PROXY STATEMENT for 2022 ANNUAL MEETING OF SHAREHOLDERS





















Notice of 2022 Annual Meeting of Shareholders and Proxy Statement

ANNUAL MEETING



DATE: Thursday May 26, 2022



TIME: 8:00 a.m. EDT



LOCATION:

The meeting will be held virtually at www.virtualshareholdermeeting.com/RGEN2022

ITEMS OF BUSINESS

- 1. To elect six (6) directors, nominated by the Board of Directors, as more fully described in the Proxy Statement
- 2. To consider and ratify the selection of Ernst & Young LLP as independent registered public accountants for the fiscal year ending December 31, 2022
- 3. To consider and act upon non-binding, advisory vote to approve the compensation of our named executive officers ("sav-on-pay")
- 4. To consider and act upon any other business which may properly come before the meeting

WHO CAN VOTE

Shareholders of Repligen Corporation Common Stock at the close of business on April 1, 2022 (our "Record Date"). It is important that your shares be represented and voted at the 2022 Annual Meeting of Shareholders (the "Annual Meeting"). Whether or not you plan to attend the Annual Meeting online, please complete and return the enclosed proxy card in the envelope provided or vote by internet or telephone pursuant to instructions provided with the proxy card.

HOW TO VOTE

In consideration of the ongoing COVID-19 pandemic, and the health and well-being of our shareholders, employees and directors, we have determined that the Annual Meeting will again be held in a virtual meeting format only, via the internet, with no physical in-person meeting. At our virtual Annual Meeting, shareholders will be able to attend, vote and submit questions as set forth in this section.

Voting instructions are the same for registered shareholders (shares are registered in your name with Repligen's transfer agent, American Stock Transfer) and beneficial owners (shares are held in a stock brokerage account or by a bank or other holder of record). Here's how to vote prior to the Annual Meeting:



By internet at www.proxyvote.com



By phone 1-800-690-690.



By mail, complete and return your proxy card or voting instruction form

You may also vote at the Annual Meeting via www.virtualshareholdermeeting.com/RGEN2022. You will need the 16-digit control number included with these proxy materials to vote electronically, to vote by phone, and/or to attend the Annual Meeting online. A technical support telephone number will be posted on the Annual Meeting login page so that you can call if you encounter any difficulties accessing the Annual Meeting during the check-in or during the meeting.

Execution of a proxy card, or voting by telephone or via the internet prior to the Annual Meeting, will not in any way limit a shareholder's right to attend the Annual Meeting and vote during the meeting.

HOW TO SUBMIT QUESTIONS

During the Annual Meeting, if you have your 16-digit control number and wish to ask a question, you may do so by clicking the Q&A button on the virtual meeting platform and entering your question in the text box. If questions submitted are repetitive as to a particular topic, the Chairperson of the meeting my limit discussion on such topic. During the formal portion of the meeting, all questions presented should relate directly to the proposal under discussion. We will also hold a question and answer period at the end of the meeting, as time permits, during which time we welcome questions not relating to specific proposals.

DATE OF MAILING

We have elected to provide access to our proxy materials over the Internet under the Securities and Exchange Commission's ("SEC") "notice and access" rules, which we believe produces not only cost savings associated with reduced printing and postage, but also results in a positive environmental impact tied to lower quantities of materials that will be produced and delivered to shareholders.

We intend to mail the Notice Regarding the Availability of Proxy Materials ("Notice of Internet Availability"), or the Proxy Statement and proxy card, as applicable, to our shareholders on or about April 11, 2022.

We believe that providing our proxy materials over the Internet expedites shareholders' receipt of proxy materials, lowers costs and reduces the environmental impact of our Annual Meeting. As a shareholder of the Company as of our Record Date, you are invited to participate in the Annual Meeting, and are entitled and requested to vote on the proposals described in this Proxy Statement. The Notice of Internet Availability instructs you on how to submit your proxy or voting instructions form through the Internet. If you would like to receive a paper copy of our proxy materials, the Notice of Internet Availability instructs you on how to request a paper copy of our proxy materials, including a proxy card or voting instruction form that includes instructions on how to submit your proxy or voting instructions by mail or telephone.

By Order of the Board of Directors

Jon Snodgres

Chief Financial Officer

April 11, 2022

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PROXY STATEMENT SUMMARY

This summary highlights information contained elsewhere in the Proxy Statement. As this summary does not contain all the information that you should consider in connection with the 2022 Annual Meeting of Shareholders (the "Annual Meeting"), we recommend reading the entire Proxy Statement carefully before voting.

References throughout the Proxy Statement to "Repligen Corporation", "Repligen", "we", "us", "our", or the "Company" refer to Repligen Corporation and its subsidiaries, taken as a whole, unless the context otherwise indicates.

VOTING MATTERS

Proposal	Description	Board Recommendation
Proposal 1: Election of directors (page 17)	We are asking our shareholders to elect each of the six (6) directors identified below to serve until the 2023 Annual Meeting of Shareholders.	FOR each nominee
Proposal 2: Ratification of the selection of the independent registered public accounting firm (page 34)	We are asking our shareholders to ratify our Audit Committee's selection of Ernst & Young LLP ("E&Y") to act as the independent registered public accounting firm for Repligen in 2022. Although shareholder approval of the Audit Committee's selection of E&Y is not required, our Board of Directors ("Board") believes we should provide an opportunity for our shareholders to ratify this selection.	FOR
Proposal 3: Advisory vote on executive compensation (page 36)	We are asking our shareholders to cast a non-binding, advisory vote to approve the compensation of our named executive officers ("NEOs"). In evaluating this year's "say-on-pay" proposal, we recommend you review our Compensation Discussion and Analysis, describing how the Compensation Committee arrived at its executive compensation actions and decisions for 2021.	FOR

Please see the sections titled "General Annual Meeting Information" on page 57, and "Additional Information" on page 59 for important information about the proxy materials, including voting methods, vote requirements for adoption of each proposal, effect of abstentions and the deadlines to submit shareholder proposals and director nominations for next year's annual meeting of shareholders.

OUR DIRECTOR NOMINEES

You are being asked to vote on the election of the following six (6) nominees to our Board. All directors are elected annually by the affirmative vote of a majority of votes cast. The chart below summarizes our director nominees' personal information and current committee memberships. You can find detailed information about each director nominee's background, skill sets and areas of expertise later in this Proxy Statement.

						Current Committee Memberships ⁽²⁾	
Name and principal occupation	Age ⁽¹⁾	Director Since	Independent	Other Public Boards	 Audit	Compensation	Nominating & Corporate Governance
Tony J. Hunt President, Chief Executive Officer, Repligen Corporation	58	2015		1			
Karen A. Dawes, Chairperson President, Knowledgeable Decisions, LLC	70	2005	✓	2	•		CHAIR
Nicolas M. Barthelemy Former President and Chief Executive Officer, bioTheranostics	56	2014	V	3		CHAIR	•
Carrie Eglinton Manner Senior Vice President, Advanced & General Diagnostics and Clinical Solutions, Quest Diagnostics	48	2020	✓	-	•		
Rohin Mhatre, Ph.D. Senior Vice President, Product and Technology Development, Biogen Inc.	57	2020	V	-		•	
Glenn P. Muir Retired Chief Financial Officer and Executive Vice President, Hologic, Inc.	63	2015	✓	2	CHAIR	•	

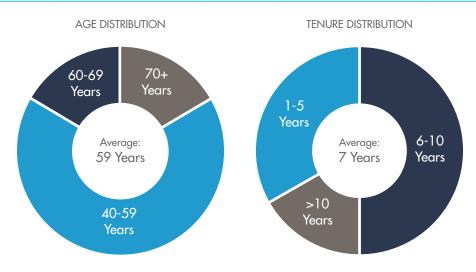
- (1) Age as of the date of the Annual Meeting.
- (2) Thomas F. Ryan, Jr. currently serves as a member of our Board and serves as a member of the Audit Committee and Nominating & Corporate Governance Committee. Mr. Ryan is retiring and will not stand for re-election at the expiration of his current term at the close of the Annual Meeting.

BOARD COMPOSITION

We continually evaluate our director skillsets and expertise for alignment with Repligen's strategic goals. Our independent directors bring extensive experience in areas that are critical to the Company's strategy and long-term success, such as biopharmaceutical manufacturing, global and commercial operations, and finance. Below we highlight the key skills and experiences of our director nominees that are critical to Repligen's success.

In addition to diversity of skills and experience, we believe that establishing and maintaining a Board that includes diverse demographics, such as gender, race, ethnicity, culture, nationality and sexual orientation, is important because having varying perspectives and a breadth of experience improves the quality of dialogue, contributes to more effective decision-making on behalf of the Company and its shareholders and enhances the overall chemistry and collaborative culture in the boardroom. Not only is our Board ethnically diverse, but two (2) of our six (6) director nominees are women, one of whom serves as the Chairperson of our Board.

	Key Skills & Experience						
Director Nominee	Public Company Board/CEO	Risk Oversight	Finance & Capital Markets	Manufacturing & Global Operations	Strategic Planning and M&A	Life Sciences Technology & Innovation	
Tony J. Hunt	✓	✓	✓	✓	✓	✓	✓
Karen A. Dawes	✓	✓			✓		✓
Nicolas M. Barthelemy	✓	✓		✓	✓	✓	✓
Carrie Eglinton Manner		✓		✓	✓	✓	
Rohin Mhatre, Ph.D.		✓		✓		✓	
Glenn P. Muir	✓	✓	√		✓		



Board Diversity Matrix (As of April 11, 2022)						
Total Number of Directors			7			
	Female	Male	Non-Binary	Did Not Disclose Gender		
Directors	2	5	_	_		
Number of Directors who self-identify in any of the categories belo	w:					
African American or Black	_	_	_	_		
Alaskan Native or Native American	_	_	_	_		
Asian		1	_	_		
Hispanic or Latinx	_	_	_	_		
Native Hawaiian or Pacific Islander			_	_		
White	2	4	_	_		
Two or More Races or Ethnicities	_	_	_	_		
LGBTQ+			_			
Did not Disclose Demographic Background			_			
Supplemental self-identification:						
Persons with Disabilities —						
Military Veteran			1			

CORPORATE GOVERNANCE HIGHLIGHTS

Repligen is committed to implementing and maintaining effective corporate governance practices that further long-term shareholder value, promote the Board's accountability, and align the interests of our executive team with those of our shareholders. The following represent the key elements of our corporate governance programs:

Director Independence	 All of our director nominees, other than our President and Chief Executive Officer ("CEO"), are independent 50% of our director nominees represent gender and ethnic diversity All Committee members are independent Executive sessions of independent directors are held at each Board meeting
Board Refreshment	 Board refreshment is a key area of focus as shown by the 2020 additions of Rohin Mhatre, Ph.D. and Carrie Eglinton Manner. With the departure of Mr. Ryan at the close of the Annual Meeting, we are in the process of evaluating a suitable replacement as set forth in our "Director Nomination Policies" on page 23.
Board Governance Practices	 We conduct annual Board and committee evaluations and self-assessments All directors and officers are subject to our Code of Business Conduct and Ethics All directors serving on the Board attended 100% of Board and committee meetings held during the period for which they have been directors and/or on the committees of the Board Our Chairperson and CEO positions are separate and our current Chairperson is female
Shareholder Rights	 All of our directors are elected annually In uncontested elections, our directors must be elected by a majority of votes cast Our Bylaws include shareholder rights to amend our Bylaws Our Bylaws provide for proxy access by shareholders We have no super-majority voting requirements in our Charter or Bylaws Robust governance and Environmental, Social, and Governance ("ESG")-focused investor outreach program
Compensation Practices/Policies	 We have stock ownership guidelines for all directors and NEOs Our executive compensation program links pay with corporate and individual performance A significant percentage of target compensation is "at-risk" through short-term and long-term incentive awards We have anti-hedging, anti-pledging and anti-short sale policies We have a compensation clawback policy

SUSTAINABILITY

In November 2021, the Corporate Responsibility Team ("CRT") that we established in early 2020 produced and published the Company's inaugural sustainability report ("Sustainability Report"). This ambitious report is aligned to key reporting frameworks, namely the Sustainability Accounting Standards Board ("SASB") and the Global Reporting Initiative ("GRI"), and reinforces our commitment, as a participant in the United Nations Global Compact ("UNGC"), to embed The Ten Principles (as defined by the UNGC) related to human rights, labor, the environment and anti-corruption into our core business strategies and operations in order to advance UNGC's Sustainability Development Goals. Multiple stakeholder groups - employees, customers, and suppliers - were engaged to help define the materiality matrix as a foundation for our reporting.



We encourage all stakeholders to browse this comprehensive report, available on our website, see www.repligen.com/company/sustainability-report-2020, as the description contained in this proxy represents a small portion of the complete report.

Our Sustainability Report is built on four pillars: Principles, People, Product and Planet ("4Ps"). Our "4Ps" embody the belief shared by our Board and the executive leadership team that corporate responsibility is essential to sustaining business and economic growth in a manner that can also deliver positive environmental and social impact. At Repligen, we are embracing sustainability as a mindset that encompasses and enhances our ESG profile.

For more on our sustainability work, Board oversight, and highlights from our Sustainability Report, see the section titled "Sustainability" on page 27.

SHAREHOLDER ENGAGEMENT

We actively seek and highly value the views and insights of our shareholders. As discussed in more detail under the heading "Corporate Governance and Board Matters – Shareholder Engagement" on page 29, we meet regularly with our shareholders through a robust schedule of investor meetings, conferences, roadshows and other events. In addition to our traditional investor relations outreach efforts over the last several years, we have also expanded our shareholder engagement program to include meetings with shareholder stewardship and proxy governance teams specifically, to discuss proxy proposals, overall governance and executive compensation programs, and sustainability reporting and initiatives. These discussions have involved our Board Chair and/or Board Committee members, our CEO, members of our executive management team as appropriate, and our investor relations representatives.

Our shareholder engagement program in 2021, and into 2022, was directed by our global head of investor relations, with oversight by our CEO, Tony J. Hunt, and our Board Chair, Karen A. Dawes, who also serves as Chair of our Nominating and Corporate Governance ("N&CG") Committee. Participants included Nicolas M. Barthelemy, who serves as Chair of our Compensation Committee and is a member of our N&CG Committee; and Glenn P. Muir, who servers as Chair of our Audit Committee and is a member of our Compensation Committee. Several of these meetings included Mr. Hunt, as appropriate to the topics of discussion, or by request.

Our shareholder engagement activities have guided our Board meeting agendas and have led to governance enhancements that help us address the issues that matter most to our shareholders. We consider this ongoing engagement process important in creating long-term value, maintaining a culture of integrity, compliance and sustainability, and informing our ESG activities.

Conversations with institutional investors in 2021 and into 2022 covered a wide range of topics, including our financial performance, our business strategies and execution, governance and risk management, executive compensation performance metrics, diversity and inclusion metrics and programs, environmental and social matters and ESG reporting frameworks and ratings.

Below is a summary of shareholder recommendations resulting from these conversations, and our responses:

What We Heard

 Consider providing greater visibility into the performance stock unit ("PSU") element of our long-term incentive ("LTI") compensation and increasing the PSU portion of the total LTI award for our NEOs.

How We Responded

The Compensation Committee first introduced PSUs in 2019 to increase the percentage of LTI awards for our NEOs that are performance-based, in addition to stock options, the value of which the Compensation Committee considers to be reflective of business performance.

This Proxy Statement includes disclosure regarding the specific goals for PSUs granted in early 2019 for the 2019-2021 performance period, which ended December 31, 2021, and were earned in February 2022 at 200% of target per the earnout curve approved by the Compensation Committee and set at the time the PSU plan was put in place. Earnout levels were based on the three-year (2019-2021) revenue compound annual growth rate ("CAGR") of 47.5% and adjusted return on invested capital ("Adjusted ROIC")(1) of 19.2%. Achievement of each of these goals was at levels well above the three-year targets of 25% revenue CAGR (at the high end), and 8% Adjusted ROIC (at the high end). Each of the revenue CAGR and Adjusted ROIC targets carried a 50% weighting in the plan.

Further, with the first three-year period for the PSU awards now complete, the Compensation Committee has reassessed the weighting of LTI directed to PSU awards. After consideration, the Compensation Committee has determined that the current composition and weighting remain appropriate in furthering our objective of recruiting and retaining top talent in our industry at this time.

The PSU portion of the total LTI component of our executive compensation program has thus far been set at 25% and will remain at 25% for the 2022 PSU plan. PSU awards have cliff vesting and they are earned only if three-year goals for Adjusted ROIC and three-year revenue CAGR goals are achieved.

Each year during the annual compensation review, the PSU program is assessed, ensuring that it meets our compensation goals and that it is optimized in the context of the broader bioprocessing market in order for us to set challenging, above-market goals for achievement. The Compensation Committee set sequentially more aggressive three-year Adjusted ROIC and three-year revenue CAGR goals for 2020, 2021 and 2022 PSU awards. The Compensation Committee modified the 2021 program to encompass the impact of acquisitions in the organic growth portion of the revenue CAGR goals.

In light of the COVID-19 tailwinds in 2020, and particularly in 2021, the Compensation Committee modified the revenue CAGR portion of the 2022 PSU program to reflect base revenue CAGR only (excluding COVID-19 and inorganic acquisition related revenue).

What We Heard	How We Responded
 Consider increasing the corporate performance portion of target Short- Term Incentive ("STI") awards for NEOs (except our CEO whose STI is already 100% tied to corporate objectives). 	The corporate objective portion of target STI awards for our NEO's (excluding our CEO) has been 60%, with the other 40% tied to individual performance objectives that reflect each NEO's discipline and role in achieving the corporate objectives. Our Compensation Committee believes that is important to retain an individual performance component to STI, given the operational execution required of each NEO to serve the corporate objective.
	We have listened to and assessed our shareholder input on this issue, and, effective for the performance period beginning January 1, 2022, the Compensation Committee has increased the corporate objective component of the STI awards for NEOs (other than the CEO) from 60% to 75% and has reduced the individual component of the STI for such NEOs from 40% to 25%. The Compensation Committee believes that this change strikes an appropriate balance between corporate and individual function goals. In addition, as of 2022, the individual objectives for NEOs include an ESG element.
 Consider additional disclosure on ESG oversight and decision-making processes as related to ESG matters. 	We have included in this Proxy Statement and in our first Sustainability Report, available at www.repligen.com , more detailed information on our ESG oversight and decision-making processes. As described in the report and later in this proxy, the Chair of our N&CG Committee oversees ESG matters and practices, as set forth in the N&CG Committee charter. The N&CG Committee reports to the full Board on ESG matters and the Company's progress on sustainability initiatives.
	At the management level, our sustainability work is led by a CRT, comprised of senior leaders across multiple disciplines including business operations, human resources, investor relations, legal affairs and corporate compliance, supply chain management and engineering.
	Our ESG ambassadors around the globe provide site-level input and data. At least on a quarterly basis, a CRT representative and the N&CG Committee Chair meet to review progress against ESG objectives. Our commitment to ESG oversight at both the Board and management levels reflects the importance of ESG-driven policies and programs to our long-term strategic plan.
 Consider adding an ESG metric to corporate performance objectives for NEOs. 	The N&CG Committee has discussed the inclusion of an ESG metric as part of STI and/or LTI awards. At this early stage of our sustainability work, the N&CG Committee believes it is premature to include a formal, ESG quantitative goal within the corporate performance objectives.
	However, in consideration of input from our stakeholders, starting in 2022, the corporate goals for the company at large now feature ESG elements, including; increasing the number of key sites that have transitioned to 100% renewable electricity; advancing additional right-sized packaging programs that reduce the number, size and weight of shipments; piloting/exploring a single-use product recycling/repurpose program; and advancing our comprehensive diversity, equity & inclusion ("DE&I") program.
	Beginning in 2022, as appropriate to their role, our NEOs have defined ESG responsibilities within their individual performance objectives that are structured to support the corporate ESG goals.

⁽¹⁾ Adjusted ROIC means the Company's Adjusted Net Operating Profit After Tax ("Adjusted NOPAT"), divided by Adjusted Invested Capital.

Adjusted NOPAT means the Company's Adjusted Income from Operations multiplied by the Adjusted Tax Rate.

Adjusted Income from Operations means the Company's income from operations under U.S. generally accepted accounting principles ("GAAP"), adjusted for inventory step-up charges, acquisition and integration costs, contingent consideration expense and intangible asset amortization.

Adjusted Tax Rate means the Company's tax rate under GAAP, adjusted for the tax effect of non-GAAP charges.

Adjusted Invested Capital means the average of the year-end balances for the final two years of the ROIC performance period of (a) the sum of (i) the Company's total stockholders' equity under GAAP and (ii) the Company's total short-term and long-term debt recorded under GAAP, less (b) the Company's cash and cash equivalents under GAAP, but excluding in all cases the impact of any business acquisition after the first two acquisitions completed during the plan period.

EXECUTIVE COMPENSATION HIGHLIGHTS

Repligen's compensation philosophy is to provide compensation that will attract and retain high-performing talent in our industry, motivate the Company's executive officers to create long-term, enhanced shareholder value, provide a fair reward for robust effort and stimulate our executive officers' professional and personal growth. The Company believes that the compensation of its executive officers should align the executive officers' interests with those of the shareholders and focus executive officer behavior not only on the achievement of near-term corporate goals, but also on the achievement of long-term business objectives and strategies. For more on compensation philosophy see the section titled "Executive Compensation" on page 41.

Compensation Practices

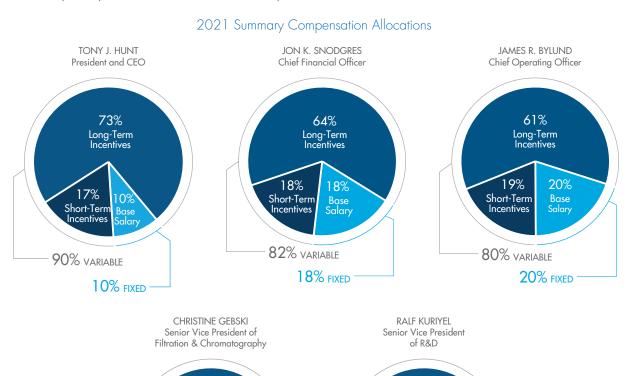
The following features of our compensation program are designed to align the interests of our executive team with those of our shareholders and with market best practices:

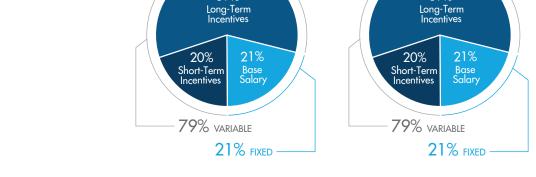
We Do	We Don't
✓ Pay for Performance: We emphasize performance- based compensation that aligns the interests of our executives with those of our shareholders through the use of both near-term cash incentive compensation and longer-term equity awards subject to both time and performance-based vesting.	X Hedge or Pledge: We do not allow executive officers to engage in hedging or pledging of our securities.
✓ Benchmark: We maintain an industry-specific peer group for annual benchmarking of executive compensation. This benchmarking is a key factor among those used to determine appropriate compensation for our NEOs.	X Re-Pricing: We do not allow for re-pricing of underwater stock options without shareholder approval.
✓ Benefits: We offer market-competitive benefits for executives that are consistent with the benefits we offer to all our employees.	X Gross Up Payments: We do not provide tax gross-up payments for our executive officers.
✓ Consult: We consistently engage an independent compensation consultant to advise on compensation levels and practices.	X Excess Perquisites: We do not provide excessive perquisites to our employees.
✓ Risk Assessment: We perform an annual compensation risk assessment.	X Executive Retirement Benefits: We do not provide supplemental executive retirement plans, nonqualified defined contribution or deferred compensation plans to our executive officers.
✓ Stock Ownership Requirements: We maintain stock ownership guidelines that require our directors, our CEO and our NEOs to maintain a specified level of ownership in the Company.	X Guaranteed Bonuses: We do not provide guaranteed bonuses to our executive officers.
✓ Clawback: We have a clawback policy and may claw back all or a portion of cash and equity incentive compensation paid to NEOs in the event of a financial accounting restatement.	
✓ Double Trigger: We provide each NEO severance benefits that are triggered only upon a qualifying termination of employment following a change-in-control (i.e., double trigger), except for a one-time special long-term equity award to the CEO(1).	

