



**NOTICE OF ANNUAL MEETING OF STOCKHOLDERS
to be Held May 9, 2024**

The 2024 annual meeting of the stockholders of Axcelis Technologies, Inc., a Delaware corporation, will be held at the offices of the Company at 108 Cherry Hill Drive, Beverly, Massachusetts, at 11:00 a.m. on Thursday, May 9, 2024 for the following purposes:

1. To elect as directors nine nominees to serve until the 2025 annual meeting of stockholders, with the Axcelis Board of Directors' recommended director candidates named in the attached proxy statement.
2. To ratify, by an advisory vote, the appointment of our independent registered public accounting firm to audit our financial statements for the year ending December 31, 2024.
3. To approve an amendment to our restated certificate of incorporation to reflect new Delaware law provisions limiting officer liability.
4. To approve, by an advisory vote, the 2023 compensation of our named executive officers.
5. To transact such other business as may properly come before the meeting or any adjournment thereof.

These business items are described more fully in the proxy statement accompanying this Notice.

Only stockholders of record at the close of business on March 15, 2024 will be entitled to vote at the annual meeting or at any adjournment.

By order of the Board of Directors,

Dated: March 29, 2024

Lynnette C. Fallon, *Secretary*

Stockholders should bring identification and, after checking in with the Security Desk in the building lobby, they will be directed to the meeting room

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GENERAL INFORMATION ABOUT VOTING

The Board of Directors of Axcelis Technologies, Inc. (“Axcelis” or the “Company”) is soliciting your proxy for use at the 2024 annual meeting of stockholders to be held on Thursday, May 9, 2024 and at any adjournment of the meeting. This proxy statement and the accompanying proxy card are first being sent or given to stockholders of Axcelis on or about March 29, 2024. The meeting will be held at the offices of the Company at 108 Cherry Hill Drive, Beverly, Massachusetts. Stockholders should bring identification and, after checking in with the Security Desk in the building lobby, they will be directed to the meeting.

Important Notice Regarding the Availability of Proxy Materials for the Stockholder Meeting to Be Held on May 9, 2024: This proxy statement and our Annual Report to Stockholders are available on our website at: www.axcelis.com/proxy.html.

Who can vote. You may vote your shares of Axcelis common stock at the annual meeting if you were a stockholder of record at the close of business on March 15, 2024. On that date, there were 32,602,657 shares of common stock outstanding. You are entitled to one vote for each share of common stock that you held on the record date.

How to vote your shares. You may vote either by proxy or by attending the meeting and voting in person. To vote by proxy, either (A) complete, sign, date and mail the proxy card or voting instruction form or (B) follow the instructions on the card or form for voting online or by telephone.

The proxies named in the proxy card will vote your shares as you have instructed. If you sign and return the proxy card without indicating how your votes should be cast, the proxies will vote your shares in favor of each proposal, as recommended by our Board of Directors. Even if you plan to attend the meeting, please vote by mail, telephone or online as instructed on the proxy card or voting instruction form to ensure that your shares are represented at the meeting. If you attend the meeting, you can revoke your proxy by voting in person. If your shares are held in a brokerage or bank account, you must make arrangements with your broker or bank to vote your shares in person.

Proposals to be considered at the annual meeting. The principal business expected to be transacted at the meeting, as more fully described below, will be the election of nine directors (all of whom are incumbent directors); an advisory vote to ratify the selection of independent auditors for the Company; a vote on a proposal to amend our Restated Certificate of Incorporation to reflect new Delaware law provisions limiting officer liability; and an advisory vote on our 2023 executive compensation.

Quorum. A quorum of stockholders is required to transact business at the meeting. A majority of the outstanding shares of common stock entitled to vote, represented at the meeting in person or by proxy, constitutes a quorum for the transaction of business.

Number of votes required and the Axcelis Board of Directors’ recommendation. The votes required to approve the proposals that are scheduled to be presented at the meeting and the recommendation of Axcelis’ Board of Directors on each are as follows:

Proposal	Required Vote	Axcelis Board Recommendation
Election of nine nominees as directors.	Each nominee must receive a plurality of the votes cast.	FOR ALL of the Axcelis Board-recommended nominees named in this proxy statement and on the proxy card
Ratification of the appointment of our independent registered public accounting firm (our “independent auditors”) to audit our financial statements for 2024.	This non-binding proposal will be considered approved if more votes are cast in favor than against.	FOR ratification
To amend the Restated Certificate of Incorporation of the Company to limit the liability of executive officers to the extent permitted under Delaware law.	The amendment to the Restated Certificate of Incorporation must be approved by a majority of the outstanding shares of common stock on the record date.	FOR the amendment
Approval of the 2023 compensation of our named executive officers as described under “Executive Compensation” in this proxy statement.	This non-binding proposal will be considered approved if more votes are cast in favor than against.	FOR approval

Abstentions. Abstaining from voting on any of the proposals will reduce the number of votes cast as well as the number of votes in favor so will have no impact on the results of voting for the election of directors, the ratification of the selection of independent auditors or the advisory vote on our 2023 executive compensation, since the results of those votes are based on the percentage of votes cast. However, in the case of the proposal to amend the Company’s Restated Certificate of Incorporation, the result is based on a percentage of shares outstanding, so abstentions will reduce the percentage in favor to the same degree as a negative vote.

Broker non-votes. A broker non-vote occurs when a broker cannot vote a customer’s shares registered in the broker’s name because the customer did not send the broker instructions on how to vote on the matter and the broker is barred by law or stock exchange regulations from exercising its discretionary voting authority in the particular matter. Brokers will have voting discretion for shares registered in their own name on the proposal to ratify the appointment of our independent auditors, but not in the election of directors or the other proposals. Broker non-votes will not be included in the votes cast, so will have no impact on the results of voting with respect to the election of directors, the ratification of the selection of independent auditors, or the advisory vote on our 2023 executive compensation. However, in the case of the proposal to amend the Company’s Restated Certificate of Incorporation, the result is based on a percentage of shares outstanding, so a broker non-vote will reduce the percentage in favor to the same degree as a negative vote.

If your shares are held in a stock brokerage account or by a bank or other nominee. You are considered the beneficial owner of shares held in a brokerage or bank account, and these proxy materials are being forwarded to you by your broker, bank, or other nominee, which is considered the

stockholder of record with respect to those shares. As a beneficial owner, you have the right to direct your broker, bank, or other nominee on how to vote the shares in your account. **Your broker, bank, or other nominee will only be able to vote your shares with respect to the proposals at the annual meeting (other than the ratification of the auditor appointment) if you have instructed them how to vote.** Your broker, bank, or other nominee has enclosed a voting instruction form for you to use to direct the broker, bank, or other nominee regarding how to vote your shares. Please instruct your broker, bank, or other nominee how to vote your shares using the voting instruction form. Please return your completed proxy card or voting instruction form to your broker, bank or other nominee and contact the person responsible for your account so that your vote can be counted. If your broker, bank, or other nominee permits you to provide voting instructions via the Internet or by telephone, you may vote that way as well.

Discretionary voting by proxies on other matters. Aside from the proposals for the election of directors, the ratification of our selection of auditors, the advisory vote on 2023 executive compensation, and the proposal to amend the Restated Certificate of Incorporation, we do not know of any other proposals that may be presented at the 2024 annual meeting. If another matter is properly presented for consideration at the meeting, the persons named in the accompanying proxy card will exercise their discretion in voting on the matter.

How you may revoke your proxy. You may revoke the authority granted by your executed proxy card at any time before we exercise it by filing with our Corporate Secretary, Lynnette C. Fallon, a written revocation or a duly executed proxy card bearing a later date, or by voting in person at the meeting. If your shares are held in a brokerage account, you must make arrangements with your broker or bank to revoke your proxy.

Expenses of solicitation. We will bear all costs of soliciting proxies. We will upon request reimburse brokers, custodians and fiduciaries for out-of-pocket expenses incurred in forwarding proxy solicitation materials to the beneficial owners of stock held in their names. In addition to solicitations by mail, our directors, officers and employees may solicit proxies from stockholders in person or by other means of communication, including telephone, facsimile and e-mail, without additional remuneration.

