a combination of tender offers, redemptions, prepayments, amortization payments and payments at maturity. These transactions resulted in a net gain on the extinguishment of debt of $214 million.

Debt	Period of Repayment	(Dollars in millions)
Lumen Technologies, Inc.		
5.800% Senior Notes due 2022 (at maturity)	Q1 2022	$ 1,400
6.750% Senior Notes, Series W, due 2023	Q4 2022	750
7.500% Senior Notes, Series Y, due 2024	Q4 2022	982
7.500% Senior Notes, Series Y, due 2024	Q3 2022	18
5.625% Senior Notes, Series X, due 2025	Q4 2022	286
7.200% Senior Notes, Series D, due 2025	Q4 2022	34
5.125% Senior Notes due 2026	Q4 2022	520
5.125% Senior Notes due 2026	Q3 2022	11
6.875% Debentures, Series G, due 2028	Q4 2022	130
5.375% Senior Notes due 2029	Q4 2022	494
Term Loan B prepayment	Q4 2022	909
Scheduled term loan payments	Multiple	125
Level 3 Financing, Inc.		
Tranche B 2027 Term Loan	Q3 2022	700
5.375% Senior Notes due 2025	Q3 2022	800
5.250% Senior Notes due 2026	Q3 2022	775
Embarq Corporation Subsidiaries		
First Mortgage Bonds	Q4 2022	137
Qwest Capital Funding, Inc.		
Senior Notes	Q4 2022	63
Other	Q4 2022	68
Total Debt Repayments		$ 8,202

2021

During 2021, Lumen borrowed $400 million from, and made repayments of $350 million to, its Revolving Credit Facility. We also used available cash (including funds from the debt issuances mentioned below) to repay the following aggregate principal amounts of indebtedness through a combination of redemptions, prepayments, amortization payments and payments at maturity. These transactions resulted in a net gain on the extinguishment of debt of $8 million.

Debt	Period of Repayment	(Dollars in millions)
Lumen Technologies, Inc.		
6.450% Senior Notes, Series S, due 2021 (at maturity)	Q2 2021	$ 1,231
Scheduled term loan payments	Multiple	125
Level 3 Financing, Inc.		
5.375% Senior Notes due 2024	Q1 2021	900
Qwest Corporation, Inc.		
6.750% Senior Notes (at maturity)	Q4 2021	950
7.000% Senior Notes due 2056	Q1 2021	235
Qwest Capital Funding, Inc.		
Senior Notes (at maturity)	Q3 2021	97
Total Debt Repayments		$ 3,538

On June 15, 2021, Lumen Technologies, Inc. issued $1.0 billion aggregate principal amount of 5.375% Senior Notes due 2029. The net proceeds were used, together with cash on hand, to repay at maturity our outstanding $1.2 billion 6.450% Senior Notes, Series S, due 2021, shown in the table above.

On January 13, 2021, Level 3 Financing, Inc. issued $900 million aggregate principal amount of 3.750% Sustainability-Linked Senior Notes due 2029 (the "Sustainability-Linked Notes"). The net proceeds were used, together with cash on hand, to redeem $900 million of our outstanding senior note indebtedness, shown in the table above. The Sustainability-Linked Notes are guaranteed by Level 3 Parent, LLC and Level 3 Communications, LLC.

Interest Expense

Interest expense includes interest on total long-term debt. The following table presents the amount of gross interest expense, net of capitalized interest:

	Years Ended December 31,		
	2022	2021	2020
	(Dollars in millions)		
Interest expense:			
Gross interest expense	$1,398	1,575	1,743
Capitalized interest	(66)	(53)	(75)
Total interest expense	$1,332	1,522	1,668

Covenants

Lumen Technologies, Inc.

With respect to the Term Loan A and A-1 facilities and the Revolving Credit Facility, the Amended Credit Agreement requires us to maintain (i) a maximum total leverage ratio of not more than 4.75 to 1.00 and (ii) a minimum consolidated interest coverage ratio of at least 2.00 to 1.00, with such ratios being determined and calculated in the manner described in the Amended Credit Agreement.

The Amended Secured Credit Facilities contain various representations and warranties and extensive affirmative and negative covenants. Such covenants include, among other things and subject to certain significant exceptions, restrictions on our ability to declare or pay dividends, repurchase stock, repay certain other indebtedness, create liens, incur additional indebtedness, make investments, engage in transactions with our affiliates, dispose of assets and merge or consolidate with any other person.

The senior unsecured notes of Lumen Technologies, Inc. were issued under four separate indentures. These indentures restrict our ability to (i) incur, issue or create liens upon the property of Lumen Technologies, Inc. and (ii) consolidate with or merge into, or transfer or lease all or substantially all of our assets to any other party. These indentures do not contain any provisions that restrict the incurrence of additional indebtedness.

The senior secured notes of Lumen Technologies, Inc. were issued under a separate indenture that contains a more restrictive set of covenants. As indicated above under "Senior Notes", Lumen Technologies, Inc. will be required to offer to purchase certain of its long-term debt securities issued under its indentures under certain circumstances in connection with a "change of control" of Lumen Technologies, Inc.

Level 3 Companies

The term loan, senior secured notes and senior unsecured notes of Level 3 Financing, Inc. contain various representations and extensive affirmative and negative covenants. Such covenants include, among other things and subject to certain significant exceptions, restrictions on their ability to declare or pay dividends, repay certain other indebtedness, create liens, incur additional indebtedness, make investments, dispose of assets and merge or consolidate with any other person. Also, as indicated above under "Senior Notes", Level 3 Financing, Inc. will be required to offer to repurchase or repay certain of its long-term debt under certain circumstances in connection with a "change of control" of Level 3 Financing or Level 3 Parent, LLC.

Qwest Companies

Under its term loan, Qwest Corporation must maintain a debt to EBITDA ratio of not more than 2.85 to 1.00, as determined and calculated in the manner described in the applicable term loan documentation. The term loan also contains a negative pledge covenant, which generally requires Qwest Corporation to secure equally and ratably any advances under the term loan if it pledges assets or permits liens on its property for the benefit of other debtholders.

The senior notes of Qwest Corporation were issued under indentures dated April 15, 1990 and October 15, 1999. These indentures contain restrictions on the incurrence of liens and the consummation of certain transactions substantially similar to the above-described covenants in Lumen's indentures (but contain no mandatory repurchase provisions). The senior notes of Qwest Capital Funding, Inc. were issued under an indenture dated June 29, 1998 containing terms substantially similar to those set forth in Qwest Corporation's indentures.

Impact of Covenants

The debt covenants applicable to Lumen Technologies, Inc. and its subsidiaries could have a material adverse impact on their ability to operate or expand their respective businesses, to pursue strategic transactions, or to otherwise pursue their plans and strategies. The covenants of the Level 3 companies may significantly restrict the ability of Lumen Technologies, Inc. to receive cash from the Level 3 companies, to distribute cash from the Level 3 companies to other of Lumen’s affiliated entities, or to enter into other transactions among Lumen’s wholly-owned entities.

Certain of the debt instruments of Lumen Technologies, Inc. and its subsidiaries contain cross payment default or cross acceleration provisions. When present, these provisions could have a wider impact on liquidity than might otherwise arise from a default or acceleration of a single debt instrument.

The ability of Lumen Technologies, Inc. and its subsidiaries to comply with the financial covenants in their respective debt instruments could be adversely impacted by a wide variety of events, including unforeseen contingencies, many of which are beyond their control.

Compliance

As of December 31, 2022, Lumen Technologies, Inc. believes it and its subsidiaries were in compliance with the provisions and financial covenants in their respective material debt agreements in all material respects.

Guarantees

Lumen Technologies does not guarantee the debt of any unaffiliated parties, but, as noted above, as of December 31, 2022 certain of its largest subsidiaries guaranteed (i) its debt outstanding under its Amended Secured Credit Facilities, its senior secured notes and its $225 million letter of credit facility and (ii) the outstanding term loans or senior notes issued by certain other subsidiaries. As further noted above, several of the subsidiaries guaranteeing these obligations have pledged substantially all of their assets to secure certain of their respective guarantees.

(8) Accounts Receivable

The following table presents details of our accounts receivable balances:

	As of December 31,	
	2022	2021
	(Dollars in millions)	
Trade and purchased receivables	$ 1,288	1,281
Earned and unbilled receivables	209	315
Other	65	62
Total accounts receivable	1,562	1,658
Less: allowance for credit losses	(85)	(114)
Accounts receivable, less allowance	$ 1,477	1,544

We are exposed to concentrations of credit risk from our customers. We generally do not require collateral to secure our receivable balances. We have agreements with other communications service providers whereby we agree to bill and collect on their behalf for services rendered by those providers to our customers within our local service area. We purchase accounts receivable from other communications service providers primarily on a recourse basis and include these amounts in our accounts receivable balance. We have not experienced any significant loss associated with these purchased receivables.

The following table presents details of our allowance for credit losses accounts:

	Beginning Balance	Additions	Deductions	Ending Balance
	(Dollars in millions)			
2022	$ 114	133	(162)	85
2021	191	105	(182)	114
2020[1]	106	189	(104)	191

1 On January 1, 2020, we adopted ASU 2016-13 "Measurement of Credit Losses on Financial Instruments" and recognized a cumulative adjustment to our accumulated deficit as of the date of adoption of $9 million, net of a $2 million tax effect. This adjustment is included within "Deductions." See Note 6—Credit Losses on Financial Instruments for more information.

(9) Property, Plant and Equipment

Net property, plant and equipment is composed of the following:

	Depreciable Lives	As of December 31,	
		2022[5]	2021[5]
		(Dollars in millions)	
Land	N/A	$ 651	751
Fiber, conduit and other outside plant [1]	15-45 years	14,451	15,366
Central office and other network electronics[2]	3-10 years	15,077	15,394
Support assets[3]	3-30 years	6,863	7,181
Construction in progress[4]	N/A	2,010	1,474
Gross property, plant and equipment		39,052	40,166
Accumulated depreciation		(19,886)	(19,271)
Net property, plant and equipment		$ 19,166	20,895

1 Fiber, conduit and other outside plant consists of fiber and metallic cable, conduit, poles and other supporting structures.

2 Central office and other network electronics consists of circuit and packet switches, routers, transmission electronics and electronics providing service to customers.

3 Support assets consist of buildings, cable landing stations, data centers, computers and other administrative and support equipment.

4 Construction in progress includes inventory held for construction and property of the aforementioned categories that has not been placed in service as it is still under construction.

5 These values exclude assets classified as held for sale.

At December 31, 2022, we classified $1.9 billion of certain property, plant and equipment, net related to our EMEA business as held for sale and discontinued recording depreciation on this disposal group as of November 2, 2022. At December 31, 2021, we had $5.1 billion of certain property, plant and equipment, net related to our

Latin American and ILEC businesses sold on August 1, 2022 and October 3, 2022, respectively, classified as held for sale and discontinued recording depreciation on these disposal groups during their classification as assets held for sale. See Note 2—Divestitures of the Latin American and ILEC Businesses and Planned Divestiture of the EMEA Business for more information.

We recorded depreciation expense of $2.1 billion, $2.7 billion and $3.0 billion for the years ended December 31, 2022, 2021 and 2020, respectively.

Asset Retirement Obligations

As of December 31, 2022 and 2021, our asset retirement obligations balance was primarily related to estimated future costs of removing equipment from leased properties and estimated future costs of properly disposing of asbestos and other hazardous materials upon remodeling or demolishing buildings. Asset retirement obligations are included in other long-term liabilities on our consolidated balance sheets.

Our fair value estimates were determined using the discounted cash flow method.

The following table provides asset retirement obligation activity:

	Years Ended December 31,	
	2022	2021
	(Dollars in millions)	
Balance at beginning of year	$ 182	199
Accretion expense	10	10
Liabilities settled	(10)	(13)
Change in estimate	4	(2)
Classified as held for sale[1]	(30)	(12)
Balance at end of year	$ 156	182

1 Represents the amounts classified as held for sale related to our divestitures. See Note 2—Divestitures of the Latin American and ILEC Businesses and Planned Divestiture of the EMEA Business.

The changes in estimate referred to in the table above were offset against gross property, plant and equipment.

(10) Severance

Periodically, we reduce our workforce and accrue liabilities for the related severance costs. These workforce reductions result primarily from the progression or completion of our post-acquisition integration plans, increased competitive pressures, cost reduction initiatives, process improvements through automation and reduced workloads due to reduced demand for certain services.

We report severance liabilities within accrued expenses and other liabilities - salaries and benefits in our consolidated balance sheets and report severance expenses in selling, general and administrative expenses in our consolidated statements of operations. As described in Note 17—Segment Information, we do not allocate these severance expenses to our segments.

Changes in our accrued liabilities for severance expenses were as follows:

	Severance
	(Dollars in millions)
Balance at December 31, 2020	$ 103
Accrued to expense	3
Payments, net	(70)
Balance at December 31, 2021	36
Accrued to expense	12
Payments, net	(37)
Balance at December 31, 2022	$ 11

(11) Employee Benefits

Pension, Post-Retirement and Other Post-Employment Benefits

We sponsor various defined benefit pension plans (qualified and non-qualified) which, in the aggregate, cover a substantial portion of our employees. Pension benefits for participants of the Lumen Combined Pension Plan ("Combined Pension Plan") and, through the October 3, 2022 sale of the ILEC business, the Lumen Pension Plan, who are represented by a collective bargaining agreement are based on negotiated schedules. All other participants' pension benefits are based on each individual participant's years of service and compensation. We also maintain non-qualified pension plans for certain current and former highly compensated employees. We maintain post-retirement benefit plans that provide health care and life insurance benefits for certain eligible retirees. We also provide other post-employment benefits for certain eligible former employees. We use a December 31 measurement date for all our plans.

On October 19, 2021, we, as sponsor of the Combined Pension Plan, along with the Plan's independent fiduciary, entered into an agreement committing the Plan to use a portion of its plan assets to purchase an annuity from an insurance company (the "Insurer") to transfer approximately $1.4 billion of the Plan's pension liabilities. This agreement irrevocably transferred to the Insurer future Plan benefit obligations for approximately 22,600 U.S. Lumen participants ("Transferred Participants") effective on December 31, 2021. This annuity transaction was funded entirely by existing Plan assets. The Insurer assumed responsibility for administrative and customer service support, including distribution of payments to the Transferred Participants. Transferred Participants' benefits were not reduced as a result of this transaction.

As of January 1, 2022, we spun off the Lumen Pension Plan from the Lumen Combined Pension Plan in anticipation of the sale of the ILEC business, as described further in Note 2—Divestitures of the Latin American and ILEC Businesses and Planned Divestiture of the EMEA Business. At the time of the spin-off, the Lumen Pension Plan covered approximately 2,500 active plan participants along with 19,000 other participants. At the time of the spin-off, the Lumen Pension Plan had a pension benefit obligation of $2.5 billion and assets of $2.2 billion. In addition, the December 31, 2021 actuarial (loss) gain and prior service cost included in accumulated other comprehensive loss was allocated between the Lumen Pension Plan and the Lumen Combined Pension Plan. Following a revaluation of the pension obligation and pension assets for the Lumen Pension Plan, in preparation for the closing of the sale of the ILEC business, we contributed approximately $319 million of Lumen's cash to the Lumen Pension Plan trust to fully fund the pension plan in September 2022. The amounts allocated to the Lumen Pension Plan were subject to adjustment up to the closing of the sale of the ILEC business on October 3, 2022, at which time the plan was transferred along with the rest of the assets and liabilities of the ILEC business. We recognized pension costs related to both plans through the sale of the ILEC business, at which time balances related to the Lumen Pension Plan were reflected in the calculation of our gain on the sale of the business.