(1) The one-time special award was granted to Mr. Hunt in 2018 in recognition of past performance and to provide additional longterm retention incentive in light of high demand for executive talent within our industry, and was overall designed to protect shareholder interest.

Compensation Earned

The graphs below reflect the allocation of salary, cash incentive compensation and equity incentive compensation earned by the Company's principal executive officer, principal financial officer, chief operating officer, senior vice president of research & development and senior vice president of filtration & chromatography, all five of whom were serving as the Company's NEOs as of December 31, 2021. Additional NEO compensation detail and notes can be found in the 2021 Summary Compensation Table later in this Proxy Statement.





59%

The following table sets forth the total compensation earned by the NEOs during 2021. For more information on the total compensation see "Executive Compensation Tables - 2021 Summary Compensation Table" on page 47.

	Tony J. Hunt	Jon K. Snodgres	James R. Bylund	Christine Gebski	Ralf Kuriyel
Title	President & CEO	Chief Financial Officer	Chief Operating Officer	Senior Vice President of Filtration & Chromatography	Senior Vice President of R&D
Total 2021 Compensation	\$7,765,070	\$2,372,231	\$1,843,687	\$1,671,749	\$1,725,173

59%

Long-term Equity Incentive Breakout for Named Executive Officers

We believe that the mix of time-based and performance-based equity awards under our long-term incentive compensation program provides balance to the program, motivates our executives to drive organizational achievement of our near- and long-term corporate goals and aligns the interests of our executive officers with those of our shareholders.

As shown in the graph below, the target split of the long-term equity incentive compensation awards made to our NEOs based upon dollar value is 25% PSUs, 25% stock options subject to time-based vesting and 50% restricted stock units ("RSUs") subject to time-based vesting. Our Compensation Committee annually reviews our long-term equity incentive program and has determined that the current composition and weightings remain appropriate in furthering our objective of recruiting and retaining top talent in our industry at this time.

PSU awards are earned only if we achieve three-year Adjusted ROIC and revenue CAGR goals, which are set at challenging levels. The Compensation Committee set sequentially more aggressive three-year Adjusted ROIC and revenue CAGR goals for 2020 and 2021 PSU awards. The Compensation Committee modified the 2021 program to encompass the impact of acquisitions in the organic growth portion of the revenue CAGR goals. The Compensation Committee, in light of COVID-19 tailwinds, modified the revenue CAGR portion of the 2022 program to reflect base revenue CAGR (excluding the impact of COVID-19 and inorganic acquisition related revenue).

In 2019, we granted PSU awards subject to a three-year performance period ending December 31, 2021. The following table presents the performance goals and actual achievement during the performance period for the three-year reported revenue CAGR and three-year Adjusted ROIC:

Goals and Achievement for the Three-Year Performance Period Ending December 31, 2021						
	High End of Taget Range Acheivement					
Revenue CAGR 2019-2021	25.0%	47.5%				
Adjusted ROIC(1)	8.0%	19.2%				

(1) Adjusted ROIC means the Company's Adjusted Net Operating Profit After Tax ("Adjusted NOPAT"), divided by Adjusted Invested Capital.

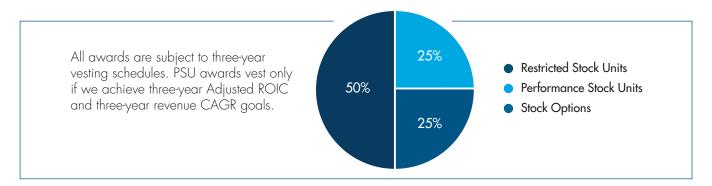
Adjusted NOPAT means the Company's Adjusted Income from Operations multiplied by the Adjusted Tax Rate.

Adjusted Income from Operations means the Company's income from operations under U.S. generally accepted accounting principles ("GAAP"), adjusted for inventory step-up charges, acquisition and integration costs, contingent consideration expense and intangible asset amortization.

Adjusted Tax Rate means the Company's tax rate under GAAP, adjusted for the tax effect of non-GAAP charges.

Adjusted Invested Capital means the average of the year-end balances for the final two years of the ROIC performance period of (a) the sum of (i) the Company's total stockholders' equity under GAAP and (ii) the Company's total short-term and long-term debt recorded under GAAP, less (b) the Company's cash and cash equivalents under GAAP, but excluding in all cases the impact of any business acquisition after the first two acquisitions completed during the plan period.

We have granted our NEOs performance-based equity awards, including PSUs each year since 2019 and we anticipate that we will continue to include such equity awards as part of our long-term incentive compensation program going forward for the reasons noted above.



BUSINESS HIGHLIGHTS 2021

We surpassed our business and financial goals for 2021, staying true to our course of creating and leading markets through technology innovation. We remained focused on differentiated products suited to the complexities and pressures of modern biopharmaceutical manufacturing, providing single-use and flexible solutions that are "inspiring advances in bioprocessing."

2021 Summary:

Among our accomplishments for the fiscal year ended December 31, 2021 are the following:

Overall Revenue Growth and Key Drivers of Revenue Growth

- Revenue increased to \$670.5 million, a gain of 83% year-over-year, including organic growth of 71%.
- **Base** business performance was exceptionally strong, contributing approximately \$443 million to full year revenue, and representing a gain of 38% year-over-year. An additional contribution of approximately \$38 million came from inorganic M&A, bringing total non-COVID-19-related revenue to approximately \$481 million.
- Revenue from **COVID-19** related programs contributed approximately \$190 million, an increase from approximately \$46 million in 2020, which represents 28% of overall revenue in 2021.
- We continued to build business with **cell and gene therapy** customers, where our single-use systems are well suited to plasmid and viral vector (lentivirus and adenovirus) manufacturing workflows. Sales to cell and gene therapy accounts increased by 40% to approximately \$76 million, or 11% of overall revenue.

Revenue Growth by Franchise

- All four of our franchises delivered strong revenue growth.
 - **Filtration** was our franchise with the strongest growth, up 131% year-over-year to approximately \$404 million in 2021. This is our largest and most diverse franchise.
 - **Proteins** revenue increased 48% year-over-year to approximately \$124 million in 2021. This franchise now includes our affinity resin product revenue, including Avitide, Inc. ("Avitide"), which was previously contained in chromatography.
 - **Chromatography** revenue increased 29% year-over-year to approximately \$91 million in 2021. This excludes approximately \$10 million of affinity resin product revenue that is now contained in our proteins franchise.
 - Process analytics revenue increased 44% year-over-year to approximately \$48 million in 2021.

Capital Investments

- Capital expenditures increased to approximately \$71 million in 2021, of which about 80% was invested in manufacturing capacity expansion worldwide. As a result, we increased our capacity by three- to nine-fold across our key product lines.
- While our capacity expansion programs were primarily focused on filtration, we also brought our European OPUS®
 manufacturing facility online in 2021 and by December 31, 2021, 90% of our European customers had qualified in
 Breda, The Netherlands, for production of pre-packed columns.
- We completed Phase 3 of our global **SAP implementation,** and advanced Phase 4 SAP implementation toward the finish line in 2021, completing Phase 4 by February 2022.

R&D and New Product Launches

- We continued to invest in **research and development ("R&D") for future growth**, with approximately 5% of revenue reinvested into new product development.
- In 2021, we launched several innovative new products across all of our franchises, including:
 - **Filtration:** We introduced XCell™ Lab Controllers used in upstream perfusion and N-1 cell culture processing, and rolled out our KrosFlo® FS Flat Sheet systems;
 - **Proteins:** We partnered with Navigo Proteins GmbH and Purolite Life Sciences (an Ecolab Inc. company), to launch the industry's first protein A resin to effectively purify pH-sensitive monoclonal antibodies;

- Process analytics: We launched our CTech™ FlowVPX® system, offering reliable in-line, real-time results
 with integrated ease for GMP-compliant concentration measurements for every stage of downstream
 manufacturing;
- **Chromatography:** We optimized ARTeSYN Biosolutions Holdings Ireland Limited ("ARTeSYN") custom systems to deliver on a portfolio of standardized, configurable ARTeSYN® chromatography systems.

Strategic Acquisitions and Integration

- We successfully completed a series of strategic acquisitions: Polymem S.A. ("Polymem"), Avitide and both Bioflex Solutions LLC and Newton T&M Corp. (collectively, "BioFlex").
 - Polymem, based near Toulouse, France, is a leading industrial expert in the development of hollow fiber membranes and modules. This acquisition strengthens our filtration franchise and significantly expanded our hollow fiber membrane and module production capacity.
 - Avitide, based in Lebanon, New Hampshire, is a technology leader that advances and expands our
 proteins franchise to address the unique purification needs of cell and gene therapies and other emerging
 modalities.
 - **BioFlex**, based in Newton, New Jersey, brings high precision injection molding and superior engineering and design capabilities to our single-use fluid management product portfolio. This acquisition further integrates fluid management components and assemblies and supports our systems strategy.
- We successfully completed the **integrations** of Engineered Molding Technology LLC ("EMT"), Non-Metallic Solutions, Inc. ("NMS") and ARTeSYN into the Company, addressing the growing need for single-use flow paths in our industry. With the addition of BioFlex in late 2021, we now have a broad portfolio of fluid management products around which we plan to create a new franchise in 2022.

Other Significant Achievements

- We published our inaugural Sustainability Report, in November 2021, ambitiously reporting against both SASB Standards (Value Reporting Foundation) and GRI Standards frameworks. This report served as our first Communication on Progress report to the UNGC.
- We continued to scale our organization, significantly **expanding our manufacturing and operations** teams. We continued to build talent within our organization, adding 724 employees (net) during 2021. As of December 31, 2021, we employed a diverse team of 1,852 full-time and part-time employees.
- We generated **free cash flow** of \$47.7 million and reported cash and cash equivalents of \$603.8 million as of December 31, 2021.

We grew our business on a year-over-year basis across many metrics, including those exhibited below:



SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS, DIRECTORS AND MANAGEMENT

The following table sets forth certain information regarding beneficial ownership of shares of Repligen's common stock with a par value of \$0.01 ("Common Stock") as of April 1, 2022 (i) by each person who is known by the Company to beneficially own more than 5% of the outstanding shares of Common Stock; (ii) by each director or nominee of the Company; (iii) by each NEO of the Company and (iv) by all directors and executive officers of Repligen as a group. The business address of each director and executive officer is Repligen Corporation, 41 Seyon Street, Building #1, Suite 100, Waltham, Massachusetts 02453.

eneficial Owner	Amount and Nature of Beneficial Ownerships (1)	Percent of Class ⁽²⁾
BlackRock, Inc ⁽³⁾	5,189,189	9.4%
The Vanguard Group ⁽⁴⁾	4,912,769	8.9%
Roy T. Eddleman ⁽⁵⁾	3,500,000	6.3%
T. Rowe Price Associates, Inc ⁽⁶⁾	3,042,655	5.5%
Tony J. Hunt ^[7]	340,332	*
Jon K. Snodgres ⁽⁸⁾	47,988	*
James Bylund ⁽⁹⁾	6,878	*
Christine Gebski ⁽¹⁰⁾	26,343	*
Ralf Kuriyel(11)	16,591	*
Karen A. Dawes ⁽¹²⁾	109,501	*
Nicolas M. Barthelemy ⁽¹³⁾	2,698	*
Carrie Eglinton Manner ⁽¹⁴⁾	2,539	*
Rohin Mhatre, Ph.D.(15)	3,909	*
Glenn P. Muir ⁽¹⁶⁾	44,011	*
Thomas F. Ryan, Jr. ⁽¹⁷⁾	4,151	*
All directors, nominees and executive officers as a group (1 1 Persons) ⁽¹⁸⁾	604,941	1.1%

- Less than one percent
- Beneficial ownership, as such term is used herein, is determined in accordance with Rule 13d-3 promulgated under the (1) Securities Exchange Act of 1934 as amended (the "Exchange Act"), and includes voting and/or investment power with respect to shares of Common Stock of Repligen. Unless otherwise indicated, the named person possesses sole voting and investment power with respect to the shares. The shares shown include shares that such person has the right to acquire within 60 days of April 1, 2022.
- Percentages of ownership are based upon 55,429,107 shares of Common Stock issued and outstanding as of April 1, 2022. (2)Shares of Common Stock that may be acquired pursuant to options that are exercisable or RSUs that will vest within 60 days of April 1, 2022 are deemed outstanding for computing the percentage ownership of the person holding such options but are not deemed outstanding for the percentage ownership of any other person.
- (3)Based solely on a Schedule 13G/A filed on February 1, 2022 for the December 31, 2021 filing event. BlackRock, Inc.'s business address is 55 East 52nd Street, New York, NY 10055. BlackRock, Inc. has sole voting power with respect to 4,961,946 shares and sole dispositive power with respect to 5,189,189 shares.
- (4)Based solely on a Schedule 13G/A filed on February 10, 2022 for the December 31, 2021 filing event. The Vanguard Group's business address is 100 Vanguard Blvd., Malvern, PA 19355. The Vanguard Group does not have sole voting power with respect to any shares and sole dispositive power with respect to 4,835,704 shares.
- (5)Based solely on a Schedule 13G/A filed on February 5, 2021 for the December 31, 2020 filing event. Mr. Eddleman's business address is c/o TroyGould PC, 1801 Century Park East, 16th Floor, Los Angeles, CA 90067. Mr. Eddleman has sole voting power and sole dispositive power with respect to 3,500,000 shares.

- (6) Based solely on a Schedule 13G/A filed on February 14, 2022 for the December 31, 2021 filing event. T. Rowe Price Associates, Inc. business address is 100 E. Pratt Street, Baltimore, MD 21202. T. Rowe Price Associates, Inc. has sole voting power with respect to 568,654 shares and sole dispositive power with respect to 3,042,655 shares.
- (7) Includes 254,358 shares issuable pursuant to stock options which are exercisable within 60 days of April 1, 2022.
- [8] Includes 24,464 shares issuable pursuant to stock options which are exercisable within 60 days of April 1, 2022 and 1,600 RSUs which will vest within 60 days of April 1, 2022.
- (9) Includes 4,677 shares issuable pursuant to stock options which are exercisable within 60 days of April 1, 2022.
- (10) Includes 656 shares issuable pursuant to stock options which are exercisable within 60 days of April 1, 2022 and 1,000 RSUs which will vest within 60 days of April 1, 2022.
- (11) Includes 5,078 shares issuable pursuant to stock options which are exercisable within 60 days of April 1, 2022 and 1,600 RSUs which will vest within 60 days of April 1, 2022.
- (12) Includes 18,254 shares issuable pursuant to stock options which are exercisable within 60 days of April 1, 2022 and 604 RSUs which will vest within 60 days of April 1, 2022
- (13) Includes 1,151 shares issuable pursuant to stock options which are exercisable within 60 days of April 1, 2022 and 457 RSUs which will vest within 60 days of April 1, 2022.
- (14) Includes 2,082 shares issuable pursuant to stock options which are exercisable within 60 days of April 1, 2022 and 457 RSUs which will vest within 60 days of April 1, 2022.
- (15) Includes 3,452 shares issuable pursuant to stock options which are exercisable within 60 days of April 1, 2022 and 457 RSUs which will vest within 60 days of April 1, 2022.
- (16) Includes 37,649 shares issuable pursuant to stock options which are exercisable within 60 days of April 1, 2022 and 457 RSUs which will vest within 60 days of April 1, 2022.
- (17) Includes 2,151 shares issuable pursuant to stock options which are exercisable within 60 days of April 1, 2022 and 457 RSUs which will vest within 60 days of April 1, 2022.
- (18) See footnotes 7 through 17 above. Includes 353,972 shares issuable pursuant to stock options which are exercisable within 60 days of April 1, 2022 and 7,089 RSUs which will vest within 60 days of April 1, 2022.

PROPOSAL 1 **ELECTION OF DIRECTORS**

DIRECTOR NOMINEES

There are six (6) nominees for director, all of whom are current directors of Repligen that have been nominated by the N&CG Committee and the Board for re-election. One of Repligen's current directors, Thomas F. Ryan, Jr., is retiring and will not stand for re-election at the expiration of his current term as of the close of the Annual Meeting.

If elected, each of the director nominees will hold office until the 2023 Annual Meeting of Shareholders and until his or her successor has been duly elected and qualified, or until his or her earlier death, resignation or removal.

Nominee's Name	Year First Elected Director	Position(s) with the Company
Tony J. Hunt	2015	President, Chief Executive Officer and Director
Karen A. Dawes	2005	Director, Chairperson of the Board
Nicolas M. Barthelemy	2014	Director
Carrie Eglinton Manner	2020	Director
Rohin Mhatre, Ph.D	2020	Director
Glenn P. Muir	2015	Director

Shares represented by all proxies received by the Board and not marked or voted to abstain from voting for any individual director or for any group of directors will be voted, unless otherwise indicated, FOR the election of the nominees named above. Proxies may not be voted for a greater number of persons than the number of nominees named. The Board knows of no reason why any nominee should be unable or unwilling to serve, but if any nominee should be unable or unwilling to serve, proxies will be voted in accordance with the judgment of the persons named as attorneys-in-fact on the proxy cards with respect to the directorship for which that nominee was unable or unwilling to serve.

Proposal 1 relates solely to the election of the six (6) above-named directors nominated by the Company and does not include any other matters relating to the election of directors, including without limitation, the election of directors nominated by any shareholders of the Company.

The Board of Directors unanimously recommends a vote FOR each of the nominees for election as directors of the Company. If authorized proxies are submitted without specifying an affirmative or negative vote on any proposal, the shares represented by such proxies will be voted in favor of the Board of Directors' recommendations.

OCCUPATIONS OF DIRECTORS AND EXECUTIVE OFFICERS

Repligen's executive officers are appointed by, and serve at the discretion of, the Board. Each executive officer is a full-time employee of Repligen. The current directors, including director nominees, and executive officers of Repligen as of April 1, 2022, are as follows:

Name	Age ⁽¹⁾	Position(s) with the Company
Tony J. Hunt	58	President, Chief Executive Officer and Director
Jon K. Snodgres	56	Chief Financial Officer
James R. Bylund ⁽²⁾	59	Chief Operating Officer
Christine Gebski	54	Senior Vice President, Filtration and Chromatography
Ralf Kuriyel	63	Senior Vice President, Research and Development
Nicolas M. Barthelemy ⁽³⁾⁽⁴⁾	56	Director
Karen A. Dawes ⁽⁴⁾⁽⁵⁾	70	Director, Chairperson of the Board
Carrie Eglinton Manner ⁽⁵⁾	48	Director
Rohin Mhatre, Ph.D. ⁽³⁾	57	Director
Glenn P. Muir ⁽³⁾⁽⁵⁾	63	Director
Thomas F. Ryan, Jr. ⁽⁴⁾⁽⁵⁾⁽⁶⁾	80	Director

- (1) Age as of the date of the Annual Meeting.
- (2) Mr. Bylund was promoted to Chief Operating Officer in January 2022.
- (3) Member of the Compensation Committee.
- (4) Member of the Nominating and Corporate Governance Committee.
- (5) Member of the Audit Committee.
- (6) Mr. Ryan currently serves as a member of our Board and will not stand for re-election at the expiration of his current term as of the close of the Annual Meeting.

BIOGRAPHICAL INFORMATION

The following paragraphs provide information about the Company's continuing directors and executive officers. The information presented includes information about each of our director's specific experience, qualifications, attributes and skills that led the Board to the conclusion that he or she should serve as a director.

EXECUTIVE OFFICERS



Tony J. Hunt was named President and CEO and has served on the Board since May 2015. He joined Repligen in May 2014 as Chief Operating Officer, overseeing commercial and manufacturing operations. Before coming to Repligen, Mr. Hunt was President of Bioproduction at Life Technologies, a global life sciences company which was acquired by Thermo Fisher Scientific in 2014. He joined Life Technologies in 2008, serving as General Manager of Bioproduction Chromatography and Pharma Analytics before being named President of Bioproduction in 2011. From 2000 to 2008, Mr. Hunt was with Applied Biosystems as Senior Director of Pharma Programs where he launched the Pharma Analytics business that in 2008 became

a part of the Bioproduction platform at Life Technologies. Mr. Hunt also serves on the board of directors of one publicly traded company, 908 Devices Inc. Mr. Hunt received a B.S. in Microbiology and an M.S. in Biotechnology from University College in Galway, Ireland, and an M.B.A. from Boston University School of Management. Mr. Hunt brings to the Board his deep understanding of the bioprocessing market.



Jon K. Snodgres joined Repligen in July 2014 as the Chief Financial Officer, where he oversees financial operations for the Company. Mr. Snodgres was previously with Maquet Cardiovascular ("Maquet"), a medical device company, where he served as Chief Financial Officer for five years. At Maquet, in addition to being responsible for the preparation and oversight of the company's financial statements, he was a key participant in growth planning and profit improvement strategies. Mr. Snodgres previously spent eight years with life sciences company Thermo Fisher Scientific in various roles, most recently as Vice President of Finance for the Laboratory Products Group. He began his career in finance at AlliedSignal/Honeywell International.

Mr. Snodgres received a B.S. in Business Administration, Finance from Northern Arizona University.



James R. Bylund was named Chief Operating Officer of the Company in January 2022 and serves as the Company's principal operating officer. He joined Repligen in March of 2020 as Senior Vice President, Global Operations and IT, overseeing all operations and IT functions on a global basis. Between March 2019 and March 2020, Mr. Bylund also worked in real estate at Inspire Development in Austin, Texas. Prior to joining Repligen, Mr. Bylund spent ten years at Thermo Fisher Scientific in a number of roles including Vice President and General Manager of the Single Use Technologies Business Unit and Vice President of Global Operations for the Bioproduction Division. Prior to joining Thermo Fisher, Mr. Bylund also worked for Fiserv

(9 years) and Eli Lilly and Company (7 years) in a variety of leadership roles. He has significant experience in managing multiple operating sites across the globe and scaling operations to meet rapidly growing demand. Mr. Bylund is a passionate proponent of continuous improvement and has consistently demonstrated the ability to assemble and grow highly effective teams. He holds a B.S. in Accounting from Utah State University and an M.B.A. from Indiana University.



Christine Gebski joined Repligen in May 2015 and currently serves as the Senior Vice President, Filtration and Chromatography where she oversees the general management and strategy of the Company's upstream and downstream filtration and chromatography portfolio. Ms. Gebski also manages the Customer Service and Field Applications functions within the Company, ensuring strong customer experience. Prior to joining Repligen, Ms. Gebski was head of the Chromatography Business Unit within the Bioproduction Division of Thermo Fisher Scientific. At Thermo Fisher she managed the Global Process Chromatography Applications and R&D functions for ten years. Before joining Thermo Fisher Scientific, Ms. Gebski was a Process

Development Scientist for 15 years in the biotechnology industry having held positions of increasing responsibility at Genzyme, TKT/Shire and EMD Pharmaceuticals. She has significant experience in downstream process development and engineering, technology transfer and validation across a variety of biological molecule classes and diagnostic reagents. She holds a B.S. in Biology from the University of Vermont and a M.S. in Biotechnology from the University of Massachusetts at Lowell.



Ralf Kuriyel joined Repligen in October 2016 as the Senior Vice President, Research and Development where he oversees the Company's R&D efforts. Mr. Kuriyel was previously Vice President of Applications for the single-use business unit within the Life Sciences division of Pall Corporation ("Pall"), whose acquisition by Danaher Corporation was completed in August 2015. At Pall, Mr. Kuriyel served as Vice President of R&D, Field Applications and Process Development Services from November 2014 to October 2016. In addition, Mr. Kuriyel served as Vice President, Applications R&D at Pall from November 2011 to November 2014. Mr. Kuriyel received a B.S. and an M.S. in Chemical Engineering from Rensselaer Polytechnic Institute and

has completed his coursework for the Tufts University Ph.D. program in Chemical Engineering. He is an inventor of multiple patents and has co-authored over 30 scientific publications on bioprocessing, including separations technologies, membrane separations methods, protein processing and enhanced microfiltration techniques.