Householding of Annual Meeting Materials. Some banks, brokers and other nominee record holders may be “householding” our proxy statements and annual reports. This means that only one copy of our proxy statement and annual report to stockholders may have been sent to multiple stockholders in your household. We will promptly deliver a separate copy of either document to you if you call or write us at the following address or telephone number: Axcelis Technologies, Inc., 108 Cherry Hill Drive, Beverly, Massachusetts 01915, Attn: Corporate Secretary, telephone: (978) 787-4000. If you want to receive separate copies of the proxy statement or annual report to stockholders in the future, or if you are receiving multiple copies and would like to receive only one copy per household, you should contact your bank, broker, or other nominee record holder, or you may contact us at the above address and telephone number. Our annual report is also available on our website at www.axcelis.com.

SHARE OWNERSHIP OF 5% STOCKHOLDERS

The following table shows the amount of our common stock beneficially owned as of December 31, 2023 by persons known by us to own more than 5% of our common stock.

Beneficial Owner (1)	Shares Owned	Percent of Class
BlackRock, Inc. (2) 55 East 52 nd Street, New York, NY 10055	6,088,685	18.6%
The Vanguard Group (3) 100 Vanguard Blvd., Malvern, PA 19355	4,040,912	12.4%

- (1) Unless otherwise noted, the number of shares beneficially owned by each person listed includes any shares over which a person has sole or shared voting or investment power. The percentage ownership of each person listed in the table was calculated using the total number of shares outstanding on December 31, 2023 (32,674,775 shares).
- (2) Based on a Schedule 13G/A filed with the Securities and Exchange Commission (the "SEC") in January 2024 reporting on ownership as of December 31, 2023. This filing states that BlackRock, Inc. is a holding company whose investment management subsidiaries acquired the shares reported. According to the Schedule 13G/A, BlackRock, Inc. has sole voting power over 5,923,020 shares and sole dispositive power of all the shares reported in the table.
- (3) Based on a Schedule 13G/A filed with the SEC in February 2024 reporting on ownership as of December 29, 2023. This filing reports on beneficial ownership of The Vanguard Group. The report states that The Vanguard Group has sole voting power over no shares, shared voting power over 60,609 shares, sole dispositive power over 3,946,241 shares and shared dispositive power over 94,671 shares.

SHARE OWNERSHIP OF DIRECTORS AND EXECUTIVE OFFICERS

The following table shows the amount of our common stock beneficially owned as of March 15, 2024 (the record date for the 2024 annual meeting) by the current directors, the executive officers named in the “*Executive Compensation—2023 Summary Compensation Table*” below, and all of our current executive officers and directors as a group.

Beneficial Owner (1)	Shares Owned as of March 15, 2024	Shares Subject to Exercisable Rights to Acquire as of May 14, 2024	Total Shares Beneficially Owned	Percent of Class
<i>Non-Executive Directors</i>				
Tzu-Yin Chiu	3,873	—	3,873	*
Gregory B. Graves	—	—	—	*
Joseph P. Keithley	1,875	—	1,875	*
John T. Kurtzweil	31,402	—	31,402	*
Jeanne Quirk	4,075	—	4,075	*
Necip Sayiner	—	—	—	*
Thomas St. Dennis	10,625	—	10,625	*
Jorge Titinger	9,033	—	9,033	*
Dipti Vachani	4,976	—	4,976	*
<i>Named Executive Officers</i>				
Russell J. Low (2)	25,979	—	25,979	*
James G. Coogan (3)	100	—	100	*
Mary G. Puma (4)	218,147	35,971	254,118	*
Kevin J. Brewer (5)	5,985	—	5,985	*
Lynnette C. Fallon	14,872	—	14,872	*
Gregory F. Redinbo	4,286	—	4,286	*
Gerald M. Blumenstock (6)	—	—	—	*
<i>All current Executive Officers and Directors as a Group (17 persons) (7)</i>				
	335,826	37,846	373,672	1.14%

* Indicates less than 1%.

- (1) Unless otherwise noted, the number of shares beneficially owned by each person listed includes any shares over which the person has sole or shared voting or investment power. In accordance with the rules of the SEC, the shares shown in the table also include shares that the persons named in this table have the right to acquire on or before May 14, 2024 (60 days after March 15, 2024) by exercising a stock option or other right. Unless otherwise noted, to the knowledge of the Company based on information provided to the Company or filed with the Securities and Exchange Commission, each person has sole investment and voting power (or shares that power with his or her spouse) over the shares listed in the table. The percentage ownership of each person listed in the table was calculated using the total number of shares outstanding on March 15, 2024 (32,602,657 shares), plus any shares that person could acquire upon the exercise of any options or other rights on or before May 14, 2024. None of the shares owned or rights to acquire shares are held in a margin account or subject to a pledge.
- (2) Dr. Low commenced service as the President and Chief Executive Officer of the Company in May 2023, having served as an executive officer since 2016.

- (3) Mr. Coogan commenced service as the Executive Vice President and Chief Financial Officer of the Company in September 2023.
- (4) Ms. Puma served as the President and Chief Executive Officer of the Company until May 2023, and is currently serving as Executive Chairperson. Her ownership includes 5,000 shares owned by her spouse. At her retirement from the Board of Directors in May 2024, a number of Ms. Puma's unvested RSUs will vest under our Executive Equity Retirement Program.
- (5) Mr. Brewer served as the Executive President and Chief Financial Officer of the Company until September 2023. His service as an executive officer terminated in January 2024.
- (6) Mr. Blumenstock commenced service as the Executive Vice President, Engineering in June 2023.
- (7) In addition to the directors and named executive officers currently serving as executive officers, these totals include 6,583 shares owned by two other executive officers on March 15, 2024, and 1,875 shares issuable to one executive officer pursuant to RSUs expected to vest on or before May 14, 2024. Note that Mr. Brewer is not an executive officer as of the record date.

STOCKHOLDER ENGAGEMENT

2023 Annual Meeting Vote Results

In 2023, the average vote in favor of the election of our Board nominees was 97.1%. This is slightly lower than in 2022; one of our 2023 nominees was not supported by a proxy advisory firm under the firm's overboarding policy. Also at our 2023 annual meeting, 97.2% of votes were cast for approval of the advisory vote on the Company's 2022 executive compensation (commonly referred to as "Say-on-Pay") in comparison to 97.7% in favor in the Say-on-Pay vote on our 2021 executive compensation. We believe that this voting result reflects stockholder support for our executive compensation decisions.

2023 Stockholder Outreach

Routine Investor Relations. We rely on a variety of regular and special disclosure documents and investor relations activities to ensure that our stockholders understand our performance, our potential, our governance policies, and compensation practices. We routinely engage with our stockholders to discuss our business, performance, and strategy. These discussions sometimes also cover Board composition, governance policies and executive compensation. Our investor relations program includes: press releases on product shipments, earnings, and other material matters; quarterly earnings conference calls; participation in industry conferences arranged by investment banks; non-deal roadshows ("NDRs") arranged by investment analysts and others supporting our stock; one-on-one meetings in connection with conferences, roadshows or otherwise; and routine phone and email conversations with stockholders. Our investor website is a regularly updated repository of investor relations material, including press releases, links to SEC filings, investor presentations, governance documents, including all committee charters and our governance guidelines. See <https://investor.axcelis.com/>. Our website and the information contained therein or connected thereto shall not be deemed to be incorporated into this proxy statement.

During 2023, in addition to our routine quarterly earnings calls and follow up meetings, Axcelis representatives attended 13 in-person investor conferences and NDRs in Los Angeles, Boston, San Francisco, Minneapolis, New York City, and Chicago. The Company also held a technology seminar for investors in July 2023 and hosted many investor groups at our headquarters throughout the year.