Pension Benefits

United States funding laws require a company with a pension shortfall to fund the annual cost of benefits earned in addition to a seven-year amortization of the shortfall. Our funding policy for our Combined Pension Plan is to make contributions with the objective of accumulating ample assets to pay all qualified pension benefits when due under the terms of the plan. The accounting unfunded status of the Combined Pension Plan was $580 million and $1.1 billion as of December 31, 2022 and 2021, respectively.

We made no voluntary cash contributions to the Combined Pension Plan in 2022 or 2021. As discussed above, we contributed approximately $319 million of cash to the Lumen Pension Plan trust to fully fund the pension plan in September 2022 in preparation for the closing of the sale of the ILEC business. We paid $5 million of benefits directly to participants of our non-qualified pension plans in both 2022 and 2021.

Benefits paid by the Combined Pension Plan are paid through a trust that holds all of the Plan's assets. The amount of required contributions to the Combined Pension Plan in 2023 and beyond will depend on a variety of factors, most of which are beyond our control, including earnings on plan investments, prevailing interest rates, demographic experience, changes in plan benefits and changes in funding laws and regulations. Based on current laws and circumstances, we do not believe we are required to make any contributions to the Combined Pension Plan in 2023 and we do not expect to make voluntary contributions to the trust for the Combined Pension Plan in 2023. We estimate that in 2023 we will pay $5 million of benefits directly to participants of our non-qualified pension plans.

We recognize in our consolidated balance sheets the funded status of the legacy Level 3 defined benefit post-retirement plans. These plans were fully funded as of December 31, 2022. The net unfunded status of these plans was $17 million, as of December 31, 2021. Additionally, as previously mentioned, we sponsor unfunded non-qualified pension plans for certain current and former highly-compensated employees. The net unfunded status of our non-qualified pension plans was $35 million and $46 million for the years ended December 31, 2022 and 2021, respectively. Due to the insignificant impact of these pension plans on our consolidated financial statements, we have predominantly excluded them from the remaining employee benefit disclosures in this Note, unless otherwise specifically stated.

Post-Retirement Benefits

Our post-retirement benefit plans provide post-retirement benefits to qualified retirees and allow (i) eligible employees retiring before certain dates to receive benefits at no or reduced cost and (ii) eligible employees retiring after certain dates to receive benefits on a shared cost basis. The post-retirement benefits not paid by the trusts are funded by us and we expect to continue funding these post-retirement obligations as benefits are paid. The accounting unfunded status of our qualified post-retirement benefit plan was $2.0 billion and $2.8 billion as of December 31, 2022 and 2021, respectively.

Assets in the post-retirement trusts were substantially depleted as of December 31, 2016; as of December 31, 2019 the Company ceased to pay certain post-retirement benefits through the trusts. No contributions were made to the post-retirement trusts in 2022 nor 2021. Benefits are paid directly by us with available cash. In 2022, we paid $210 million of post-retirement benefits, net of participant contributions and direct subsidies. In 2023, we currently expect to pay directly $210 million of post-retirement benefits, net of participant contributions and direct subsidies.

We expect our expected health care cost trend to range from 5.00% to 7.20% in 2023 and grading to 4.50% by 2030. Our post-retirement benefit cost, for certain eligible legacy Qwest retirees and certain eligible legacy CenturyLink retirees, is capped at a set dollar amount. Therefore, those health care benefit obligations are not subject to increasing health care trends after the effective date of the caps.

Expected Cash Flows

The Combined Pension Plan payments, post-retirement health care benefit payments and premiums, and life insurance premium payments are either distributed from plan assets or paid by us. The estimated benefit payments provided below are based on actuarial assumptions using the demographics of the employee and retiree populations and have been reduced by estimated participant contributions.

	Combined Pension Plan	Post-Retirement Benefit Plans	Medicare Part D Subsidy Receipts
		(Dollars in millions)	
Estimated future benefit payments:			
2023	$ 566	213	(3)
2024	514	205	(3)
2025	500	198	(2)
2026	482	191	(2)
2027	463	184	(2)
2028 - 2032	2,065	805	(7)

Net Periodic Benefit Expense (Income)

We utilize a full yield curve approach in connection with estimating the service and interest components of net periodic benefit expense by applying the specific spot rates along the yield curve used in the determination of the benefit obligation to the relevant projected cash flow.

The actuarial assumptions used to compute the net periodic benefit expense for our Combined Pension Plan and post-retirement benefit plans are based upon information available as of the beginning of the year, as presented in the following table.

	Combined Pension Plan			Post-Retirement Benefit Plans		
	2022	2021	2020	2022	2021	2020
Actuarial assumptions at beginning of year:						
Discount rate	2.29% - 3.12%	1.70% - 2.88%	2.79% - 3.55%	2.19% - 5.78%	1.58% - 2.60%	1.69% - 3.35%
Rate of compensation increase	3.25%	3.25%	3.25%	N/A	N/A	N/A
Expected long-term rate of return on plan assets(1)	5.50%	5.50%	6.50%	4.00%	4.00%	4%
Initial health care cost trend rate	N/A	N/A	N/A	5.00% / 5.75%	6.25% / 5.00%	6.50% / 5.00%
Ultimate health care cost trend rate	N/A	N/A	N/A	4.50%	4.50%	4.50%
Year ultimate trend rate is reached	N/A	N/A	N/A	2025	2025	2025

N/A - Not applicable

1 Rates are presented net of projected fees and administrative costs.

Prior to the sale of the ILEC business on October 3, 2022, we realized pension costs related to the Lumen Pension Plan. Net periodic benefit expense (income) for our Combined Pension Plan and the Lumen Pension Plan (together the "Pension Plans") includes the following components:

	Pension Plans Years Ended December 31,		
	2022	2021	2020
	(Dollars in millions)		
Service cost	$ 44	56	59
Interest cost	194	201	324
Expected return on plan assets	(385)	(535)	(593)
Settlement charges	—	383	—
Realized to gain on sale of businesses	546	—	—
Special termination benefits charge	—	6	13
Recognition of prior service credit	(10)	(9)	(9)
Recognition of actuarial loss	122	184	202
Net periodic pension expense (income)	$ 511	286	(4)

Net periodic benefit expense for our post-retirement benefit plans includes the following components:

	Post-Retirement Plans Years Ended December 31,		
	2022	2021	2020
	(Dollars in millions)		
Service cost	$ 10	14	14
Interest cost	72	47	69
Expected return on plan assets	—	—	(1)
Realized to gain on sale of businesses	(32)	—	—
Recognition of prior service cost	8	15	16
Recognition of actuarial loss	(4)	4	—
Curtailment loss	—	—	8
Net periodic post-retirement benefit expense	$ 54	80	106

Service costs for our Combined Pension Plan and post-retirement benefit plans are included in the cost of services and products and selling, general and administrative line items on our consolidated statements of operations and all other costs listed above, except for amounts realized as part of the net gain on sale of businesses, are included in other income (expense), net on our consolidated statements of operations for the years ended December 31, 2022, 2021 and 2020. Additionally, a portion of the service cost is also allocated to certain assets under construction, which are capitalized and reflected as part of property, plant and equipment in our consolidated balance sheets. As a result of ongoing efforts to reduce our workforce, we recognized one-time charges in 2021 of $6 million and in 2020 of $21 million for curtailment and special termination benefit enhancements paid to certain eligible employees upon voluntary retirement.

Our pension plan contains provisions that allow us, from time to time, to offer lump sum payment options to certain former employees in settlement of their future retirement benefits. We record an accounting settlement charge, consisting of the recognition of certain deferred costs of the pension plan associated with these lump sum payments only if, in the aggregate, they exceed or are probable to exceed the sum of the annual service and interest costs for the plan's net periodic pension benefit cost, which represents the settlement accounting threshold. The lump sum pension settlement payments for 2021 exceeded the settlement threshold. In addition, during the fourth quarter of 2021, we executed an annuity purchase contract with a third party insurer that triggered additional settlement activity (see discussion above for further information). As a result, we recognized a non-cash settlement charge of $383 million as of December 31, 2021 to accelerate the recognition of a portion of the previously unrecognized actuarial losses in the qualified pension plan, which is reflected in other income (expense), net in our consolidated statement of operations for the year ended December 31, 2021. This non-cash charge increased our recorded net loss and increased our recorded accumulated deficit, with an offset to accumulated other comprehensive loss in shareholders' equity for the year ended December 31, 2021. The amount of any future non-cash settlement charges will be dependent on several factors, including the total amount of our future lump sum benefit payments.

Benefit Obligations

The actuarial assumptions used to compute the funded status for the plans are based upon information available as of December 31, 2022 and 2021 and are as follows:

	Combined Pension Plan December 31,		Post-Retirement Benefit Plans December 31,	
	2022	2021	2022	2021
Actuarial assumptions at end of year:				
Discount rate	5.56%	2.85%	5.55%	2.84%
Rate of compensation increase	3.25%	3.25%	N/A	N/A
Initial health care cost trend rate	N/A	N/A	7.20% / 5.00%	5.75% / 5.00%
Ultimate health care cost trend rate	N/A	N/A	4.50%	4.50%
Year ultimate trend rate is reached	N/A	N/A	2030	2025

N/A - Not applicable

In 2021 and 2020, we adopted the revised mortality tables and projection scales released by the Society of Actuaries, which increased the projected benefit obligation of our benefit plans by $37 million for 2021, and decreased the projected benefit obligation of our benefit plans by $3 million for 2020. The Society of Actuaries did not release any revised mortality tables or projection scales in 2022.

The short-term and long-term interest crediting rates during 2022 for cash balance components of the Combined Pension Plan were 3.75% and 3.5%, respectively.

The following tables summarize the change in the benefit obligations for the Combined Pension Plan and post-retirement benefit plans:

	Combined Pension Plan Years Ended December 31,		
	2022	2021	2020
	(Dollars in millions)		
Change in benefit obligation			
Benefit obligation at beginning of year	$ 9,678	12,202	12,217
Plan spin-off	(2,552)	—	—
Service cost	37	56	59
Interest cost	154	201	324
Plan amendments	—	(13)	(3)
Special termination benefits charge	—	6	13
Actuarial (gain) loss	(1,432)	(337)	749
Benefits paid from plan assets	(590)	(766)	(1,157)
Settlement payments and annuity purchase	—	(1,671)	—
Benefit obligation at end of year	$ 5,295	9,678	12,202

	Post-Retirement Benefit Plans Years Ended December 31,		
	2022	2021	2020
	(Dollars in millions)		
Change in benefit obligation			
Benefit obligation at beginning of year	$ 2,781	3,048	3,037
Benefit obligation transferred to purchaser upon sale of business	(26)	—	—
Service cost	10	14	14
Interest cost	72	47	69
Participant contributions	37	41	46
Direct subsidy receipts	2	3	6
Plan amendments	(41)	—	—
Actuarial (gain) loss	(591)	(125)	134
Curtailment loss	—	—	4
Benefits paid by company	(249)	(247)	(255)
Benefits paid from plan assets	—	—	(7)
Benefit obligation at end of year	$1,995	2,781	3,048

Plan Assets

We maintain plan assets for our Combined Pension Plan and certain post-retirement benefit plans. As previously noted, assets in the post-retirement benefit plan trusts were substantially depleted as of December 31, 2016. The fair value of post-retirement benefit plan assets was $5 million at December 31, 2022, 2021 and 2020. Due to the insignificance of these assets on our consolidated financial statements, we have predominantly excluded them from the disclosures of plan assets in this Note, unless otherwise indicated.

The following table summarizes the change in the fair value of plan assets for the Combined Pension Plan:

	Combined Pension Plan Years Ended December 31,		
	2022	2021	2020
	(Dollars in millions)		
Change in plan assets			
Fair value of plan assets at beginning of year	$ 8,531	10,546	10,493
Plan spin-off	(2,239)	—	—
Return on plan assets	(987)	422	1,210
Benefits paid from plan assets	(590)	(766)	(1,157)
Settlement payments and annuity purchase	—	(1,671)	—
Fair value of plan assets at end of year	$ 4,715	8,531	10,546

The expected rate of return on plan assets is the long-term rate of return we expect to earn on the plan's assets, net of administrative expenses paid from plan assets. It is determined annually based on the strategic asset allocation and the long-term risk and return forecast for each asset class.

Our investment objective for the Combined Pension Plan assets is to achieve an attractive risk-adjusted return over time that will provide for the payment of benefits and minimize the risk of large losses. We employ a liability-aware investment strategy designed to reduce the volatility of pension assets relative to pension liabilities. This strategy is evaluated frequently and is expected to evolve over time with changes in the funded status and other factors. Approximately 55% of plan assets is targeted to long-duration investment grade bonds and interest rate sensitive derivatives and 45% is targeted to diversified equity, fixed income and private market investments that are expected to outperform the liability with moderate funded status risk. At the beginning of 2023, our expected annual long-term rate of return on pension assets before consideration of administrative expenses is assumed to be 7.0%. Administrative expenses, including projected PBGC (Pension Benefit Guaranty Corporation) premiums, reduce the annual long-term expected return, net of administrative expenses, to 6.5%.

Permitted investments: Plan assets are managed consistent with the restrictions set forth by the Employee Retirement Income Security Act of 1974, as amended.

Fair Value Measurements: Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between independent and knowledgeable parties who are willing and able to transact for an asset or liability at the measurement date. We use valuation techniques that maximize the use of observable inputs and minimize the use of unobservable inputs when determining fair value and then we rank the estimated values based on the reliability of the inputs used following the fair value hierarchy set forth by the FASB. For additional information on the fair value hierarchy, see Note 14—Fair Value of Financial Instruments.

At December 31, 2022, we used the following valuation techniques to measure fair value for assets. There were no changes to these methodologies during 2022:

- Level 1—Assets were valued using the closing price reported in the active market in which the individual security was traded. U.S. Treasury securities are valued at the bid price reported in an active market in which the security is traded. Variation margin due from/(to) brokers is valued at the expected next day cash settlement amount.
- Level 2—Assets were valued using quoted prices in markets that are not active, broker dealer quotations, and other methods by which all significant inputs were observable at the measurement date. Fixed income securities primarily utilize observable market information and are based on a spread to U.S. Treasury securities and consider yields available on comparable securities of issuers with similar credit ratings, the new issue market for similar securities, secondary trading markets and dealer quotes. Option adjusted spread models are utilized to evaluate fixed income securities that have early redemption features. Derivative securities traded over the counter are valued based on gains or losses due to fluctuations in indices, interest rates, foreign currency exchange rates, security prices or other underlying factors. Repurchase agreements are valued based on expected settlement per the contract terms.
- Level 3—Assets were valued using unobservable inputs in which little or no market data exists as reported by the respective institutions at the measurement date. Valuation methods may consider a range of factors, including estimates based on the assumptions of the investment entity or actuarial assumptions of insurers for valuing Group Annuity Contracts.

The Combined Pension Plan's assets are invested in various asset categories utilizing multiple strategies and investment managers. Interests in commingled funds are fair valued using a practical expedient to the net asset value ("NAV") per unit (or its equivalent) of each fund. The NAV reported by the fund manager is based on the market value of the underlying investments owned by each fund, minus its liabilities, divided by the number of shares outstanding. Commingled funds can be redeemed at NAV, with a frequency that includes daily, monthly, quarterly, semi-annually and annually. These commingled funds include redemption notice periods between same day and 180 days. Investments in private funds, primarily limited partnerships, represent long-term commitments with a fixed maturity date and are also valued at NAV. The plan has unfunded commitments related to certain private fund investments, which in aggregate are not material to the plan. Valuation inputs for these private fund interests are generally based on assumptions and other information not observable in the market. Underlying investments held in funds are aggregated and are classified based on the fund mandate. Investments held in separate accounts are individually classified.