DIRECTORS



Nicolas M. Barthelemy has served as a director of Repligen since June 2014. Mr. Barthelemy brings over 30 years of industry experience to the director role. Mr. Barthelemy served as President and CEO of bioTheranostics, a molecular diagnostics company, from September 2014 until February 2017. Prior to bioTheranostics, he served as President, Global Commercial Operations at Life Technologies, which was acquired by Thermo Fisher Scientific in February 2014. Prior to Life Technologies, Mr. Barthelemy was with Biogen Inc. ("Biogen") for eight years, most recently as Vice President, Manufacturing and General Manager for the company's manufacturing organization at Research Triangle Park. He began his career with Merck &

Co., Inc. as a Senior Project Engineer, Vaccine Technology. Mr. Barthelemy also serves on the board of directors of three publicly traded companies: Fluidigm Corporation, Twist Bioscience and 908 Devices Inc., and three privately held companies; Biocare Medical LLC, NanoCellect Biomedical, and Slingshot Biosciences. He also serves as an advisor to Warburg Pincus, a private equity firm. Mr. Barthelemy received an M.S. in Chemical Engineering from the University of California, Berkeley, and an engineering degree from Ecole Supérieure de Physique et Chimie Industrielles, Paris. Mr. Barthelemy's qualifications to sit on the Company's Board include his extensive experience in the bioprocessing field, including large scale biologics manufacturing and commercialization of consumables used in bioprocessing.



Karen A. Dawes, Chairperson of the Board, has served as a director of Repligen since September 2005. She is currently President of Knowledgeable Decisions, LLC, a management consulting firm. Ms. Dawes served from 1999 to 2003 as Senior Vice President and U.S. Business Group Head for Bayer Corporation's U.S. Pharmaceuticals Group. Prior to joining Bayer, she was Senior Vice President, Global Strategic Marketing, at Wyeth LLC ("Wyeth"), a pharmaceutical company (formerly known as American Home Products), where she held responsibility for worldwide strategic marketing. Ms. Dawes also served as Vice President, Commercial Operations for Genetics Institute, Inc., which was acquired by Wyeth in January

1997, designing and implementing that company's initial commercialization strategy to launch BeneFIX® and Neumega®. Ms. Dawes began her pharmaceuticals industry career at Pfizer, Inc. where, from 1984 to 1994, she held a number of marketing positions, serving most recently as Vice President, Marketing of the Pratt Division. At Pfizer, she directed launches of Glucotrol®/Glucotrol XL®, Zoloff®, and Cardura®. Ms. Dawes also serves on the board of directors of two publicly traded companies: Vaccitech plc and Medicenna Therapeutics Corp, one private company, PaxMedica, Inc., and on one not-for-profit company, Medicines 360. Ms. Dawes received a B.A. and M.A. in English from Simmons College and an M.B.A. from Harvard University Graduate School of Business. Ms. Dawes' qualifications to sit on the Company's Board include her extensive strategic experience in both a managerial and consulting capacity with pharmaceutical companies as well as her considerable commercial background.



Carrie Eglinton Manner has served as a director of Repligen since June 2020. She brings to the director role over 25 years of leadership experience across multiple disciplines. Ms. Eglinton Manner currently serves as Senior Vice President, Advanced & General Diagnostics and Clinical Solutions at Quest Diagnostics ("Quest"), which she joined in 2017. Prior to Quest, Ms. Eglinton Manner held various roles of increasing scope and responsibility over a period of 20 years at GE Healthcare. From 2009 through 2016, she served as President & CEO of four distinct GE Healthcare global businesses in the areas of diagnostic imaging, lab services and medical devices, ranging in size from approximately \$150 million to \$3 billion in revenue. In

her role at Quest, Ms. Eglinton Manner is responsible for value creation across the company's \$10 billion clinical portfolio, driving innovation in R&D, along with partnerships and acquisitions. She has helped accelerate growth in Quest's \$2 billion Advanced Diagnostics portfolio, which includes its specialty molecular and genetic offerings, along with Quest's global and pharmaceutical services businesses. She also serves as Executive Sponsor for Quest's African-American Business Leaders Network. In addition to the Repligen Board, Ms. Eglinton Manner serves as board director for the not-for-profit Thrive Networks, focused on advancing women and transforming health in underserved communities in Southeast Asia. Ms. Eglinton Manner holds a B.S. in Mechanical Engineering from the University of Notre Dame. Ms. Eglinton Manner's qualifications to sit on the Company's Board include her track record of delivering business expansion and profitability for rapidly growing global businesses, including her experience with integrating acquisitions and building operations excellence, with a commitment to quality and process improvements.



Rohin Mhatre, Ph.D., was appointed to the Board in March 2020. Dr. Mhatre brings over 25 years of relevant experience to the director role, including his current position since January 2017, as Senior Vice President, Product and Technology Development at Biogen. He has held numerous other roles of increasing responsibility within Biogen, which he joined in 1996, including six years as Vice President of Biopharmaceutical Development, where he led a 300-member team responsible for cell line, cell culture, purification and device development. Earlier in Dr. Mhatre's career at Biogen, he focused on building out analytical development and technical services. Prior to Biogen, Dr. Mhatre led the purification and

applications group at Applied BioSystems (formerly Perspective Biosystems). Dr. Mhatre holds a Ph.D. in Chemistry from Northeastern University. Dr. Mhatre's qualifications to sit on the Company's Board include his extensive technical expertise, his leadership abilities and his deep understanding of the dependencies between biological drug development and efficient manufacturing workflows.



Glenn P. Muir has served as a director of Repligen since October 2015. Mr. Muir brings over 30 years of experience to the director role, including 26 years with Hologic, Inc. ("Hologic"), a large multi-national medical device and diagnostics company where he most recently served as Chief Financial Officer and Executive Vice President. Mr. Muir retired in May 2014 from Hologic, where he helped steer the company's evolution from a venture-backed single product company to a publicly traded diversified organization with over 5,000 employees and \$2.5 billion in revenue. He joined Hologic in 1988 and served as Chief Financial Officer since 1992 and Executive Vice President since 2000. Prior to Hologic, Mr. Muir was with

Metallon Engineered Materials Co., a private company where from 1986-1988 he held the role of Vice President, Finance. Previously, from 1981-1984, he was a Senior Auditor with Arthur Andersen & Co. Mr. Muir also serves on the board of directors of two publicly traded companies: medical technology company, Neuronetics, Inc., and life science company G1 Therapeutics, Inc., and one privately held company: medical device company Impulse Dynamics Limited. Previously, Mr. Muir served on the board of directors of ReWalk Robotics Ltd. from July 2014 to December 2017. Mr. Muir is a Certified Public Accountant with a Bachelors of Business Administration from the University of Massachusetts, Amherst. He also earned an M.S. from Bentley University and an M.B.A. from Harvard University. Mr. Muir's qualifications to sit on Repligen's Board include his extensive experience with integrating strategic acquisitions and leading the financial operations for a global manufacturing and commercial organization.

CERTAIN RELATIONSHIPS AND RELATED PERSONS TRANSACTIONS

No family relationship exists among the officers and directors of Repligen. The Audit Committee conducts an appropriate review of all related party transactions for potential conflict of interest situations on an ongoing basis, and the approval of the Audit Committee is required for all such transactions. The term "related party transactions" shall refer to transactions required to be disclosed by the Company pursuant to Item 404 of Regulation S-K promulgated by the Securities and Exchange Commission ("SEC").

DELINQUENT SECTION 16(a) REPORTS

Under U.S. securities laws, directors, certain officers and persons holding more than 10% of our Common Stock must report their initial ownership of our Common Stock and any changes in their ownership to the SEC. The SEC has designated specific due dates for these reports and we must identify in this Proxy Statement those persons who did not file these reports when due. Based solely on our review of copies of the reports filed with the SEC and the written representations of our directors and executive officers, we believe that all reporting requirements for fiscal year 2021 were complied with by each person who at any time during the 2021 fiscal year was a director or an executive officer or held more than 10% of our Common Stock, except for the following: Mr. Hunt did not report one transaction in which he gifted 1,000 shares. Such transaction was subsequently reported in a Form 5 that was filed on February 10, 2021.

CORPORATE GOVERNANCE AND BOARD MATTERS

BOARD INFORMATION

Director Independence

The Board has determined that each of the directors who has served during the fiscal year ended December 31, 2021 and each of the nominees for director at the Annual Meeting, with the exception of Mr. Hunt, has no material relationship with the Company and is independent within the meaning of the director independence standards of The Nasdaq Stock Market LLC ("Nasdaq"). Furthermore, the Board has determined that each member of the Audit Committee, the Compensation Committee and the N&CG Committee of the Board is independent within the meaning of Nasdaq's director independence standards and that each member of the Audit Committee meets the heightened director independence standards of the SEC for audit committee members.

Board Leadership Structure

The Board is led by its Chairperson, Karen Dawes, who is an independent director. The Board believes that separating the roles of CEO and Chairperson of the Board is the most appropriate structure for the Company at this time. Having an independent Chairperson ensures that the CEO is accountable for managing the Company in the best interests of the shareholders while, at the same time, acknowledging that managing the Board is a separate and time intensive responsibility. Additionally, this structure ensures a greater role for the non-management directors in the oversight of the Company and active participation of the independent directors in setting agendas and establishing priorities and procedures for the work of the Board. The Board also believes that having an independent Chairperson can serve to curb conflicts of interests, promote oversight of risk and manage the relationship between the Board and the CEO.

Executive Sessions

The Board holds executive sessions of the independent directors preceding or following each regularly scheduled Board meeting and/or as deemed necessary by the Chairperson. Executive sessions do not include any employee directors of the Company, and the Chairperson of the Board is responsible for chairing the executive sessions.

Director Nominations Policies

Director Qualifications

The N&CG Committee is responsible for selecting and recommending nominees for election as directors to the Board. The full Board participates in an annual Board effectiveness assessment, which includes evaluating the appropriate qualities, skills and characteristics of current Board members and identifying skills and qualifications desired for director nominees. These assessments include consideration of the following minimum qualifications that the N&CG Committee believes must be met by all directors:

- Directors must be of high ethical character, have no conflict of interest and share the values of the Company as reflected in the Company's Second Amended and Restated Code of Business Conduct and Ethics;
- Directors must have reputations, both personal and professional, consistent with the image and reputation of the Company;
- Directors must have the ability to exercise sound business judgement;
- Directors must have substantial business or professional experience and be able to offer advice and guidance to the Company's management based on that experience; and
- Directors must have (at a minimum) a bachelor's degree or equivalent degree from an accredited college or university.

The N&CG Committee also considers numerous other qualities, skills and characteristics when evaluating director nominees, such as:

- An understanding of and experience in bioprocessing, biotechnology and pharmaceutical industries;
- An understanding of and experience in accounting oversight and governance, finance and marketing;
- Leadership experience with public companies or other significant organizations; and
- Diversity of background, including diversity of gender, race, ethnicity, culture, nationality, sexual orientation, age, perspectives, personal and professional background, knowledge and experience.

These factors and others are considered useful by the Board and are reviewed in the context of an assessment of the perceived needs of the Board at a particular point in time.

The N&CG Committee considers candidates for Board membership, including those suggested by shareholders, applying the same criteria for all candidates. If the N&CG Committee identifies a need to replace a current member of the Board, to fill a vacancy on the Board, or to expand the size of the Board, it considers candidates from a variety of sources including third-party search firms that assist in identifying, evaluating and conducting due diligence on potential director candidates. For all potential candidates, our N&CG Committee will consider all factors it deems relevant, including those enumerated above.

Board Diversity

The N&CG Committee is committed to having a diverse Board and considers a variety of candidate attributes, including whether a candidate, if elected, assists in achieving a mix of directors who represent a diversity of backgrounds and experience. A Board that includes diversity, including diversity in gender, race, ethnicity, culture, nationality, sexual orientation, age, perspectives, personal and professional background, knowledge and experience, is important because we believe having varying perspectives and a breadth of experience improves the quality of deliberations, contributes to more effective decision-making on behalf of the Company and its shareholders and enhances the overall chemistry and collaborative culture in the boardroom. Accordingly, the N&CG Committee is committed to actively seeking out Board candidates who are highly qualified women, minorities, and people with other diverse backgrounds, skills and experience.

Process for Identifying and Evaluating Director Nominees

The Board is responsible for selecting and nominating nominees for election as directors but delegates the selection and nomination process to the N&CG committee, with the expectation that other members of the Board or members of management will take part in the process as appropriate.

Generally, the N&CG Committee identifies candidates for director nominees in consultation with Board members and management, through the use of search firms or other advisers, through the recommendations submitted by shareholders or through such other methods as the N&CG Committee deems to be helpful in identifying candidates. Consistent with historical practices and our ongoing efforts in diversity and inclusion, we target a diverse slate of candidates. Once candidates have been identified, the N&CG Committee confirms that the candidates meet all of the minimum qualifications for director nominees established by the N&CG Committee. The N&CG Committee may gather information about the candidates through interviews, questionnaires, background checks, or any other means that the N&CG Committee deems to be helpful in the evaluation process. The N&CG Committee meets as a group to discuss and evaluate the qualities and skills of each candidate, both on an individual basis and taking into account the overall composition and needs of the Board. Based on the results of the evaluation process, the N&CG Committee recommends candidates to be interviewed by other Board directors and ultimately recommends final candidates for the Board's appointment to the committees of the Board.

Procedures for Recommendation of Nominees by Shareholders

The N&CG Committee will consider director candidates who are recommended by the shareholders of the Company. Shareholders who meet the applicable eligibility requirements under the proxy access provision of our by-laws and who wish to include nominees for our Board in the Company's proxy statement for the 2023 Annual Meeting of Shareholders, or shareholders who wish to make a proposal at the 2023 Annual Meeting of Shareholders (other than a proposal made pursuant to Rule 14a-8 or pursuant to the proxy access provision of our by-laws), must in each case deliver any such recommendation not later than the close of business on the 60th day, nor earlier than the close of business on the 90th day, prior to the first anniversary of the preceding year's annual meeting. Shareholders, in submitting recommendations to the N&CG Committee for director candidates, shall follow the following procedures:

Such recommendation for nomination should be in writing and include the following:

- Name and address of the shareholder making the recommendation, as they appear on the Company's books and records, and of such record holder's beneficial owner;
- The class or series and number of all shares of capital stock of the Company which are, directly or indirectly, owned beneficially or of record by such shareholder and such beneficial owner or any of its affiliates or associates;
- All synthetic equity interests in which the shareholder and such beneficial owner or any of its affiliates or associates, directly or
 indirectly, holds an interest including a description of the material terms of each such synthetic equity interest;
- Name and address of the individual recommended for consideration as a director nominee;
- The principal occupation of the director nominee;
- The total number of shares of capital stock of the Company that will be voted for the director nominee by the shareholder making the recommendation;
- All other information relating to the director nominee that would be required to be disclosed in solicitations of proxies for the
 election of directors, or is otherwise required, in each case pursuant to Regulation 14A under the Exchange Act (including the
 recommended candidate's written consent to being named in the proxy statement as a nominee and to serving as a director if
 approved by the Board and elected);
- A written statement from the shareholder making the recommendation stating why such recommended candidate would be able
 to fulfill the duties of a director;
- Any proxy, agreement, arrangement, understanding or relationship pursuant to which the shareholder making the
 recommendation has or shares a right to, directly or indirectly, vote any shares of any class or series of capital stock of the
 Company;

- Any rights to dividends or other distributions on the shares of any class or series of capital stock of the Company, directly or indirectly, owned beneficially by such recommending shareholder that are separated or separable from the underlying shares of the Company;
- Any performance-related fees that such recommending shareholder, directly or indirectly, is entitled to is based on any increase or decrease in the value of shares of any class or series of capital stock of the Company or any synthetic equity interest;
- In the case of a nomination by proxy access, any agreement, arrangement or understanding by and among the shareholder making the recommendation or beneficial owner and any other person pertaining to the nomination;
- In the case of a nomination by proxy access, the names and addresses of other shareholders known by the shareholder making the recommendation to support such nomination; and
- In the case of a nomination by proxy access, a statement whether or not the shareholder giving the notice will deliver a proxy statement and form of proxy to holders of at least the percentage of voting power of all of the shares of capital stock of the Company believed by such shareholder to be sufficient to elect the nominee.

Nominations must be sent to the attention of the Secretary of the Company by one of the two methods listed below:

By U.S. Mail (including courier or expedited delivery service):

Repligen Corporation Attn: Secretary 41 Sevon Street Building #1, Suite 100 Waltham, MA 02453

By facsimile at (781) 250-0115:

Attn: Secretary

The Secretary of the Company will promptly forward any such nominations to the N&CG Committee. Once the N&CG Committee receives the nomination of a candidate, the candidate will be evaluated and a recommendation with respect to such candidate will be delivered to the Board. Nominations not made in accordance with the foregoing policy shall be disregarded by the N&CG Committee and votes cast for such nominees shall not be counted.

To comply with the universal proxy rules (once effective), shareholders who intend to solicit proxies in support of director nominees other than the Company's nominees must provide notice that sets forth the information required by Rule 14a-19 under the Exchange Act no later than March 27, 2023

Shareholder Communications Policies

The Board provides to every shareholder the ability to communicate with the Board, as a whole, and with individual directors on the Board through an established process for shareholder communication (as that term is defined by the rules of the SEC) as follows:

For communications directed to the Board as a whole, shareholders may send such communication to the attention of the Chairperson of the Board via one of the two methods listed below:

By U.S. Mail (including courier or expedited delivery service):

Repligen Corporation Attn: Chairperson of the Board of Directors 41 Seyon Street Building #1, Suite 100 Waltham, MA 02453

By facsimile at (781) 250-0115:

Attn: Chairperson of the Board of Directors

For shareholder communications directed to an individual director in his or her capacity as a member of the Board, shareholders may send such communications to the attention of the individual director via one of the two methods listed below:

By U.S. Mail (including courier or expedited delivery service):

Repligen Corporation Attn: [Name of Individual Director] 41 Seyon Street Building #1, Suite 100 Waltham, MA 02453

By facsimile at (781) 250-0115:

Attn: [Name of Individual Director]

The Company will forward any such shareholder communication to the Chairperson of the Board, as a representative of the Board, and/or to the director to whom the communication is addressed on a periodic basis. The Company will forward such communication by certified U.S. Mail to an address specified by each director of the Board for such purposes or by secure electronic transmission.

Director Attendance Policy

The Board's policy is that all directors and director nominees attend the Company's Annual Meeting in person or via teleconference or other virtual means. All members of the Board attended the 2021 Annual Meeting of Shareholders.

Stock Ownership and Insider Trading Policies

The Board has adopted a share ownership policy relating to ownership of the Company's securities by the Company's NEOs and the directors. Subject to the terms of the policy, (i) the CEO is required to acquire over a five-year period and hold shares of Common Stock of the Company equal to five times his or her base salary as of a specified measuring date, (ii) each of the Company's NEOs is required to acquire over a five-year period and hold shares of Common Stock of the Company equal to one times his or her base salary as of a specified measuring date, and (iii) each of the Company's non-employee directors is required to acquire over a five-year period and hold shares of Common Stock of the Company equal to four times the Company's annual cash retainer paid to each such non-employee director. Restricted stock and RSUs (whether or not vested as of the measurement date) are included in the number of shares owned, but unexercised stock options (regardless of whether they are vested or unvested) and PSUs are not included in the total number of shares owned by the NEOs or directors for purposes of the share ownership policy.

Under the Company's insider trading policy, employees, including executive officers and directors are not permitted to engage in the following transactions with respect to the Company's stock: selling any of the Company's securities that are not owned by such insider at the time of sale ("short selling") and holding the Company's stock in an account that is, or is linked to, a margin account. In addition, the following transactions are not permitted without preapproval of the Company's Audit Committee: buying or selling puts, calls or other derivatives of the Company's securities or any derivative securities that provide the economic equivalent of ownership of any of the Company's securities; engaging in any hedging transaction with respect to the Company's securities; or pledging Company securities as collateral for a loan. Gifts (transfer of the Company's stock without consideration) are subject to the same restrictions as all other trades and are prohibited during a period when the insider is not permitted to trade.

Code of Business Conduct and Ethics

Repligen has adopted a Second Amended and Restated Code of Business Conduct and Ethics as its "code of ethics" as defined by regulations promulgated under the Securities Act of 1933, as amended (the "Securities Act"), and the Exchange Act (and in accordance with the Nasdaq requirements for a "code of conduct"), which applies to all of the Company's directors, officers and employees, including its principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions. A current copy of the Second Amended and Restated Code of Business Conduct and Ethics is available at the "Investors" — "Corporate Governance" — "Policies and Charters" section of the Company's website at http://www.repligen.com. A copy of the Code of Business Conduct and Ethics may also be obtained free of charge from the Company upon a request directed to Repligen Corporation, Attention: Investor Relations, 41 Seyon Street, Building #1, Suite 100, Waltham, MA 02453. The Company will promptly disclose any substantive changes in or waivers, along with reasons for the waivers, of the Second Amended and Restated Code of Business Conduct and Ethics granted to its executive officers, including its principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions, and its directors by posting such information on its website at www.repligen.com under "Investors" — "Corporate Governance."

The Board's Role in Risk Oversight

The Company's management is responsible for assessing and managing risk and the Board oversees and reviews the Company's risk management process. This oversight by the Board is primarily accomplished through its committees and through management's reporting processes, including having the Board receive regular reports from members of senior management on areas of material risk to the Company, including operational, financial, legal and regulatory, strategic, and governance risks.

The committees of the Board execute their oversight responsibility for risk management as follows:

- The Audit Committee is responsible for overseeing the Company's internal financial and accounting controls, work performed by
 the Company's independent registered public accounting firm and the Company's independent reviewer of internal controls. As
 part of its oversight function, the Audit Committee regularly discusses with management and the Company's independent
 registered public accounting firm the Company's major financial and controls-related risk exposures and steps that management
 has taken to monitor and control such exposures.
- The Compensation Committee is responsible for overseeing risks related to the Company's cash and equity-based compensation programs and practices. As part of its oversight function, the Compensation Committee periodically discusses with the CEO as well as the Board, as necessary, the compensation plan for both executive officers and the non-employee directors, performance goals and objectives for the period and related achievement, peer group and other relevant compensation benchmarks and practices and other matters to ensure the Company's compensation practices are in the best interest of the Company and its shareholders.

The N&CG Committee is responsible for overseeing risks related to the composition and structure of the Board and its
committees, as well as the Company's corporate governance which includes oversight of its ESG practices. With respect to the
composition of the Board and its committees, on an annual basis, the N&CG Committee assesses the qualifications,
independence and diversity of the members of the Board and makes membership recommendations. With respect to the
Company's ESG practices, the N&CG Committee reports to the Board periodically on ESG objectives and status.

We will continue to uphold our strong corporate governance, shareholder rights and executive compensation programs. Our Board also oversees our executive and Board succession planning strategies.

SUSTAINABILITY

In November 2021, the CRT that we established early in 2020 produced the Company's Sustainability Report. This ambitious report is aligned to key reporting frameworks (SASB and GRI) and reinforces our commitment, as a participant in the UNGC to embed The Ten Principles (as defined by the UNGC) related to human rights, labor, the environment and anti-corruption into our core business strategies and operations to advance the UNGC's Sustainability Development Goals. Multiple stakeholder groups – employees, investors, customers, and suppliers – were engaged to help define a materiality matrix as a foundation for our reporting.



We encourage all stakeholders to browse this comprehensive report, available on our website, see www.repligen.com/company/sustainability-report-2020, as the disclosures contained in this proxy represent a small portion of the complete report.

In summary, our Sustainability Report is built on four pillars: Principles, People, Product and Planet. Our "4Ps" embody the belief shared by our Board and the executive leadership team that corporate responsibility is essential to sustaining business and economic growth in a manner that can also deliver positive environmental and social impact. At Repligen we are embracing sustainability as a mindset that encompasses and enhances our ESG profile.