Key 2023 Investor Messages. Following on a strong year in 2022, Axcelis had remarkable additional growth in 2023. Our key messages to investors following this performance were:

- Axcelis delivered record revenue of \$1.13 billion in 2023, and record earnings per share of \$7.43 for the full year.
- This 23% revenue growth over 2022, despite a significant industry downturn, was enabled by the mature process technology segment, which represented 88% of the value of our 2023 system shipments.
- Axcelis is considered a technology leader and supplier of choice in the implant-intensive power device segment, which accounted for 59% of the value of our 2023 system shipments.
- For 2024, Axcelis expects a similar revenue profile in terms of segment mix and total revenue, with revenue weighted to the second half of the year, driven by an expected recovery in the general mature segment and the early stages of a dynamic random access memory ("DRAM") recovery. We believe this will position the company well to achieve our \$1.3B revenue target in 2025.

Support for Stockholder Interest in Executive Compensation Decisions. Axcelis seeks to maintain investor confidence that our executive compensation is both (i) set at an appropriate level for each position, and (ii) structured to drive behavior to optimize business results. As in the past, the

Axcelis Compensation Committee ensured our 2023 executive compensation programs were aligned with market benchmarking and business strategies. Axcelis' 2023 executive compensation programs are discussed in detail under "*Executive Compensation—2023 Compensation Discussion and Analysis*" below. It is essential that the peer group used for compensation benchmarking is appropriate and robust, and in 2022, our Compensation Committee worked with Pearl Meyer & Partners, an independent compensation consultant ("Pearl Meyer"), to add four new members to our compensation peer group, removing three prior peers. This updated peer group was used to make executive officer compensation decisions for 2023.

Responsiveness to Stockholder Interest in Environmental, Social and Governance ("ESG")

Issues. Axcelis recognizes that many investors are interested in aspects of corporate management relating to ESG matters. We are committed to being responsive to this interest and have increased our disclosures in these areas. We intend to continue to take steps to meet the expectations of the investment community.

Corporate Social Responsibility Policy. Our response to these areas begins with our Corporate Social Responsibility policy, in which we state our commitment to the recognition and safeguarding of human rights in all the countries in which we operate. Axcelis' Corporate Social Responsibility Policy is guided by the United Nations' Universal Declaration of Human Rights and is reflective of our Ethical Business Conduct at Axcelis Policy, our Environmental Policy and our commitment to a safe and humane workplace, as evidenced in many of our Human Resources policies. At the same time, we respect the sovereignty of nations throughout the world and affirm their primary responsibility to protect their citizens' human rights. We seek to do business with those partners—customers, suppliers, and contractors—who share the same commitment to human rights that we have. We have adopted a Supplier Code of Conduct which requires our vendors to adopt the principles in our Corporate Social Responsibility policy and to cascade these commitments down their supply chain.

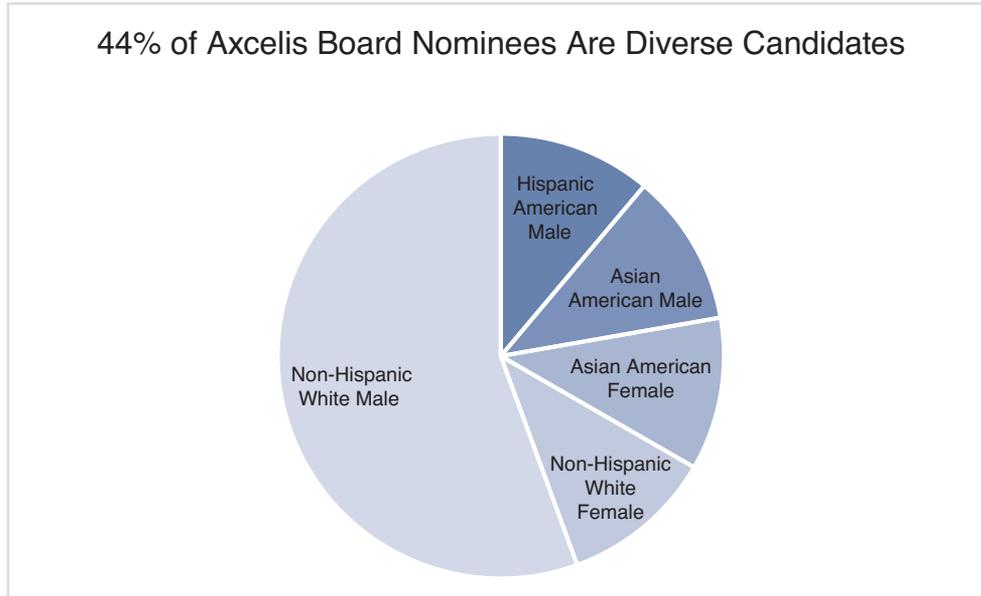
ESG Report. ESG topics have become a major focus of institutional investor stewardship functions, Nasdaq, proxy advisory firms, and some state legislatures. Axcelis is committed to being responsive to this interest. We have increased disclosures in these areas and intend to continue to take steps to meet the expectations of the investment community. In 2023, we published our first integrated ESG Report, incorporating and expanding upon the disclosure items published in our Annual Report on Environmental and Safety Concerns, first issued in 2019. The 2023 ESG Report also includes disclosures previously provided in our annual "Focus on Diversity" report, first issued in 2020. To cover the full scope of ESG matters, we added disclosures on key governance policies as well. Accordingly, Axcelis' 2023 ESG Report includes:

- Disclosures of our environmental outcomes using aspects of The Climate Disclosure Standards Board framework, and the Semiconductors Standard published by the Sustainability Accounting Standards Board.
- Disclosures on the composition of our workforce and leadership and on our performance against our goals to increase the number of women and under-represented minorities in our workforce.
- Overviews of our ethics and insider trading policies, our Board leadership structure, our stock ownership guidelines for directors and officers, and other corporate governance matters.

Our Annual Report on Form 10-K also includes disclosures on our workforce composition, our compensation and benefit programs, employee training and development offerings. Board oversight of ESG risks is discussed below in this proxy statement under "*Corporate Governance—Risk Oversight by the Board of Directors.*" Our Corporate Social Responsibility Policy, our 2023 ESG Report, our most recent EEO-1 report, and other governance documents are available under the "ESG Hub" on our

website, which is linked under the “Environmental, Social and Governance Matters” page found in both the “About Us” and “Investors” menus on our website at Axcelis.com.

Board Diversity. Our Nominating and Governance Committee seeks to be responsive to stockholder interest in racial, ethnic and gender representation at the Board level. We value the diversity of experience and perspective gained through a Board that reflects the diversity of the global community of our workforce and customers. We have for several years disclosed the gender and racial/ethnic composition of our Board. At Axcelis, four of the nine nominees for election in 2024 are diverse, in that they are not non-Hispanic white males:



Outcome of Outreach Efforts and Investor Interest. We find our direct interaction with investors extremely informative and valuable, and we are very appreciative of the time that our investors took to speak with us in 2023 and prior years. We also value the expressions of interest from investors and other participants in the investment community on environmental, social and governance topics, including diversity and inclusion, and appreciate the communication of their priorities.

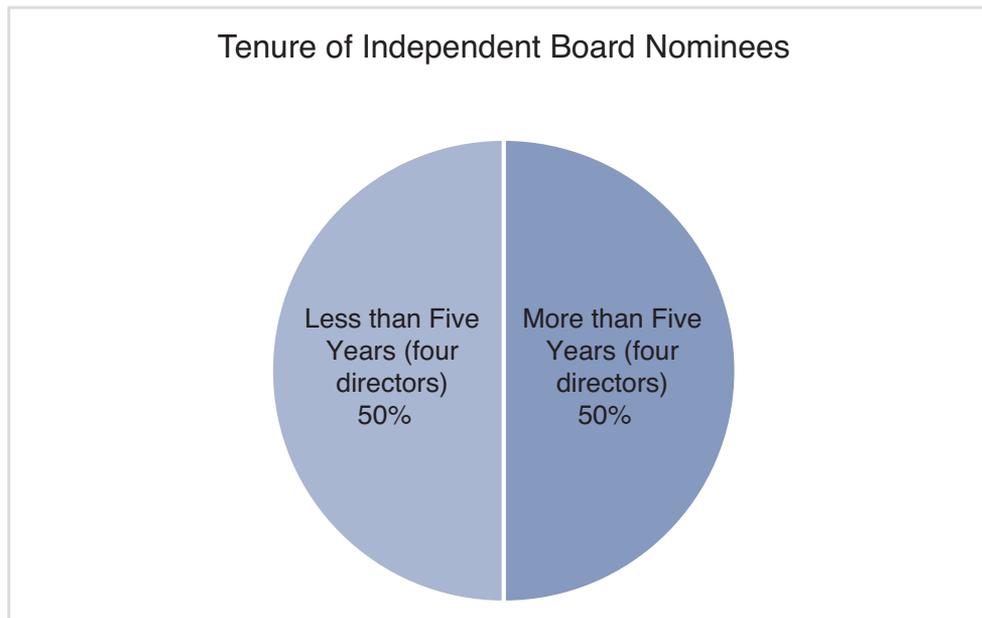
PROPOSAL 1: ELECTION OF DIRECTORS

The Board has nominated nine directors for re-election at the 2024 annual meeting of stockholders, all of whom have terms ending at the 2024 annual meeting. Seven of the nominees were elected to terms of one year at the 2023 annual meeting, and, in February 2024, our Board of Directors expanded the Board, and appointed Gregory B. Graves and Necip Sayiner as directors.