The table below presents the fair value of plan assets by category and the input levels used to determine those fair values at December 31, 2022. It is important to note that the asset allocations do not include market exposures that are gained with derivatives. Investments include dividend and interest receivables, pending trades and accrued expenses.

	Fair Value of Combined Pension Plan Assets at December 31, 2022			
	Level 1	Level 2	Level 3	Total
	(Dollars in millions)			
Assets				
Investment grade bonds (a)	$446	1,720	—	2,166
High yield bonds (b)	—	48	4	52
Emerging market bonds (c)	49	78	—	127
U.S. stocks (d)	214	—	1	215
Non-U.S. stocks (e)	149	1	—	150
Multi-asset strategies (l)	25	—	—	25
Cash equivalents and short-term investments (o)	—	1	—	1
Total investments, excluding investments valued at NAV	$883	1,848	5	2,736
Liabilities				
Repurchase agreements (n)	$ —	(269)	—	(269)
Derivatives (m)	(1)	(10)	—	(11)
Investments valued at NAV				2,259
Total pension plan assets				$ 4,715

The table below presents the fair value of plan assets by category and the input levels used to determine those fair values at December 31, 2021. It is important to note that the asset allocations do not include market exposures that are gained with derivatives. Investments include dividend and interest receivable, pending trades and accrued expenses.

	Fair Value of Combined Pension Plan Assets at December 31, 2021			
	Level 1	Level 2	Level 3	Total
	(Dollars in millions)			
Assets				
Investment grade bonds (a)	$ 862	3,744	—	4,606
High yield bonds (b)	—	172	6	178
Emerging market bonds (c)	64	169	—	233
U.S. stocks (d)	330	3	5	338
Non-U.S. stocks (e)	256	—	—	256
Multi-asset strategies (l)	41	—	—	41
Derivatives (m)	—	1	—	1
Cash equivalents and short-term investments (o)	2	379	—	381
Total investments, excluding investments valued at NAV	$1,555	4,468	11	6,034
Liabilities				
Repurchase agreements (n)	$ —	(193)	—	(193)
Investments valued at NAV				2,690
Total pension plan assets				$ 8,531

The table below presents the fair value of plan assets valued at NAV by category for our Combined Pension Plan at December 31, 2022 and 2021.

	Fair Value of Plan Assets Valued at NAV	
	Combined Pension Plan at December 31,	
	2022	2021
	(Dollars in millions)	
Investment grade bonds (a)	$ 99	127
High yield bonds (b)	81	70
U.S. stocks (d)	79	71
Non-U.S. stocks (e)	270	398
Emerging market stocks (f)	15	11
Private equity (g)	326	348
Private debt (h)	438	495
Market neutral hedge funds (i)	135	141
Directional hedge funds (j)	166	241
Real estate (k)	333	420
Multi-asset strategies (l)	24	38
Cash equivalents and short-term investments (o)	293	330
Total investments valued at NAV	$2,259	2,690

Below is an overview of the asset categories and the underlying strategies used in the preceding tables:

(a) *Investment grade bonds* represent investments in fixed income securities as well as commingled bond funds comprised of U.S. Treasury securities, agencies, corporate bonds, mortgage-backed securities, asset-backed securities and commercial mortgage-backed securities.

(b) *High yield bonds* represent investments in below investment grade fixed income securities as well as commingled high yield bond funds.

(c) *Emerging market bonds* represent investments in securities issued by governments and other entities located in emerging countries as well as registered mutual funds and commingled emerging market bond funds.

(d) *U.S. stocks* represent investments in stocks of U.S. based companies as well as commingled U.S. stock funds.

(e) *Non-U.S. stocks* represent investments in stocks of companies based in developed countries outside the U.S. as well as commingled funds.

(f) *Emerging market stocks* represent investments in commingled funds comprised of stocks of companies located in emerging markets.

(g) *Private equity* represents non-public investments in domestic and foreign buy out and venture capital funds. Private equity funds are primarily structured as limited partnerships and are valued according to the valuation policy of each partnership, subject to prevailing accounting and other regulatory guidelines.

(h) *Private debt* represents non-public investments in distressed or mezzanine debt funds and pension group insurance contracts.

(i) *Market neutral hedge funds* hold investments in a diversified mix of instruments that are intended in combination to exhibit low correlations to market fluctuations. These investments are typically combined with futures to achieve uncorrelated excess returns over various markets.

(j) *Directional hedge funds*—This asset category represents investments that may exhibit somewhat higher correlations to market fluctuations than the market neutral hedge funds. Investments in hedge funds include both direct investments and investments in diversified funds of funds.

(k) *Real estate* represents investments in commingled funds and limited partnerships that invest in a diversified portfolio of real estate properties.

(l) *Multi-asset strategies* represent broadly diversified strategies that have the flexibility to tactically adjust exposures to different asset classes through time.

(m) *Derivatives* include exchange traded futures contracts as well as privately negotiated over the counter contracts. The market values represent gains or losses that occur due to differences between stated contract terms and fluctuations in underlying market instruments.

(n) *Repurchase Agreements* includes contracts where the security owner sells a security with the agreement to buy it back at a future date and price.

(o) *Cash equivalents and short-term investments* represent investments that are used in conjunction with derivatives positions or are used to provide liquidity for the payment of benefits or other purposes.

Derivative instruments: Derivative instruments are used to reduce risk as well as provide return. The gross notional exposure of the derivative instruments directly held by the Combined Pension Plan is shown below. The notional amount of the derivatives corresponds to market exposure but does not represent an actual cash investment.

	Gross Notional Exposure	
	Combined Pension Plan Years Ended December 31,	
	2022	2021
	(Dollars in millions)	
Derivative instruments:		
Exchange-traded U.S. equity futures	$ 70	108
Exchange-traded Treasury and other interest rate futures	1,256	1,688
Exchange-traded Foreign currency futures	2	11
Exchange-traded EURO futures	—	5
Interest rate swaps	82	127
Credit default swaps	139	132
Index swaps	90	1,036
Foreign exchange forwards	50	93
Options	251	654

Concentrations of Risk: Investments, in general, are exposed to various risks, such as significant world events, interest rate, credit, foreign currency and overall market volatility risk. These risks are managed by broadly diversifying assets across numerous asset classes and strategies with differing expected returns, volatilities and correlations. Risk is also broadly diversified across numerous market sectors and individual companies. Financial instruments that potentially subject the plans to concentrations of counterparty risk consist principally of investment contracts with high quality financial institutions. These investment contracts are typically collateralized obligations and/or are actively managed, limiting the amount of counterparty exposure to any one financial institution. Although the investments are well diversified, the value of plan assets could change materially depending upon the overall market volatility, which could affect the funded status of the plan.

The table below presents a rollforward of the Combined Pension Plan assets valued using Level 3 inputs:

	Combined Pension Plan Assets Valued Using Level 3 Inputs		
	High Yield Bonds	U.S. Stocks	Total
	(Dollars in millions)		
Balance at December 31, 2020	$ 6	2	8
Actual return on plan assets	—	3	3
Balance at December 31, 2021	6	5	11
Dispositions	(1)	(4)	(5)
Actual return on plan assets	(1)	—	(1)
Balance at December 31, 2022	$ 4	1	5

Certain gains and losses are allocated between assets sold during the year and assets still held at year-end based on transactions and changes in valuations that occurred during the year. These allocations also impact our calculation of net acquisitions and dispositions.

For the year ended December 31, 2022, the investment program produced actual losses on Combined Pension Plan assets of $987 million as compared to expected returns of $329 million, for a difference of $1.3 billion. For the year ended December 31, 2021, the investment program produced actual gains on Combined Pension Plan assets of $422 million as compared to the expected returns of $535 million, for a difference of $113 million. The short-term annual returns on plan assets will almost always be different from the expected long-term returns and the plans could experience net gains or losses, due primarily to the volatility occurring in the financial markets during any given year.

Unfunded Status

The following table presents the unfunded status of the Combined Pension Plan and post-retirement benefit plans:

	Combined Pension Plan		Post-Retirement Benefit Plans	
	Years Ended December 31,		Years Ended December 31,	
	2022	2021	2022	2021
	(Dollars in millions)			
Benefit obligation	$(5,295)	(9,678)	(1,995)	(2,781)
Fair value of plan assets	4,715	8,531	5	5
Unfunded status	(580)	(1,147)	(1,990)	(2,776)
Current portion of unfunded status	—	—	(210)	(212)
Non-current portion of unfunded status	$ (580)	(1,147)	(1,780)	(2,564)

The current portion of our post-retirement benefit obligations is recorded on our consolidated balance sheets in accrued expenses and other current liabilities-salaries and benefits.

Accumulated Other Comprehensive Loss-Recognition and Deferrals

The following table presents cumulative items not recognized as a component of net periodic benefits expense as of December 31, 2021, items recognized as a component of net periodic benefits expense in 2022, additional items deferred during 2022 and cumulative items not recognized as a component of net periodic benefits expense as of December 31, 2022. The items not recognized as a component of net periodic benefits expense have been recorded on our consolidated balance sheets in accumulated other comprehensive loss:

	As of and for the Years Ended December 31,				
	2021	Recognition of Net Periodic Benefits Expense	Deferrals	Net Change in AOCL	2022
	(Dollars in millions)				
Accumulated other comprehensive (loss) income					
Pension plans:					
Net actuarial (loss) gain	$(2,564)	688	124	812	(1,752)
Settlement charge	383	—	—	—	383
Prior service benefit (cost)	45	(28)	—	(28)	17
Deferred income tax benefit (expense)	559	(166)	(26)	(192)	367
Total pension plans	(1,577)	494	98	592	(985)
Post-retirement benefit plans:					
Net actuarial (loss) gain	(217)	(3)	591	588	371
Prior service (cost) benefit	(5)	1	41	42	37
Curtailment loss	4	—	—	—	4
Deferred income tax benefit (expense)	54	1	(159)	(158)	(104)
Total post-retirement benefit plans	(164)	(1)	473	472	308
Total accumulated other comprehensive (loss) income	$ (1,741)	493	571	1,064	(677)

The following table presents cumulative items not recognized as a component of net periodic benefits expense as of December 31, 2020, items recognized as a component of net periodic benefits expense in 2021, additional items deferred during 2021 and cumulative items not recognized as a component of net periodic benefits expense as of December 31, 2020. The items not recognized as a component of net periodic benefits expense have been recorded on our consolidated balance sheets in accumulated other comprehensive loss:

	As of and for the Years Ended December 31,				
	2020	Recognition of Net Periodic Benefits Expense	Deferrals	Net Change in AOCL	2021
	(Dollars in millions)				
Accumulated other comprehensive (loss) income					
Pension plans:					
Net actuarial (loss) gain	$(2,993)	186	243	429	(2,564)
Settlement charge	—	383	—	383	383
Prior service benefit (cost)	41	(9)	13	4	45
Deferred income tax benefit (expense)	755	(137)	(59)	(196)	559
Total pension plans	(2,197)	423	197	620	(1,577)
Post-retirement benefit plans:					
Net actuarial (loss) gain	(346)	4	125	129	(217)
Prior service (cost) benefit	(20)	15	—	15	(5)
Curtailment loss	4	—	—	—	4
Deferred income tax benefit (expense)	90	(5)	(31)	(36)	54
Total post-retirement benefit plans	(272)	14	94	108	(164)
Total accumulated other comprehensive (loss) income	$(2,469)	437	291	728	(1,741)

Medicare Prescription Drug, Improvement and Modernization Act of 2003

We sponsor post-retirement health care plans with several benefit options that provide prescription drug benefits that we deem actuarially equivalent to or exceeding Medicare Part D. We recognize the impact of the federal subsidy received under the Medicare Prescription Drug, Improvement and Modernization Act of 2003 in the calculation of our post-retirement benefit obligation and net periodic post-retirement benefit expense.

Other Benefit Plans

Health Care and Life Insurance

We provide health care and life insurance benefits to essentially all of our active employees. We are largely self-funded for the cost of the health care plan. Our health care benefit expense for current employees was $296 million, $309 million and $307 million for the years ended December 31, 2022, 2021 and 2020, respectively. Union-represented employee benefits are based on negotiated collective bargaining agreements. Employees contributed $101 million, $120 million, $133 million for the years ended December 31, 2022, 2021 and 2020, respectively. Our group basic life insurance plans are fully insured and the premiums are paid by us.

401(k) Plans

We sponsor a qualified defined contribution plan covering substantially all of our U.S. employees. Under this plan, employees may contribute a percentage of their annual compensation up to certain maximums, as defined by the plan and by the Internal Revenue Service. Currently, we match a percentage of employee contributions in cash. At December 31, 2022 and 2021, the assets of the plan included approximately 10 million shares of our common stock, all of which were the result of the combination of previous employer match and participant directed contributions. We recognized expenses related to this plan of $91 million, $96 million and $101 million for the years ended December 31, 2022, 2021 and 2020, respectively.

Deferred Compensation Plans

We sponsor non-qualified deferred compensation plans for various groups that included certain of our current and former highly compensated employees. The value of liabilities related to these plans was not significant.

(12) Stock-based Compensation

We maintain an equity incentive program that allows our Board of Directors (through its Compensation Committee or a senior officer acting under delegated authority) to grant incentives to certain employees and outside directors in one or more forms, including: incentive and non-qualified stock options, stock appreciation rights, restricted stock awards, restricted stock units and market and performance shares. Stock options generally expire ten years from the date of grant. There were no outstanding stock options as of December 31, 2022.

Restricted Stock Awards and Restricted Stock Unit Awards

For equity based restricted stock and restricted stock unit awards that contain only service conditions for vesting (time-based awards), we calculate the award fair value based on the closing price of our common stock on the accounting grant date. We also grant equity-based awards that contain additional market or performance conditions, as well as service conditions. For awards having both service and market conditions, the award fair value is calculated using Monte-Carlo simulations. Awards with service as well as performance conditions specify a target number of shares for the award, although each recipient ultimately has the opportunity to receive between 0% and 200% of the target number of shares. For awards with service and market conditions, the percentage received is typically based on our total shareholder return over the up to three-year service period versus that of selected peer companies. For awards with service and performance conditions, the percentage received depends upon the attainment of one or more performance targets during the two- or three-year service period.

The following table summarizes activity involving restricted stock and restricted stock unit awards for the year ended December 31, 2022:

	Number of Shares	Weighted-Average Grant Date Fair Value
	(in thousands)	
Non-vested at December 31, 2021	22,427	$12.74
Granted	18,788	11.47
Vested	(9,412)	12.03
Forfeited	(4,524)	12.65
Non-vested at December 31, 2022	27,279	12.13

During 2022, we granted 18.8 million shares of restricted stock and restricted stock unit awards at a weighted-average price of $11.47. During 2021, we granted 13.9 million shares of restricted stock and restricted stock unit awards at a weighted-average price of $13.95. During 2020, we granted 17.8 million shares of restricted stock and restricted stock unit awards at a weighted-average price of $12.08. The total fair value of restricted stock and restricted stock unit awards that vested during 2022, 2021 and 2020, was $98 million, $139 million and $126 million, respectively. We do not estimate forfeitures, but recognize them as they occur.

Compensation Expense and Tax Benefit

For time-based awards that vest ratably over the service period, we recognize compensation expense on a straight-line basis over the requisite service period for the entire award. For our performance stock-based awards, we recognize compensation expense over the service period and based upon the expected performance outcome, until the final performance outcome is determined. Total compensation expense for all stock-based payment arrangements for the years ended December 31, 2022, 2021 and 2020, was $98 million, $120 million and $175 million, respectively. Our tax benefit recognized in the consolidated statements of operations for our stock-based payment arrangements for the years ended December 31, 2022, 2021 and 2020, was $25 million, $29 million and $43 million, respectively. At December 31, 2022, there was $162 million of total unrecognized compensation expense related to our stock-based payment arrangements, which we expect to recognize over a weighted-average period of 1.5 years.