Under each of our "4Ps", we address material topics and discuss progress made. Below is a brief summary of the much more in-depth content of the report:

• **Principles.** This pillar is focused on operating ethically and honestly, with integrity, transparency and respect for each other. Our core principles guide how we operate, acknowledging and respecting that our shareholders depend on us to conduct business honestly, fairly and responsibly. We are committed to upholding these principles, as embodied in our policies and corporate governance structures. This extends through our commitment to business ethics and compliance, financial integrity, data security/ privacy and risk management.

In 2020, and into 2021:

- We refreshed our Code of Business Conduct and Ethics to better reflect our commitment to ethical and fair business practices and compliance.
- As part of our annual risk evaluation process for 2021, we identified eight areas of focus; cybersecurity, talent, workplace health & safety, engagement with our stakeholders, supply chain management and responsible sourcing, business continuity, manufacturing capacity and M&A integration.
- We made excellent progress towards completion of a three-year plan (started in 2019) to enforce the highest possible levels of data security across our entire organization, taking the approach that data security is every employee's responsibility.
- In connection with our eight areas of focus, we conducted ERP system, cybersecurity advances and principle-based workforce training, including anti-corruption training for all employees.

For details and additional information, see the "Working Responsibility" chapter of our Sustainability Report.

• **People.** This pillar is focused on diversifying our employee base, ensuring employee well-being and providing opportunities for individual growth – as well as supporting the needs of the communities in which we operate. We recognized that our success as a company in a highly competitive industry depends on the skills and contributions of a diverse group of employees who are engaged as individuals and teams.

In 2020, and into 2021:

- In 2021, Repligen formally established a DE&I Council comprised of 10 senior leaders of the Company who bring passion and commitment to driving DE&I initiatives.
- We conducted a number of leadership development programs and unconscious bias workshops, centered on "3Cs": conversation, community and careers.
- We conducted an engagement survey and reached 87% participation, with 81% favorable scores.

- In response to heightened awareness of social inequities and racial injustice, our corporate donations were dedicated to organizations effecting positive change in these areas. We also engaged historically black colleges and universities ("HBCUs") to recruit new employees.
- We shared workforce data that demonstrates the diversity of our employees, both at the management level and across the organization.
- With respect to health and safety, we were pleased to report an excellent safety record.
- Our COVID-19 task force met weekly to ensure the safety of our employees, visitors and operations.

For details and additional information, see the "Caring About our Employees and Communities" chapter of our Sustainability Report.

• **Product.** This pillar is focused on inspiring innovation, unlocking new opportunities to help advance bioprocessing and ultimately, to advance the manufacture of medicines that improve human health. We believe our products empower biopharmaceutical manufacturers to generate more product in less space and with less waste, ultimately making a positive impact on the environment, as well as on overall human health and well-being.

In 2020, and into 2021:

- We quickly responded to accelerated demand for our products, to meet the needs of COVID-19 vaccine and therapeutic developers. With approximately 13% of our total revenue in 2020 and 28% of our total revenue in 2021, driven by COVID-19 related demand, we accelerated our manufacturing capacity three- to nine-fold depending on the product line.
- We were honored to receive an Award of Excellence for Exceptional Efforts as a Critical Supplier, from a large multinational vaccine customer in 2021.
- We launched several new products in 2021, as described in our Proxy Summary in the section titled "Business Highlights 2021" on page 12. Our approach to product development and lifecycle management is keenly focused on differentiation and industry-first innovation to overcome bioprocessing challenges.
- Our "right-sized packaging" program provides several examples of success in dramatically reducing packaging material weight and volume (e.g., freight space).

For more detail, including information on product quality and safety, supply chain management and responsible sourcing, see the "Innovating Through a Sustainability Lens" chapter of our Sustainability Report.

• **Planet.** This pillar is focused on sustainability efforts to minimize the waste, water and energy impacts of our day-to-day operations and our products' lifecycles, in order to help protect the environment for future generations. We are vigorously working to ingrain sustainability into our Company's cultural mindset, and with respect to the environment we are taking company-wide action to reduce our climate impact.

In 2020, and into 2021:

- We committed to reporting our direct Scope 1 and Scope 2 GHG emissions.
- We established baseline energy metrics in 2019, as well as electricity and water consumption metrics for key operating sites (15 sites in 2020).
- We reported a 12% reduction in carbon emissions in 2020, on a normalized to revenue basis, as compared to 2019.
- We converted to 100% renewable electricity at four key manufacturing sites.
- o Our manufacturing facility in Lund, Sweden was recertified as carbon neutral in manufacturing in 2020.

For more detail, including electric vehicle programs, water stewardship and waste management programs, see the "Protecting the Planet" chapter of our Sustainability Report.

ESG Oversight. At the Board level, our N&CG Committee oversees ESG matters and policies, as set forth in the N&CG Committee charter. The N&CG Committee reports to the full Board on ESG matters and the Company's progress on sustainability initiatives. A CRT member reports to the N&CG Committee and to the full Board on ESG matters and progress twice a year. At least on a quarterly basis, a CRT member and the N&CG Committee Chair meet to review progress against ESG objectives. At the management level, the publication of our Sustainability Report was led by our CRT, comprised of senior leaders in business operations, supply chain management, packaging engineering, investor relations and legal affairs and corporate compliance. The CRT internally champions and coordinates the Company's commitment to sustainable practices, and drives sustainability strategy, processes and reporting on relevant metrics. The CRT's broader support network includes the executive leadership team with the close involvement of our CEO, plus 15 site-level ESG ambassadors around the globe who provide local input and data.

Tracking of environmental data. In January 2021, the CRT selected a financial grade sustainability software solution to accelerate our data collection, aggregation, management, auditing, forecasting and reporting expectations. Data including utility use and water use is being collected for sites around the globe and will continue to provide valuable information to track carbon emission/equivalency data against our baseline set of data (from 2019).

We are considering expanding our disclosures and/or reporting frameworks to include the Task Force on Climate-related Financial Disclosures, the framework of the Climate Disclosure Standards Board and Science Based Targets.

As we advance our sustainability program, we are evaluating additional software tools to aggregate data that we capture across a broad range of ESG topics.

The Company will continue to evolve our ESG disclosures to provide shareholders and other stakeholders increased visibility into our ESG activities.

SHAREHOLDER ENGAGEMENT

Our Board and executive team actively seek and highly value the views and insights of our shareholders. We meet regularly with our shareholders through a formal, robust schedule of investor meetings, conferences, roadshows and other events. In addition to our traditional investor relations outreach efforts, over the last several years, we have also expanded our shareholder engagement program to include meetings with shareholder stewardship and proxy governance teams specifically to discuss proxy proposals, overall governance and executive compensation programs and sustainability reporting and initiatives. These discussions have involved our Board Chair and/or Board Committee members, our CEO, members of our executive team as appropriate, and at least one representative of our investor relations team.

The Shareholder Engagement Program in 2021, and into 2022, was directed by our global head of investor relations, with oversight by our CEO, Tony J. Hunt, and our Board Chair, Karen A. Dawes, who also serves as Chair of our N&CG Committee. Participants included Nicolas M. Barthelemy, who serves as Chair of our Compensation Committee and is a member of our N&CG Committee, and Glenn Muir, who serves as Chair of our Audit Committee and is a member of our Compensation Committee. Several of these meetings included Mr. Hunt, as appropriate to the topics of discussion, or by request.

Our shareholder engagement activities have guided our Board meeting agendas and have led to governance enhancements that help us address the issues that matter most to our shareholders. We consider this ongoing engagement process important in creating longterm value, maintaining a culture of integrity, compliance and sustainability, and informing our ESG activities.

Conversations with institutional investors in 2021, and into 2022, covered a wide range of topics, including our financial performance, our business strategies and execution, governance and risk management, executive compensation performance metrics, diversity and inclusion metrics and programs, and environmental and social matters - including seeking counsel and feedback on our Sustainability Report.

Below is a summary of shareholder recommendations resulting from these conversations, and our responses:

What We Heard	How We Responded
Consider providing greater visibility into the PSU element of our LTI compensation and increasing the PSU portion of the total LTI award for our NEOs.	The Compensation Committee first introduced PSUs in 2019 to increase the percentage of LTI awards for our NEOs that are performance-based, in addition to stock options, the value of which the Compensation Committee considers to be reflective of business performance.
NLOS.	This Proxy Statement includes disclosure regarding the specific goals for PSUs granted in early 2019 for the 2019-2021 performance period, which ended December 31, 2021 and were earned in February 2022 at 200% of target, per the earnout curve approved by the Compensation Committee and set at the time the PSU plan was put in place. Earnout levels were based on the three-year (2019-2021) revenue CAGR of 47.5% and Adjusted ROIC(1) of 19.2%. Achievement of each of these goals was at levels well above the three-year targets of 25% revenue CAGR (at the high end), and 8% Adjusted ROIC (at the high end). Each of the revenue CAGR and Adjusted ROIC targets carried a 50% weighting in the plan.
	Further, with the first three-year period for the PSU awards now complete, the Compensation Committee has reassessed the weighting of LTI directed to PSU awards. After consideration, the Compensation Committee has determined that the current composition and weighting remain appropriate in furthering our objective of recruiting and retaining top talent in our industry at this time.
	The PSU portion of the total LTI component of our executive compensation program has thus far been set at 25% and will remain at 25% for the 2022 PSU plan. PSU awards have cliff vesting and they are earned only if three-year goals for Adjusted ROIC and three-year revenue CAGR goals are achieved.
	Each year during the annual compensation review, the PSU program is assessed, ensuring that it meets our compensation goals and that it is optimized in the context of the broader bioprocessing market in order for us to set challenging, above-market goals for achievement. The Compensation Committee set sequentially more aggressive three-year Adjusted ROIC and three-year revenue CAGR goals for 2020, 2021 and 2022 PSU awards. The Compensation Committee modified the 2021 program to encompass the impact of acquisitions in the organic growth portion of the revenue CAGR goals.
	In light of the COVID-19 tailwinds, the Compensation Committee modified the revenue CAGR portion of the 2022 program to reflect base revenue CAGR only (excluding COVID-19 and inorganic acquisition related revenue).
 Consider increasing the corporate performance objective portion of target STI awards for NEOs (except our CEO whose STI is already 100% tied to corporate objectives). 	The corporate objective portion of target STI awards for our NEO's (excluding our CEO) has been 60%, with the other 40% tied to individual performance objectives that reflect each NEO's discipline and role in achieving the corporate objectives. Our Compensation Committee believes that is important to retain an individual performance component to STI, given the operational execution required of each NEO to serve the corporate objective.
	We have listened to and assessed our shareholder input on this issue, and effective for the performance period beginning January 1, 2022, the Compensation Committee has increased the corporate objective component of the STI awards for NEOs (other than the CEO) from 60% to 75% and has reduced the individual component of the STI for such NEOs from 40% to 25%. The Compensation Committee believes that this change strikes an appropriate balance between corporate and individual function goals. In addition, as of 2022, the individual objectives for each NEO include an ESG element.

What We Heard	How We Responded
 Consider additional disclosure on ESG oversight and decision making processes as related to ESG matters. 	We have included in this Proxy Statement and in our first Sustainability Report, available at www.repligen.com , more detailed information on our ESG oversight and decision-making processes. As described in the report and later in this proxy, the Chair of our N&CG Committee oversees ESG matters and practices, as set forth in the N&CG Committee charter. The N&CG Committee reports to the full Board on ESG matters and the Company's progress on sustainability initiatives.
	At the management level, our sustainability work is led by a CRT, comprised of senior leaders across multiple disciplines including business operations, human resources, investor relations, legal affairs and corporate compliance, supply chain management and engineering. Our ESG ambassadors around the globe provide site-level input and data.
	At least on a quarterly basis, a CRT representative and the N&CG Committee Chair meet to review progress against ESG objectives. Our commitment to ESG oversight at both the Board and management levels reflects the importance of ESG-driven policies and programs to our long-term strategic plan.
 Consider adding an ESG metric to corporate performance objectives for NEOs. 	The N&CG Committee has discussed the inclusion of an ESG metric as part of STI and/or LTI awards. At this early stage of our sustainability work, the N&CG Committee believes it is premature to include a formal, ESG quantitative goal within the corporate performance objectives.
	However, in consideration of input from our stakeholders, starting in 2022, the corporate goals for the company at large, will now feature ESG elements, including increasing the number of key sites that have transitioned to 100% renewable electricity; advancing additional right-sized packaging programs that reduce the number, size and weight of shipments; piloting/exploring a single-use product recycling/repurpose program; and advancing our comprehensive DE&I program.
	Beginning in 2022, as appropriate to their role, our NEOs have defined ESG responsibilities within their individual performance objectives that are structured to support the corporate ESG goals.

(1) Adjusted ROIC means the Company's Adjusted NOPAT, divided by Adjusted Invested Capital.

Adjusted NOPAT means the Company's Adjusted Income from Operations multiplied by the Adjusted Tax Rate.

Adjusted Income from Operations means the Company's income from operations under GAAP, adjusted for inventory step-up charges, acquisition and integration costs, contingent consideration expense and intangible asset amortization.

Adjusted Tax Rate means the Company's tax rate under GAAP, adjusted for the tax effect of non-GAAP charges.

Adjusted Invested Capital means the average of the year-end balances for the final two years of the ROIC performance period of (a) the sum of (i) the Company's total stockholders' equity under GAAP and (ii) the Company's total short-term and long-term debt recorded under GAAP; less (b) the Company's cash and cash equivalents under GAAP but excluding in all cases the impact of any business acquisition after the first two acquisitions completed during the plan period.

BOARD MEETINGS AND COMMITTEES

The Board met seven (7) times during the fiscal year ended December 31, 2021. During the fiscal year ended December 31, 2021, each director attended 100% of each of: (i) the total number of meetings of the Board; and (ii) the total number of meetings held by all committees of the Board on which such director served (during the periods that he or she served). The Board has a standing Audit Committee, Compensation Committee, and N&CG Committee. Each standing committee has a charter that has been approved by the Board. Each standing committee reviews the appropriateness of its charter periodically, as conditions dictate, but at least annually.

Audit Committee

The Audit Committee was established in accordance with section 3(a)(58)(A) of the Exchange Act and currently consists of Mr. Muir, Mr. Ryan and Ms. Eglinton Manner. Ms. Eglinton Manner replaced Ms. Dawes as a member of the Audit Committee in February 2021. Mr. Ryan will not stand for re-election to the Board at the expiration of his current term at the close of the Annual Meeting. Ms. Dawes rejoined the Audit Committee in April 2022 in view of Mr. Ryan's upcoming retirement. The Audit Committee is responsible for overseeing the accounting and financial reporting processes of the Company and the audits of the financial statements of the Company and exercising the responsibilities and duties set forth below, including but not limited to:

- Appointing, compensating, retaining and overseeing the independence of the Company's independent registered public accounting firm;
- Overseeing the work performed by any independent registered public accounting firm, including conduct of the annual audit and engagement for any other services;
- Assisting the Board in fulfilling its responsibilities by reviewing: (i) the financial reports provided by the Company to the SEC, the Company's shareholders or to the general public, and (ii) the Company's internal financial and accounting controls;
- Recommending, establishing and monitoring procedures designed to improve the quality and reliability of the disclosure of the Company's financial condition and results of operations;
- Establishing procedures designed to facilitate (i) the receipt, retention and treatment of complaints relating to accounting, internal accounting controls or auditing matters and (ii) the receipt of confidential, anonymous submissions by employees of concerns regarding questionable accounting or auditing matters;
- Engaging advisors as necessary; and
- Serving as the Qualified Legal Compliance Committee in accordance with Section 307 of the Sarbanes-Oxley Act of 2002 and the rules and regulations promulgated by the SEC thereunder.

The Audit Committee met four (4) times during the fiscal year ended December 31, 2021. Mr. Muir currently serves as Chairperson of the Audit Committee. The Board has determined that Mr. Muir qualifies as an "audit committee financial expert" under the rules of the SEC. The Board has determined that each member of the Audit Committee is independent within the meaning of the Nasdaq's director independence standards and the SEC's heightened director independence standards for audit committee members as determined under the Exchange Act.

The Audit Committee operates under a written charter adopted by the Board, a current copy of which is available on the Company's website at www.repligen.com under "Investors" — "Corporate Governance" — "Policies and Charters."

Compensation Committee

The Compensation Committee, of which Mr. Barthelemy, Mr. Muir and Dr. Mhatre are currently members, is responsible (among other duties and responsibilities) for:

- Discharging the Board's responsibilities relating to the compensation of the Company's executive officers;
- Administering the Company's cash incentive compensation and equity incentive plans;
- Reviewing and discussing with management the Compensation Discussion and Analysis for inclusion in the Company's proxy statement in accordance with applicable rules and regulations;
- Reviewing and making recommendations to management on Company-wide compensation programs and practices;
- Taking final action with respect to the individual salary, bonus and equity arrangements of the Company's CEO and other
 executive officers; and
- Recommending, subject to approval by the full Board, new equity-based plans and any material amendments thereto (including
 increases in the number of shares of Common Stock available for issuance thereunder) for which shareholder approval is required
 or desirable.

The Compensation Committee met six (6) times during the fiscal year ended December 31, 2021. Mr. Barthelemy serves as the Chairperson of the Compensation Committee. The Board has determined that each member of the Compensation Committee is independent within the meaning of the SEC and Nasdaq's director independence standards.

The Compensation Committee operates under a written charter adopted by the Board, which is available on the Company's website at www.repligen.com under "Investors" — "Corporate Governance" — "Policies and Charters."

Nominating and Corporate Governance Committee

The N&CG Committee of the Board consists of Ms. Dawes, Mr. Barthelemy and Mr. Ryan. Mr. Ryan will not stand for re-election to the Board at the expiration of his current term at the close of the Annual Meeting. The N&CG Committee met five (5) times during the fiscal year ended December 31, 2021. The N&CG Committee is responsible for:

- Identifying individuals qualified to become members of the Board, and selecting or recommending that the Board select the director nominees for election;
- Monitoring compliance with and periodically reviewing the Code of Business Conduct and Ethics; and
- Overseeing the Company's practices and proposed initiatives related to ESG matters.

The N&CG Committee may also consider director nominees recommended by the Company's shareholders as described above.

Ms. Dawes serves as the Chairperson of the N&CG Committee. The Board has determined that each member of the N&CG Committee is independent within the meaning of the SEC's and Nasdaq's director independence standards.

The N&CG Committee operates under a written charter adopted by the Board, which is available on the Company's website at www.repligen.com under "Investors" — "Corporate Governance" — "Policies and Charters."

PROPOSAL 2

RATIFICATION OF THE SELECTION OF OUR INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Audit Committee of the Board has appointed Ernst & Young LLP, an independent registered public accounting firm, to serve as independent auditors for the fiscal year ended December 31, 2021. Ernst & Young LLP has served as the Company's independent registered public accounting firm since 2002. In accordance with standing policy, Ernst & Young LLP periodically changes the personnel who work on the audits of the Company.

Audit and Non-Audit Fees

The following sets forth the aggregate fees billed by Ernst & Young LLP to the Company and incurred by the Company during the fiscal years ended December 31, 2021 and 2020:

	 FY2021	FY2020		
Audit Fees	\$ 2,106,035	\$	2,152,000	
Audit Related Fees	192,000		468,000	
Tax Fees	305,290		10,000	
All Other Fees	5,000		_	
Total	\$ 2,608,325	\$	2,630,000	

Audit Fees

Fees for audit services were approximately \$2,106,035 and \$2,152,000 for the fiscal years ended December 31, 2021 and 2020, respectively. These amounts included fees associated with the annual audit of the consolidated financial statements, reviews of the Company's Form 10-Q and fees associated with the statutory filings and filings with the SEC.

Audit Related Fees

Audit related fees are \$192,000 for fiscal year ended December 31, 2021. The fees related to due diligence activities related to the acquisitions of Avitide and BioFlex. For the fiscal year ended December 31, 2020, the Company incurred fees for approximately \$468,000 for due diligence activities related to the acquisitions of EMT, NMS and ARTeSYN and the December 2020 stock offering.

Tax Fees

Fees billed for tax services were approximately \$305,290 for the fiscal year ended December 31, 2021. This amount included fees associated with transfer pricing studies, the performance of an R&D credit study, consulting and related services.

All Other Fees

Ernst & Young LLP billed \$5,000 in additional fees in 2021 relating to a subscription to Ernst & Young LLP's online accounting research service

The Audit Committee of the Board has implemented procedures under the Company's Audit Committee Pre-Approval Policy for Audit and Non-Audit Services (the "Pre-Approval Policy"), to ensure that all audit and permitted non-audit services provided to the Company are approved by the Audit Committee. Specifically, the Audit Committee pre-approves the use of Ernst & Young LLP for specific audit and non-audit services, within approved monetary limits. If a proposed service has not been pre-approved pursuant to the Pre-Approval Policy, then it must be specifically pre-approved by the Audit Committee before Ernst & Young LLP may provide the services. Any pre-approved services exceeding the limits pre-approved by the Audit Committee must again be pre-approved by the Audit Committee. All of the audit-related, tax and all other services provided by Ernst & Young LLP to the Company for the fiscal year ended December 31, 2021 were pre-approved by the Audit Committee. All non-audit services provided in the fiscal year ended December 31, 2021 were reviewed with the Audit Committee, which concluded that the provisions of such services by Ernst & Young LLP was compatible with the maintenance of that firm's independence in the conduct of its auditing functions.

In connection with the audit for the fiscal year ended December 31, 2021, there were no disagreements with Ernst & Young LLP on any matter of accounting principles or practices, financial statement disclosure or auditing scope or procedure, which, if not resolved to the satisfaction of Ernst & Young LLP, would have caused them to refer to such disagreement in connection with their report.

A member of Ernst & Young LLP is expected to be present at the virtual Annual Meeting with the opportunity to make a statement if so desired and will be available to respond to appropriate questions.

Accordingly, the Board believes ratification of the appointment of Ernst & Young LLP as the Company's independent registered public accounting firm for the current year is in the best interests of the Company and its shareholders and recommends a vote FOR the ratification of Ernst & Young as the Company's independent registered public accounting firm.

AUDIT COMMITTEE REPORT

This report is furnished by the Company's Audit Committee with respect to the Company's financial statements for fiscal year 2021. The Company's management is responsible for the preparation and presentation of complete and accurate financial statements. The independent registered public accounting firm Ernst & Young LLP is responsible for performing an independent audit of the Company's financial statements in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB") and for issuing a report on its audit. The Audit Committee oversees and monitors the Company's management and its independent registered public accounting firm throughout the financial reporting process.

The material in this report is not "soliciting material," is not deemed filed with the SEC, and is not to be incorporated by reference in any filing of the Company under the Securities Act or under the Exchange Act, whether made before or after the date hereof and irrespective of any general incorporation language in any such filing.

The Audit Committee currently consists of Mr. Muir, Chairperson, Ms. Dawes, Ms. Eglinton Manner and Mr. Ryan. Ms. Eglinton Manner replaced Ms. Dawes as a member of the Audit Committee in February 2021. Ms. Dawes rejoined the Audit Committee in April 2022 in view of Mr. Ryan's upcoming retirement. The Audit Committee has the responsibility and authority described in the Repligen Audit Committee Charter, which has been approved by the Board. The Board has determined that the members of the Audit Committee meet the independence requirements set forth in Rule 10A-3(b)(1) under the Exchange Act, as amended, and the applicable rules of the National Association of Securities Dealers, Inc. and that Mr. Muir qualifies as an "audit committee financial expert" under the rules of the SEC. The Audit Committee oversees the accounting and financial reporting processes of the Company and the audits of the financial statements of the Company. Management has the primary responsibility for the financial statements and the reporting process, including the systems of internal controls.