Two of our incumbent directors are not nominated for re-election at the 2024 annual meeting. Joseph P. Keithley will retire at the end of his current term in accordance with our governance policy regarding nominations of individuals who have turned 75. This retirement policy can be found in our Governance Guidelines available under the “ESG Hub” on our website at Axcelis.com. This retirement policy has no exemptions or conditions. Also, as previously announced, Ms. Puma’s service as Executive Chairperson and Board member will end at the 2024 annual meeting. Accordingly, our Board of Directors has nominated all of the current directors, other than Mr. Keithley and Ms. Puma, for re-election at the 2024 annual meeting.

Each nominated director will, if elected, hold office for a term of one year until our annual meeting in 2025 and until the director’s successor is elected and qualified. Each of the Board’s nominees has consented to serve if elected. However, if prior to the 2024 annual meeting, any nominee is deemed unable to serve, proxies will be voted for any other candidate nominated by the Board. The Board recommends a vote FOR each of the nine Axcelis nominees. The eight independent nominees represent a balance of long tenured and newer directors with a strong mix of relevant experience. Axcelis’ Nominating and Governance Committee and Board have evaluated each of the Axcelis nominees against the factors and principles Axcelis uses to select nominees for director discussed below under “Corporate Governance—Board Nomination Process and Requirements.”

All of the eight independent director nominees joined the Board in the last ten years, evenly split between those who joined the Board five or more years ago, and more recent additions to the Board:



Our director nominees bring a strong mix of experience that supports the Company’s strategy to continue its growth as a supplier of capital equipment to the global semiconductor industry, as shown in the chart below:

	Public Company CEO	Semiconductor industry	Capital Equipment	Global Experience	Customer Viewpoint	Finance/ Accounting/ Capital Markets	M&A Management	Cybersecurity Risk Management
Chiu	✓	✓		✓	✓			
Graves		✓	✓	✓	✓	✓	✓	
Kurtzweil		✓	✓	✓	✓	✓	✓	✓
Low	✓	✓	✓	✓				
Quirk		✓	✓	✓	✓	✓	✓	
Sayiner	✓	✓		✓	✓		✓	
St. Dennis	✓	✓	✓	✓	✓		✓	
Titinger	✓	✓	✓	✓			✓	✓
Vachani		✓		✓	✓			

In addition to our nominees’ experience-based skills, we are proud of the diversity represented by the slate of nominees, as shown in the chart below. As disclosed in the charts under “*Stockholder Engagement—Responsiveness to Stockholder Interest in Diversity and Inclusion Issues*” above, four of the nominees are not white non-Hispanic men, representing 44% of all nominees for election at the 2024 Annual Meeting. The chart below provides Board diversity information at December 31, 2023 in a format specified by Nasdaq:

Board Diversity Matrix as of December 31, 2023*

Board Size:

Total Number of Directors 9

Gender:	Male	Female	Non-Binary	Gender Undisclosed	Notes
Number of directors based on gender identity	6	3	—	—	Ms. Puma, Ms. Quirk, and Ms. Vachani are female
Number of directors who identify in any of the categories below:					
African American or Black	—	—	—	—	
Alaskan Native or American Indian					
Asian	1	1	—	—	Dr. Chiu and Ms. Vachani are Asian
Hispanic or Latinx	1	—	—	—	Mr. Titinger is Hispanic
Native Hawaiian or Pacific Islander	—	—	—	—	
White	4	2	—	—	
Two or more Races or Ethnicities	—	—	—	—	
LGBTQ+	—	—	—	—	
Did Not Disclose Demographic Background	—	—	—	—	

* Note that at year end 2023, Mr. Graves and Dr. Sayiner had not yet joined our Board. The data also includes Ms. Puma and Mr. Keithley who are not nominees for re-election in 2024.

Based on this evaluation of skills and attributes, our Nominating and Governance Committee and Board have concluded that it is in the best interests of Axcelis and its stockholders that each of the proposed nominees listed below be elected to serve as a director of Axcelis for a one year term.

2024 NOMINEES FOR ELECTION TO THE AXCELIS BOARD OF DIRECTORS

The following table contains biographical information about the nominees for election and the specific experience, qualifications, attributes, or skills of the nominees that led to the conclusion that each of these individuals should serve as a director of the Company, in light of our business and structure:

Tzu-Yin (“TY”) Chiu, Ph.D.: director since 2018, age 67

Business Experience and Other Directorships

Dr. Tzu-Yin Chiu has served as President of National Silicon Industry Group (“NSIG”), since April 2020. NSIG is the parent company of Shanghai Xinsheng Semiconductor Technology Co., Ltd (known as “Zing Semi”), a provider of high-quality semiconductor wafer research and development, production, and sales, of which Dr. Chiu has served as Chief Executive Officer since 2019. Dr. Chiu retired as the non-executive Vice Chairman of Semiconductor Manufacturing International Corporation (“SMIC”), a leading semiconductor foundry in China, in 2018. Dr. Chiu served in that position following his retirement as SMIC’s CEO in 2017, a position he assumed in 2011, at which time he also joined the SMIC Board. Between 2009 and 2011, Dr. Chiu served as Chief Executive Officer of Hua Hong Semiconductor Limited (known as “HHNEC”), a global, leading pure-play foundry, headquartered in China. From 2005 to 2009, Dr. Chiu worked at other chip manufacturers in Asia, having first worked at SMIC from 2001 to 2005 as Senior Vice President, Operations. Prior to joining SMIC, Dr. Chiu was a Senior Director Fab Operations at Taiwan Semiconductor Manufacturing Company Limited. Dr. Chiu worked at AT&T/Bell Labs from 1984 to 1996, as the head of the High-Speed Electronics Department and Silicon Research Operations Department. In addition, Dr. Chiu has served as Vice Council Chairman of China Semiconductor Industry Association (CSIA) and a board member of Global Semiconductor Alliance (GSA). In addition to serving on the Board of NSIG, Dr. Chiu also serves as a director of EverDisplay Optronics (Shanghai) Co., Ltd. He also serves on the Engineering Advisory Board of University of California, Berkeley, and the external Advisory Board of Tsinghua-Berkeley Institute.

Experience, Qualifications and Attributes

Dr. Chiu has over 30 years’ experience in the semiconductor industry and a track record of managing successful semiconductor manufacturing companies at the executive level. Dr. Chiu’s expertise spans technology research, business development, operations and corporate management. His familiarity with the Chinese semiconductor market has been particularly valuable to Axcelis as that market has grown. Dr. Chiu has served on the Technology and New Product Development Committee and the Nominating and Governance Committee since his election in May 2018.