(13) Earnings (Loss) Per Common Share

Basic and diluted earnings (loss) per common share for the years ended December 31, 2022, 2021 and 2020 were calculated as follows:

	Years Ended December 31,		
	2022	2021	2020
	(Dollars in millions, except per share amounts, shares in thousands)		
(Loss) income (numerator)			
Net (loss) income	$ (1,548)	2,033	(1,232)
Net (loss) income applicable to common stock for computing basic (loss) earnings per common share	(1,548)	2,033	(1,232)
Net (loss) income as adjusted for purposes of computing diluted (loss) earnings per common share	$ (1,548)	2,033	(1,232)
Shares (denominator):			
Weighted average number of shares:			
Outstanding during period	1,028,069	1,077,393	1,096,284
Non-vested restricted stock	(20,552)	(17,852)	(17,154)
Weighted average shares outstanding for computing basic (loss) earnings per common share	1,007,517	1,059,541	1,079,130
Incremental common shares attributable to dilutive securities:			
Shares issuable under convertible securities	—	10	—
Shares issuable under incentive compensation plans	—	7,227	—
Number of shares as adjusted for purposes of computing diluted (loss) earnings per common share	1,007,517	1,066,778	1,079,130
Basic (loss) earnings per common share	$ (1.54)	1.92	(1.14)
Diluted earnings (loss) per common share[(1)]	$ (1.54)	1.91	(1.14)

1 For the years ended December 31, 2022 and December 31, 2020, we excluded from the calculation of diluted loss per share 3.8 million and 5.3 million shares, respectively, potentially issuable under incentive compensation plans or convertible securities, as their effect, if included, would have been anti-dilutive.

Our calculation of diluted (loss) earnings per common share excludes shares of common stock that are issuable upon exercise of stock options when the exercise price is greater than the average market price of our common stock. We also exclude unvested restricted stock awards that are antidilutive as a result of unrecognized compensation cost. Such shares were 13.8 million, 3.2 million and 3.2 million for 2022, 2021 and 2020, respectively.

(14) Fair Value of Financial Instruments

Our financial instruments consist of cash, cash equivalents, restricted cash, accounts receivable, accounts payable, long-term debt (excluding finance lease and other obligations), interest rate swap contracts, certain equity investments and certain indemnification obligations. Due primarily to their short-term nature, the carrying amounts of our cash, cash equivalents, restricted cash, accounts receivable and accounts payable approximate their fair values.

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between independent and knowledgeable parties who are willing and able to transact for an asset or liability at the measurement date. We use valuation techniques that maximize the use of observable inputs and minimize the use of unobservable inputs when determining fair value and then we rank the estimated values based on the reliability of the inputs used following the fair value hierarchy.

We determined the fair values of our long-term debt, including the current portion, based on quoted market prices where available or, if not available, based on inputs other than quoted market prices in active markets that are either directly or indirectly observable such as discounted future cash flows using current market interest rates.

The three input levels in the hierarchy of fair value measurements are defined by the FASB generally as follows:

Input Level	Description of Input
Level 1	Observable inputs such as quoted market prices in active markets.
Level 2	Inputs other than quoted prices in active markets that are either directly or indirectly observable.
Level 3	Unobservable inputs in which little or no market data exists.

The following table presents the carrying amounts and estimated fair values of our financial assets and liabilities as of December 31, 2022:

	As of December 31, 2022			As of December 31, 2021	
	Input Level	Carrying Amount	Fair Value	Carrying Amount	Fair Value
	(Dollars in millions)				
Equity securities[1]	1	$ 22	22	—	—
Long-term debt, excluding finance lease and other obligations[2]	2	$20,255	17,309	28,635	29,221
Interest rate swap contracts (see Note 15)	2	—	—	25	25
Indemnifications related to the sale of the Latin American business	3	86	86	—	—

1 For the year ended December 31, 2022, we recognized $109 million of loss on equity securities in other (expense) income, net in our consolidated statements of operations.

2 As of December 31, 2021, these amounts excluded $1.4 billion of carrying amount and $1.6 billion of fair value of debt that had been classified as held for sale related to our divestiture of the ILEC business on October 3, 2022. See Note 2—Divestitures of the Latin American and ILEC Businesses and Planned Divestiture of the EMEA Business for more information.

Investment Held at Net Asset Value

We hold an investment in a limited partnership created as a holding company for various investments, including a portion of the colocation and data center business that we divested in 2017. The limited partnership has sole discretion as to the amount and timing of distributions of the underlying assets. As of December 31, 2022, the underlying investments held by the limited partnership are traded in active markets and, as such, we account for our investment in the limited partnership using NAV. The investments held by the limited partnership were subject to lock-up agreements that restricted the sale or distribution of certain underlying assets prior to July 2022 and October 2022. The restrictions on one of the investments held by the limited partnership expired on July 29, 2022, and we received a distribution of 11.5 million shares of publicly-traded common stock, which are reflected in our fair value table as of December 31, 2022, as seen above. The restriction on the remaining underlying investment expired on October 12, 2022. No shares have been distributed to date. Subject to restrictions imposed by law and other provisions of the limited partnership agreement, the general partner has the sole discretion as to the amounts and timing of distributions of partnership assets to partners. The following table summarizes the net asset value of our investment in this limited partnership.

	As of December 31, 2022	As of December 31, 2021
	Net Asset Value	
	(Dollars in millions)	
Investment in limited partnership[1]	$85	299

1 For the years ended December 31, 2022 and December 31, 2021, we recognized $83 million of loss on investment and $138 million of gain on investment, respectively, reflected in other income (expense), net in our consolidated statement of operations.

(15) Derivative Financial Instruments

From time to time, we use derivative financial instruments, primarily interest rate swaps, to manage our exposure to fluctuations in interest rates. Our primary objective in managing interest rate risk is to decrease the volatility of our earnings and cash flows affected by changes in the underlying rates. We have floating rate long-term debt (see Note 7—Long-Term Debt and Credit Facilities). These obligations expose us to variability in interest payments due to changes in interest rates. If interest rates increase, our interest expense increases. Conversely, if interest rates decrease, our interest expense also decreases. Through their expiration on June 30, 2022, we designated the interest rate swap agreements described below as cash flow hedges. Under these hedges, we received variable-rate amounts from a counterparty in exchange for us making fixed-rate payments over the lives of the agreements without exchange of the underlying notional amount. The change in the fair value of the interest rate swap agreements was reflected in accumulated other comprehensive loss and was subsequently reclassified into earnings in the period that the hedged transaction affected earnings by virtue of qualifying as effective cash flow hedges. We do not use derivative financial instruments for speculative purposes.

In 2019, we entered into variable-to-fixed interest rate swap agreements to hedge the interest on $4.0 billion notional amount of floating rate debt. As of December 31, 2021 and 2020, we evaluated the effectiveness of our remaining hedges quantitatively and determined that hedges in effect on such dates qualified as effective hedge relationships.

We may be exposed to credit-related losses in the event of non-performance by counterparties. The counterparties to any of the financial derivatives we enter into are major institutions with investment grade credit ratings. We evaluate counterparty credit risk before entering into any hedge transaction and continue to closely monitor the financial markets and the risk that our counterparties will default on their obligations as part of our quarterly qualitative effectiveness evaluation.

Amounts accumulated in accumulated other comprehensive loss related to derivatives are indirectly recognized in earnings as periodic settlement payments are made throughout the term of the swaps.

The table below presents the fair value of our derivative financial instruments as well as their classification on the consolidated balance sheets at December 31, 2022 and December 31, 2021 as follows (in millions):

		December 31, 2022	December 31, 2021
Derivatives designated as	Balance Sheet Location	Fair Value	
Cash flow hedging contracts	Other current and noncurrent liabilities	$—	25

The amount of unrealized losses recognized in accumulated other comprehensive loss consists of the following (in millions):

Derivatives designated as hedging instruments	2022	2021	2020
Cash flow hedging contracts			
Years Ended December 31,	$—	1	115

The amount of realized losses reclassified from accumulated other comprehensive loss to the statement of operations consists of the following (in millions):

Derivatives designated as hedging instruments	2022	2021	2020
Cash flow hedging contracts			
Years Ended December 31,	$22	83	62

Amounts included in accumulated other comprehensive loss at the beginning of the period were reclassified into earnings upon the settlement of the cash flow hedging contracts on March 31, 2022 and June 30, 2022. During the year ended December 31, 2022, $19 million of net losses on the interest rate swaps have been reflected in our consolidated statements of operations upon settlement of the agreements in the first half of 2022.

(16) Income Taxes

The components of the income tax expense are as follows:

	Years Ended December 31,		
	2022	2021	2020
	(Dollars in millions)		
Income tax expense:			
Federal			
Current	$ 838	5	5
Deferred	(332)	514	338
State			
Current	283	42	50
Deferred	(191)	72	55
Foreign			
Current	32	23	29
Deferred	(73)	12	(27)
Total income tax expense	$ 557	668	450

	Years Ended December 31,		
	2022	2021	2020
	(Dollars in millions)		
Income tax expense was allocated as follows:			
Income tax expense in the consolidated statements of operations:			
Attributable to income	$557	668	450
Stockholders' equity:			
Tax effect of the change in accumulated other comprehensive loss	$297	222	17

The following is a reconciliation from the statutory federal income tax rate to our effective income tax rate:

	Years Ended December 31,		
	2022	2021	2020
	(Percentage of pre-tax (loss) income)		
Statutory federal income tax rate	21.0%	21.0%	21.0%
State income taxes, net of federal income tax benefit	(8.8)%	3.3%	(10.8)%
Goodwill impairment	(68.9)%	—%	(71.0)%
Change in liability for unrecognized tax position	(0.2)%	0.1%	(0.6)%
Legislative changes to Global Intangible Low-Taxes Income ("GILTI")	—%	—%	1.8%
Nondeductible executive stock compensation	(0.1)%	0.2%	(1.6)%
Change in valuation allowance	0.9%	—%	2.6%
Net foreign income taxes	3.0%	0.6%	(0.6)%
Research and development credits	1.1%	(0.5)%	1.6%
Divestitures of businesses[1]	(4.0)%	—%	—%
Other, net	(0.2)%	—%	0.1%
Effective income tax rate	(56.2)%	24.7%	(57.5)%

[1] Includes GILTI incurred as a result of the sale of our Latin American business.

The effective tax rate for the year ended December 31, 2022 includes a $682 million unfavorable impact of non-deductible goodwill impairments and $128 million unfavorable impact related to incurring GILTI as a result of the sale of our Latin American business. The effective tax rate for the year ended December 31, 2020 includes a $555 million unfavorable impact of non-deductible goodwill impairments, a $14 million favorable impact in tax regulations passed in 2020 allowing a high tax exception related to our tax exposure of to GILTI, as well as a $20 million benefit related to the release of previously established valuation allowances against capital losses.

The tax effects of temporary differences that gave rise to significant portions of the deferred tax assets and deferred tax liabilities were as follows:

	As of December 31,	
	2022[(1)]	2021[(1)]
	(Dollars in millions)	
Deferred tax assets		
Post-retirement and pension benefit costs	$ 725	978
Net operating loss carryforwards	871	2,463
Other employee benefits	85	96
Other	519	554
Gross deferred tax assets	2,200	4,091
Less valuation allowance	(550)	(1,566)
Net deferred tax assets	1,650	2,525
Deferred tax liabilities		
Property, plant and equipment, primarily due to depreciation differences	(3,046)	(3,941)
Goodwill and other intangible assets	(1,634)	(2,473)
Gross deferred tax liabilities	(4,680)	(6,414)
Net deferred tax liability	$(3,030)	(3,889)

1 Excludes $138 million of deferred tax assets and $38 million of deferred tax liabilities related to the EMEA business that were classified as held for sale as of December 31, 2022. Excludes $46 million of deferred tax assets and $129 million of deferred tax liabilities related to the Latin American business sold on August 1, 2022 that were classified as held for sale as of December 31, 2021. There were no material deferred tax amounts classified as held for sale related to the ILEC business.

Of the $3.0 billion and $3.9 billion net deferred tax liability at December 31, 2022 and 2021, respectively, $3.2 billion and $4.0 billion is reflected as a long-term liability and $133 million and $160 million is reflected as a net noncurrent deferred tax asset, in other, net on our consolidated balance sheets at December 31, 2022 and 2021, respectively.

Income taxes payable as of December 31, 2022 and 2021 were $943 million and $3 million, respectively. The increase to our payable in the current period is primarily driven by the sale of our Latin American and ILEC businesses.

At December 31, 2022, we had federal NOLs of $1.0 billion, net of expirations from Section 382 limitations and uncertain tax positions, for U.S. federal income tax purposes. We expect to use substantially all of these tax attributes to reduce our future federal tax liabilities, although the timing of that use will depend upon our future earnings and future tax circumstances. Our ability to use these NOLs is subject to annual limits imposed by Section 382. As a result, we anticipate that our cash income tax liabilities will increase substantially in future periods. If unused, the NOLs will expire between 2028 and 2033. The federal NOLs will expire as follows:

Expiring December 31,	Amount (Dollars in millions)
2028	572
2029	645
2030	668
2031	733
2032	348
2033	238
NOLs per return	3,204
Uncertain tax positions	(2,190)
Financial NOLs	$ 1,014

At December 31, 2022 we had state net operating loss carryforwards of $13 billion (net of uncertain tax positions). Our acquisitions of Level 3, Qwest and SAVVIS, Inc. caused "ownership changes" within the meaning of Section 382 for the acquired companies. As a result, our ability to use these NOLs and tax credits are subject to annual limits imposed by Section 382.

We establish valuation allowances when necessary to reduce the deferred tax assets to amounts we expect to realize. As of December 31, 2022, a valuation allowance of $550 million was established as it is more likely than not that this amount of net operating loss, capital loss and tax credit carryforwards will not be utilized prior to expiration. Our valuation allowance at December 31, 2022 and 2021 is primarily related to NOL carryforwards. This valuation allowance decreased by $1.0 billion during 2022, primarily due to the impact of adjustments related to the planned divestiture of our EMEA business, including classification of a portion of the valuation allowance as held for sale.

A reconciliation of the change in our gross unrecognized tax benefits (excluding both interest and any related federal benefit) from January 1 to December 31 for 2022 and 2021 is as follows:

	2022	2021
	(Dollars in millions)	
Unrecognized tax benefits at beginning of year	$ 1,375	1,474
Increase in tax positions of the current year netted against deferred tax assets	—	1
Increase in tax positions of prior periods netted against deferred tax assets	—	—
Decrease in tax positions of the current year netted against deferred tax assets	—	(101)
Decrease in tax positions of prior periods netted against deferred tax assets	(661)	(1)
Increase in tax positions taken in the current year	634	4
(Decrease) increase in tax positions taken in the prior year	(3)	2
Decrease due to payments/settlements	—	(3)
Decrease from the lapse of statute of limitations	—	(1)
Decrease related to divestitures of businesses	$ (27)	—
Unrecognized tax benefits at end of year	$ 1,318	$ 1,375

The total amount (including both interest and any related federal benefit) of unrecognized tax benefits that, if recognized, would impact the effective income tax rate was $847 million and $273 million at December 31, 2022 and 2021, respectively.

Our policy is to reflect interest expense associated with unrecognized tax benefits in income tax expense. We had accrued interest (presented before related tax benefits) of approximately $26 million and $24 million at December 31, 2022 and 2021, respectively.