In fulfilling its oversight responsibilities, the Audit Committee reviewed and discussed with management of the Company and Ernst & Young LIP the audited financial statements included in the Company's Annual Report on Form 10-K ("Form 10-K") for the fiscal year ended December 31, 2021, including a discussion of the quality, not just the acceptability, of the accounting principles, the reasonableness of significant judgments and the clarity of disclosures in the financial statements. The Audit Committee also reviewed the Company's quarterly financial statements for the first three fiscal quarters during the fiscal year ended December 31, 2021 and discussed them with both the management of the Company and Ernst & Young LIP prior to including such interim financial statements in the Company's Quarterly Reports on Form 10-Q ("Form 10-Q"). In connection with the Company's Form 10-K for the fiscal year ended December 31, 2021 and the Form 10-Q for each of its first, second and third fiscal quarters of the fiscal year ended December 31, 2021, the Audit Committee discussed the results of the Company's certification process relating to the statements in the Company's Form 10-Qs, as well as financial statements under Sections 302 and 906 of the Sarbanes-Oxley Act. The Audit Committee also discussed with Ernst & Young LIP the matters required to be discussed by the PCAOB's Auditing Standard No. 1301, Communication with Audit Committees, and the SEC. In addition, the Audit Committee has received from Ernst & Young LIP the written disclosures and the letter from Ernst & Young LIP as required by applicable requirements of the PCAOB regarding Ernst & Young LIP the written disclosures with the Audit Committee concerning independence and has discussed with Ernst & Young LIP their independence.

The Audit Committee also reviewed management's report on its assessment of the effectiveness of the Company's internal control over financial reporting and Ernst & Young LLP's report on the effectiveness of the Company's internal control over financial reporting.

The Audit Committee discussed with Ernst & Young LLP the overall scope and plans for their audit. The Audit Committee met with Ernst & Young LLP to discuss the results of their examinations, their evaluations of the Company's internal controls, including internal control over financial reporting, and the overall quality of the Company's financial reporting.

The Audit Committee has also evaluated the performance of Ernst & Young LLP, including, among other things, the amount of fees paid to Ernst & Young LLP for audit and non-audit services. Based on its evaluation, the Audit Committee has selected Ernst & Young LLP to serve as the Company's auditors for the fiscal year ending December 31, 2022. The shareholders of the Company are being asked to ratify the selection of Ernst & Young LLP as the Company's independent public accounting firm in Proposal 2 of this Proxy Statement.

The Audit Committee met four (4) times during the fiscal year ended December 31, 2021. In reliance on the reviews and discussions referred to above, the Audit Committee recommended to the Board that the Company's audited financial statements and management's assessment of the effectiveness of the Company's internal control over financial reporting be included in the Form 10-K for the fiscal year ended December 31, 2021 filed with the SEC, and the Board approved such inclusion.

Respectfully submitted by the Audit Committee,

Glenn P. Muir, Chairperson Karen A. Dawes (member of the Audit Committee since April 2022) Carrie Eglinton Manner (member of the Audit Committee since February 2021) Thomas F. Ryan, Jr.

PROPOSAL 3 ADVISORY VOTE ON EXECUTIVE COMPENSATION

The Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (the "Dodd-Frank Act"), enables our shareholders to vote to approve, on an advisory basis, the compensation of our NEOs as disclosed in this Proxy Statement in accordance with the SEC's rules.

As described in the section entitled "Compensation Discussion and Analysis" and in the accompanying tables and narrative disclosure, our executive compensation programs are designed to motivate our executive officers to enhance shareholder value, to provide a fair reward for this effort and to stimulate our executive officers' professional and personal growth. The Company seeks to provide near-term and long-term financial incentives that align the executive officers' interest with those of the shareholders and focus executive officer behavior on the achievement of near-term corporate goals, as well as long-term business objectives and strategies. We believe that this alignment between executive compensation and shareholder interests has driven corporate performance over time.

Our shareholders voted on May 18, 2017, to have advisory votes every year to approve the compensation paid to the Company's NEOs, and we have adopted that approach. The Board and Compensation Committee make executive compensation decisions every year, and our directors will look to the annual advisory vote for information to be taken into account when they make decisions with respect to our compensation philosophy, policies and practices. Accordingly, we are asking our shareholders to vote FOR the following non-binding, advisory resolution on the approval of the compensation of the Company's NEOs as disclosed in this **Proxy Statement:**

"RESOLVED, that the shareholders of the Company approve, on an advisory basis, the compensation of the Company's NEOs, as disclosed in this Proxy Statement, including the Compensation Discussion and Analysis, compensation tables and narrative discussion."

We urge you to read the Compensation Discussion and Analysis section of this Proxy Statement and the accompanying tables and narrative disclosure for additional details on the Company's executive compensation, including our governance, framework, components, and the compensation decisions for the NEOs for the fiscal year ended December 31, 2021.

As an advisory vote, the results of this vote will not be binding on the Board or the Company. However, the Board and the Compensation Committee value the opinions of our shareholders and will consider the outcome of the vote when making future decisions on the compensation of our NEOs and the Company's executive compensation principles, policies and procedures.

The Board recommends that shareholders vote FOR approval, on an advisory basis, of the compensation of the Company's NEOs, as disclosed in this Proxy Statement, including the Compensation Discussion and Analysis, compensation tables and narrative discussion.

COMPENSATION COMMITTEE REPORT

The Compensation Committee of the Board, which is comprised solely of independent directors within the meaning of applicable rules of Nasdag and non-employee directors within the meaning of Rule 16b-3 under the Exchange Act, is responsible for developing executive compensation policies and advising the Board with respect to such policies and administering the Company's cash and equity incentive plans. The Compensation Committee sets performance goals and objectives for the CEO and the other executive officers, evaluates their performance with respect to those goals and sets their compensation based upon the evaluation of their performance. In evaluating executive officer pay, the Compensation Committee may retain the services of a compensation consultant and consider recommendations from the CEO with respect to goals and compensation of the other executive officers. The Compensation Committee assesses the information it receives in accordance with its business judgment. The Compensation Committee also periodically reviews non-employee director compensation. All decisions with respect to executive compensation are approved by the Compensation Committee and all decisions with respect to director compensation are recommended by the Compensation Committee to the full Board for approval.

The Compensation Committee of the Company has reviewed and discussed the Compensation Discussion and Analysis required by Item 402(b) of Regulation S-K with management and, based on such review and discussions, the Compensation Committee recommended to the Board that the Compensation Discussion and Analysis be included in this Proxy Statement.

Respectfully submitted by the Compensation Committee:

Nicolas M. Barthelemy, Chairperson Rohin Mhatre, Ph.D. Glenn P. Muir

COMPENSATION DISCUSSION AND ANALYSIS

Our Compensation Discussion and Analysis describes our executive-compensation philosophy and program as reported in the executive-compensation tables that follow, which provide information relating primarily to compensation decisions for the following 2021 NEOs of the Company:

2021 Named Executive Officers	Position(s)
Tony J. Hunt	President, Chief Executive Officer and Director
Jon K. Snodgres	Chief Financial Officer
James R. Bylund	Chief Operating Officer
Christine Gebski	Senior Vice President, Filtration and Chromatography
Ralf Kuriyel	Senior Vice President, Research and Development

2021 YEAR IN REVIEW

For the fiscal year ended December 31, 2021, we made strong progress toward our long-term goals through a combination of base business growth, COVID-19 related revenue growth, new product launches and innovation, the integration of acquisitions made in 2020, the completion of new acquisitions, and the significant expansion of our manufacturing capacity in response to accelerated demand for our bioprocessing systems and solutions. We are keenly focused on achieving our corporate goals which drives our broader purpose to return long-term value to our customers and shareholders.

Please see "Business Highlights 2021" on page 12 of our Proxy Summary for an overview of our accomplishments for the fiscal year ended December 31, 2021.

COVID-19 Business Impacts

In March 2020, the World Health Organization declared the COVID-19 outbreak, including ensuing variants thereto, to be a pandemic. COVID-19 has resulted in government authorities around the world implementing numerous unprecedented measures such as travel restrictions, quarantines, shelter in place orders, factory shutdowns and vaccine mandates. During 2021 and 2020, our revenues were positively affected by COVID-19. However, the extent to which COVID-19 will continue to affect our future financial results and operations will depend on future developments, which are highly uncertain and cannot be predicted, including the recurrence, severity, and/or duration of COVID-19, and current or future domestic and international actions to contain and treat COVID-19.

With the health and safety of our employees as a top priority, we promptly created a COVID-19 task force in March 2020, focused on the Company's response to COVID-19, which quickly established on-site COVID-19 testing, on-site restrictions and protocols, employee communications, vaccine awareness and education and remote workforce management; in addition, many of our employees continued working remotely for extended periods of time during 2021 and 2020. We are following public and private sector policies and initiatives to reduce the transmission of COVID-19, such as the imposition of travel restrictions and the promotion of social distancing and continuing our work-from-home arrangements. We are taking a variety of measures to ensure the availability and functioning of our critical infrastructure, to promote the safety and security of our employees and to support the communities in which we operate. These measures include increasing our inventory, requiring remote working arrangements for employees who are not integral to physically making and shipping our products or who do not need specialized equipment to perform their work, restricting on-site visits by non-employees and investing in personal protective equipment. During 2021 and 2020, on-site testing was conducted at most U.S. sites and offered as an option at sites outside the United States. Daily temperature screenings were available at most U.S. and non-U.S. sites and all employees were encouraged to receive the COVID-19 vaccinations and COVID-19 booster shots as they became available. As COVID-19 conditions improved, we began implementing a phased reopening process which we have since reversed in response to the identification of COVID-19 variants. We will continue to prioritize the health and safety of our employees. We may take further actions and adjust our reopening process as government authorities require or recommend or as we determine to be in the best interests of our employees, customers, partners and suppliers.

Compensation Philosophy

In accordance with the Company's compensation philosophy, the Company provides compensation that will attract and retain highperforming talent in our industry, motivate the Company's executive officers to create long-term, enhanced shareholder value, and provide a fair reward for executive effort and stimulate professional and personal growth.

It is the responsibility of the Compensation Committee of the Board to administer the Company's compensation programs to ensure that they are competitive with other bioprocessing, healthcare supply and biotechnology companies and to include incentives that are designed to appropriately drive the Company's continued development to create shareholder value. The Compensation Committee reviews and approves all components of the Company's executive officer compensation, including base salaries, annual cash incentive compensation, and equity incentive compensation.

Compensation Objectives

The Company believes that the compensation of its executive officers should align the executive officers' interests with those of the shareholders and focus executive officer behavior not only on the achievement of near-term corporate goals, but also on the achievement of long-term business objectives and strategies.

To achieve these objectives, the Company's compensation program for its executive officers:

- Ensures that salaries and total compensation are competitive with other similar-sized bioprocessing, healthcare supply and biotechnology companies with which the Company competes for talent, as determined by comparing the Company's pay practices with those of similar companies.
- Combines annual and long-term components, cash and equity, and both fixed and variable elements with a weighting towards performance-based compensation and long-term equity awards. We believe this mix, including significant vesting periods, best ties executive performance with shareholder returns.
- Motivates our executive officers to manage the business to meet the Company's near- and long-term objectives through our annual cash incentive compensation.
- Ensures that our equity incentive compensation, including performance-based equity awards, is designed so that our executive officers are motivated over the long-term to respond to the Company's business challenges and opportunities as owners as well as employees, thereby aligning the executive officers' interests with those of shareholders.

The following features of our compensation programs are designed to protect and promote the interests of our shareholders while aligning executive compensation with performance. Below we summarize practices we follow to incentivize performance and retain leadership, and practices we do not follow because we do not believe they serve the long-term interests of our shareholders:

We Do	We Don't
✓ Pay for Performance: We emphasize performance-based compensation that aligns the interests of our shareholders and executive officers through the use of both near-term cash incentive compensation and longer-term equity awards subject to both time and performance-based vesting.	X Hedge or Pledge: We do not allow executive officers to engage in hedging or pledging of our securities.
✓ Benchmark: We maintain an industry-specific peer group for annual benchmarking of executive compensation. This benchmarking is a key factor among those used to determine appropriate compensation for our NEOs.	X Re-Pricing: We do not allow for re-pricing of underwater stock options without shareholder approval.
✓ Benefits: We offer market-competitive benefits for executives that are consistent with the benefits we offer all our employees.	X Gross up Payments: We do not provide tax gross-up payments for our executive officers.
✓ Consult: We consistently engage an independent compensation consultant to advise on compensation levels and practices.	X Excess Perquisites: We do not provide excessive perquisites to our employees.
✓ Risk Assessment: We perform an annual compensation risk assessment.	X Executive Retirement Benefits: We do not provide supplemental executive retirement plans, nonqualified defined contribution or deferred compensation plans to our executive officers.

continued on the next page

We Do	We Don't
✓ Stock Ownership Requirements: We maintain stock ownership guidelines that require our directors, our CEO and our NEOs to maintain a specified level of ownership in the Company.	X Guaranteed Bonuses: We do not provide guaranteed bonuses to our executive officers.
✓ Thresholds and Caps on Incentive Payouts: We have minimum thresholds and maximum payout caps on near-and long-term performance-based incentive compensation.	
✓ Clawback: We have a clawback policy and may claw back all or a portion of cash and equity incentive compensation paid to NEOs in the event of a financial accounting restatement.	
✓ Double Trigger: We provide each NEO severance benefits that are triggered only upon a qualifying termination of employment following a change-in-control (i.e., double trigger), except for a one-time special long-term equity award to the CEO(1).	

(1) The one-time special award was granted to Mr. Hunt in 2018 in recognition of past performance and to provide additional long-term retention incentive in light of the high demand for executive talent within our industry, and was overall designed to protect shareholder interests.

Compensation Evaluation Processes

The Company's executive officer compensation consists of three primary components: base salary, annual cash incentive compensation and equity incentive compensation. Each of these components is intended to complement the others, and taken together, to satisfy the Company's compensation objectives. The Compensation Committee considers a number of factors in setting compensation for its executive officers, including Company performance, the executive's functional performance, experience and responsibilities, and the compensation of executive officers in similar positions in our peer group of companies.

Our Board and executive team actively seek and highly value the views and insights of our shareholders. In evaluating our executive compensation programs for the fiscal year ended December 31, 2021, the Compensation Committee considered the shareholder advisory vote on our executive compensation, or the say-on-pay vote, for the fiscal year ended December 31, 2020, which was approved by approximately 98% of the votes cast. The Compensation Committee believes that the shareholders, through this advisory vote, endorsed the compensation philosophies of the Company and, thus, the Compensation Committee maintained the basic structure and design of our executive compensation programs for fiscal year 2021. The Compensation Committee intends to continue to focus on aligning executive compensation programs with the interests of our shareholder and current market practice, including a continued emphasis on pay for performance. We currently hold a say-on-pay vote on an annual basis, and our Board intends to continue to do so until at least our next shareholder advisory vote on the frequency of say-on-pay votes to approve our executive compensation, which will occur at our 2023 Annual Meeting of Shareholders.

Role of Compensation Consultant

In establishing compensation levels for each executive officer, the Compensation Committee has the authority to engage the services of outside experts. In the fiscal year ended December 31, 2021, the Compensation Committee retained Meridian Compensation Partners, LLC ("Meridian"), an independent compensation consulting firm, to assist the Compensation Committee in assessing the competitiveness and effectiveness of the Company's executive compensation programs. In addition, our finance and human resources departments support the Compensation Committee in its work and act in accordance with the direction given to them to administer our compensation programs.

The Compensation Committee has assessed any potential conflicts of interest raised by the work of Meridian, pursuant to SEC rules and has determined that no such conflict of interest exists.

During the fiscal year ended December 31, 2021 and in February 2022, the Compensation Committee held meetings with management and representatives of Meridian to:

- Review our compensation objectives;
- Review the actual compensation of our executive officers for consistency with our objectives;
- Analyze trends in executive compensation;
- Assess our variable cash compensation structure, as well as incentive plan components and mechanics, to ensure an appropriate correlation between pay and performance with resulting compensation opportunities that balance returns to the Company and its shareholders;
- Assess our equity-based awards programs against our objectives of executive incentive, retention and alignment with shareholder
- Review our peer group and consider appropriate changes related to the realignment of our business;
- Benchmark our executive cash compensation and equity-based awards programs, and assess our pay versus performance against our peer group; and
- Review recommendations for fiscal year 2022 compensation for appropriateness relative to our compensation objectives.

Use of Peer Group to Benchmark Compensation

Meridian provided the Compensation Committee with an analysis of base salary, target bonus, target total cash, long-term incentive value and design and target total compensation for executives, as well as an analysis of cash and equity compensation for non-employee directors, of comparable companies in the biotechnology, bioprocessing and health care supplies industries. In the analysis used for 2021 pay decisions, Meridian used a peer group of 18 biotechnology/bioprocessing and health care supply companies, which was reviewed and approved by our Compensation Committee. The companies in the 2021 peer group had revenues with a median of \$494.0 million, as compared to the Company's total revenue of \$670.5 million in fiscal year 2021.

The peer group used for 2021 compensation decisions and approved by the Compensation Committee consisted of the following companies:

Amarin Corporation plc Anika Therapeutics, Inc. Atricure, Inc. Bio-Techne Corporation Brooks Automation, Inc. Coherus Biosciences, Inc.

Fluidigm Corporation Globus Medical, Inc. Halozyme Therapeutics Inc. Luminex Corporation Medpace Holdings, Inc. Meridian Bioscience, Inc.

Mesa Laboratories, Inc. Neogen Corporation NeoGenomics, Inc. NovoCure Limited Sarepta Therapeutics, Inc. Supernus Pharmaceuticals, Inc.

Each year, Meridian, in conjunction with our Compensation Committee, re-valuates our peer group in light of developments in the market and our industry. As a result of this review in 2021, three companies were added to the peer group (Bio-Rad Laboratories, Inc., Bruker Corporation and Waters Corporation), and four companies were removed from the peer group (Anika Therapeutics, AMAG Pharmaceuticals, Fluidigm and Mesa Laboratories, Inc.) compared to the prior year. This group of 17 companies will be used for 2022 pay decisions.

The Compensation Committee uses the peer group compensation data as one of several factors in determining appropriate compensation parameters for base salary, variable cash compensation and equity-based, long-term incentives. The Compensation Committee's executive compensation decisions are made on a case-by-case basis, and specific benchmark results do not, in and of themselves, determine individual target compensation decisions.

While the Compensation Committee generally targets each NEO's total compensation to be within a competitive range of the 50th to 75th percentile of the peer group, it considers a number of additional factors to determine the appropriate level of each NEO's total compensation and each component of compensation, including Company performance and the relevant executive's performance, experience, responsibilities and impact. Due to these other factors, the Compensation Committee may set an NEO's compensation below, at or above the 50th percentile of the peer group.

Annual Review of Long-Term Incentives

The Compensation Committee believes that equity incentives, in the form of stock options, RSUs, and PSU awards, subject to vesting over time or upon achievement of performance objectives, are effective vehicles to align individual and team performance with the achievement of the Company's strategic and financial goals over time, retain our NEOs and align the interests of our NEOs with those of our shareholders.

Stock options allow our executive officers to purchase a fixed number of shares of our Common Stock for a fixed price (i.e., exercise price) during a fixed period of time. The exercise price is set at the closing price of a share of Company Common Stock on the date of grant. A stock option only has value if our share price exceeds the exercise price of the option. Each RSU and PSU award corresponds in value to a single share of Company Common Stock. Therefore, the value of these grants is directly affected by increases and decreases in our share price.

In February 2021, the Compensation Committee granted to the NEOs, time-based stock options and RSUs that vest over a three-year period and PSUs that are earned, and vest based on the extent to which certain pre-determined performance metrics are met by the end of a three-year performance period. The size of these grants was based on Compensation Committee-approved target long-term incentive levels for each of the NEOs.

Executive Compensation

Base Salary

Base salary represents the fixed portion of an executive officer's compensation and is intended to provide compensation for day-to-day performance. The Compensation Committee believes that a competitive base salary is a necessary element of any compensation program that is designed to attract and retain talented and experienced executives. Each executive officer's base salary is initially determined upon hire or promotion based on the executive officer's responsibilities, prior experience, individual compensation history and salary levels of other executives within the Company and similarly situated executives within our peer group. Base salary is typically reviewed annually. The Compensation Committee believes that the base salaries paid to our executive officers during the fiscal year ended December 31, 2021, achieved the Company's compensation objectives. Base salaries for the named executive officers for 2021 and 2020 are as follows:

Name	2021 Base Salary (\$) (1)	2020 Base Salary (\$) (1)	Increase in 2021 vs. 2020 (%)
Tony J. Hunt	761,000	725,000	5.0
Jon K. Snodgres	432,954	393,594	10.0
James R. Bylund (2)	363,000	_	_
Christine Gebski (2)	351,450	_	_
Ralf Kuriyel	363,384	346,080	5.0

- (1) The compensation report prepared by Meridian showed that the 2021 base salaries of these NEOs are competitive with the 50th percentile among the Company's 2021 peer group as disclosed above. These base salary increases were based on each NEO's performance, qualifications, experience, responsibilities and compensation for similar positions at companies in the peer group.
- (2) James R. Bylund and Christine Gebski were appointed as executive officers in 2021.

Annual Cash Incentive Compensation (Short-Term Incentive) Plan

In 2021, the NEOs were eligible to earn cash incentive bonuses under the Annual Cash Incentive Compensation Plan ("Plan"), to incentivize and reward NEOs for achieving certain performance goals that drive Company performance, align pay and performance, and support the long-term growth of the Company.

The Company's NEOs, other than the CEO, were eligible to receive annual cash incentive compensation based on achievement of (i) Company-wide performance goals (the "Company Objectives") and (ii) performance objectives tied to individual results for their respective functional areas ("Individual Performance Objectives"). As the Company's current President and CEO, Mr. Hunt is responsible for developing company strategy and overseeing all of the Company's corporate functions, product development and commercial activities. Because of his role and responsibilities, Mr. Hunt's incentive payout is calculated based solely on Company Objectives to closely align his compensation with the Company's performance.

At the beginning of 2021, the Compensation Committee established each NEO's target annual cash incentive compensation ("Target Award") at a level that represents a meaningful portion of each NEO's cash compensation. In addition, the Compensation Committee set threshold, target and maximum performance goals and related payout levels taking into account annual cash incentive compensation levels for comparable positions within our peer group and our own historical practices. An NEO could earn between 0% and 200% of the NEO's Target Award for achievement of corporate objectives, dependent upon the level of achieved performance. After the end of fiscal year 2021, the Compensation Committee evaluated achievement of the Company Objectives and each NEO's (other than Mr. Hunt) Individual Performance Objectives and determined each NEO's annual cash incentive compensation based on such achievement.

Annual Cash Incentive Compensation (Short-Term Incentive) Plan Protocol

The Compensation Committee administers the Plan:

- 1. At the beginning of the fiscal year, the CEO, with assistance from senior management, proposes annual Company Objectives, Individual Performance Objectives for NEOs other than himself, measurement criteria and weightings, subject to review and approval by the Compensation Committee.
- 2. At the beginning of the following fiscal year, the CEO evaluates performance levels and the achievement of these annual Company Objectives and Individual Performance Objectives, which are subject to review and approval by the Compensation Committee. Specific bonus award recommendations for all participants (except the CEO) are submitted by the CEO to the Compensation Committee for review and approval.
- The Compensation Committee determines the size of the overall bonus pool and the bonus awards for individual participants based on the Target Awards, the Company's performance against the Company Objectives and, in the case of executive officers other than the CEO, achievement of Individual Performance Objectives.

Selection of 2021 Performance Measures and Goals

Generally, the Company must attain a minimum level of achievement of its Company Objectives for any payment to be made pursuant to the Plan, and the Compensation Committee may, at its discretion, elect to adjust bonuses downward or not to pay bonuses at all. The Target Award and the weight assigned to Company Objectives and Individual Performance Objectives were determined for each executive officer based upon his or her position and competitive market data derived from our peer group. The final incentive payout is determined for each executive officer based on the achievement of Company Objectives and Individual Performance Objectives (other than for the CEO, whose annual cash incentive is determined based solely on Company Objectives) defined for each organizational level and position and the Target Award.

Our Company is focused on driving above-industry level growth through internal innovation, acquisitions and expansion of applications for our bioprocessing solutions. With our focus on growth, we believe that adjusted revenue and adjusted earnings per share ("EPS") were relevant targets to reflect topline success, balanced with our ability to leverage investments in R&D, people and capacity. We assigned equal weighting to each of these Company Objectives. We believe our executive team can directly impact these Company Objectives, which drive shareholder value.