Gregory B. Graves: director since 2024, age 63

Business Experience and Other Directorships

Mr. Graves served as Chief Financial Officer of Entegris, Inc., a leading supplier of advanced materials and process solutions for the semiconductor industry from 2007 to May 2023, and retired from Entegris in July 2023. In addition to the CFO title, Mr. Graves was also Entegris's Executive Vice President and Treasurer, beginning in 2008, previously holding the title of Senior Vice President and CFO from 2007 to 2008. Prior to assuming the CFO role, from 2005 to 2007, Mr. Graves served as Entegris's Senior Vice President, Strategic Planning & Business Development. Mr. Graves held business development and finance positions at Entegris Minnesota from 2002 to 2005. Prior to 2002, Mr. Graves held positions in investment banking and corporate development, including at U.S. Bancorp Piper Jaffray and at Dain Rauscher. Mr. Graves currently serves as a director of Laird Superfood, Inc., a plant-based food company; SkyWater Technology, Inc., a US semiconductor foundry; and Janel Corporation, a global logistics provider. He previously served as a director of Plug Power Inc., an energy solutions provider, until June 2019.

Experience, Qualifications and Attributes

Mr. Graves's background in accounting and finance, and his experience as a long-serving chief financial officer for a supplier to the semiconductor industry, give him valuable insight on finance and business development matters in our industry, which is highly valued by our Board. Since his appointment to the Board in February 2024, Mr. Graves has served as a member of the Axcelis Audit Committee and Compensation Committee.

John T. Kurtzweil: director since 2015, age 67

Business Experience and Other Directorships

Mr. Kurtzweil has served as an independent consultant since 2018, which includes periodically serving as an interim Chief Financial Officer for his clients. Mr. Kurtzweil is also engaged in cybersecurity matters, holding a certificate in cybersecurity oversight from Carnegie Mellon University. This background enables him to assist the Company, other boards, and his consulting clients in assessing their cybersecurity defenses and incident preparedness. From July 2017 to November 2018, Mr. Kurtzweil served as the Chief Financial Officer of Akoustis Technologies, Inc., an RF filter semiconductor company. From 2015 to March 2017, Mr. Kurtzweil was VP Finance of Cree, Inc., a provider of light emitting diode, lighting, and semiconductor products, and Chief Financial Officer of its subsidiary, Wolfspeed, a Cree Company. He was an independent consultant from October 2014 to June 2015. From 2012 until 2014, Mr. Kurtzweil served as Senior Vice President, Chief Financial Officer and Special Advisor to the CEO of Extreme Networks, Inc., a provider of open networking innovations. From 2006 to 2012, Mr. Kurtzweil served as Executive Vice President, Finance and as Chief Financial Officer and Treasurer of Cree, Inc. From 2004 to 2006, Mr. Kurtzweil was Senior Vice President and Chief Financial Officer at Cirrus Logic, Inc., a fabless semiconductor company. Mr. Kurtzweil served as a director of Akoustis from January 2017 to July 2017, when he became Chief Financial Officer of Akoustis, and for Meru Networks, Inc. from May 2015 to July 2015 when the company was sold. Mr. Kurtzweil currently serves on the Board of SkyWater Technology, Inc., a US semiconductor foundry.

Experience, Qualifications and Attributes

Mr. Kurtzweil brings to the Board significant senior executive leadership experience, including nineteen years as chief financial officer of publicly traded technology companies and placing an aggregate of over \$2.0 billion in equity and debt instruments. His technology industry experience includes several M&A transactions and when combined with his treasury experience, gives him a valuable perspective as a director. Mr. Kurtzweil has developed an advanced understanding of cybersecurity strategies through a certificate program at Carnegie Mellon University. His qualifications to serve as a director also include that he is a certified public accountant and certified management accountant, his cybersecurity oversight expertise, his financial market experience, training through the Stanford Directors College, active membership with National Association of Corporate Directors and his qualifications as an audit committee financial expert. Mr. Kurtzweil has served on the Audit Committee (and as Chairperson since February 2017) and on the Compensation Committee since his election to the Board in May 2015. The Board highly values his contributions in these roles.

Russell J. Low, Ph.D.: director since 2023, age 53

Business Experience and Other Directorships

Dr. Low is our President and Chief Executive Officer, a position he assumed in May 2023. Prior to that, beginning in 2021, he was our Executive Vice President, Global Customer and Engineering Operations. Dr. Low joined Axcelis in 2016 as Executive Vice President, Engineering. Prior to joining the Company, Dr. Low held the position of Vice President of Engineering, MOCVD Business Unit at Veeco Instruments since 2013, prior to which he was Veeco's Senior Director of Engineering, Molecular Beam Epitaxy Business Unit beginning in 2012. From 2003 to 2012, Dr. Low held a number of positions at Varian Semiconductor Equipment Associates, most recently as Director of Technology. Prior to that, Dr. Low held engineering positions in the thermal processing and ion implant divisions of Applied Materials, Inc. from 1997 to 2003. Dr. Low serves on the North American Advisory Board (NAAB) of SEMI International and is a member of the Massachusetts High Tech Council. Dr. Low is not currently serving on any other public company Boards.

Experience, Qualifications and Attributes

Dr. Low's technical understanding, extensive management experience at the Company, and more broadly in our industry, contributed to his selection as Axcelis' next Chief Executive Officer and President beginning in May 2023. As such, Dr. Low's contributions to Board discussions are essential as the Company moves forward. Dr. Low's leadership of the Company's Engineering and Global Customer Operations functions during a period of improving financial performance and market share, were highly valued by the Board.

Jeanne Quirk: director since 2022, age 54

Business Experience and Other Directorships

Ms. Quirk is the Senior Vice President, Mergers and Acquisitions, for TE Connectivity, a position she has held since 2015. TE Connectivity (formerly known as Tyco Electronics Ltd.) is a manufacturer of connectivity and sensor solutions for a variety of industries including automotive, industrial equipment, data communication systems, aerospace, defense, oil and gas, energy, and semiconductor capital equipment. Since 2013, Ms. Quirk served as the Vice President, Strategy and Business Development for TE's Industrial Solutions segment, with responsibility for partnering with the leadership team to identify and execute organic and inorganic growth initiatives. Since joining TE in 2000, she held a variety of leadership positions in M&A and integration, including leading TE's M&A and divestiture efforts from 2007 through 2013. Prior to joining TE, Ms. Quirk worked at PricewaterhouseCoopers for 10 years where she assisted a broad range of strategic buyers and financial sponsors with their acquisitions. Ms. Quirk is not currently serving on any other public company Boards.

Experience, Qualifications and Attributes

Ms. Quirk has over 30 years' experience in the electronics industry, focused on inorganic growth, which is an area of interest for the Company. Ms. Quirk has served on the Audit Committee and the Nominating and Governance Committee since her election in February 2022. The Board highly values her contributions in these roles.

Necip Sayiner: director since 2024, age 58

Business Experience and Other Directorships

Dr. Sayiner served as the Executive Vice President of Renesas Electronics Corporation, a company engaged in the research, development, design, manufacture, sale, and servicing of semiconductor products, from February 2017 to March 2019, also serving as President of Renesas Electronics America from July 2017 to March 2019. Previously, he was the President, Chief Executive officer and a director of Intersil Corporation, a leading provider of innovative power management and precision analog solutions, from March 2013 until its acquisition by Renesas Electronics Corporation in February 2017. Prior to Intersil, from September 2005 to April 2012, he served as president and chief executive officer, and director of Silicon Laboratories, a fabless semiconductor company engaged in the design of analog-intensive, mixed signal integrated circuits. Dr. Sayiner served as Chairman of the Semiconductor Industry Association (“SIA”), from December 2015 to November 2016 and as Vice Chairman from November 2014 to December 2015. Dr. Sayiner was initially appointed to the Board of the SIA in September 2013. Dr. Sayiner also serves as a director on the board of Rambus, Inc., a manufacturer of semiconductor chips and IP that advance data center connectivity. He previously served as a director of Power Integrations, Inc., a semiconductor manufacturing company, until May 2023.

Experience, Qualifications and Attributes

Dr. Sayiner’s deep knowledge of the semiconductor industry from his career at chip design and device manufacturing companies provides the Axcelis Board with valuable input from the customer perspective. His experience as chief executive officer, extensive engineering experience, and track record of strong revenue and profitability growth are all highly valued by our Board. Since his appointment to the Board in February 2024, Dr. Sayiner has served as a member of the Technology and New Product Development Committee and the Compensation Committee.