We, or at least one of our subsidiaries, file income tax returns in the U.S. federal jurisdiction and various states and foreign jurisdictions. With few exceptions, we are no longer subject to U.S. federal, state and local, or non-U.S. income tax examinations by tax authorities for years before 2002. The Internal Revenue Service and state and local taxing authorities reserve the right to audit any period where net operating loss carryforwards are available.

Based on our current assessment of various factors, including (i) the potential outcomes of these ongoing examinations, (ii) the expiration of statute of limitations for specific jurisdictions, (iii) the negotiated settlement of certain disputed issues, and (iv) the administrative practices of applicable taxing jurisdictions, it is reasonably possible that the related unrecognized tax benefits for uncertain tax positions previously taken may decrease by up to $1 million within the next 12 months. The actual amount of such decrease, if any, will depend on several future developments and events, many of which are outside our control.

(17) Segment Information

We report our results within two segments: Business and Mass Markets.

Under our Business segment we provide products and services to meet the needs of our enterprise and wholesale customers under four distinct sales channels: International and Global Accounts, Large Enterprise, Mid-Market Enterprise and Wholesale. As previously disclosed, we plan to update these sales channels beginning with our first quarterly report filed after this annual report. For Business segment revenue, we report the following product categories: Compute and Application Services, IP and Data Services, Fiber Infrastructure Services and Voice and Other, in each case through the sales channels outlined above. The Business segment included the results of our Latin American business prior to it being sold on August 1, 2022.

Under our Mass Markets Segment, we provide products and services to residential and small business customers. Following the completion of the CAF II program at December 31, 2021, we recategorized our products used to report our Mass Markets segment revenue and currently use the following categories: Fiber Broadband, Other Broadband and Voice and Other. See detailed descriptions of these product and service categories in Note 4—Revenue Recognition.

As described in more detail below, our segments are managed based on the direct costs of providing services to their customers and directly associated selling, general and administrative costs (primarily salaries and commissions). Shared costs are managed separately and included in "Operations and Other" in the tables below. As referenced above, we reclassified certain prior period amounts to conform to the current period presentation. See Note 1—Background and Summary of Significant Accounting Policies for additional detail on these changes.

The following tables summarize our segment results for 2022, 2021 and 2020 based on the segment categorization we were operating under at December 31, 2022.

	Year Ended December 31, 2022				
	Business	**Mass Markets**	**Total Segments**	**Operations and Other**	**Total**
	(Dollars in millions)				
Revenue:	$13,039	4,439	17,478	—	17,478
Expenses:					
Cost of services and products	3,260	123	3,383	4,485	7,868
Selling, general and administrative	1,101	562	1,663	1,415	3,078
Gain on sale of businesses	—	—	—	(773)	(773)
Loss on disposal groups held for sale	—	—	—	700	700
Less: stock-based compensation	—	—	—	(98)	(98)
Total expense	4,361	685	5,046	5,729	10,775
Total adjusted EBITDA	$8,678	3,754	12,432	(5,729)	6,703

	Year Ended December 31, 2021				
	Business	**Mass Markets**	**Total Segments**	**Operations and Other**	**Total**
	(Dollars in millions)				
Revenue:	$14,119	5,568	19,687	—	19,687
Expenses:					
Cost of services and products	3,488	153	3,641	4,847	8,488
Selling, general and administrative	1,178	539	1,717	1,178	2,895
Less: stock-based compensation	—	—	—	(120)	(120)
Total expense	4,666	692	5,358	5,905	11,263
Total adjusted EBITDA	$9,453	4,876	14,329	(5,905)	8,424

	Year Ended December 31, 2020				
	Business	**Mass Markets**	**Total Segments**	**Operations and Other**	**Total**
	(Dollars in millions)				
Revenue:	$ 14,808	5,904	20,712	—	20,712
Expenses:					
Cost of services and products	3,661	201	3,862	5,072	8,934
Selling, general and administrative	1,262	581	1,843	1,621	3,464
Less: stock-based compensation	—	—	—	(175)	(175)
Total expense	4,923	782	5,705	6,518	12,223
Total adjusted EBITDA	$ 9,885	5,122	15,007	(6,518)	8,489

Revenue and Expenses

Our segment revenue includes all revenue from our two segments as described in more detail above. Our segment revenue is based upon each customer's classification. We report our segment revenue based upon all services provided to that segment's customers. Our segment expenses include specific cost of service expenses incurred as a direct result of providing services and products to segment customers, along with selling, general and administrative expenses that are directly associated with specific segment customers or activities. We have not allocated assets or debt to specific segments.

The following items are excluded from our segment results, because they are centrally managed and not monitored by or reported to our chief operating decision maker by segment:

- network expenses not incurred as a direct result of providing services and products to segment customers and centrally managed expenses such as Finance, Human Resources, Legal, Marketing, Product Management and IT, all of which are reported as "Operations and Other" in the tables above, and "Operations and other expenses" in the table below;
- depreciation and amortization expense;
- goodwill or other impairments;
- interest expense;
- stock-based compensation; and
- other income and expense items.

The following table reconciles total segment adjusted EBITDA to net (loss) income for the years ended December 31, 2022, 2021 and 2020:

	Years Ended December 31,		
	2022	2021	2020
	(Dollars in millions)		
Total segment adjusted EBITDA	$ 12,432	14,329	15,007
Depreciation and amortization	(3,239)	(4,019)	(4,710)
Goodwill impairment	(3,271)	—	(2,642)
Operations and other expenses	(5,729)	(5,905)	(6,518)
Stock-based compensation	(98)	(120)	(175)
Operating income	95	4,285	962
Total other expense, net	(1,086)	(1,584)	(1,744)
(Loss) income before income taxes	(991)	2,701	(782)
Income tax expense	557	668	450
Net (loss) income	$ (1,548)	2,033	(1,232)

We do not have any single customer that comprises more than 10% of our consolidated total operating revenue.

The assets we hold outside of the U.S. represent less than 10% of our total assets. Revenue from sources outside of the U.S. comprises less than 10% of our total operating revenue.

(18) Commitments, Contingencies and Other Items

We are subject to various claims, legal proceedings and other contingent liabilities, including the matters described below, which individually or in the aggregate could materially affect our financial condition, future results of operations or cash flows. As a matter of course, we are prepared to both litigate these matters to judgment as needed, as well as to evaluate and consider reasonable settlement opportunities.

Irrespective of its merits, litigation may be both lengthy and disruptive to our operations and could cause significant expenditure and diversion of management attention. We review our litigation accrual liabilities on a quarterly basis, but in accordance with applicable accounting guidelines only establish accrual liabilities when losses are deemed probable and reasonably estimable and only revise previously-established accrual liabilities when warranted by changes in circumstances, in each case based on then-available information.

As such, as of any given date we could have exposure to losses under proceedings as to which no liability has been accrued or as to which the accrued liability is inadequate. Amounts accrued for our litigation and non-income tax contingencies at December 31, 2022 and December 31, 2021 aggregated to approximately $88 million and $103 million, respectively, and are included in other current liabilities, other liabilities, or liabilities held for sale in our consolidated balance sheets as of such dates. The establishment of an accrual does not mean that actual funds have been set aside to satisfy a given contingency. Thus, the resolution of a particular contingency for the amount accrued could have no effect on our results of operations but nonetheless could have an adverse effect on our cash flows.

In this Note, when we refer to a class action as "putative" it is because a class has been alleged, but not certified, in that matter.

Principal Proceedings

Shareholder Class Action Suit
Lumen and certain Lumen Board of Directors members and officers were named as defendants in a putative shareholder class action lawsuit filed on June 12, 2018 in the Boulder County District Court of the state of Colorado, captioned Houser et al. v. CenturyLink, et al. The complaint asserted claims on behalf of a putative class of former Level 3 shareholders who became CenturyLink, Inc. shareholders as a result of our acquisition of Level 3. It alleged that the proxy statement provided to the Level 3 shareholders failed to disclose various material information of several kinds, including information about strategic revenue, customer loss rates, and customer account issues, among other items. The complaint seeks damages, costs and fees, rescission, rescissory damages, and other equitable relief. In May 2020, the court dismissed the complaint. Plaintiffs appealed that decision, and in March 2022, the appellate court affirmed the district court's order in part and reversed it in part. It then remanded the case to the district court for further proceedings.

State Tax Suits
Since 2012, a number of Missouri municipalities have asserted claims in the Circuit Court of St. Louis County, Missouri, alleging that we and several of our subsidiaries have underpaid taxes. These municipalities are seeking, among other things, declaratory relief regarding the application of business license and gross receipts taxes and back taxes from 2007 to the present, plus penalties and interest. In a February 2017 ruling in connection with one of these pending cases, the court entered an order awarding the plaintiffs $4 million and broadening the tax base on a going-forward basis. We appealed that decision to the Missouri Supreme Court. In December 2019, it affirmed the circuit court's order in some respects and reversed it in others, remanding the case to the circuit court for further proceedings. The Missouri Supreme Court's decision reduced our exposure in the case. In a June 2021 ruling in one of the pending cases, another trial court awarded the cities of Columbia and Joplin approximately $55 million, plus statutory interest. On appeal, the Missouri Court of Appeals affirmed in part and reversed in part, vacated the judgment and remanded the case to the trial court with instructions for further proceedings consistent with the Missouri Supreme Court's decision. We continue to vigorously defend against these claims.

Billing Practices Suits
In June 2017, a former employee filed an employment lawsuit against us claiming that she was wrongfully terminated for alleging that we charged some of our retail customers for products and services they did not authorize. Thereafter, based in part on the allegations made by the former employee, several legal proceedings were filed, including consumer class actions in federal and state courts, a series of securities investor class actions in federal courts and several shareholder derivative actions in federal and Louisiana state courts. The derivative cases were brought on behalf of CenturyLink, Inc. against certain current and former officers and directors of the Company and seek damages for alleged breaches of fiduciary duties.

The consumer class actions, the securities investor class actions, and the federal derivative actions were transferred to the U.S. District Court for the District of Minnesota for coordinated and consolidated pretrial proceedings as In Re: CenturyLink Sales Practices and Securities Litigation. We have settled the consumer and securities investor class actions. Those settlements are final. The derivative actions remain pending.

We have engaged in discussions regarding related claims with a number of state attorneys general, and have entered into agreements settling certain of the consumer practices claims asserted by state attorneys general. While we do not agree with allegations raised in these matters, we have been willing to consider reasonable settlements where appropriate.

December 2018 Outage Proceedings
We experienced an outage on one of our transport networks that impacted voice, IP, 911, and transport services for some of our customers between the 27th and 29th of December 2018. We believe that the outage was caused by a faulty network management card from a third-party equipment vendor.

The FCC and four states (both Washington Utilities and Transportation Commission ("WUTC") and the Washington Attorney General; the Montana Public Service Commission; the Nebraska Public Service Commission; and the Wyoming Public Service Commission) initiated formal investigations. In November 2020, following the FCC's release of a public report on the outage, we negotiated a settlement which was released by the FCC in December 2020. The amount of the settlement was not material to our financial statements.

In December 2020, the Staff of the WUTC filed a complaint against us based on the December 2018 outage, seeking penalties owed for alleged violations of Washington regulations and laws. The matter was tried before the WUTC in December 2022 and we await a decision by the WUTC.

AT&T Proceedings
In August 2022, certain of our subsidiaries filed a complaint in federal district court in Colorado captioned Central Telephone Company of Virginia, et al, v. AT&T Corp., et al. The suit seeks relief and damages for AT&T's failure to pay amounts for services it receives. AT&T disputes those claims and has asserted counterclaims alleging breach of contract and seeking declaratory relief. It has requested the court to enjoin the plaintiffs from terminating services for failure to pay, and it has requested the court transfer the case to federal court in the southern district of New York for further proceedings. Also in August 2022, AT&T filed a separate lawsuit in federal court in the western district of Louisiana against Central Telephone Company of Virginia and other of our subsidiaries alleging, among other claims, breach of contract provisions pertaining to network architecture. The Lumen plaintiff entities dispute AT&T's claims.

Latin American Tax Litigation and Claims
In connection with the recent divestiture of our Latin American business, the purchaser assumed responsibility for the Peruvian tax litigation and Brazilian tax claims described in our prior periodic reports filed with the SEC. We have agreed to indemnify the purchaser for amounts paid in respect of the Brazilian tax claims. The value of this indemnification is included in the indemnification amount as disclosed in Note 14—Fair Value of Financial Instruments.

Other Proceedings, Disputes and Contingencies

From time to time, we are involved in other proceedings incidental to our business, including patent infringement allegations, regulatory hearings relating primarily to our rates or services, actions relating to employee claims, various tax issues, environmental law issues, grievance hearings before labor regulatory agencies and miscellaneous third-party tort actions or commercial disputes.

We are currently defending several patent infringement lawsuits asserted against us by non-practicing entities, many of which are seeking substantial recoveries. These cases have progressed to various stages and one or more may go to trial within the next twelve months if they are not otherwise resolved. Where applicable, we are seeking full or partial indemnification from our vendors and suppliers. As with all litigation, we are vigorously defending these actions and, as a matter of course, are prepared to litigate these matters to judgment, as well as to evaluate and consider all reasonable settlement opportunities.

We are subject to various foreign, federal, state and local environmental protection and health and safety laws. From time to time, we are subject to judicial and administrative proceedings brought by various governmental authorities under these laws. Several such proceedings are currently pending, but none is reasonably expected to exceed $300,000 in fines and penalties.

The outcome of these other proceedings described under this heading is not predictable. However, based on current circumstances, we do not believe that the ultimate resolution of these other proceedings, after considering available defenses and any insurance coverage or indemnification rights, will have a material adverse effect on us.

The matters listed in this Note do not reflect all of our contingencies. The ultimate outcome of the above-described matters may differ materially from the outcomes anticipated, estimated, projected or implied by us in certain of our statements appearing above in this Note, and proceedings currently viewed as immaterial by us may ultimately materially impact us.

Right-of-Way

At December 31, 2022, our future rental commitments and Right-of-Way ("ROW") agreements were as follows:

	Future Rental Commitments and ROW Agreements
	(Dollars in millions)
2023	$ 183
2024	76
2025	66
2026	62
2027	60
2028 and thereafter	667
Total future minimum payments	$ 1,114

Purchase Commitments

We have several commitments primarily for marketing activities and support services from a variety of vendors to be used in the ordinary course of business totaling $1.4 billion at December 31, 2022. Of this amount, we expect to purchase $646 million in 2023, $513 million in 2024 through 2025, $90 million in 2026 through 2027 and $153 million in 2028 and thereafter. These amounts do not represent our entire anticipated purchases in the future, but represent only those items for which we were contractually committed as of December 31, 2022.

Amounts included in the Right-of-Way table and in the purchase commitments disclosed above are inclusive of contractual obligations related to our EMEA business to be divested.

(19) Other Financial Information

Other Current Assets

The following table presents details of other current assets reflected in our consolidated balance sheets:

	As of December 31,	
	2022	2021
	(Dollars in millions)	
Prepaid expenses	$319	295
Income tax receivable	—	22
Materials, supplies and inventory	236	96
Contract assets	20	45
Contract acquisition costs	123	142
Contract fulfillment costs	100	106
Note receivable	—	56
Receivable for sale of land	—	56
Other	5	11
Total other current assets[1]	$803	829

1 Excludes $59 million of other current assets related to the EMEA business that were classified as held for sale as of December 31, 2022. Excludes $126 million of other current assets related to the Latin American and ILEC businesses sold on August 1, 2022 and October 3, 2022, respectively, that were classified as held for sale as of December 31, 2021.