Company Objectives

For the 2021 Plan, the Compensation Committee set the following Company Objectives and related payout levels:

- Adjusted Revenue The Compensation Committee set challenging adjusted revenue targets for 2021, representing year-overyear growth of 36%, which if achieved would result in a payout of 100% of each NEO's Target Award with respect to the adjusted revenue metric. If achieved performance was at or below 90% of this revenue target, then no payout would be made to the NEOs with respect to the adjusted revenue metric. If achieved performance was at or above 120% of the revenue target, then the annual incentive award would be paid at 200% of Target Award (i.e., maximum payout) with respect to the adjusted revenue
- Adjusted EPS The Compensation Committee set challenging adjusted EPS targets for 2021, representing year-over-year growth of 3%, which if achieved would have resulted in a payout of 100% of each NEO's Target Award with respect to the adjusted EPS metric. If achieved performance was at or below 70% of the adjusted EPS goal, then no payout would be made to the NEOs with respect to the adjusted EPS metric. If achieved performance was at or above 160% of the adjusted EPS target, then the annual incentive award would be paid at 200% of Target Award (i.e., maximum payout) with respect to the adjusted EPS metric.

For the 2021 Plan, the Company set for each NEO the following Target Award and weighting for Company Objectives and Individual Performance Objectives:

Individual Annual Cash Incentive Targets(1)

Name	Target Award as % of Salary for the Fiscal Year Ended December 31, 2021	Portion Tied to Company Objectives	Portion Tied to Individual Performance Objectives
Tony J. Hunt	90%	100%	0%
Jon K. Snodgres	50%	60%	40%
James R. Bylund	50%	60%	40%
Christine Gebski	50%	60%	40%
Ralf Kuriyel	50%	60%	40%

(1) Each NEO's cash incentive amount is determined using the following formula: (Base Salary x Bonus Target %) x (Company Objectives % + Performance Objectives Tied to Individual Results %) = Cash Incentive Payment

For 2021, except Mr. Hunt, whose incentive payout is calculated solely based on the aforementioned Company Objectives, the Compensation Committee considered a number of factors to determine if a NEO met his or her Individual Performance Objectives, such as achievement of product development and manufacturing goals, controlling costs and other aspects of expense management, functional team development, and attainment of other strategic objectives of the Company. The NEO's overall impact to the Company was also taken into consideration.

Achievement of 2021 Company Objectives

The following table summarizes target performance goals for adjusted revenue and adjusted EPS for the fiscal year ended December 31, 2021:

Company Objectives for the Fiscal Year Ended December 31, 2021

Adjusted Revenue

Achieved \$535.0 million in adjusted revenue

Adjusted EPS

Achieved \$2.03 of adjusted EPS (fully diluted)

The Compensation Committee reviewed our achievement of the Company Objectives and determined that the Company achieved the Company Objectives at 195% of target levels. The Compensation Committee made this determination in consideration of the adjusted revenue of \$666.8 million and adjusted EPS of \$3.14 for 2021.

The calculations for adjusted revenue and adjusted EPS, on which achievement of Company Objectives is determined, differ from calculations for reported revenue and adjusted EPS as can be found in the Management's Discussion and Analysis of Financial Condition and Results of Operations section of our Form 10-K for the fiscal year ended December 31, 2021, filed with the SEC on February 17, 2022.

Specifically, the revenue calculation for purposes of achievement of Company Objectives is adjusted (decreased) by \$3.7 million versus our reported revenue of \$670.5 million, to reflect the impact of our 2021 acquisitions. The adjusted EPS calculation for purposes of achievement of Company Objectives is adjusted (increased) by a consolidated \$0.08 versus our reported adjusted EPS of \$3.06, to include the impacts of 2021 acquisitions and to normalize the impacts of investment income and foreign currency exchange.

In 2020, the Compensation Committee implemented multipliers that could increase or decrease the actual bonuses paid in a non-linear manner based upon the degree to which the Company achieves or fails to achieve its adjusted revenue and adjusted EPS targets.

Achievement of Individual Performance Objectives

In addition to the Company Objectives, NEOs, with the exception of Mr. Hunt, have a component to their annual cash incentive compensation which is determined based upon achievement of Individual Performance Objectives. Our CEO evaluated the actual performance of the other executive officers against these objectives and submitted such evaluations to the Compensation Committee. The ultimate determination of achievement of the Individual Performance Objectives is at the sole discretion of the Compensation Committee. The performance assessment for the Individual Performance Objectives is not calculated on a line-item basis, but rather represents an overall assessment of how the NEO contributed to the success of the Company through and within his or her area of responsibility. The Individual Performance Objectives are designed to be challenging to achieve at 100%. The Compensation Committee has assessed the attainment of these objectives by Mr. Snodgres, Mr. Bylund, Ms. Gebski and Mr. Kuriyel for 2021.

As the Company's Chief Financial Officer, Mr. Snodgres is responsible for the Company's internal systems and financial controls. Specifically, Mr. Snodgres' Individual Performance Objectives for 2021 included scaling the Company's global financial organization, the development and successful completion of Phase 3 of the SAP implementation, the execution on our M&A strategy which resulted in the acquisition of Polymem, Avitide and BioFlex, continued improvements in the Company's financial closing and internal controls processes as well as the continued expansion of both management and external reporting capabilities to enhance business decision making and improve transparency of financial performance. The overall evaluation of achievement of these factors involves both quantitative and qualitative analysis. The CEO evaluated Mr. Snodgres' actual performance against his Individual Performance Objectives, in light of his contributions detailed above, and submitted such evaluation to the Compensation Committee, which determined that the aggregate achievement of the Individual Performance Objectives for Mr. Snodgres was 195%.

Mr. Bylund, the Company's Chief Operating Officer, oversees all operations and IT functions on a global basis. Mr. Bylund's Individual Performance Objectives for 2021 included identifying and driving inorganic business growth opportunities that complement and supplement company offerings, analyzing and increasing operations capacity to be in line with production capacity targets across all product lines, assessing and continuing to build the operations organization by attracting key talent across the team and driving capital projects that address current as well as future capacity needs. The overall evaluation of achievement of these factors involves both quantitative and qualitative analysis. The CEO evaluated Mr. Bylund's actual performance against his Individual Performance Objectives, in light of his contributions detailed above, and submitted such evaluation to the Compensation Committee, which determined that the aggregate achievement of the Individual Performance Objectives for Mr. Bylund was 200%.

Ms. Gebski, the Company's Senior Vice President of Filtration and Chromatography, oversees the general management and strategy of the Company's upstream and downstream filtration and chromatography portfolio. Ms. Gebski's Individual Performance Objectives for 2021 included achieving the Company's Filtration and Chromatography revenue goals, driving global implementation of dual source of hollow fiber and modules, executing on key filtration product launches to address customer needs, and continuing to build and develop global product management and field applications teams. The overall evaluation of achievement of these factors involves both quantitative and qualitative analysis. The CEO evaluated Ms. Gebski's actual performance against her Individual Performance Objectives in light of her contributions detailed above, and submitted such evaluation to the Compensation Committee, which determined that the aggregate achievement of the Individual Performance Objectives for Ms. Gebski was 175%.

Mr. Kuriyel, the Company's Senior Vice President of Research and Development, is responsible for leading and overseeing the Company's R&D and partnering activities to enhance our portfolio of products and services. Mr. Kuriyel's Individual Performance Objectives for 2021 included developing and launching new products, including Spike Resin, NGL Impact High pH, SiUS Gamma Large Scale, and XCell Alternating Tangential Flow ("ATF")® controllers, evaluating and investing in new value-added, differentiated technology for the Company, and scaling the R&D organization to align with the needs of the business. The overall evaluation of achievement of these factors involves both quantitative and qualitative analysis. The CEO evaluated Mr. Kuriyel's actual performance against his Individual Performance Objectives, in light of his contributions detailed above, and submitted such evaluation to the Compensation Committee, which determined that the aggregate achievement of the Individual Performance Objectives for Mr. Kuriyel was 175%.

Annual Bonus Incentive Payments under the Plan

The table below shows the annual bonus incentive payments made to our NEOs under the Plan for the fiscal year ended December 31, 2021:

Name	Target Award as % of Salary for the Fiscal Year Ended December 31, 2021 (%)	2021 Individual Performance Objectives Results (%) (1)	2021 Company Objectives Results (%) (1)	2021 Bonus Payout (\$) (2)	2021 Overall Achievement (% of Target Award) (3)	
Tony J. Hunt	90	N/A	195	1,335,555	195	
Jon K. Snodgres	50	195	195	422,130	195	
James R. Bylund	50	200	195	357,555	197	
Christine Gebski	50	175	195	328,606	187	
Ralf Kuriyel	50	175	195	339,764	187	

- (1) Mr. Hunt's annual bonus incentive payment is calculated solely based on achievement of Company Objectives to closely align his compensation with the Company's performance. The bonus incentive payments made to Mr. Snodgres, Mr. Bylund, Ms. Gebski and Mr. Kuriyel are 40% based on achievement of Individual Performance Objectives and 60% based on achievement of Company Objectives.
- (2) Annual incentive payments under the Plan for the fiscal year 2021 were paid out in March 2022.
- (3) Overall achievement percentage is based on target bonus.

Company Objectives for the Fiscal Year Ending December 31, 2022

Our annual cash incentive compensation program for the fiscal year ending December 31, 2022 is generally consistent with the program for the fiscal year ended December 31, 2021, although, in response to feedback from our shareholders, the Compensation Committee has determined that, for all NEOs other than our CEO, the weighting of Company Objectives will be increased to 75% and the weighting of Individual Performance Objectives will be reduced to 25% to tie a greater portion of the STI awards to our Company performance. The Company will continue to solely rely upon adjusted revenue and adjusted EPS metrics to determine 100% of Mr. Hunt's 2022 annual bonus.

Individual Performance Objectives for the Fiscal Year Ending December 31, 2022

The Individual Performance Objectives considered by the Compensation Committee in determining the cash incentive payments for NEOs other than Mr. Hunt, as appropriate to each NEO's role, are as follows for 2022. Individual Performance Objectives include Company goals overall, beyond the revenue and EPS targets that comprise our Company Objectives. Company goals are combined with more tailored individual goals to determine the achievement by each NEO of Individual Performance Objectives.

- Financial Performance achieve sales targets, meet gross margin, operating margins, profit and EPS targets, and the Phase 4 SAP implementation.
- Product Development complete launches of next generation XCell ATF process controllers, next-generation FlowVPX system, Adeno-associated virus resins and tangential flow filtration systems.

- Manufacturing and Quality increase overall manufacturing capacity, reduce lead times, complete multi-site hollow fiber expansion, deploy continuous improvement system at initial sites and continue to recruit and develop leaders and operational functions, support SAP implementation and complete the integration of our 2021 acquisitions.
- Sales and Marketing integrate and merge all service organizations, drive lab to process scale systems adoptions, build specialist sales force for fluid management, drive strategic and key account sales programs and integrate commercial operating mechanisms across all regions and acquisitions.
- Business and Corporate Development evaluate and execute on new product and acquisition targets, execute on employee programs, including training and leadership skills development.
- Sustainability Goals further advance our DE&I initiatives, move to 100% renewable electricity at additional sites, re-engineer additional product packaging and explore a single-use recycling pilot program.

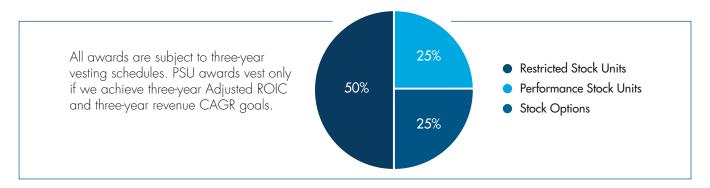
Equity Incentive Compensation

The Compensation Committee believes that equity incentives in the form of stock options and RSUs subject to vesting over time and PSUs are an effective vehicle for long-term compensation. Equity incentives align individual and team performance with the achievement of individual goals and/or the Company's strategic and financial goals, long-term value creation, and shareholders' interests. PSUs reward executive officers only if they meet individual goals or if the Company meets certain specified financial and/or operational metrics. Stock options reward executive officers only if the stock price increases from the date of grant over time. RSUs are impacted by all stock price changes, so the value to the executive officers is affected by both increases and decreases in stock price from the market price at the date of grant.

For the fiscal year ended December 31, 2021, the Compensation Committee considered a number of factors in determining what, if any, equity incentive compensation to grant to the executive officers, including:

- the performance of the Company during the fiscal year;
- the number of shares subject to, and exercise price of, outstanding options, both vested and unvested, held by the executive officers;
- the number of RSUs held by the executive officers;
- the vesting schedule of the unvested equity awards held by the executive officers;
- the financial statement impact of any equity award;
- the amount and percentage of the total equity on a diluted basis held by the executive officers; and
- the available shares under the Company's equity incentive plan.

As shown in the following graph, the target split of the annual long-term equity incentive compensation awards made to our NEOs, based upon dollar value, is 25% PSUs, 25% stock options subject to time-based vesting and 50% RSUs subject to time-based vesting.



In February 2021, the Compensation Committee granted the following long-term incentive compensation awards to each of the NEOs.

Name	Number of Shares Underlying Stock Options (#)	Restricted Stock Units (#)	Target PSUs (#)
Tony J. Hunt	12,601	10,437	5,218
Jon K. Snodgres	2,910	2,410	1,205
James R. Bylund	2,033	1,684	842
Christine Gebski	1,968	1,630	815
Ralf Kuriyel	2,035	1,686	843

Time-based equity awards granted in 2021 vest in equal annual installments over three years following the grant date. PSUs vest 50% based on revenue CAGR and 50% based on Adjusted ROIC, in each case over the three-year performance period from January 1, 2021 to December 31, 2023. We have omitted the specific revenue CAGR and Adjusted ROIC targets because they involve confidential financial information, the disclosure of which would result in competitive harm to the Company and would be against industry norms, but we have set such goals at challenging levels and we believe that they are difficult to achieve and would require substantial and sustained performance in order to be achieved at target levels. As a high-growth, acquisitive, innovation-driven company, the Compensation Committee believes revenue CAGR and Adjusted ROIC are metrics that best reflect business performance and that create shareholder value. Linear interpolation shall be applied to determine the percentage of PSUs that vest and are earned where performance falls between the threshold, target and maximum goals. In order for any portion of the PSUs to be earned and vest, threshold performance must be achieved with respect to the relevant goal (revenue CAGR or Adjusted ROIC) and 50% of the target award is earned for threshold performance and 200% of the target award is earned for maximum performance. No more than 200% of the target award can be earned.

2021 Additional Grants Related to the Integration of 2020 Acquisitions

In 2021, the Compensation Committee granted the NEOs, other than our CEO, PSUs related to the integration efforts for the 2020 acquisitions. Mr. Snodgres and Mr. Bylund each received 1,000 PSUs and Ms. Gebski and Mr. Kuriyel received 500 PSUs each. In order for the NEOs to earn 100% of these PSUs on the first anniversary of the grant date, the 2021 cumulative revenue and gross margin targets for the 2020 acquisitions of EMT, NMS and ARTeSYN must be met.

2022 Long-term Equity Incentive Compensation

In February 2022, the Compensation Committee granted long-term incentive compensation awards to each of the NEOs. Consistent with the Company's increased emphasis on performance-based incentives, as described above, these awards are split based upon dollar value between PSUs (25%), stock options subject to time-based vesting (25%) and RSUs subject to time-based vesting (50%), all of which are subject to vesting over three years. The PSUs vest only if the Company achieves specified three-year Adjusted ROIC goals and revenue CAGR goals.

Clawback Policy

In February 2019, the Compensation Committee adopted a clawback policy that covers cash and equity incentive compensation paid to the Company's executive officers. The policy provides that if the Company is required to prepare an accounting restatement due to the Company's material non-compliance with any financial reporting requirement and/or intentional misconduct by a covered executive officer, the Compensation Committee may require the covered executive officer to repay to us any excess compensation received by the covered executive officer during the three fiscal years preceding the publication of any such restated financial statements. For purposes of this policy, excess compensation means annual cash bonus and long-term equity incentive compensation that is more than the amount such covered executive officer would have received if the annual cash bonus and/or long-term equity incentive compensation had been determined based on the financial results reported in the restated financial statement.

Other Compensation

All full-time employees, including the executive officers, are eligible to participate in the health and welfare benefit programs, including medical, dental and vision care coverage, disability and life insurance and the Company's 401(k) plan. Under the 401(k) plan, the Company matches 50% of the first 6% of eligible compensation contributed by employees subject to a maximum of \$5,000 per year.

Tax and Accounting Considerations

We have not provided or agreed to provide any of the Company's executive officers or directors with a gross-up or other reimbursement for tax amounts they might pay pursuant to Section 4999 or Section 409A of the Internal Revenue Code of 1986, as amended (the "Code"). Sections 280G and 4999 of the Code provide that executive officers, directors who hold significant shareholder interests and certain other service providers could be subject to significant additional taxes if they receive payments or benefits in connection with a change in control of the Company that exceed certain limits, and that we or our successor could lose a deduction on the amounts subject to the additional tax. Section 409A also imposes additional significant taxes on the individual in the event that an employee, director or service provider receives "deferred compensation" that is not exempt from or does not meet the requirements of Section 409A.

For the Company's financial statements, cash compensation, such as salary and bonus, is expensed and for income tax returns, cash compensation is generally deductible except as set forth below. For equity-based compensation, we expense the fair value of such grants over the requisite service period.

Generally, Section 162(m) of the Code disallows a federal income tax deduction for public corporations of remuneration in excess of \$1 million paid for any fiscal year to a "covered employee" of the Company. With respect to taxable years beginning before January 1, 2018, remuneration in excess of \$1 million was exempt from this deduction limit if it qualified as "performance-based compensation" within the meaning of Section 162(m).

The Compensation Committee believes that shareholder interests are best served if the Compensation Committee retains maximum flexibility to design executive compensation programs that meet stated business objectives. For these reasons, the Compensation Committee, while considering tax deductibility as a factor in determining executive compensation, may not limit such compensation to those levels that will be deductible, particularly in light of the expansion of the covered employee group and the elimination of the exception for performance-based compensation.

Compensation Risk Assessment

The Compensation Committee not only considers and evaluates risks related to the Company's cash and equity-based compensation programs and practices, but also evaluates whether the Company's compensation plans encourage participants to take excessive risks that are reasonably likely to have a material adverse effect on the Company. Consistent with SEC disclosure requirements, the Compensation Committee has worked with management to assess compensation policies and practices for Company employees and has concluded that such policies and practices do not create risks that are reasonably likely to have a material adverse effect on the Company.

Executive Compensation Tables

Compensation Earned

The following table summarizes the compensation earned during the fiscal years indicated below by the Company's principal executive officer, principal financial officer and the three other most highly compensated executive officers who were serving as an executive officer as of December 31, 2021, and whose total compensation exceeded \$100,000. These individuals are referred to as the Company's NEOs.

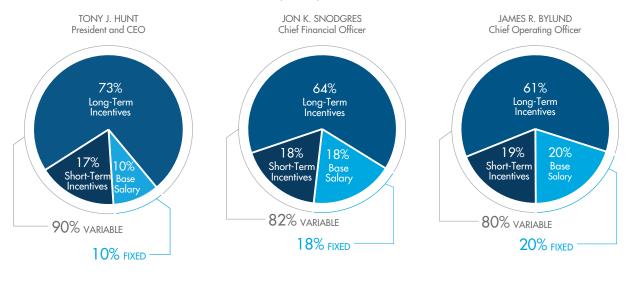
2021 Summary Compensation Table

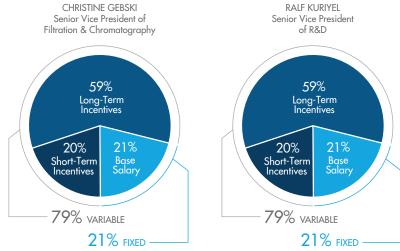
Year	Salary (\$)	Stock Awards (\$) ⁽¹⁾	Option Awards (\$) (1)	Non-Equity Incentive Plan Compensation (\$) (2)	All Other Compensation (\$) (3)	Total (\$)
2021	761,000	4,499,801	1,163,714	1,335,555	5,000	7,765,070
2020	725,000	3,200,079	757,232	378,750	5,000	5,066,061
2019	685,000	2,244,975	657,310	832,275	5,000	4,424,560
2021	432,954	1,243,406	268,741	422,130	5,000	2,372,231
2020	393,594	1,106,902	190,937	295,196	5,000	1,991,629
2019	371,315	1,066,876	171,639	261,777	5,000	1,876,607
2021	363,000	930,383	187,749	357,555	5,000	1,843,687
2021	351,450	804,946	181,747	328,606	5,000	1,671,749
2021	363,384	829,091	187,934	339,764	5,000	1,725,173
2020 2019	343,080 336,000	553,795 916,172	131,03 <i>7</i> 122,694	294,168 226,800	5,000 5,000	1,327,080 1,606,666
	2021 2020 2019 2021 2020 2019 2021 2021	Year (\$) 2021 761,000 2020 725,000 2019 685,000 2021 432,954 2020 393,594 2019 371,315 2021 363,000 2021 351,450 2021 363,384	Year Salary (\$) Awards (\$) (1) 2021 761,000 4,499,801 2020 725,000 3,200,079 2019 685,000 2,244,975 2021 432,954 1,243,406 2020 393,594 1,106,902 2019 371,315 1,066,876 2021 363,000 930,383 2021 351,450 804,946 2021 363,384 829,091 2020 343,080 553,795	Year Salary (\$) Awards (\$) (1) Awards (\$) (1) 2021 761,000 4,499,801 1,163,714 2020 725,000 3,200,079 757,232 2019 685,000 2,244,975 657,310 2021 432,954 1,243,406 268,741 2020 393,594 1,106,902 190,937 2019 371,315 1,066,876 171,639 2021 363,000 930,383 187,749 2021 351,450 804,946 181,747 2021 363,384 829,091 187,934 2020 343,080 553,795 131,037	Year Salary (\$) Stock Awards (\$) (1) Option Awards (\$) (1) Incentive Plan Compensation (S) (2) 2021 761,000 4,499,801 1,163,714 1,335,555 2020 725,000 3,200,079 757,232 378,750 2019 685,000 2,244,975 657,310 832,275 2021 432,954 1,243,406 268,741 422,130 2020 393,594 1,106,902 190,937 295,196 2019 371,315 1,066,876 171,639 261,777 2021 363,000 930,383 187,749 357,555 2021 351,450 804,946 181,747 328,606 2021 363,384 829,091 187,934 339,764 2020 343,080 553,795 131,037 294,168	Year Salary (S) Stock Awards (S) (II) Option Awards (S) (III) Incentive Plan Compensation (S) (III) All Other Compensation (S) (III) 2021 761,000 4,499,801 1,163,714 1,335,555 5,000 2020 725,000 3,200,079 757,232 378,750 5,000 2019 685,000 2,244,975 657,310 832,275 5,000 2021 432,954 1,243,406 268,741 422,130 5,000 2020 393,594 1,106,902 190,937 295,196 5,000 2019 371,315 1,066,876 171,639 261,777 5,000 2021 363,000 930,383 187,749 357,555 5,000 2021 363,384 829,091 187,934 339,764 5,000 2020 343,080 553,795 131,037 294,168 5,000

- (1) Represents the aggregate grant date fair value for awards granted in the respective fiscal years calculated in accordance with the Financial Accounting Standards Board Accounting Standards Codification No. 718, "Compensation Stock Compensation (Topic 718)" ("ASC Topic 718"). The assumptions the Company used for calculating the grant date fair values are set forth in Note 2, "Summary of Significant Accounting Policies Stock Based Compensation" to the Company's consolidated financial statements included in the Company's Form 10-K for the fiscal year ended December 31, 2021. The values reported for the PSUs granted to Mr. Hunt, Mr. Snodgres, Mr. Bylund, Ms. Gebski and Mr. Kuriyel in 2021 represent the grant date fair values of awards assuming the probable outcome of the performance conditions, which was deemed to be the maximum level of achievement.
- (2) Amounts listed represent payments made with respect to the year indicated under the Plan, as described above.
- (3) Represents the match paid by the Company on behalf of such individual into the Repligen Corporation 401(k) Savings Plan on 50% of the first 6% of eligible compensation contributed by such individual subject to a maximum of \$5,000 per year for the years indicated.