Thomas St. Dennis: director since 2015, age 70

Business Experience and Other Directorships

Thomas St. Dennis is the non-executive Chairperson of FormFactor, Inc., a leading provider of semiconductor wafer test technologies and expertise, a position he assumed in 2016. Previously, Mr. St. Dennis served as FormFactor's Executive Chairperson beginning in 2013, and as its Chief Executive Officer from 2010 to 2014. Mr. St. Dennis held various positions at Applied Materials, Inc., a semiconductor equipment manufacturer, from 1992 to 1999 and again from 2005 to 2009. His most recent role at Applied Materials was as Senior Vice President and General Manager of the Silicon Systems Group. From 2003 to 2005, Mr. St. Dennis was Executive Vice President of Sales and Marketing at Novellus Systems, Inc., a semiconductor capital equipment manufacturer. Mr. St. Dennis currently serves on the boards of directors of FormFactor and Veeco Instruments Inc., a company that designs, manufactures and markets thin film equipment for semiconductor processing applications.

Experience, Qualifications and Attributes

Mr. St. Dennis' prior experience in the semiconductor equipment industry as well as his extensive international business background make him an effective advisor to the Board regarding strategic and marketing issues. His experience and skills are highly valued by our Board. Mr. St. Dennis has served on the Nominating and Governance Committee and the Technology and New Product Development Committee since his election to the Board in May 2015. Beginning in May 2020, Mr. St. Dennis was appointed Chairperson of the Technology and New Product Development Committee. The Board highly values his contributions in these roles.

Jorge Titinger: director since 2019, age 62

Business Experience and Other Directorships

Mr. Titinger is Axcelis' Lead Director, serving since May 2023. It is contemplated that he will be appointed as Chairperson of the Board of Directors following the 2024 Annual Meeting of Stockholders, when Ms. Puma will cease to serve as Executive Chairperson. Mr. Titinger serves as principal of Titinger Consulting, a private consulting and advisory service provider founded by Mr. Titinger in 2016. Beginning in 2012, Mr. Titinger served as President and Chief Executive Officer of Silicon Graphics International Corp., a producer of computer hardware and software, which was acquired by Hewlett Packard Enterprise in 2016. From 2008 to 2011, Mr. Titinger served in various offices at Verigy Ltd., a provider of semiconductor automatic test equipment, ending as President and Chief Executive Officer in 2011. Prior to his service at Verigy, Mr. Titinger held executive positions with FormFactor, Inc. from 2007 to 2008, and KLA-Tencor Corporation from 2002 to 2007. Mr. Titinger served as a director of Xcerra Corporation, a provider of semiconductor and electronics test products and services from 2012 until it was acquired by Cohu, Inc., a supplier of semiconductor test and inspection equipment, in 2018. Mr. Titinger served on the Board of Directors of Cohu, Inc. from 2018 to 2021. Mr. Titinger currently serves as a director of (i) FormFactor, a leading provider of semiconductor wafer test technologies and expertise; (ii) CalAmp Corp., a provider of mobile resource management telematics systems, software, and subscription services for the Internet of Things market; and (iii) Ichor Holdings, Ltd. (also known as Ichor Systems), a leader in the design, engineering and manufacturing of critical fluid delivery subsystems and components for semiconductor capital equipment.

Experience, Qualifications and Attributes

Mr. Titinger's prior experience in the semiconductor industry as well as his extensive international business background make him an effective advisor to the Board regarding strategic and marketing issues. His leadership experience and skills are highly valued by our Board. Mr. Titinger also brings cybersecurity expertise, given his participation on the Cybersecurity and Data Privacy Committee of the Board of CalAmp Corp., a company that provides solutions to help organizations worldwide to monitor, track, and protect their data and vital assets. In addition, when Mr. Titinger served as an executive at KLA-Tencor Corporation, he was responsible for cybersecurity, managing that company's CIO and the CISO. Mr. Titinger became the Chairperson of our Compensation Committee in May 2022 and Lead Director in May 2023. The Board highly values his contributions in these roles.

Dipti Vachani: director since 2022, age 50

Business Experience and Other Directorships

Ms. Vachani is the Senior Vice President, General Manager, Automotive and Embedded Line of Business for Arm Limited, a position she has held since 2018. Arm Limited is a designer of energy-efficient system-on-a-chip central processing units for cell phones and other applications including automotive, artificial intelligence and internet of things applications. From 2015 to 2018, Ms. Vachani was VP, General Manager of Intel Corporation's Internet of Things Group. Prior to Intel, Ms. Vachani was VP, General Manager, Power and Lighting Display at Skyworks Solutions beginning in 2013.

Ms. Vachani held various program and product line positions at Texas Instruments, Inc. from 2001 to 2013, ending as VP, General Manager, Single Core Processors. Ms. Vachani is not currently serving on any other public company Boards.

Experience, Qualifications and Attributes

Ms. Vachani has over 25 years' experience in the semiconductor industry, most recently focused on automotive and internet of things applications, important areas for many Axcelis customers. Ms. Vachani has served on the Technology and New Product Development Committee and the Compensation Committee since her election in February 2022. The Board highly values her contributions in these roles.

BOARD OF DIRECTORS

Board of Directors Independence and Meetings

The Board of Directors has determined that all directors who served during 2023, other than Dr. Low and Ms. Puma, and Mr. Graves and Dr. Sayiner are and were during their service, independent under the criteria established by Nasdaq. None of these non-management directors, to the Company's knowledge, had any business, financial, family, or other type of relationship with the Company or its management (other than as a director and stockholder of the Company), except for relationships that the Board considered to be immaterial under the Nasdaq independence standards.

In determining that each such director is independent, the Board considers whether Axcelis purchases and sells products and services from and to companies (or their affiliates) at which directors are or have been employed as officers or serve as directors. Mr. Kurtzweil and Mr. Graves serve on the Board of Directors of SkyWater Technology, Inc. Its subsidiary, SkyWater Technology Foundry, Inc., a US semiconductor foundry, is a customer of Axcelis. Axcelis' transactions with SkyWater are carried on in an arms-length commercial relationship, and there is no reason to conclude that the relationship interfered with the exercise of Mr. Kurtzweil's or Mr. Graves's independent judgment in carrying out the responsibilities of a director at Axcelis. The amount the Company received from SkyWater in each of the past three fiscal years was below the total revenue threshold in the Nasdaq independence standards (that is, the greater of \$200,000 or 5% of Axcelis' consolidated gross annual revenues), which standard would apply if Mr. Kurtzweil and/or Mr. Graves were executives of SkyWater, which neither is. Accordingly, this relationship was not determined by the Board to impair the independence of Mr. Kurtzweil or Mr. Graves. See also "Corporate Governance—Certain Relationships and Related Transactions—2023 Related Party Disclosures."

The Board also determined that the members of the Audit and Compensation Committees meet additional independence requirements under Securities and Exchange Commission ("SEC") rules, Internal Revenue Code ("IRC") rules and additional Nasdaq rules.

Our Board of Directors held four meetings during 2023 and acted once by unanimous written consent in 2023, jointly with the Compensation Committee. Independent directors have regularly scheduled executive sessions at which only independent directors are present. None of our incumbent Board members attended less than 75% of the 2023 Board meetings and of those committees of which the director was a member. Except for Dr. Chiu, all of our Board members attended 100% of the 2023 Board meetings and of those committees of which the director was a member. Dr. Chiu was unable to attend one of the four 2023 meetings of our Technology and New Product Development Committee, due to travel restrictions imposed by his employer. Our Governance Guidelines state that it is expected that all directors will attend the Annual Meeting and all Board of Directors meetings and meetings of committees on which the Director serves. All of the nine director nominees at the 2023 Annual Meeting were in attendance at that meeting in person, except Dr. Chiu, due to his employer's travel restrictions at that time.

Board of Directors Leadership Structure

Since May 2023, Ms. Puma has been the Executive Chairperson of the Board of Directors, and Mr. Titinger has been the Lead Director. As an employee of the Company, Ms. Puma is not independent (as defined in the listing standards for the Nasdaq Stock Market), while Mr. Titinger is independent. Our Governance Guidelines require the Board to appoint a Lead Director in the event that the Chairperson is not independent. The Lead Director will guide the oversight role of the independent members on the Board of Directors, given that the Chairperson will retain some management responsibilities. We believe this leadership structure serves the Company and our stockholders well by providing independent leadership of the Board of Directors.