Included in accounts payable at December 31, 2022 and 2021 were $265 million and $248 million, respectively, associated with capital expenditures.

(20) Repurchases of Lumen Common Stock

Effective November 2, 2022, our Board of Directors authorized a new two-year program to repurchase up to an aggregate of $1.5 billion of our outstanding common stock. During the year ended December 31, 2022, we repurchased under this program 33 million shares of our outstanding common stock in the open market for an aggregate market price of $200 million, or an average purchase price of $6.07 per share. All repurchased common stock has been retired. As a result, common stock and additional paid-in capital were reduced as of December 31, 2022 by $33 million and $167 million, respectively.

On August 3, 2021, our Board of Directors authorized a 24-month program to repurchase up to an aggregate of $1.0 billion of our outstanding common stock. During the year ended December 31, 2021, we repurchased under this program 80.9 million shares of our outstanding common stock in the open market for an aggregate market price of $1.0 billion, or an average purchase price of $12.36 per share, thereby fully exhausting the program. All repurchased common stock has been retired. As a result, common stock and additional paid-in capital were reduced as of December 31, 2021 by $81 million and $919 million, respectively.

We expect repurchases made in 2023 and beyond to be subject to a non-deductible 1% excise tax on the fair market value of the stock under the Inflation Reduction Act of 2022.

(21) Accumulated Other Comprehensive Loss

Information Relating to 2022

The table below summarizes changes in accumulated other comprehensive loss recorded on our consolidated balance sheet by component for the year ended December 31, 2022:

	Pension Plans	Post-Retirement Benefit Plans	Foreign Currency Translation Adjustment and Other	Interest Rate Swap	Total
	(Dollars in millions)				
Balance at December 31, 2021	$ (1,577)	(164)	(400)	(17)	(2,158)
Other comprehensive income (loss) before reclassifications	98	473	(134)	—	437
Amounts reclassified from accumulated other comprehensive loss	494	(1)	112	17	622
Net current-period other comprehensive income (loss)	592	472	(22)	17	1,059
Balance at December 31, 2022	$ (985)	308	(422)	—	(1,099)

The table below presents further information about our reclassifications out of accumulated other comprehensive loss by component for the year ended December 31, 2022:

Year Ended December 31, 2022	Decrease (Increase) in Net Income (Dollars in millions)	Affected Line Item in Consolidated Statement of Operations
Interest rate swaps	$ 22	Interest expense
Income tax benefit	(5)	Income tax expense
Net of tax	$ 17	
Amortization of pension & post-retirement plans[1]		
Net actuarial loss	$ 121	Other income (expense), net
Prior service cost	(2)	Other income (expense), net
Reclassification of net actuarial loss and prior service credit to gain on the sale of business	539	Gain on sale of businesses
Total before tax	658	
Income tax benefit	(165)	Income tax expense
Net of tax	$ 493	
Reclassification of realized loss on foreign currency translation to gain on the sale of business	$ 112	Gain on sale of businesses
Income tax benefit	—	Income tax expense
Net of tax	$ 112	

1 See Note 11—Employee Benefits for additional information on our net periodic benefit (expense) income related to our pension and post-retirement plans.

Information Relating to 2021

The table below summarizes changes in accumulated other comprehensive loss recorded on our consolidated balance sheet by component for the year ended December 31, 2021:

	Pension Plans	Post-Retirement Benefit Plans	Foreign Currency Translation Adjustment and Other	Interest Rate Swap	Total
	(Dollars in millions)				
Balance at December 31, 2020	$(2,197)	(272)	(265)	(79)	(2,813)
Other comprehensive loss before reclassifications	197	94	(135)	(1)	155
Amounts reclassified from accumulated other comprehensive loss	423	14	—	63	500
Net current-period other comprehensive income (loss)	620	108	(135)	62	655
Balance at December 31, 2021	$(1,577)	(164)	(400)	(17)	(2,158)

The table below presents further information about our reclassifications out of accumulated other comprehensive loss by component for the year ended December 31, 2021:

Year Ended December 31, 2021	(Decrease) Increase in Net Loss (Dollars in millions)	Affected Line Item in Consolidated Statement of Operations
Interest rate swap	$ 83	Interest expense
Income tax benefit	(20)	Income tax expense
Net of tax	$ 63	
Amortization of pension & post-retirement plans[(1)]		
Net actuarial loss	$ 190	Other income (expense), net
Settlement charge	383	Other income (expense), net
Prior service cost	6	Other income (expense), net
Total before tax	579	
Income tax benefit	(142)	Income tax expense
Net of tax	$ 437	

1 See Note 11—Employee Benefits for additional information on our net periodic benefit (expense) income related to our pension and post-retirement plans.

(22) Labor Union Contracts

As of December 31, 2022, approximately 20% of our employees were represented by the Communication Workers of America ("CWA") or the International Brotherhood of Electrical Workers ("IBEW"). None of our collective bargaining agreements were in expired status as of December 31, 2022. Approximately 9% of our represented employees are subject to collective bargaining agreements that are scheduled to expire over the 12 month period ending December 31, 2023.

(23) Dividends

Our Board of Directors declared the following dividends payable in 2022 and 2021:

Date Declared	Record Date	Dividend Per Share	Total Amount	Payment Date
		(in millions)		
August 18, 2022	8/30/2022	$0.25	$253	9/9/2022
May 19, 2022	5/31/2022	0.25	253	6/10/2022
February 24, 2022	3/8/2022	0.25	253	3/18/2022
November 18, 2021	11/29/2021	0.25	251	12/10/2021
August 19, 2021	8/30/2021	0.25	264	9/10/2021
May 20, 2021	6/1/2021	0.25	272	6/11/2021
February 25, 2021	3/8/2021	0.25	276	3/19/2021

The declaration of dividends is solely at the discretion of our Board of Directors. On November 2, 2022, we announced that our Board had terminated our quarterly cash dividend program. Under this revised capital allocation policy, the company plans to continue to invest in growth initiatives.

Appendix C

SECOND AMENDED AND RESTATED
2018 EQUITY INCENTIVE PLAN
of
LUMEN TECHNOLOGIES, INC.

as amended and restated through May 17, 2023

1. Purpose. The purpose of the Second Amended and Restated 2018 Equity Incentive Plan (the "Plan") of Lumen Technologies, Inc. ("Lumen") is to increase shareholder value and to advance the interests of Lumen and its subsidiaries (collectively, the "Company") by furnishing stock-based economic incentives (the "Incentives") designed to attract, retain, reward, and motivate the Company's key employees, officers, directors, consultants, and advisors and to strengthen the mutuality of interests between such persons and Lumen's shareholders. Incentives consist of opportunities to purchase or receive shares of common stock, $1.00 par value per share, of Lumen (the "Common Stock") or cash valued in relation to Common Stock, on terms determined under this Plan. As used in this Plan, the term "subsidiary" means any corporation, limited liability company, or other entity of which Lumen owns (directly or indirectly) within the meaning of Section 424(f) of the Internal Revenue Code of 1986, as amended (the "Code"), 50% or more of the total combined voting power of all classes of stock, membership interests, or other equity interests issued thereby.

2. Administration.

2.1 Composition. This Plan shall generally be administered by the compensation committee of the Board of Directors of Lumen (the "Board") or by a subcommittee thereof (such administrator, as used in this Plan, the "Committee"). The Committee shall consist of not fewer than two members of the Board, each of whom shall qualify as a "non-employee director" under Rule 16b-3 under the Securities Exchange Act of 1934 (the "1934 Act") or any successor rule.

2.2 Authority. The Committee shall have plenary authority to award Incentives under this Plan and to enter into agreements with or provide notices to participants as to the terms of the Incentives (collectively, the "Incentive Agreements"). The Committee shall have the general authority to interpret this Plan, to establish any rules or regulations relating to this Plan that it determines to be appropriate, and to make any other determination that it believes necessary or advisable for the proper administration of this Plan. Committee decisions regarding matters relating to this Plan shall be final, conclusive, and binding on the Company, participants, and all other interested persons. The Committee may delegate its authority hereunder to the extent provided in Section 3.2.

3. Eligible Participants.

3.1 Eligibility. Key employees, officers, and directors of the Company and persons providing services as consultants or advisors to the Company shall become eligible to receive Incentives under the Plan when designated by the Committee.

3.2 Delegation of Authority to Chief Executive Officer. With respect to participants not subject to Section 16 of the 1934 Act, the Committee may delegate to the chief executive officer of Lumen its authority to designate participants, to determine the size and type of Incentives to be received by those participants, to determine any performance objectives for these participants, and to approve or authorize the form of Incentive Agreement governing such Incentives. Following any grants of Incentives pursuant to such delegated authority, the chief executive officer of Lumen or any officer designated by him may exercise any powers of the Committee under this Plan to accelerate vesting or exercise periods, to terminate restricted periods, to waive compliance with specified provisions, or to otherwise make determinations contemplated hereunder with respect to those participants; *provided*, *however*, that (a) the chief executive officer may only grant options at a per share exercise price equal to or greater than the Fair Market Value (as defined in Section 12.10) of a share of Common Stock on the later of the date the officer approves such grant or the date the participant commences

employment and (b) the Committee retains sole authority to make any of the determinations set forth in Section 5.4, 12.10 or Section 11 of this Plan.

4. Types of Incentives. Incentives may be granted under this Plan to eligible participants in the forms of (a) incentive stock options, (b) non-qualified stock options, (c) stock appreciation rights ("SARs"), (d) restricted stock, (e) restricted stock units ("RSUs"), and (f) Other Stock-Based Awards (as defined in Section 10).

5. Shares Subject to the Plan.

5.1 Number of Shares. Subject to the counting provisions of Section 5.2 and adjustment as provided in Section 5.4, the maximum number of shares of Common Stock that may be delivered to participants and their permitted transferees under this Plan shall be 77,600,000.

5.2 Share Counting. Subject to adjustment as provided in Section 5.4:

(a) The maximum number of shares of Common Stock that may be issued upon exercise of stock options intended to qualify as incentive stock options under Section 422 of the Code shall be 34,600,000.

(b) Any shares of Common Stock subject to an Incentive granted under this Plan that is subsequently canceled, forfeited, or expires prior to exercise or realization, whether in full or in part, shall be available again for issuance or delivery under the Plan. Any shares of Common Stock subject to an Incentive granted under the Amended and Restated Lumen, Inc. 2011 Equity Incentive Plan that, after the date this Plan is first approved by shareholders, is cancelled, forfeited, or expires prior to exercise or realization, whether in full or in part, shall be available for issuance or delivery under this Plan. Notwithstanding the foregoing, shares subject to an Incentive shall not be available again for issuance or delivery under this Plan if such shares were (a) tendered in payment of the exercise or base price of a stock option or stock-settled SAR; (b) covered by, but not issued upon settlement of, stock-settled SARs; or (c) delivered or withheld by the Company to satisfy any tax withholding obligation related to a stock option or stock-settled SAR.

(c) If an Incentive, by its terms, may be settled only in cash, then the grant, vesting, payout, settlement, or forfeiture of such Incentive shall have no impact on the number of shares available for grant under the Plan.

5.3 Participant Limits. Subject to adjustment as provided in Section 5.4, the maximum value of incentives that may be granted under the Plan to each non-employee director of Lumen during any single calendar year shall be $500,000, with any shares granted under such Incentives valued at Fair Market Value on the date of grant:

5.4 Adjustment.

(a) In the event of any recapitalization, reclassification, stock dividend, stock split, combination of shares or other comparable change in the Common Stock, all limitations on numbers of shares of Common Stock provided in this Section 5 and the number of shares of Common Stock subject to outstanding Incentives shall be equitably adjusted in proportion to the change in outstanding shares of Common Stock. In addition, in the event of any such change in the Common Stock, the Committee shall make any other adjustment that it determines to be equitable, including adjustments to the exercise price of any option or the Base Price (defined in Section 7.5) of any SAR and any per share performance objectives of any Incentive in order to provide participants with the same relative rights before and after such adjustment.

(b) If the Company merges, consolidates, sells substantially all of its assets, or dissolves, and such transaction is not a Change of Control as defined in Section 11 (each of the foregoing, a "Fundamental Change"), then thereafter, upon any exercise or payout of an Incentive granted prior to the Fundamental Change, the participant shall be entitled to receive (i) in lieu of shares of Common Stock previously issuable thereunder, the number and class of shares of stock or securities to which the participant would have been entitled pursuant to the terms of the Fundamental Change if, immediately prior to such Fundamental Change, the participant had been the holder of record of the number of shares of Common Stock subject to such Incentive or (ii) in lieu of payments based on the Common Stock previously payable thereunder, payments based on any formula that the Committee determines to be equitable in order to provide participants with substantially equivalent rights before and after the Fundamental Change. In the event any such Fundamental Change causes a change in the outstanding

Common Stock, the aggregate number of shares available under the Plan may be appropriately adjusted by the Committee in its sole discretion, whose determination shall be conclusive.

5.5 Type of Common Stock. Common Stock issued under the Plan may be authorized and unissued shares or issued shares held as treasury shares.

5.6 Minimum Vesting Requirements. Except for any Incentives that are issued in payment of cash amounts earned under the Company's short-term incentive program, all Incentives must be granted with a minimum vesting period of at least one year without providing for incremental vesting during such one-year period.

5.7 Dividends and Dividend Equivalent Rights. Incentives granted under this Plan in the form of stock options and SARs may not be granted with dividend or dividend equivalent rights. Subject to the terms and conditions of this Plan and the applicable Incentive Agreement, as well as any procedures established by the Committee, the Committee may determine to pay dividends or dividend equivalents, as applicable, on Incentives granted under this Plan in the form of restricted stock, RSUs, or Other Stock Based Awards. In the event that the Committee grants dividend equivalent rights, the Company shall establish an account for the participant and reflect in that account any securities, cash, or other property comprising any dividend or property distribution with respect to each share of Common Stock underlying each Incentive. For any Incentives granted under this Plan with dividend or dividend equivalent rights, such dividends or dividend equivalent rights shall vest and pay out or be forfeited in tandem with underlying Incentives rather than during the vesting period.

6. Stock Options. A stock option is a right to purchase shares of Common Stock from Lumen. Stock options granted under the Plan may be incentive stock options (as such term is defined in Section 422 of the Code) or non-qualified stock options. Any option that is designated as a non-qualified stock option shall not be treated as an incentive stock option. Each stock option granted by the Committee under this Plan shall be subject to the following terms and conditions:

6.1 Price. The exercise price per share shall be determined by the Committee, subject to adjustment under Section 5.4; provided that in no event shall the exercise price be less than the Fair Market Value (as defined in Section 12.10) of a share of Common Stock as of the date of grant, except in the case of a stock option granted in assumption of or substitution for an outstanding award of a company acquired by the Company or with which the Company combines. In the event that an option grant is approved by the Committee, but is to take effect on a later date, such as when employment or service commences, such later date shall be the date of grant.

6.2 Number. The number of shares of Common Stock subject to the option shall be determined by the Committee, subject to Section 5, including, but not limited to, any adjustment as provided in Section 5.4.

6.3 Duration and Time for Exercise. The term of each stock option shall be determined by the Committee, but shall not exceed a maximum term of ten years. Subject to Section 5.6, each stock option shall become exercisable at such time or times during its term as determined by the Committee and provided for in the Incentive Agreement. Notwithstanding the foregoing, the Committee may accelerate the exercisability of any stock option at any time.