The following graphs reflect the allocation of salary, equity incentive compensation, cash incentive compensation, and other compensation earned by the Company's NEOs in the fiscal year 2021 as set forth in the 2021 Summary Compensation Table above:

2021 Summary Compensation Allocations





The following table sets forth the total compensation earned by the NEOs during 2021. For more information on the total compensation see "Executive Compensation Tables - 2021 Summary Compensation Table" on page 47.

	Tony J. Hunt	Jon K. Snodgres	James R. Bylund	Christine Gebski	Ralf Kuriyel
Title	President & CEO	Chief Financial Officer	Chief Operating Officer	Senior Vice President of Filtration & Chromatography	Senior Vice President of R&D
Total 2021 Compensation	\$7,765,070	\$2,372,231	\$1,843,687	\$1,671,749	\$1,725,173

Grants of Plan-Based Awards for the Fiscal Year Ended December 31, 2021

The table below sets forth grants of plan-based awards that were made in the fiscal year ended December 31, 2021 to the Company's NEOs.

E-12-1-1

Name	Grant Date	Estimated Potential Payouts Under Non- Equity Incentive Plan Awards: Threshold (\$) (1)(2)	Estimated Potential Payouts Under Non- Equity Incentive Plan Awards: Target (\$) (1)(3)	Estimated Potential Payouts Under Non- Equity Incentive Plan Awards: Maximum (\$) (1)[4)	Estimated Future Payouts Under Equity Incentive Plan Awards: Threshold (#) (5)	Estimated Future Payouts Under Equity Incentive Plan Awards: Target (#) ⁽⁵⁾	Estimated Future Payouts Under Equity Incentive Plan Awards: Maximum (#) ^[5]	All Other Stock Awards: Number of Shares of Stock or Units (#)	All Other Option Awards: Number of Securities Underlying Options (#)	Exercise or Base Price of Option Awards (\$/Share)	Grant Date Fair Value of Stock and Option Awards (S)
Tony J.											
Hunt	_	410,940	684,900	1,369,800	_	_	_	_	_	_	_
	2/24/2021	_	_	_	_	_	_	_	12,601	215.58	1,163,714
	2/24/2021	_	_	_	_	_	_	10,437	_	_	2,250,008
	2/24/2021	_	_	_	2,609	5,218	10,436	_	_	_	2,249,793
Jon K.											
Snodgres		164,522	216,477	432,953	_			_	_	_	_
	1/4/2021		_	_		1,000	1,000	_			204,310
	2/24/2021	_	_	_	_	_	_	-	2,910	215.58	268,741
	2/24/2021	_	_	_	-	-	-	2,410		_	519,548
	2/24/2021	_	_	_	603	1,205	2,410	_	_	_	519,548
James R.		107.040	101 500	0/0.000							
Bylund	1/4/2021	137,940	181,500	363,000	_	1 000	1 000	_	_	_	204.210
	2/24/2021	_	_	_	_	1,000	1,000	_	2.033	215.58	204,310 187,749
	2/24/2021				_	_		1.684	2,033	213.36	363,037
	2/24/2021	_	_	_	804	842	1,684	1,004	_	_	363,037
Christine	2/24/2021				604	042	1,004				303,037
Gebski	_	133,551	175,725	351,450	_	_	_	_	_	_	_
CCDSRI	1/4/2021	-	-		_	500	500	_	_	_	102,155
	2/24/2021	_	_	_	_	_	_	_	1.968	215.58	181,747
	2/24/2021	_	_	_	_	_	_	1,630		_	351,395
	2/24/2021	_	_	_	804	815	1,630		_	_	351,395
Ralf	_, _ ,,						1,222				,
Kuriyel	_	138,086	181,692	363,384	_	_	_	_	_	_	_
, -	1/4/2021				_	500	500	_	_	_	102,155
	2/24/2021	_	_	_	_			_	2,035	215.58	187,934
	2/24/2021	_	_	_	_	_	_	1,686	_	_	363,468
	2/24/2021	_	_	_	422	843	1,686	_	_	_	363,468

- (1) Mr. Hunt's non-equity incentive plan award is calculated solely based on achievement of Company Objectives. Mr. Snodgres', Mr. Bylund's, Ms. Gebski's and Mr. Kuriyel's non-equity incentive plan awards are calculated 40% based on achievement of Individual Performance Objectives and 60% based on achievement of Company Objectives.
- (2) The amounts represent a threshold bonus, assuming payout of 60% of the target bonus for achievement of the Company Objectives for Mr. Hunt and 60% payout of the target bonus for achievement of the Company Objectives and 100% payout of the target bonus for achievement of the Individual Performance Objectives for Mr. Snodgres, Mr. Bylund, Ms. Gebski and Mr. Kuriyel.
- (3) The amounts represent the target bonus, assuming payout of 100% of the target bonus for achievement of the Company Objectives for Mr. Hunt and payout of 100% of the target bonus for achievement of the Company Objectives and payout of 100% of the target bonus for achievement of the Individual Performance Objectives for Mr. Snodgres, Mr. Bylund, Ms. Gebski and Mr. Kuriyel. The actual bonus awarded by the Compensation Committee can be higher or lower than the target depending on achievement of Company Objectives and Individual Performance Objectives. The actual amounts awarded for 2021 performance are listed in the Non-Equity Incentive Plan Compensation column of the Summary Compensation Table.
- (4) The amounts represent a maximum bonus, assuming maximum payout of 200% of the target bonus for achievement of the Company Objectives for Mr. Hunt and maximum payout of 200% of the target bonus for achievement of the Company Objectives and payout of 200% of the target bonus for achievement of the Individual Performance Objectives for Mr. Snodgres, Mr. Bylund, Ms. Gebski and Mr. Kuriyel.
- (5) In January 2021, Mr. Snodgres, Mr. Bylund, Ms. Gebski and Mr. Kuriyel were each granted one-time PSU awards that vest on January 4, 2022, subject to achievement of specified goals related to the integration of the 2020 acquisitions. In February 2021, Mr. Hunt, Mr. Snodgres, Mr. Bylund, Ms. Gebski and Mr. Kuriyel were granted PSUs that vest upon the Company's achievement of specified revenue CAGR and Adjusted ROIC targets over the three-year performance period.

Discussion of Summary Compensation Table and Grants of Plan-Based Awards Table

The Company's executive compensation policies and practices, pursuant to which the compensation set forth in the Summary Compensation Table and the Grants of Plan-Based Awards Table was paid or awarded, are described above under "Compensation Discussion and Analysis." The material terms of employment agreements and arrangements with the Company's named executive officers are described below under the heading "Employment Arrangements."

Outstanding Equity Awards at December 31, 2021

The following table sets forth certain information regarding the outstanding stock option grants and stock awards held by the NEOs at December 31, 2021. Awards were made under the Repligen Corporation 2018 Stock Option and Incentive Plan (the "2018 Plan")

and the Repligen Corporation Amended and Restated 2012 Stock Option and Incentive Plan, as amended (the "2012 Plan"). For the outstanding stock option grants and stock awards described below, vesting is conditioned on the NEO remaining in service to the Company through such vesting date. Such awards may also be subject to accelerated vesting as described in "Potential Payments Upon Termination or Change in Control" on page 53.

		Option Awards				Stock Awards				
Name	Grant Date	Number of Securities Underlying Unexercised Options Exercisable (#)	Number of Securities Underlying Unexercised Options Unexercisable (#)	Option Exercise Price (\$)	Option Expiration Date	Number of Shares or Units of Stock that Have Not Vested (#)	Market Value of Stock that Have Not Vested (\$) (1)	Equity Incentive Plan Awards: Number of Unearned Shares, Units or Other Rights that Have Not Vested (#)	Equity Incentive Plan Awards: Market or Payout Value of Unearned Shares, Units or Other Rights that Have Not Vested (\$) (1)	
Tony J. Hunt	2/23/2017	15,154	_	32.40	2/23/2027	_	_	_	_	
	3/1/2018	95,187	190,376 (2)	33.87	3/1/2028	_	_	_	_	
	3/1/2018	74,246	_	33.87	3/1/2028	_	_	_	_	
	3/1/2018	_	_	_	_	98,416 (3)	26,064,493	_	_	
	2/28/2019	14,504	7,252 (4)	59.52	2/28/2029	_	_	_	_	
	2/28/2019		_	_	_	7,561 (5)	2,002,455			
	2/28/2019		_	_	_	_	_	30,074	7,964,798	
	2/27/2020	6,042	12,086 🗵	86.10	2/27/2030			_		
	2/27/2020	_	_	_	_	12,389 (8)	3,281,103			
	2/27/2020							18,584	4,921,787	
	2/24/2021	_	12,601(10)	215.58	2/24/2031	_	_	_	_	
	2/24/2021	_	_	_	_	10,437(11)	2,764,135			
	2/24/2021	_	_		-	_	_	10,436[12	2,763,870	
Jon K. Snodgres	3/1/2018	16,659		33.87	3/1/2028	_	_	_	_	
	2/28/2019	1,894	1,894(13)	59.52	2/28/2029	1.07404		_	_	
	2/28/2019		_	_	_	1,974(14)	522,794		1.5/0.000	
	2/28/2019	_	_	_	_	4.0000141	1 071 000	5,922[15	1,568,382	
	5/13/2019	1,523	3,048(17)	86.10	2/27/2030	4,800(16)	1,271,232	_	_	
	2/27/2020	1,323	3,046177	60.10	2/2//2030	2 124(18)	007.240	_	_	
	2/27/2020 2/27/2020		_	_	_	3,124(18)	827,360	8,1 <i>7</i> 009	2,163,743	
	1/4/2021				_			1,000120		
	2/24/2021		2,910(21)	215.58	2/24/2031			1,000	204,040	
	2/24/2021	_	2,910=1	213.30	2/ 24/ 2031	2,410(22)	638,264			
	2/24/2021	_	_	_	_	2,410	030,204	2,410123	638,264	
James Bylund	4/1/2020	2,000	8,000(24)	94.33	4/1/2030	_	_	2,410		
James Bylona	4/1/2020	2,000	- 0,000	74.00		4.000(25)	1.059.360	_	_	
	1/4/2021	_	_	_	_	-,000		1,000126	264,840	
	2/24/2021	_	2,033(27)	215.58	2/24/2031	_	_			
	2/24/2021	_		_		1,684(28)	445,991	_	_	
	2/24/2021	_	_	_	_	_	_	1,684129	445,991	
Christine Gebski	2/28/2019	_	_	_	_	3,570(30)	945,479			
	5/13/2019	_	_	_	_	3,000(31)	794,520	_	_	
	2/27/2020	_	_	_	_	4,138(32)	1,095,908	_	_	
	1/4/2021	_	_	_	_	_		500(33	132,420	
	2/24/2021	_	1,968(34)	215.58	2/24/2031	_	_	_		
	2/24/2021	_	_	_	_	1,630(35)	431,689	_	_	
	2/24/2021	_	_	_	_	_	_	1,630	431,689	
Ralf Kuriyel	12/14/2016	2,000	_	33.05	12/14/2026	_	_	_	_	
	2/28/2019	_	1,354(37)	59.52	2/28/2029	_			_	
	2/28/2019	_	_	_	_	1,412(38)	373,954	_	_	
	2/28/2019		_	_	1/0/1900	_		4,234139	1,121,333	
	5/13/2019	_	_	_	_	4,800(40)	1,271,232	_	_	
	2/27/2020	_	2,092(41)	86.10	2/27/2030	_	_	_	_	
	2/27/2020	_	_	_	_	2,144(42)	567,817	_	_	
	2/27/2020	_	_	_	1/0/1900	_	_	3,216[43		
	1/4/2021	_		_		_	_	500(44	132,420	
	2/24/2021		2,035(45)	215.58	2/24/2031	_		_	_	
	2/24/2021	_	_	_		1,686(46)	446,520	_		
	2/24/2021	_	_	_	1/0/1900	_	_	1,68647	446,520	

⁽¹⁾ The value of equity awards is based on the closing of the Company's stock on the Nasdaq Global Market on December 31,

^{2021,} the last trading day of 2021, which was \$264.84.
31,729 shares vested on March 1, 2022 and 31,729 shares vest annually from March 1, 2024 to March 1, 2026.
31,730 shares vest on each of March 1, 2023 and March 1, 2027.
16,403 shares vest on each of March 1, 2022, March 1, 2024, March 1, 2026 and March 1, 2027. 16,402 shares

vest on March 1, 2023 and March 1, 2025.

^{7,252} shares vested on February 28, 2022.

^{(5) 7,561} shares vested on February 28, 2022.

- (6) The shares subject to this award vested on February 28, 2022 based upon maximum achievement of specified revenue CAGR and Adjusted ROIC goals by the Company over the three-year period as specified by the Compensation Committee as described under "Compensation Discussion and Analysis Equity Incentive Compensation."
- (7) 6,043 shares vest on each of February 27, 2022 and February 27, 2023.
- (8) 6,194 shares vested on February 27, 2022 and 6,195 shares vest on February 27, 2023.
- (9) The shares subject to this award vest on February 27, 2023 assuming maximum achievement of specified revenue CAGR and Adjusted ROIC goals by the Company over the three-year period as specified by the Compensation Committee as described under "Compensation Discussion and Analysis Equity Incentive Compensation."
- (10) 4,200 shares vest on each of February 24, 2022 and February 24, 2023. 4,201 shares vest on February 24, 2024.
- (11) 3,479 shares vest annually from February 24, 2022 to February 24, 2024.
- (12) The shares subject to this award vest on February 24, 2024 assuming maximum achievement of specified revenue CAGR and Adjusted ROIC goals by the Company over the three-year period as specified by the Compensation Committee as described under "Compensation Discussion and Analysis Equity Incentive Compensation."
- (13) 1,894 shares vested on February 28, 2022.
- (14) 1,974 shares vested on February 28, 2022.
- (15) The shares subject to this award vested on February 28, 2022 based upon maximum achievement of specified revenue CAGR and Adjusted ROIC goals by the Company over the three-year period as specified by the Compensation Committee as described under "Compensation Discussion and Analysis Equity Incentive Compensation."
- (16) 1,600 shares vest annually from May 13, 2022 to May 13, 2024.
- (17) 1,524 shares vest on each of February 27, 2022 and February 27, 2023.
- (18) 1,562 shares vest on each of February 27, 2022 to February 27, 2023.
- (19) The shares subject to this award vest on February 27, 2023 assuming maximum achievement of specified revenue CAGR and Adjusted ROIC goals by the Company over the three-year period as specified by the Compensation Committee as described under "Compensation Discussion and Analysis Equity Incentive Compensation."
- (20) The shares subject to this award vested on January 4, 2022, based upon achievement of specified goals related to the integration of the 2020 acquisitions as specified by the Compensation Committee as described under "Compensation Discussion and Analysis Equity Incentive Compensation."
- (21) 970 shares vest annually from February 24, 2022 to February 24, 2024.
- (22) 803 shares vest on each of February 24, 2022 and February 24, 2023. 804 shares vest on February 24, 2024.
- (23) The shares subject to this award vest on February 24, 2024 assuming maximum achievement of specified revenue CAGR and Adjusted ROIC goals by the Company over the three-year period as specified by the Compensation Committee as described under "Compensation Discussion and Analysis Equity Incentive Compensation."
- (24) 2,000 shares vest annually from April 1, 2022 to April 1, 2025.
- (25) 1,000 shares vest annually from April 1, 2022 to April 1, 2025.
- (26) The shares subject to this award vested on January 4, 2022, based upon achievement of specified goals related to the integration of the 2020 acquisition as specified by the Compensation Committee as described under "Compensation Discussion and Analysis Equity Incentive Compensation."
- (27) 677 shares vested on February 24, 2022. 678 shares vest on each of February 24, 2023 and February 24, 2024.
- (28) 561 shares vest on each of February 24, 2022 and February 24, 2023. 562 shares vest on February 24, 2024.
- (29) The shares subject to this award vest on February 24, 2024 assuming maximum achievement of specified revenue CAGR and Adjusted ROIC goals by the Company over the three-year period as specified by the Compensation Committee as described under "Compensation Discussion and Analysis Equity Incentive Compensation."
- (30) 1,785 shares vest on each of February 28, 2022 and February 28, 2023.
- (31) 1,000 shares vest annually from May 13, 2022 to May 13, 2024.
- (32) 1,379 shares vest on each of February 27, 2022 and February 27, 2023. 1,380 shares vest on February 27, 2024.
- (33) The shares subject to this award vested on January 4, 2022, based upon achievement of specified goals related to the integration of the 2020 acquisition as specified by the Compensation Committee as described under "Compensation Discussion and Analysis Equity Incentive Compensation."
- (34) 656 shares vest annually from February 24, 2022 to February 24, 2024.
- (35) 543 shares vest on each of February 24, 2022 and February 24, 2023. 544 shares vest on February 24, 2024.
- (36) The shares subject to this award vest on February 24, 2024 assuming maximum achievement of specified revenue CAGR and Adjusted ROIC goals by the Company over the three-year period as specified by the Compensation Committee as described under "Compensation Discussion and Analysis Equity Incentive Compensation."
- (37) 1,354 shares vested on February 28, 2022.
- (38) 1,412 shares vested on February 28, 2022.
- (39) The shares subject to this award vested on February 28, 2022 based upon maximum achievement of specified revenue CAGR and Adjusted ROIC goals by the Company over the three-year period as specified by the Compensation Committee as described under "Compensation Discussion and Analysis Equity Incentive Compensation."
- (40) 1,600 shares vest annually from May 13, 2022 to May 13, 2024.
- (41) 1,046 shares vest on each of February 27, 2022 and February 27, 2023.
- (42) 1,072 shares vest on each of February 27, 2022 and February 27, 2023.
- (43) The shares subject to this award vest on February 27, 2023 based upon maximum achievement of specified revenue CAGR and Adjusted ROIC goals by the Company over the three-year period as specified by the Compensation Committee as described under "Compensation Discussion and Analysis Equity Incentive Compensation."

- (44) The shares subject to this award vested on January 4, 2022, based upon achievement of specified goals related to the integration of the 2020 acquisition as specified by the Compensation Committee as described under "Compensation Discussion and Analysis - Equity Incentive Compensation."
- (45) 678 shares vest on each of February 24, 2022 and February 24, 2023. 679 shares vest on February 24, 2024.
- (46) 562 shares vest annually from February 24, 2022 to February 24, 2024.
- (47) The shares subject to this award vest on February 24, 2024, assuming maximum achievement of specified revenue CAGR and Adjusted ROIC goals by the Company over the three-year period as specified by the Compensation Committee as described under "Compensation Discussion and Analysis - Equity Incentive Compensation."

Option Exercises and Stock Vested for the Fiscal Year Ended December 31, 2021

The following table sets forth certain information regarding the number of stock options exercised, RSUs that vested and amounts realized by the NEOs in the year ended December 31, 2021.

	Option	n Awards	Stock Awards		
Name	Number of Shares Acquired on Exercise (#)	Value Realized on Exercise (\$) (1)	Number of Shares Acquired on Vesting (#)	Value Realized on Vesting (\$) (2)	
Tony J. Hunt	35,000	9,003,095	42,950	9,122,151	
Jon K. Snodgres	4,000	741,800	8,696	1,781,679	
James R. Bylund	_	_	1,000	194,410	
Christine Gebski	_	_	6,190	1,273,904	
Ralf Kuriyel	11,602	1,689,032	7,298	1,531,078	

- (1) The value realized on exercise of an option award is based on the difference between the fair market value of Common Stock on the date of exercise and the exercise price of the option.
- The value realized on vesting of RSUs is based on the closing price of Common Stock on the trading date immediately preceding the date of vesting.

Pension Benefits

The Company has no defined benefit plans or other supplemental retirement plans for the NEOs.

Nonqualified Deferred Compensation

The Company has no nonqualified defined contribution plans or other nonqualified deferred compensation plans for the named executive officers.

Employment Arrangements

Second Amended and Restated Employment Agreement with Mr. Hunt

CEO Termination without Cause or Resignation for Good Reason

On June 15, 2019, the Company entered into a Second Amended and Restated Employment Agreement (the "Employment Agreement") with Mr. Hunt. Pursuant to the terms of the Employment Agreement, in the event that Mr. Hunt's employment is terminated by the Company without cause or he resigns for good reason, each as defined in the Employment Agreement, subject to the execution and effectiveness of a separation agreement containing, among other things, a general release of claims in favor of the Company, Mr. Hunt will be entitled to receive (i) continued payment of his base salary at the rate then in effect for 12 months following termination, (ii) acceleration of 50% of his unvested stock options and other unvested stock-based awards with time-based vesting, with the exception of the special award granted to him in 2018, (iii) a pro-rata portion of his stock options and other stock-based awards that are subject to performance-based vesting and for which achievement of the performance metrics has not been determined as of the date of termination shall remain eligible to vest at the end of the performance period based on actual performance through the end of the performance period and (iv) if Mr. Hunt is enrolled in the Company's group health care programs immediately prior to the date of termination and properly elects to receive COBRA benefits, payment of the COBRA premiums by the Company for up to 12 months following termination. The special award granted in 2018 is not subject to acceleration upon a termination of Mr. Hunt's employment with the Company. Pro-ration for purposes of item (iii) of the preceding sentence shall be determined based on the number of full months elapsed in the vesting period or performance period, as applicable, through the date of termination relative to the total number of full months in the vesting period or performance period, as applicable.

CEO Termination without Cause or Resignation for Good Reason Following Change in Control

If Mr. Hunt's employment is terminated by the Company without cause or he resigns for good reason, in each case within 24 months following a change in control of the Company, subject to the execution and effectiveness of a separation agreement containing, among other things, a general release of claims in favor of the Company, Mr. Hunt will be entitled to receive (i) a lump sum amount in cash equal to two times the sum of his base salary at the rate then in effect (or at the rate in effect immediately prior to the change in control, if higher) and his target annual performance bonus for the year in which the date of termination occurs, (ii) a pro-rata portion of his target bonus for the year in which the date of termination occurs, (iii) accelerated vesting of 100% of his unvested stock options and other unvested stock-based awards with time-based vesting, other than the special award, (iv) accelerated vesting of a pro-rata portion of all of his stock options and other stock-based awards that are subject to performance-based vesting and for which achievement of the performance metrics has not been determined as of the date of termination assuming target performance through the end of the performance period and (v) if Mr. Hunt is enrolled in the Company's group health care programs immediately prior to the date of termination and properly elects to receive COBRA benefits, payment of the COBRA premiums by the Company for up to 18 months following termination.

CEO Special Award on Change in Control

In the event of a change in control (as defined in the Employment Agreement) of the Company, any then unvested portion of the special award granted to Mr. Hunt in 2018, shall vest as of immediately prior to such change in control.

NEO Severance and Change in Control Plan

NEO Termination without Cause or Resignation for Good Reason

On June 13, 2019, the Company entered into a NEO Severance and Change in Control Plan (the "Severance Plan"). Pursuant to the terms of the Severance Plan, in the event that Mr. Snodgres', Mr. Bylund's, Ms. Gebski's and Mr. Kuriyel's employment is terminated by the Company without cause or one resigns for good reason, each as defined in the Severance Plan, subject to the execution and effectiveness of a separation agreement containing, among other things, a general release of claims in favor of the Company, the NEO will be entitled to receive (i) continued payment of base salary at the rate then in effect for 12 months following termination; provided, however, such amount shall be reduced by an amount equal to the dollar value of the portion of the monthly premiums paid by active employees for coverage under the Company's group health care programs multiplied by 12, (ii) except as otherwise provided in the applicable equity award agreement, accelerated vesting of 50% of unvested stock options subject to time-based vesting, (iii) accelerated vesting of a pro-rata portion of unvested stock-based awards subject to time-based vesting, (iv) a pro-rata portion of unvested stock options and other stock-based awards that are subject to performance-based vesting and for which achievement of the performance metrics has not been determined as of the date of termination shall remain eligible to vest at the end of the performance period based on actual performance through the end of the performance period and (v) if the NEO is enrolled in the Company's group health care programs immediately prior to the date of termination and properly elects to receive COBRA benefits, payment of the COBRA premiums by the Company for up to 12 months following termination. Pro-ration for purposes of items (iii) and (iv) of the preceding sentence shall be determined based on the number of full months elapsed in the vesting period or performance period, as applicable, through the date of termination relative to the total number of full months in the vesting period or performance period, as applicable.