Responsibility for an Annual Evaluation of the CEO

Our Governance Guidelines provide that the Chairperson or Lead Director, if there is one, will lead the Board in conducting an annual evaluation of the Chief Executive Officer (the “CEO”). The process for the annual CEO evaluation may be modified from time to time by the Nominating and Governance Committee with the consent of the Chairperson or Lead Director, but currently involves the following steps:

- Annually, after the close of a fiscal year, the CEO submits a self-evaluation to the Chairperson or Lead Director;
- The Chairperson or Lead Director, if one is currently serving, discusses the self-evaluation with the CEO and solicits input from other Directors in one-on-one conversations; and
- The Chairperson or Lead Director, if one is currently serving, consolidates the CEO self-evaluation with Board feedback and communicates the Board’s evaluation to the Chief Executive Officer at the first Board meeting of the new fiscal year.

Our Governance Guidelines provide that the CEO evaluation should consider aspects of corporate performance, including progress against strategic goals and the capacity of the Company to achieve future goals. The evaluation should use a combination of objective and subjective criteria.

Compensation of Directors

The Nominating and Governance Committee has responsibility under its charter to review and recommend non-employee director compensation for adoption by the full Board. Non-employee director compensation is approved by the full Board of Directors on the recommendation of the Nominating and Governance Committee.

2023 Director Cash Compensation. Non-employee director cash compensation in effect in 2023 was set on July 1, 2020 and reviewed in May 2022, using a Pearl Meyer report comparing the Company’s non-employee Board compensation to that provided by the companies in our executive compensation peer group. The 2022 report showed that the 2020 retainers for each category of director service were set at approximately the median for each category. Accordingly, no change was made to non-employee director cash compensation in 2022. Following the Board’s practice of reviewing Board compensation every other year, no review was undertaken in 2023. Director cash compensation will be reviewed by the Nominating and Governance Committee and full Board in May 2024.

Our non-employee director cash compensation in effect since July 1, 2020 consists solely of annual cash retainers, paid quarterly in advance, in accordance with the following schedule:

Board Member Retainer	\$60,000
Independent Chairperson/Lead Director Premium	\$50,000
Committee Chairpersons Retainers	
Audit Committee Chairperson	\$25,000
Compensation Committee Chairperson	\$15,000
Nominating and Governance Committee Chairperson	\$10,000
Technology and New Product Development Committee Chairperson	\$10,000

Other Committee Member Retainers

Audit Committee Member	\$10,000
Compensation Committee Member	\$ 7,500
Nominating and Governance Committee Member	\$ 5,000
Technology and New Product Development Committee Member	\$ 5,000

The Company has entered into Indemnification Agreements with each of the non-employee directors, which are in the same form as the Indemnification Agreements with each of the Company's executive officers. Axcelis' Indemnification Agreements are intended to provide protection from legal liability arising from the individual's service as a director to the extent typically provided by U.S. public companies. The Company indemnifies its non-employee directors to the fullest extent permitted by law with respect to his or her status or activities as a director of Axcelis against all judgments, fines, amounts paid in settlement, and all reasonably incurred expenses. These Indemnification Agreements supplement the indemnification provisions in the Company's Restated Certificate of Incorporation. As required in the Indemnification Agreements, the Company purchases director and officer liability insurance that would reimburse the Company for costs incurred under the Indemnification Agreements and for certain third-party liabilities. In addition, the Company maintains "Side A" director and officer liability insurance, which is for the exclusive benefit of the directors and officers, permitting direct reimbursement from the insurer if the Company was unable or unwilling to provide indemnification due to a lack of funds or another issue. The adequacy of our director and officer liability insurance coverage is reviewed, and adjusted if needed, on an annual basis.

Non-employee directors also receive reimbursement of reasonable and customary out-of-pocket expenses incurred in attending Board and committee meetings, in accordance with the Axcelis Board of Directors Expense Reimbursement Policy. Travel by directors to Axcelis Board meetings, or otherwise on Company business, is covered by our standard business travel insurance, which provides emergency medical coverage. Non-employee directors do not receive any Company-paid perquisites.

The Board of Directors may, from time to time, form committees in addition to the four committees currently in use (Audit, Compensation, Nominating and Governance, and Technology and New Product Development) and set compensation for service on such additional committees.

2023 Equity Awards. On February 16, 2023, upon recommendation of the Nominating and Governance Committee and the Compensation Committee, the full Board of Directors approved the grant to each of the non-employee directors, effective May 15, 2023, of restricted stock units ("RSUs") valued at \$160,000. The number of units was determined by dividing \$160,000 by a 30-day average closing price of the Company's common stock over a period ending May 10, 2023, which was \$124.81. In accordance with this formula, each non-employee director received an RSU exercisable for 1,282 shares of common stock. Using the grant date closing price of \$127.99, each director RSU grant had a grant date value of \$164,083. The Board fixed a one-year vesting period for the 2023 non-employee director RSU grants, reflecting market practice. Accordingly, the 2023 non-employee director RSU grants will vest on May 15, 2024, provided the director completes his or her one-year term of service.

Long-term ownership of Company equity by directors is encouraged through the Company's director stock ownership guidelines, which are discussed below under "*Corporate Governance—Governance Policies.*"

The chart below shows compensation for all non-employee directors who served the Company during 2023:

Name	Fees earned or paid in cash (\$)	Stock awards (\$) (1)(2)(3)	Total (\$)
Tzu-Yin Chiu	\$ 70,000.00	\$164,083.00	\$234,083
Richard J. Faubert (4)	\$ 44,760.00	\$ —	\$ 44,760
Joseph P. Keithley	\$ 80,000.00	\$164,083.00	\$244,083
John T. Kurtzweil	\$ 92,500.00	\$164,083.00	\$256,583
Jeanne Quirk	\$ 75,000.00	\$164,083.00	\$239,083
Thomas St. Dennis	\$ 75,000.00	\$164,083.00	\$239,083
Jorge Titinger	\$104,231.00	\$164,083.00	\$268,314
Dipti Vachani	\$ 72,500.00	\$164,083.00	\$236,583

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- (1) The amounts shown represents the grant date fair value of the equity awards received by each independent director in 2023 determined in accordance with the assumptions described in the Stock Award Plans and Stock-Based Compensation note to the Company's 2023 Financial Statements included in the Company's Annual Report on Form 10-K filed with the SEC. All of the independent directors received a RSU for 1,282 shares on May 15, 2023 with a grant date fair value of \$164,083. These awards will vest as to 100% of the RSUs on May 15, 2024, provided the director completes his or her one year term of office.
 - (2) At December 31, 2023, Ms. Quirk and Ms. Vachani each held 1,714 unvested RSUs in addition to the 2023 annual grant, for a total of 2,996 unvested RSUs. All other directors in office at year end 2023 held only the 1,282 unvested RSU granted in May 2023.
 - (3) None of the non-employee directors received stock option grants in 2023. No non-employee director held stock options at year end 2023.
 - (4) Mr. Faubert retired from the Board in May 2023.

BOARD COMMITTEES

Our Board has standing Audit, Compensation, Nominating and Governance, and Technology and New Product Development committees, each of which has a chairperson and two or more additional members from among the independent directors. The current composition of each of these committees is set forth below:

Audit Committee	Compensation Committee	Nominating and Governance Committee	Technology and New Product Development Committee
<ul style="list-style-type: none">• John T. Kurtzweil, Chairperson• Joseph P. Keithley• Jeanne Quirk• Gregory B. Graves	<ul style="list-style-type: none">• Jorge Titinger, Chairperson• Gregory B. Graves• John T. Kurtzweil• Necip Sayiner• Dipti Vachani	<ul style="list-style-type: none">• Joseph P. Keithley, Chairperson• Tzu-Yin Chiu• Jeanne Quirk• Thomas St. Dennis	<ul style="list-style-type: none">• Thomas St. Dennis, Chairperson• Tzu-Yin Chiu• Necip Sayiner• Dipti Vachani

Committee membership is reviewed by the Board annually after each annual meeting.