6.4 Manner of Exercise. A stock option may be exercised, in whole or in part, by giving written notice to the Company, specifying the number of shares of Common Stock to be purchased. The exercise notice shall be accompanied by the full purchase price for such shares. The option price shall be payable in United States dollars and may be paid (a) in cash; (b) by check; (c) by delivery to the Company of currently-owned shares of Common Stock (including through any attestation of ownership that effectively transfers title), which shares shall be valued for this purpose at the Fair Market Value on the business day immediately preceding the date such option is exercised; (d) by delivery of irrevocable written instructions to a broker approved by the Company (with a copy to the Company) to immediately sell a portion of the shares issuable under the option and to deliver promptly to the Company the amount of sale proceeds (or loan proceeds if the broker lends funds to the participant for delivery to the Company) to pay the exercise price; (e) if approved by the Committee, through a net exercise procedure whereby the optionee surrenders the option in exchange for that number of shares of Common Stock with an aggregate Fair Market Value equal to the difference between the aggregate exercise price of the options being surrendered and the aggregate Fair Market Value of the shares of Common Stock subject to the option; (f) in such other manner as may be authorized from time to time by the Committee; or (g) through any combination of the foregoing methods.

6.5 Limitations on Repricing. Except for adjustments pursuant to Section 5.4 or actions permitted to be taken by the Committee under Section 11 in the event of a Change of Control, unless approved by the shareholders of the Company, (a) the exercise price for any outstanding option granted under this Plan may not be decreased after the date of grant; and (b) an outstanding option that has been granted under this Plan may not, as of any date that such option has a per share exercise price that is greater than the then-current Fair Market Value of a share of Common Stock, be surrendered to the Company as consideration for the grant of a new option or SAR with a lower exercise price, shares of restricted stock, restricted stock units, an Other Stock-Based Award, a cash payment, or Common Stock.

6.6 Incentive Stock Options. Notwithstanding anything in the Plan to the contrary, the following additional provisions shall apply to the grant of stock options that are intended to qualify as incentive stock options (as such term is defined in Section 422 of the Code):

(a) Any incentive stock option agreement authorized under the Plan shall contain such other provisions as the Committee shall deem advisable, but shall in all events be consistent with and contain or be deemed to contain all provisions required in order to qualify the options as incentive stock options.

(b) All incentive stock options must be granted within ten years from the date on which this Plan is adopted by the Board.

(c) No incentive stock options shall be granted to any non-employee or to any participant who, at the time such option is granted, would own (within the meaning of Section 422 of the Code) stock possessing more than 10% of the total combined voting power of all classes of stock of Lumen.

(d) The aggregate Fair Market Value (determined with respect to each incentive stock option as of the time such incentive stock option is granted) of the Common Stock with respect to which incentive stock options are exercisable for the first time by a participant during any calendar year (under the Plan or any other plan of Lumen or any of its subsidiaries) shall not exceed $100,000. To the extent that such limitation is exceeded, the excess options shall be treated as non-qualified stock options for federal income tax purposes.

7. Stock Appreciation Rights.

7.1 Grant of Stock Appreciation Rights. A stock appreciation right, or SAR, is a right to receive, without payment to the Company, a number of shares of Common Stock, cash, or any combination thereof, the number or amount of which is determined pursuant to the formula set forth in Section 7.5. Each SAR granted by the Committee under the Plan shall be subject to the terms and conditions of the Plan and the applicable Incentive Agreement.

7.2 Number. Each SAR granted to any participant shall relate to such number of shares of Common Stock as shall be determined by the Committee, subject to adjustment as provided in Section 5.4.

7.3 Duration and Time for Exercise. The term of each SAR shall be determined by the Committee, but shall not exceed a maximum term of ten years. Subject to Section 5.6, each SAR shall become exercisable at such time or times during its term as shall be determined by the Committee and provided for in the Incentive Agreement. Notwithstanding the foregoing, the Committee may accelerate the exercisability of any SAR at any time in its discretion.

7.4 Exercise. A SAR may be exercised, in whole or in part, by giving written notice to the Company, specifying the number of SARs that the holder wishes to exercise. The date that the Company receives such written notice shall be referred to herein as the "Exercise Date." The Company shall, within 30 days of an Exercise Date, deliver to the exercising holder certificates for the shares of Common Stock to which the holder is entitled pursuant to Section 7.5 or cash or both, as provided in the Incentive Agreement.

7.5 Payment.

(a) The number of shares of Common Stock which shall be issuable upon the exercise of a SAR payable in Common Stock shall be determined by dividing:

(i) the number of shares of Common Stock as to which the SAR is exercised, multiplied by the amount of the appreciation in each such share (for this purpose, the "appreciation" shall be the amount by which the Fair Market Value (as defined in Section 12.10) of a share of Common Stock subject to the SAR on the trading day prior to the Exercise Date

exceeds the “Base Price,” which is an amount, not less than the Fair Market Value of a share of Common Stock on the date of grant, which shall be determined by the Committee at the time of grant, subject to adjustment under Section 5.4); by

(ii) the Fair Market Value of a share of Common Stock on the Exercise Date.

(b) No fractional shares of Common Stock shall be issued upon the exercise of a SAR; instead, the holder of a SAR shall be entitled to purchase the portion necessary to make a whole share at its Fair Market Value on the Exercise Date.

(c) If so provided in the Incentive Agreement, a SAR may be exercised for cash equal to the Fair Market Value of the shares of Common Stock that would be issuable under Section 7.5(a), if the exercise had been for Common Stock.

7.6 Limitations on Repricing. Except for adjustments pursuant to Section 5.4 or actions permitted to be taken by the Committee under Section 11 in the event of a Change of Control, unless approved by the shareholders of the Company, (a) the Base Price for any outstanding SAR granted under this Plan may not be decreased after the date of grant; and (b) an outstanding SAR that has been granted under this Plan may not, as of any date that such SAR has a Base Price that is greater than the then-current Fair Market Value of a share of Common Stock, be surrendered to the Company as consideration for the grant of a new option or SAR with a lower exercise price, shares of restricted stock, restricted stock units, an Other Stock-Based Award, a cash payment, or Common Stock.

8. Restricted Stock.

8.1 Grant of Restricted Stock. The Committee may award shares of restricted stock to such eligible participants as determined pursuant to the terms of Section 3. An award of restricted stock shall be subject to such restrictions on transfer and forfeitability provisions and such other terms and conditions, including the attainment of specified performance goals, as the Committee may determine, subject to the provisions of the Plan.

8.2 The Restricted Period. Subject to Section 5.6, at the time an award of restricted stock is made, the Committee shall establish a period of time during which the transfer of the shares of restricted stock shall be restricted and after which the shares of restricted stock shall be vested (the “Restricted Period”). Each award of restricted stock may have a different Restricted Period.

8.3 Escrow. The participant receiving restricted stock shall enter into an Incentive Agreement with the Company setting forth the conditions of the grant. Any certificates representing shares of restricted stock shall be registered in the name of the participant and deposited with the Company, together with a stock power endorsed in blank by the participant. Each such certificate shall bear a legend in substantially the following form:

The transferability of this certificate and the shares of Common Stock represented by it are subject to the terms and conditions (including conditions of forfeiture) contained in the Lumen 2018 Equity Incentive Plan (the “Plan”), and an agreement entered into between the registered owner and Lumen, Inc. (the “Company”) thereunder. Copies of the Plan and the agreement are on file at the principal office of the Company.

Alternatively, in the discretion of the Company, ownership of the shares of restricted stock and the appropriate restrictions shall be reflected in the records of the Company’s transfer agent and no physical certificates shall be issued.

8.4 Forfeiture. In the event of the forfeiture of any shares of restricted stock under the terms provided in the Incentive Agreement (including any additional shares of restricted stock that may result from the reinvestment of cash and stock dividends, if so provided in the Incentive Agreement), such forfeited shares shall be surrendered, any certificates shall be cancelled, and any related accrued but unpaid cash dividends will be forfeited. The participants shall have the same rights and privileges, and be subject to the same forfeiture provisions, with respect to any additional shares received pursuant to Section 5.4 due to a recapitalization or other change in capitalization.

8.5 Expiration of Restricted Period. Upon the expiration or termination of the Restricted Period and the satisfaction of any other conditions prescribed by the Committee, the restrictions applicable to the restricted stock shall lapse, and the Company shall cause to be delivered to the participant or the participant’s estate, as the case may be, the number of shares of restricted stock with respect to which the restrictions have

lapsed, free of all such restrictions and legends, except any that may be imposed by law. The Company, in its discretion, may elect to deliver such shares through issuance of a stock certificate or by book entry.

8.6 Rights as a Shareholder. Subject to the terms and conditions of the Plan (including, but not limited to, Section 5.7) and the applicable Incentive Agreement, each participant receiving restricted stock shall have all the rights of a shareholder with respect to shares of stock during the Restricted Period, including without limitation, the right to vote any shares of Common Stock.

9. Restricted Stock Units.

9.1 Grant of Restricted Stock Units. A restricted stock unit, or RSU, represents the right to receive from the Company on the respective scheduled vesting or payment date for such RSU, one share of Common Stock. An award of RSUs may be subject to the attainment of specified performance goals or targets, forfeitability provisions and such other terms and conditions as the Committee may determine, subject to the provisions of the Plan

9.2 Vesting Period. Subject to Section 5.6, at the time an award of RSUs is made, the Committee shall establish a period of time during which the restricted stock units shall vest (the “Vesting Period”). Each award of RSUs may have a different Vesting Period.

9.3 Rights as a Shareholder. Subject to the restrictions imposed under the terms and conditions of this Plan and subject to any other restrictions that may be imposed in the Incentive Agreement, each participant receiving restricted stock units shall have no rights as a shareholder with respect to such restricted stock units until such time as shares of Common Stock are issued to the participant.

10. Other Stock-Based Awards. The Committee may grant to eligible participants “Other Stock-Based Awards,” which shall consist of awards (other than options, SARs, restricted stock, or RSUs, described in Sections 6 through 9 hereof) paid out in shares of Common Stock or the value of which is based in whole or in part on the value of shares of Common Stock. Other Stock-Based Awards may be awards of shares of Common Stock, awards of phantom stock, or may be denominated or payable in, valued in whole or in part by reference to, or otherwise based on or related to, shares of, or appreciation in the value of, Common Stock (including, without limitation, securities convertible or exchangeable into or exercisable for shares of Common Stock), as deemed by the Committee consistent with the purposes of this Plan. Subject to Section 5.6, the Committee shall determine the terms and conditions of any Other Stock-Based Award (including which rights of a shareholder, if any, the recipient shall have with respect to Common Stock associated with any such award) and may provide that such award is payable in whole or in part in cash. An Other Stock-Based Award may be subject to the attainment of such specified performance goals or targets as the Committee may determine, subject to the provisions of this Plan.

11. Change of Control.

(a) A Change of Control shall mean:

(i) the acquisition by any person of beneficial ownership of 30% or more of the outstanding shares of the Common Stock or 30% or more of the combined voting power of Lumen’s then outstanding securities entitled to vote generally in the election of directors; provided, however, that for purposes of this subsection (i), the following acquisitions shall not constitute a Change of Control:

(A) any acquisition (other than a Business Combination (as defined below) which constitutes a Change of Control under Section 11(a)(iii) hereof) of Common Stock directly from the Company,

(B) any acquisition of Common Stock by the Company,

(C) any acquisition of Common Stock by any employee benefit plan (or related trust) sponsored or maintained by the Company or any corporation controlled by the Company, or

(D) any acquisition of Common Stock by any corporation pursuant to a Business Combination that does not constitute a Change of Control under Section 11(a)(iii) hereof; or

(ii) individuals who, as of May 23, 2018, constituted the Board of Directors of Lumen (the "Incumbent Board") cease for any reason to constitute at least a majority of the Board of Directors; *provided, howeve*r, that any individual becoming a director subsequent to such date whose election, or nomination for election by Lumen's shareholders, was approved by a vote of at least two-thirds of the directors then comprising the Incumbent Board shall be considered a member of the Incumbent Board, unless such individual's initial assumption of office occurs as a result of an actual or threatened election contest with respect to the election or removal of directors or other actual or threatened solicitation of proxies or consents by or on behalf of a person other than the Incumbent Board; or

(iii) consummation of a reorganization, share exchange, merger or consolidation (including any such transaction involving any direct or indirect subsidiary of Lumen) or sale or other disposition of all or substantially all of the assets of the Company (a "Business Combination"); provided, however, that in no such case shall any such transaction constitute a Change of Control if immediately following such Business Combination:

(A) the individuals and entities who were the beneficial owners of Lumen's outstanding Common Stock and Lumen's voting securities entitled to vote generally in the election of directors immediately prior to such Business Combination have direct or indirect beneficial ownership, respectively, of more than 50% of the then outstanding shares of common stock, and more than 50% of the combined voting power of the then outstanding voting securities entitled to vote generally in the election of directors of the surviving or successor corporation, or, if applicable, the ultimate parent company thereof (the "Post-Transaction Corporation"), and

(B) except to the extent that such ownership existed prior to the Business Combination, no person (excluding the Post-Transaction Corporation and any employee benefit plan or related trust of either Lumen, the Post-Transaction Corporation or any subsidiary of either corporation) beneficially owns, directly or indirectly, 20% or more of the then outstanding shares of common stock of the corporation resulting from such Business Combination or 20% or more of the combined voting power of the then outstanding voting securities of such corporation, and

(C) at least a majority of the members of the board of directors of the Post-Transaction Corporation were members of the Incumbent Board at the time of the execution of the initial agreement, or of the action of the Board of Directors, providing for such Business Combination; or

(iv) approval by the shareholders of Lumen of a complete liquidation or dissolution of Lumen.

For purposes of this Section 11, the term "person" shall mean a natural person or entity, and shall also mean the group or syndicate created when two or more persons act as a syndicate or other group (including a partnership or limited partnership) for the purpose of acquiring, holding, or disposing of a security, except that "person" shall not include an underwriter temporarily holding a security pursuant to an offering of the security.

(b) No Incentive Agreement shall provide for (1) the acceleration of the vesting of time-based Incentives upon the occurrence of a Change of Control without a contemporaneous or subsequent termination of the participant's employment or service relationship or (2) the payout of any performance-based Incentives upon a Change of Control in an amount exceeds the greater of (i) the payout of a pro-rata portion of such Incentive, based on the portion of the performance period that has elapsed and assuming target performance and (ii) payout of such Incentive based on actual performance. Notwithstanding the foregoing, no later than 30 days after a Change of Control of the type described in subsections (a)(i) or (a)(ii) of this Section 11 and no later than 30 days after the approval by the Board of a Change of Control of the type described in subsections (a)(iii) or (a)(iv) of this Section 11, the Committee, acting in its sole discretion without the consent or approval of any participant (and notwithstanding any removal or attempted removal of some or all of the members thereof as directors or Committee members), may act to effect one or more of the alternatives listed below, which may vary among individual participants and which may vary among Incentives held by any individual participant; provided, however, that no such action may be taken if it would result in the imposition of a penalty on the participant under Section 409A of the Code as a result thereof:

(i) require that all outstanding options, SARs or Other Stock-Based Awards be exercised on or before a specified date (before or after such Change of Control) fixed by the Committee, after which specified date all unexercised options, SARs and Other Stock-Based Awards and all rights of participants thereunder would terminate,

(ii) make such equitable adjustments to Incentives then outstanding as the Committee deems appropriate to reflect such Change of Control and provide participants with substantially equivalent rights before and after such Change of Control (provided, however, that the Committee may determine in its sole discretion that no adjustment is necessary),

(iii) provide for mandatory conversion or exchange of some or all of the outstanding options, SARs, restricted stock units or Other Stock-Based Awards held by some or all participants as of a date, before or after such Change of Control, specified by the Committee, in which event such Incentives would be deemed automatically cancelled and the Company would pay, or cause to be paid, to each such participant an amount of cash per share equal to the excess, if any, of the Change of Control Value of the shares subject to such option, SAR, restricted stock unit or Other Stock-Based Award, as defined and calculated below, over the per share exercise price or Base Price of such Incentive or, in lieu of such cash payment, the issuance of Common Stock or securities of an acquiring entity having a Fair Market Value equal to such excess, or

(iv) provide that thereafter, upon any exercise or payment of an Incentive that entitles the holder to receive Common Stock, the holder shall be entitled to purchase or receive under such Incentive, in lieu of the number of shares of Common Stock then covered by such Incentive, the number and class of shares of stock or other securities or property (including cash) to which the holder would have been entitled pursuant to the terms of the agreement providing for the reorganization, share exchange, merger, consolidation or asset sale, if, immediately prior to such Change of Control, the holder had been the record owner of the number of shares of Common Stock then covered by such Incentive.