NEO Termination without Cause or Resignation for Good Reason Following Change in Control

If Mr. Snodgres', Mr. Bylund's, Ms. Gebski's or Mr. Kuriyel's employment is terminated by the Company without cause or if one resigns for good reason, in either case within 24 months following a change in control of the Company, subject to the execution and effectiveness of a separation agreement containing, among other things, a general release of claims in favor of the Company, that NEO will be entitled to receive (i) a lump sum payment equal to one-and-a-half times the sum of the NEO's base salary at the rate then in effect (or the rate in effect immediately prior to the change in control, if higher) and his or her target annual performance bonus for the year the termination occurs, (ii) a pro-rata portion of the named executive officer's target bonus for the year in which the date of termination occurs, (iii) accelerated vesting of 100% of his or her unvested stock options and other unvested stock-based awards subject to time-based vesting, (iv) accelerated vesting of a pro-rata portion of all performance-based awards held by the NEO with performance deemed to be met at target levels and (v) if the NEO is enrolled in the Company's group health care programs immediately prior to the date of termination and properly elects to receive COBRA benefits, payment of the COBRA premiums by the Company for up to 18 months following termination. Proration for purposes of items (ii) and (iv) of the preceding sentence shall be determined based on the number of full months elapsed in the performance period through the date of termination relative to the total number of full months in the performance period.

Potential Payments Upon Termination or Change in Control

The 2012 Plan and the 2018 Plan (collectively referred to as "the Plans"), provide that upon the effectiveness of a "sale event," as defined in the Plans, except as otherwise provided by the Compensation Committee in the award agreement, all outstanding awards will automatically terminate, unless the parties to the sale event agree that such awards will be assumed or continued by the successor entity. The Compensation Committee subsequently determined that upon a "sale event," notwithstanding anything to the contrary in the applicable award agreement, the initial equity awards made to Mr. Bylund in connection with his initial hiring will be immediately accelerated and become fully exercisable or nonforfeitable. In addition, in the case of a sale event in which the Company's

shareholders receive cash consideration, the Company may make or provide for a cash payment to participants holding options equal to the difference between the per share cash consideration and the exercise price of the options and, under the 2018 Plan, make or provide for a payment, in cash or in kind, to the grantees holding other awards in an amount equal to the per share cash consideration multiplied by the number of vested shares underlying such awards.

Assuming the NEO's employment was terminated by the Company or the NEO resigned for good reason (other than within 24 months following a change in control) and such event took place on December 31, 2021, each of the NEOs would have been entitled to the payments and benefits shown in the table below.

	Payments and Benefits				
Name	Base Salary Continuation (\$)	Value of Accelerated Vesting of Equity Awards (\$) (1)	Value of Health Insurance Under COBRA (\$)	Total (\$)	
Tony J. Hunt	761,000	17,456,635	25,532	18,243,167	
Jon K. Snodgres	431,028	5,595,572	26,150	6,052,750	
James R. Bylund	361,946	1,575,775	25,532	1,963,253	
Christine Gebski	345,704	1,992,191	29,920	2,367,815	
Ralf Kuriyel	357,638	3,682,054	29,920	4,069,612	

(1) Based on the intrinsic value of the stock options and RSUs on December 31, 2021, which is calculated using the \$264.84 market closing price of the Common Stock on December 31, 2021 the last trading day of 2021.

Assuming a change in control occurred on December 31, 2021, each of the NEOs would have been entitled to the payments and benefits shown in the table below.

	Payments and Benefits				
Name	Base Salary Continuation (\$)	Value of Accelerated Vesting of Equity Awards (\$) (1)	Value of Health Insurance Under COBRA (\$)	Total (\$)	
Tony J. Hunt	_	70,035,638	_	70,035,638	
Jon K. Snodgres	_	_	_	_	
James R. Bylund	_	_	_	_	
Christine Gebski	_	_	_	_	
Ralf Kuriyel	_	_	_	_	

(1) Based on the intrinsic value of the one-time special award granted to Mr. Hunt in 2018 on December 31, 2021, which is calculated using the \$264.84 market closing price of the Common Stock on December 31, 2021, the last trading day of 2021.

Assuming the NEO's employment was terminated by the Company or the NEOs resigned for good reason within 24 months following a change in control and such event took place on December 31, 2021, each of the NEOs would have been entitled to the payments and benefits shown in the table below.

		Payments and Benefits			
Name	Base Salary and Target Bonus Payment (\$)	Pro-Rata Bonus Payout (\$)	Value of Accelerated Vesting of Equity Awards (\$) ⁽¹⁾	Value of Health Insurance Under COBRA (\$)	Total (\$)
Tony J. Hunt	2,891,800	684,900	23,615,460	38,299	27,230,459
Jon K. Snodgres	974,147	216,477	7,560,276	39,225	8,790,125
James R. Bylund	816,750	181,500	3,336,232	38,299	4,372,781
Christine Gebski	790,763	175,725	3,605,838	44,880	4,617,206
Ralf Kuriyel	817,614	181,692	5,236,648	44,880	6,280,834

(1) Based on the intrinsic value of the stock options and RSUs on December 31, 2021 based upon market closing price of \$264.84 of the Common Stock on December 31, 2021, the last trading day of 2021.

CEO Pay Ratio

Pursuant to a mandate of the Dodd-Frank Act, the SEC adopted a rule requiring that we annually disclose the ratio of our median employee's total annual compensation to the total annual compensation of our CEO, Tony J. Hunt, who is also our principal executive officer (the "CEO Pay Ratio").

The Company's compensation and benefits philosophy and the overall structure of the compensation and benefit programs are broadly similar across the organization and aim to encourage and reward all employees who contribute to the Company's success. The Company strives to ensure the pay of every employee reflects the level of his or her job impact and responsibilities and is competitive within the Company's peer group. Compensation rates are benchmarked and are generally set to be market-competitive in the country in which the jobs are performed. The Company's ongoing commitment to pay equity is critical to successfully supporting a diverse workforce with opportunities for all employees to grow, develop, and contribute.

We identified the median employee using total compensation as reported on Form W-2, subtracting bonuses earned in 2020 but paid in 2021, adding bonuses earned in 2021 but not paid until March 2022, and adding the fair value of equity awards granted to the employee during 2021. All individuals who were employed by the Company on December 31, 2021, the last day of the Company's fiscal year, were included in the determination of this calculation (including all employees, whether employed on a full-time, part-time, seasonal or temporary basis).

As illustrated in the table below, the Company's 2021 CEO Pay Ratio was approximately 67:1.

Tony J. Hunt (CEO) 2021 Compensation	\$ 7,765,070
Median Employee 2021 Compensation	\$ 115,218
CEO Pay Ratio	67:1

To determine the median employee, we included all individuals employed as of December 31, 2021. Compensation for the median employee was determined in the same manner as the total compensation reported for Mr. Hunt in the "Total" column of the Summary Compensation Table. The pay ratio reported above is a reasonable estimate calculated in a manner consistent with SEC rules, based on the Company's internal records and the methodology described above. The SEC rules for identifying the median compensated employee allow companies to adopt a variety of methodologies, to apply certain exclusions and to make reasonable estimates and assumptions that reflect their employee populations and compensation practices. Accordingly, the pay ratio reported by other peer companies may not be comparable to the pay ratio reported above, as other companies have different employee populations and compensation practices and may use different methodologies, exclusions, estimates and assumptions in calculating their own pay ratios.

Director Compensation

For the fiscal year ended December 31, 2021, non-employee directors received an annual cash retainer for service on the Board and committees as set forth in the table below.

	Ann	ual Retainer
Board of Directors		
Each Non-Employee Member of the Board	\$	55,000
Additional Retainer for the Chairperson	\$	95,000
Audit Committee		
Committee Chairperson	\$	30,000
Other Committee Members	\$	10,000
Compensation Committee		
Committee Chairperson	\$	20,000
Other Committee Members	\$	10,000
Nominating and Corporate Governance Committee		
Committee Chairperson	\$	16,000
Other Committee Members	\$	5,000

Under the Company's Amended and Restated Director Compensation Policy, as amended in February 2021, each newly elected, non-employee director who joined the Board received an option to purchase shares of Common Stock with an aggregate value of \$150,000 on the date he or she joined the Board. These initial option grants vest in equal annual installments over a three-year period from the date of grant, provided such person is still a director on such vesting date. In addition, at each annual meeting, each non-employee director re-elected to the Board by the shareholders is awarded annual equity compensation. In 2021, all non-employee directors, other than the Chairperson, were entitled to annual equity compensation with a grant date fair value of \$155,000, and the Chairperson was entitled to annual equity compensation with a grant date fair value of \$205,000. The annual equity compensation award is 50% in the form of RSUs, and 50% in the form of stock options. Annual equity awards vest in full on the earlier of the first anniversary of the date of the grant or the next annual meeting of the shareholders, provided such person is still a director on such

vesting date. In the event of a Sale Event (as defined in the 2018 Plan), the equity retainer awards granted to such non-employee directors shall become 100% vested and exercisable or nonforfeitable immediately prior to such Sale Event. In February 2022, the Company further amended its Amended and Restated Director Compensation policy to increase the annual retainer to each non-employee director from \$55,000 to \$60,000. Additionally, any newly elected, non-employee director who joins the Board will receive an option to purchase shares of Common Stock with an aggregate value of \$170,000 on the date he or she joins the Board, increased from \$150,000.

Director Compensation Table for the Fiscal Year Ended December 31, 2021

The following table sets forth a summary of the compensation the Company paid to its non-employee directors in the year ended December 31, 2021.

Name	Fees Earned or Paid in Cash (\$)	Stock Awards (\$) (1)(2)(3)	Option Awards (\$) (1)(2)(3)	Total (\$)
Nicolas M. Barthelemy	80,000	77,530	77,521	235,051
Karen A. Dawes	167,528	102,469	102,508	372,505
Carrie Eglinton Manner	63,472	77,530	<i>77</i> ,521	218,523
Rohin Mhatre	65,000	77,530	<i>77</i> ,521	220,051
Glenn P. Muir	95,000	77,530	<i>77</i> ,521	250,051
Thomas F. Ryan, Jr.	70,000	77,530	<i>77</i> ,521	225,051

- (1) Represents the aggregate grant date fair value of awards granted in 2021 calculated in accordance with the ASC Topic 718. The assumptions the Company used for calculating the grant date fair values are set forth in Note 2, "Summary of Significant Accounting Policies – Stock Based Compensation," to the Company's consolidated financial statements included in the Company's Form 10-K for the fiscal year ended December 31, 2021.
- (2) The non-employee directors of the Board who held such position on December 31, 2021 held the following aggregate number of unexercised stock options and unvested RSUs as of such date:

Name	Number of Securities Underlying Unexercised Options	Number of Unvested Restricted Stock Units
Nicolas M. Barthelemy	1,151	457
Karen A. Dawes	18,254	604
Carrie Eglinton Manner	3,945	457
Rohin Mhatre	4,603	457
Glenn P. Muir	37,649	457
Thomas F. Ryan, Jr.	2,151	457

(3) The following table presents the grant date fair value of each grant of RSUs or stock options in the fiscal year ended December 31, 2021 to non-employee directors, computed in accordance with the ASC Topic 718:

Name	Grant Date	Number of Restricted Stock Units (#)	Number of Securities Underlying Options (#)	Exercise Base Price of Option Awards (\$)	Grant Date Fair Value of Stock and Option Awards (\$)
Nicolas M. Barthelemy	5/13/2021	_	1,151	169.65	<i>77</i> ,521
	5/13/2021	457	_	_	77,530
Karen A. Dawes	5/13/2021	_	1,522	169.65	102,508
	5/13/2021	604	_	_	102,469
Carrie Eglinton Manner	5/13/2021	_	1,151	169.65	<i>77</i> ,521
	5/13/2021	457	_	_	77,530
Rohin Mhatre	5/13/2021	_	1,151	169.65	<i>77</i> ,521
	5/13/2021	457	_	_	77,530
Glenn P. Muir	5/13/2021	_	1,151	169.65	<i>77</i> ,521
	5/13/2021	457	_	_	77,530
Thomas F. Ryan Jr.	5/13/2021	_	1,151	169.65	<i>77</i> ,521
	5/13/2021	457	_	_	77,530

Compensation Committee Interlocks and Insider Participation

Mr. Barthelemy, Mr. Muir and Dr. Mhatre were the members of the Compensation Committee during the year ended December 31, 2021. No member of the Compensation Committee is a current or former employee of the Company or had any relationship with the Company requiring disclosure herein. No interlocking relationship exists between any member of the Board or the Compensation Committee and any member of the board or compensation committee of any other company and no such interlocking relationship has existed in the past.

GENERAL ANNUAL MEETING INFORMATION

This Proxy Statement is furnished in connection with the solicitation of proxies by the Board of Repligen Corporation ("Repligen", or the "Company"), for use at the Annual Meeting of Shareholders, to be held on Thursday, May 26, 2022 at 8:00 a.m. EDT, at www.virtualshareholdermeeting.com/RGEN2022, and at any adjournment or postponement thereof. The Annual Meeting will be held entirely online this year due to the ongoing public health impact of the coronavirus pandemic ("COVID-19").

Repligen's Annual Report to Shareholders, containing financial statements for the fiscal year ended December 31, 2021 (the "Annual Report"), is being provided together with this Proxy Statement to all shareholders entitled to vote at the Annual Meeting. It is anticipated that this Proxy Statement and the accompanying proxy card will be first sent or given to shareholders on or about April 11, 2022.

Record Date:	April 1, 2022 (the "Record Date"). Only shareholders of record as of the Record Date, are entitled to notice of and to vote at the Annual Meeting and any adjournments or postponements thereof.
Quorum:	The representation, in person or by proxy, of at least a majority of the outstanding shares of Repligen Common Stock entitled to vote at the Annual Meeting is necessary to constitute a quorum for the transaction of business.
Voting Securities/Common Stock Outstanding:	As of the Record Date, the Company had 54,429,107 shares of Common Stock outstanding and entitled to vote. Each outstanding share of Common Stock entitles the record holder to one vote.
Voting Methods:	Shareholders may vote online during the Annual Meeting or in advance of the Annual Meeting by proxy by completing, signing, dating and returning the accompanying proxy card or by voting by telephone or via the Internet in accordance with the instructions listed on the proxy card. Execution of a proxy card, or voting by telephone or via the Internet prior to the Annual Meeting, will not in any way limit a shareholder's right to attend the Annual Meeting and vote during the meeting.
	If you complete and submit your proxy voting instructions, the persons named as proxies will follow your instructions. Any shareholder submitting a proxy has the right to abstain from voting for any individual nominee to the Board by writing that nominee's number on the space provided on the proxy card, checking the box next to the name of such individual nominee if voting by proxy via the Internet or, if using the telephone to vote by proxy, by following the verbal instructions for entering the two-digit number appearing on the proxy card immediately before the name of such individual nominee. Where a choice has been specified on the proxy with respect to a matter, the shares represented by the proxy will be voted in accordance with such specifications. If a validly executed proxy card is returned without indicating how the shares should be voted on a matter, such proxies will be voted FOR election of the director nominees; FOR ratification of the appointment of the independent registered public accountants; and FOR the approval, on a non-binding advisory basis, of the compensation of our NEOs.
	Other than (i) the election of directors, (ii) the ratification of Ernst & Young LLP, and (iii) the advisory vote to approve the compensation of our NEOs, the Board knows of no other matters to be presented at the Annual Meeting. If any other matter should be properly presented at the Annual Meeting upon which a vote may be taken, shares represented by all proxies received by the Board will be voted with respect thereto in accordance with the judgment of the persons named as attorneys-in-fact in the proxies.

Revoking Your Proxy:	Any proxy given pursuant to this solicitation may be revoked by the person giving it at any time before the taking of the vote at the Annual Meeting. Proxies may be revoked by: (1) giving written notice of revocation to the Secretary of Repligen at any time before the taking of the vote at the Annual Meeting; (2) duly executing a later-dated proxy card relating to the same shares and delivering it to the Secretary of Repligen or by telephone or the Internet, in accordance with the instructions listed on the proxy card; or (3) attending and voting at the Annual Meeting (although attendance at the Annual Meeting will not in and of itself constitute a revocation of a proxy). For those shareholders who submit a proxy by telephone or the Internet, the date on which the proxy is submitted in accordance with the instructions listed on the proxy card is deemed to be the date of the proxy. Any written notice of revocation or subsequent proxy should be sent so as to be delivered to the mailing address of our principal executive offices at Repligen Corporation, Attention: Secretary, 41 Seyon Street, Building #1, Suite 100, Waltham, Massachusetts 02453, at or before the taking of the vote at the Annual Meeting.
Effect of Abstentions and Broker Non-Votes:	Shares represented by proxies that contain one or more abstentions or broker "non-votes," are counted as present or represented for purposes of determining the presence or absence of a quorum for the Annual Meeting. A broker "non-vote" occurs when a broker or other nominee holding shares for a beneficial owner votes on one proposal, but does not vote on another proposal because, with respect to such other proposal, the broker does not have discretionary voting power and has not received instructions from the beneficial owner. Broker "non-votes" are not considered voted for the particular matter. If a shareholder holds shares in "street-name" through a broker or other nominee, absent voting instructions from the shareholder, such shares will not be counted as voting and will have no effect on those proposals, other than Proposal 2, requiring approval by a majority of the votes cast. Proposal 2 to ratify the appointment of the Company's independent registered public accounting firm is a "routine" matter for which a broker does not need voting instruction in order to vote a shareholder's shares.
Votes Required for Adoption of Proposals:	Election of Directors. In accordance with our by-laws, directors are elected by a majority of the votes cast, in person or by proxy, at the Annual Meeting (meaning the number of shares voted "for" a nominee must exceed the number of shares voted against such nominee). Abstentions and broker non-votes will not be counted as votes cast with respect to the election of directors, and, therefore, will not have an effect on the election of director nominees.
	Ratification of Independent Accountants. For the ratification of the appointment of Ernst & Young LLP as the Company's independent registered public accounting firm for the fiscal year ending December 31, 2022, an affirmative vote of a majority of the shares present or represented by proxy and entitled to vote on such matter is required for approval (meaning that, of the shares represented at the meeting and entitled to vote, a majority of those shares must be voted "for" the proposal for it to be approved). Abstentions shall be included in determining the number of shares present and entitled to vote on the proposal, thus having the effect of a vote against the proposal. Broker "non-votes", if any, are not counted in determining the number of shares present and entitled to vote and will therefore have no effect on the outcome.
	Advisory Vote to Approve the Compensation of our NEOs. For the advisory vote to approve the compensation of our NEOs, the affirmative vote of the majority of shares present, in person or represented by proxy, and entitled to vote on that matter is required for approval. Abstentions shall be included in determining the number of shares present and entitled to vote on the proposal, thus having the effect of a vote against the proposal. Broker "non-votes", if any, are not counted in determining the number of shares present and entitled to vote and will therefore have no effect on the outcome.
	Other Matters. The Board knows of no other matters to be presented at the Annual Meeting. If any other matter should be properly presented at the Annual Meeting upon which a vote may be taken, the persons named on the enclosed proxy card will have discretionary authority to vote the shares represented by such proxies in accordance with their best judgment.
Cost of Proxy Solicitation:	The cost of solicitation will be borne by Repligen and, in addition to directly soliciting shareholders by mail, Repligen may request banks and brokers to solicit their customers who have stock of Repligen registered in the name of the nominee and, if so, will reimburse such banks and brokers for their reasonable out-of-pocket costs. Solicitation by officers and employees of Repligen may also be made of some shareholders in person or by mail or telephone following the original solicitation.

Important Notice Regarding the Availability of Proxy Materials for the Annual Meeting to be Held on May 26, 2022: The Company's Annual Report and this Proxy Statement will be available at www.proxyvote.com.

ADDITIONAL INFORMATION

Submitting Shareholder Proposals

Repligen must receive any proposal by a shareholder of Repligen, who meets the proxy access eligibility requirements under our by-laws, for inclusion in the proxy statement furnished to all shareholders entitled to vote at our 2023 Annual Meeting of Shareholders ("2023 Annual Meeting") at our principal executive office not later than December 12, 2022 in accordance with Rule 14a-8 issued under the Exchange Act.

If a shareholder wishes to propose a nomination of persons for election to our Board or present a proposal at an annual meeting but does not wish to have the proposal considered for inclusion in our proxy statement and proxy card, our amended and restated Bylaws establish an advance notice procedure for such nominations and proposals. Shareholders at an annual meeting may only consider proposals or nominations specified in the notice of meeting or brought before the meeting by or at the direction of the Board or by a shareholder of record on the record date for the meeting, who is entitled to vote at the meeting and who has delivered timely notice in proper form to our Secretary of the shareholder's intention to bring such business before the meeting.

The required notice must be in writing and received by our Secretary at our principal executive offices not earlier than 90 days nor later than 60 days prior to the first anniversary of the preceding year's annual meeting. However, in the event that the date of the annual meeting is advanced by more than 30 days or delayed by more than 60 days, from the first anniversary of the preceding year's annual meeting, a shareholder's notice must be so received no later than the close of business of the 90th day prior to such annual meeting or of the tenth day following the day on which notice of the date of such annual meeting was first made, whichever occurs later. For shareholder proposals to be brought before the 2023 Annual Meeting, the required notice must be received by our Secretary at our principal executive offices no earlier than February 25, 2023 and no later than March 27, 2023. Shareholder proposals and the required notice should be delivered to Repligen Corporation, Attention: Secretary, 41 Seyon Street, Building #1, Suite 100, Waltham, Massachusetts 02453.

Subject to the SEC's proxy rules, if a shareholder who wishes to present a proposal at the 2023 Annual Meeting (which is not otherwise submitted for inclusion in the proxy statement in accordance with the preceding paragraph) fails to notify the Company by March 27, 2023 and such proposal is brought before the 2023 Annual Meeting, then under the SEC's proxy rules, if the proxy statement or form of proxy for the 2023 Annual Meeting so provides, the proxies solicited by Repligen with respect to this year's Annual Meeting will confer discretionary voting authority with respect to the shareholder's proposal on the persons selected by Repligen to vote the proxies solicited by Repligen. If a shareholder makes a timely notification, the proxies may still exercise discretionary voting authority under circumstances consistent with the SEC's proxy rules.

Any proposal intended to be presented at the 2023 Annual Meeting must also comply with the other requirements of the proxy solicitation rules of the SEC. In order to curtail any controversy as to the date on which a proposal was received by Repligen, it is suggested that proponents submit their proposal by Certified Mail, Return Receipt Requested or other means, including electronic means that permit them to prove date of delivery.

Other Business

Management does not know of any other matters to be brought before the Annual Meeting except those set forth in the notice thereof. If other business is properly presented for consideration at the Annual Meeting, the persons named on the enclosed proxy will have discretionary authority to vote the shares represented by such proxies in accordance with their best judgment.

Voting Proxies

The Board recommends an affirmative vote on all proposals specified. Proxies will be voted as specified. If authorized proxies are submitted without specifying an affirmative or negative vote on any proposal, the shares represented by such proxies will be voted in favor of the Board's recommendations.

Householding

In order to reduce printing and postage costs, Broadridge Financial Solutions, Inc., ("Broadridge") and in accordance with SEC rules that permit "householding" of proxy materials, the Company has undertaken an effort to deliver only one Notice of Internet Availability to multiple shareholders sharing an address. This delivery method, called "householding," is not being used if Broadridge has received contrary instructions from one or more of the shareholders sharing an address. If your household has received only one Notice of Internet Availability, Repligen Corporation will deliver promptly a separate copy of the Notice of Internet Availability to any shareholder who sends a written request to Repligen Corporation, Attention: Secretary, 41 Seyon Street, Building #1, Suite 100, Waltham, MA 02453. If your household is receiving multiple copies of Repligen's Notice of Internet Availability and you wish to request delivery of only a single copy, you may send a written request to Repligen Corporation, Attention: Secretary, 41 Seyon Street, Building #1, Suite 100, Waltham, MA 02453.