(c) For the purposes of conversions or exchanges under paragraph (iii) of Section 11(c), the "Change of Control Value" shall equal the amount determined by whichever of the following items is applicable:

(i) the per share price to be paid to holders of Common Stock in any such merger, consolidation or other reorganization,

(ii) the price per share offered to holders of Common Stock in any tender offer or exchange offer whereby a Change of Control takes place, or

(iii) in all other events, the fair market value of a share of Common Stock, as determined by the Committee as of the time determined by the Committee to be immediately prior to the effective time of the conversion or exchange.

(d) In the event that the consideration offered to shareholders of Lumen in any transaction described in this Section 11 consists of anything other than cash, the Committee shall determine the fair cash equivalent of the portion of the consideration offered that is other than cash.

12. General.

12.1 Duration. No Incentives may be granted under the Plan after May 23, 2028; *provided, however*, that subject to Section 12.8, the Plan shall remain in effect after such date with respect to Incentives granted prior to that date, until all such Incentives have either been satisfied by the issuance of shares of Common Stock or otherwise been terminated under the terms of the Plan and all restrictions imposed on shares of Common Stock in connection with their issuance under the Plan have lapsed.

12.2 Transferability.

(a) No Incentives granted hereunder may be transferred, pledged, assigned, or otherwise encumbered by a participant except:

(i) by will;

(ii) by the laws of descent and distribution;

(iii) if permitted by the Committee and so provided in the Incentive Agreement or an amendment thereto, pursuant to a domestic relations order, as defined in the Code; or

(iv) as to options only, if permitted by the Committee and so provided in the Incentive Agreement or an amendment thereto, (i) to Immediate Family Members (as defined in Section 12.2(b)); (ii) to a partnership in which the participant and/or Immediate Family Members, or entities in which the participant and/or Immediate Family Members are the sole owners, members, or beneficiaries, as appropriate, are the sole partners; (iii) to a limited liability company in which the participant and/or Immediate Family Members, or entities in which the participant and/or Immediate Family Members are the sole owners, members, or beneficiaries, as appropriate, are the sole members; or (iv) to a trust for the sole benefit of the participant and/or Immediate Family Members.

(b) "Immediate Family Members" shall be defined as the spouse and natural or adopted children or grandchildren of the participant and their spouses. To the extent that an incentive stock option is permitted to be transferred during the lifetime of the participant, it shall be treated thereafter as a nonqualified stock option. Any attempted assignment, transfer, pledge, hypothecation, or other disposition of Incentives, or levy of attachment or similar process upon Incentives not specifically permitted herein, shall be null and void and without effect.

12.3 Effect of Termination of Employment or Death. In the event that a participant ceases to be an employee of the Company or to provide services to the Company for any reason, including death, disability, early retirement or normal retirement, any Incentives may be exercised, shall vest or shall expire at such times as may be determined by the Committee or as provided in the Incentive Agreement.

12.4 Additional Conditions. Anything in this Plan to the contrary notwithstanding: (a) the Company may, if it shall determine it necessary or desirable for any reason, at the time of award of any Incentive or the issuance of any shares of Common Stock pursuant to any Incentive, require the recipient of the Incentive, as a condition to the receipt thereof or to the receipt of shares of Common Stock issued pursuant thereto, to deliver to the Company a written representation of present intention to acquire the Incentive or the shares of Common Stock issued pursuant thereto for his own account for investment and not for distribution; and (b) if at any time the Company further determines, in its sole discretion, that the listing, registration or qualification (or any updating of any such document) of any Incentive or the shares of Common Stock issuable pursuant thereto is necessary on any securities exchange or under any federal or state securities or blue sky law, or that the consent or approval of any governmental regulatory body is necessary or desirable as a condition of, or in connection with the award of any Incentive, the issuance of shares of Common Stock pursuant thereto, or the removal of any restrictions imposed on such shares, such Incentive shall not be awarded or such shares of Common Stock shall not be issued or such restrictions shall not be removed, as the case may be, in whole or in part, unless such listing, registration, qualification, consent or approval shall have been effected or obtained free of any conditions not acceptable to the Company.

12.5 Withholding.

(a) The Company shall have the right to withhold from any payments made or stock issued under the Plan or to collect as a condition of payment, issuance or vesting, any taxes required by law to be withheld (up to the maximum permissible withholding rate). At any time that a participant is required to pay to the Company an amount required to be withheld under applicable income tax laws in connection with an Incentive (each such date, a "Tax Date"), the participant may, subject to Section 12.5(b) below, satisfy this obligation in whole or in part by electing (the "Election") to deliver currently owned shares of Common Stock or to have the Company withhold shares of Common Stock, in each case having a value equal to the maximum statutory amount required to be withheld under federal, state and local law. The value of the shares to be delivered or withheld shall be based on the Fair Market Value of the Common Stock on the Tax Date.

(b) Each Election must be made prior to the Tax Date. For participants who are not subject to Section 16 of the 1934 Act, the Committee may disapprove of any Election, may suspend or terminate the right to make Elections, or may provide with respect to any Incentive that the right to make Elections shall not apply to such Incentive. If a participant makes an election under Section 83(b) of the Code with respect to shares of restricted stock, an Election to have shares withheld to satisfy withholding taxes is not permitted to be made.

12.6 No Continued Employment. No participant under the Plan shall have any right, solely based on his or her participation in the Plan, to continue to serve as an employee, officer, director, consultant, or advisor of the Company for any period of time or to any right to continue his or her present or any other rate of compensation.

12.7 Deferral Permitted. Payment of an Incentive may be deferred at the option of the participant if permitted in the Incentive Agreement. Any deferral arrangements shall comply with Section 409A of the Code.

12.8 Amendments to or Termination of the Plan. The Board may amend or discontinue this Plan at any time; provided, however, that no such amendment may:

(a) amend Section 6.5 or Section 7.6 to permit repricing of options or SARs without the approval of shareholders;

(b) materially impair, without the consent of the recipient, an Incentive previously granted, except that the Company retains all of its rights under Section 11; or

(c) materially revise the Plan without the approval of the shareholders. A material revision of the Plan includes (i) except for adjustments permitted herein, a material increase to the maximum number of shares of Common Stock that may be issued through the Plan, (ii) a material increase to the benefits accruing to participants under the Plan, (iii) a material expansion of the classes of persons eligible to participate in the Plan, (iv) an expansion of the types of awards available for grant under the Plan, (v) a material extension of the term of the Plan and (vi) a material change that reduces the price at which shares of Common Stock may be offered through the Plan.

12.9 Repurchase. Upon approval of the Committee, the Company may repurchase all or a portion of a previously granted Incentive from a participant by mutual agreement by payment to the participant of cash or Common Stock or a combination thereof with a value equal to the value of the Incentive determined in good faith by the Committee; provided, however, that in no event will this section be construed to grant the Committee the power to take any action in violation of Section 6.5, 7.6, or 12.13.

12.10 Definition of Fair Market Value. Whenever "Fair Market Value" of Common Stock shall be determined for purposes of this Plan, except as provided below in connection with a cashless exercise through a broker, it shall be determined as follows: (a) if the Common Stock is listed on an established stock exchange or any automated quotation system that provides sale quotations, the closing sale price for a share of the Common Stock on such exchange or quotation system on the date as of which fair market value is to be determined, (b) if the Common Stock is not listed on any exchange or quotation system, but bid and asked prices are quoted and published, the mean between the quoted bid and asked prices on the date as of which fair market value is to be determined, and if bid and asked prices are not available on such day, on the next preceding day on which such prices were available; and (c) if the Common Stock is not regularly quoted, the fair market value of a share of Common Stock on the date as of which fair market value is to be determined, as established by the Committee in good faith. In the context of a cashless exercise through a broker, the "Fair Market Value" shall be the price at which the Common Stock subject to the stock option is actually sold in the market to pay the option exercise price. Notwithstanding the foregoing, if so determined by the Committee, "Fair Market Value" may be determined as an average selling price during a period specified by the Committee that is within 30 days before or 30 days after the date of grant, provided that the commitment to grant the stock right based on such valuation method must be irrevocable before the beginning of the specified period, and such valuation method must be used consistently for grants of stock rights under the same and substantially similar programs during any particular calendar year.

12.11 Liability.

(a) Neither Lumen, its affiliates or any of their respective directors or officers shall be liable to any participant relating to the participant's failure to (i) realize any anticipated benefit under an Incentive due to the failure to satisfy any applicable conditions to vesting, payment or settlement, or (ii) realize any anticipated tax benefit or consequence due to changes in applicable law, the particular circumstances of the participant, or any other reason.

(b) No member of the Committee (or officer of the Company exercising delegated authority of the Committee under Section 3 thereof) will be liable for any action or determination made in good faith with respect to this Plan or any Incentive.

12.12 Interpretation.

(a) Unless the context otherwise requires, (i) all references to Sections are to Sections of this Plan, (ii) the term "including" means including without limitation, (iii) all references to any particular Incentive Agreement shall be deemed to include any amendments thereto or restatements thereof, and (iv) all references to any particular statute shall be deemed to include any amendment, restatement or re-enactment thereof or any statute or regulation substituted therefore.

(b) The titles and subtitles used in this Plan or any Incentive Agreement are used for convenience only and are not to be considered in construing or interpreting this Plan or the Incentive Agreement.

(c) All pronouns contained in this Plan or any Incentive Agreement, and any variations thereof, shall be deemed to refer to the masculine, feminine or neutral, singular or plural, as the identities of the parties may require.

(d) Whenever any provision of this Plan authorizes the Committee to take action or make determinations with respect to outstanding Incentives that have been granted or awarded by the chief executive officer of Lumen under Section 3.2 hereof, each such reference to "Committee" shall be deemed to include a reference to any officer of the Company that has delegated administrative authority under Section 3.2 of this Plan (subject to the limitations of such section).

12.13 Compliance with Section 409A. It is the intent of the Company that this Plan comply with the requirements of Section 409A of the Code with respect to any Incentives that constitute non-qualified deferred compensation under Section 409A, and the Company intends to operate the Plan in compliance with Section 409A and the Department of Treasury's guidance or regulations promulgated thereunder. If the Committee grants any Incentives or takes any other action that would, either immediately or upon vesting or payment of the Incentive, inadvertently result in the imposition of a penalty on a participant under Section 409A of the Code, then the Company, in its discretion, may, to the maximum extent permitted by law, unilaterally rescind ab initio, sever, amend or otherwise modify the grant or action (or any provision of the Incentive) in such manner necessary for the penalty to be inapplicable or reduced.

12.14 Data Privacy. As a condition of receipt of any Incentive, each participant explicitly and unambiguously consents to the collection, use, and transfer, in electronic or other form, of personal data as described in this Section by and among, as applicable, the Company and its affiliates for the exclusive purpose of implementing, administering, and managing the Plan and Incentives and such participant's participation in the Plan. In furtherance of such implementation, administration, and management, the Company and its affiliates may hold certain personal information about a participant, including, but not limited to, the participant's name, home address, telephone number, date of birth, social security or insurance number or other identification number, salary, nationality, job title(s), information regarding any securities of the Company or any of its affiliates, and details of all Incentives (the "Data"). In addition to transferring the Data amongst themselves as necessary for the purpose of implementation, administration, and management of the Plan and Incentives and the participant's participation in the Plan, the Company and its affiliates may each transfer the Data to any third parties assisting the Company in the implementation, administration, and management of the Plan and Incentives and such participant's participation in the Plan. Recipients of the Data may be located in the participant's country or elsewhere, and the participant's country and any given recipient's country may have different data privacy laws and protections. By accepting an Incentive, each participant authorizes such recipients to receive, possess, use, retain, and transfer the Data, in electronic or other form, for the purposes of assisting the Company in the implementation, administration, and management of the Plan and Incentives and such participant's participation in the Plan, including any requisite transfer of such Data as may be required to a broker or other third party with whom the Company or the participant may elect to deposit any shares of Common Stock. The Data related to a participant will be held only as long as is necessary to implement, administer, and manage the Plan and Incentives and the participant's participation in the Plan. A participant may, at any time, view the Data held by the Company with respect to such Participant, request additional information about the storage and processing of the Data with respect to such participant, recommend any necessary corrections to the Data with respect to the participant, or refuse or withdraw the consents herein in writing, in any case without cost, by contacting his or her local human resources representative. However, if a participant refuses or withdraws the consents described herein, the Company may cancel the participant's eligibility to participate in the Plan, and in the Committee's discretion, the participant may forfeit any outstanding Incentive. For more information on the consequences of refusal to consent or withdrawal of consent, participants may contact their local human resources representative.

12.15 Participants Outside of the United States. The Committee may modify the terms of any Incentive under the Plan made to or held by a participant who is then a resident, or is primarily employed or providing services, outside of the United States in any manner deemed by the Committee to be necessary or appropriate in order that such Incentive shall conform to laws, regulations, and customs of the country in which the Participant is then a resident or primarily employed or providing services, or so that the value and other benefits of the Incentive to such participant, as affected by non-United States tax laws and other restrictions applicable as a result of the participant's residence, employment, or providing services abroad, shall be comparable to the value of such Incentive to a Participant who is a resident, or is primarily employed or providing services, in the United States. An Incentive may be modified under this Section 12.15 in a manner that is inconsistent with the express terms of the Plan, so long as such modifications will not contravene any applicable law or regulation or result in actual liability under Section 16(b) of the 1934 Act for the participant whose Incentive is modified. Additionally, the Committee may adopt such procedures and sub-plans as are necessary or appropriate to permit participation in the Plan by Eligible Persons who are non-United States nationals or are primarily employed or providing services outside the United States.

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Monroe, Louisiana 71203
General Information: 318-388-9000

Transfer Agent
For address changes, stock transfers, name changes, registration changes, lost stock certificates and stock holdings, please contact:

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Investor Relations
Inquiries by securities analysts, investment professionals and shareholders about Lumen Technologies, Inc. common stock, including requests for any SEC or other shareholder reports should be directed to:

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Annual Report
After the close of each fiscal year, Lumen Technologies, Inc. submits an Annual Report on Form 10-K to the SEC containing certain additional information about its business. A copy of the 10-K report may be obtained without charge by addressing your request to Stacey W. Goff, Secretary, Lumen Technologies, Inc., 100 CenturyLink Drive, Monroe, Louisiana 71203, or by visiting our website at www.lumen.com.

Common Stock
Lumen common stock is traded on the New York Stock Exchange under the symbol LUMN.

As of the Record Date, we had 1,004,873,297 shares of common stock and 7,018 shares of Series L preferred stock issued and outstanding. There were 81,209 shareholders of record.

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Communications to the Board
Communication with shareholders and other interested parties is an important part of the governance process. Any shareholder or other stakeholder who wishes to contact the Board, Chairman or any Director can send correspondence to:

Write: P.O. Box 5061; Monroe, Louisiana 71211
Email: boardinquiries@lumen.com

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