Audit Committee

The Audit Committee operates under a written charter and is responsible for assisting the Board of Directors in monitoring and oversight of (1) the integrity of the Company's financial statements and its systems of internal accounting and financial controls and (2) the independence and performance of the Company's independent auditors and any internal auditors engaged by management or the Audit Committee. The Audit Committee has adopted procedures for the handling of complaints regarding accounting, internal controls and auditing matters which are described in our Ethics policy. The Audit Committee's charter, material on ethics reporting and other governance material is available on this link <https://investor.axcelis.com/corporate-governance/governance-overview>.

During 2023, the Audit Committee consisted of Mr. Kurtzweil (Chairperson), Mr. Keithley, Ms. Quirk and Mr. Titinger. The Board of Directors determined that each of those directors were audit committee financial experts as defined by the SEC. The Board's conclusions regarding the qualifications of a director as an audit committee financial expert are based on the director's certification that the director has (1) an understanding of generally accepted accounting principles and financial statements; (2) the ability to assess the general application of such principles in connection with the accounting for estimates, accruals and reserves; (3) experience preparing, auditing, analyzing or evaluating financial statements that present a breadth and level of complexity of accounting issues that are generally comparable to the breadth and complexity of issues that can reasonably be expected to be raised by the Company's financial statements, or experience actively supervising one or more persons engaged in such activities; (4) an understanding of internal controls and procedures for financial reporting; and (5) an understanding of audit committee functions. Mr. Graves was added to the Audit Committee in February 2024 in light of his background in accounting and finance, and his experience as a long-serving chief financial officer.

The Audit Committee plays a key role in oversight of the Company's Enterprise Risk Management processes, as well as taking responsibility for oversight of specific risks, such as the Company's management of cybersecurity threats. See "*Corporate Governance—Risk Oversight by the Board of Directors*" below.

For a report on the Audit Committee's actions during 2023, see the "*2023 Audit Committee Report*" below.

2023 Audit Committee Report

Note: In accordance with an instruction to the SEC regulation under which this Audit Committee report is provided (Regulation S-K, Item 407(d)(3)), this Audit Committee Report shall not be deemed to be "soliciting material," or to be "filed" with the SEC or subject to certain other SEC provisions, as described in that instruction.

The Audit Committee schedules meetings to occur after the preparation of preliminary quarterly and annual financial statements and prior to the public release of financial results for the period. The Committee met in May, August and October of 2023, prior to the release of the financial results for the first, second and third quarters of 2023, respectively, and in February 2024, prior to the release of our fourth quarter and 2023 year-end results. The Audit Committee also usually reviews the Form 10-Q and Form 10-K either in a telephonic, video conference or in-person meeting. The Audit Committee meets in connection with each of the quarterly in person Board meetings. At these meetings, and the occasional additional meeting, the Committee addresses a variety of recurring and non-recurring topics, such as the Company's internal control systems, Enterprise Risk Management system, management of cybersecurity threats, changes to the Audit Committee charter and other matters.

The Audit Committee met ten times during 2023. At all meetings relating to the release of financial results, Axcelis' Chief Financial Officer and Corporate Controller were present for all or a portion of the meeting, as were our independent auditors. Our Chief Executive Officer and General Counsel also usually participate in these meetings. The Committee's agenda is established by the Committee's Chairperson, with input from the Company's Chief Financial Officer. Depending on the content of the meeting, the Committee holds private sessions with the Company's independent auditors, and, separately, with management, at which candid discussions of financial management, accounting and internal control issues can take place. In its executive sessions with representatives of the independent auditors, the Committee seeks to engage in a meaningful dialogue to address any questions or concerns identified by the Committee and to obtain an understanding of any questions or concerns of the auditors.

Under its charter, the Audit Committee has responsibility for recommending to the Board the appointment of the independent auditing firm, which firm will be accountable directly to the Audit Committee, as representative for the stockholders of the Company. To determine independence, the Audit Committee relies on responses from directors and executive officers in annual questionnaires and on the auditing firm's own conclusion regarding its independence. In selecting and evaluating an independent auditing firm, the Audit Committee considers the firm's history with the Company, if any, and the quality and efficiency of its past work; the firm's familiarity with the Company's industry and the significant accounting principles relating to the Company's business; the firm's general reputation, capability, and expertise in handling the breadth and complexity of the Company's worldwide operations; and the firm's estimated fees. Beyond the performance and capabilities of a particular firm, the Audit Committee also considers whether a change in audit firm is advisable either to ensure independence or to obtain more competitive fees. This consideration is balanced by an awareness of the potential inefficiency and disruption from changing to a different independent public accounting firm. Weighing these factors, the Audit Committee recommended the engagement of Ernst & Young LLP as the Company's independent auditing firm for 2024, which accounting firm has served as the Company's auditor since 1999.

The lead audit partner of the independent auditor is required by law to rotate every five years. Our current lead audit partner from Ernst & Young LLP has been serving in that capacity since 2021. The next mandatory periodic rotation of Axcelis' lead audit partner at Ernst & Young LLP is scheduled to take place in 2026. The Audit Committee will provide oversight and input to the selection of a successor lead audit partner.

Once the firm is appointed, the Audit Committee has the sole authority for the definition of the scope of, and oversight of, the work of the independent auditor, and for compensation of the firm. The Audit Committee manages the process of approving the procurement of services and compensation in accordance with a Policy Regarding Pre-Approval of Services adopted by the Audit Committee. Under this policy, when the Board appoints an audit firm, the purchase of planned audit-related and any specified planned tax services are also automatically approved. Estimated fees for these planned services are reviewed by the Audit Committee each year, and under the Pre-Approval of Services policy, management may pay all fees that are not materially higher than the estimates reviewed by the Audit Committee.

At the recommendation of the Audit Committee, the Board of Directors appointed Ernst & Young LLP as our Independent Registered Public Accounting Firm to audit our financial statements for 2023. At the 2023 annual meeting of stockholders, our stockholders ratified this appointment. The Audit Committee discussed with our independent auditors and the Company's Chief Financial Officer overall audit scopes and plans, the results of external audit examinations, evaluations by the auditors of the Company's internal controls and the quality of the Company's financial reporting.

Management has reviewed with the Audit Committee the audited consolidated financial statements for the year ended December 31, 2023 prepared by management and audited by Ernst & Young LLP, management's assessment of the effectiveness of our internal control over financial reporting and Ernst & Young LLP's evaluation of our internal control over financial reporting. The review of these audited financial statements included 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.

In addition, the Committee discussed with the independent auditors the matters required to be discussed by the applicable requirements of the Public Company Accounting Oversight Board ("PCAOB") and the SEC and received from the independent auditors their written disclosure letter concerning independence required to be discussed by the auditors with the Committee under the applicable requirements of the PCAOB. These items were discussed with the auditors and management at an Audit Committee meeting, including a discussion of any relationship that may impact the objectivity and independence of our auditors and whether the provision of any non-audit services by the auditors is compatible with maintaining their independence.

In reliance on these reviews and discussions, and the report of our Independent Registered Public Accounting Firm, the Audit Committee recommended to the Board of Directors that such audited financial statements be included in the Company's 2023 Annual Report on Form 10-K for filing with the SEC and in the Annual Report to Stockholders which accompanies this proxy statement.

The Committee and the Board have also recommended, subject to reconsideration in the absence of stockholder ratification, the selection of the Company's independent auditors for the current year, as discussed below under *"Proposal 2: Ratification of the Appointment of Our Independent Registered Public Accounting Firm."*

In performing all of these functions, the Audit Committee acts only in an oversight capacity. Necessarily, in its oversight role, the Committee relies on the work and assurances of the Company's management, who have the primary responsibility for financial statements and reports, and of the independent auditors, who in their report on the audited annual financial statements, express an opinion on the conformity of the Company's annual financial statements to accounting principles generally accepted in the United States.

By the Audit Committee,

John T. Kurtzweil, Chairperson
Gregory B. Graves
Joseph P. Keithley
Jeanne Quirk
Jorge Titinger

Compensation Committee

In 2023, the Compensation Committee of the Board of Directors consisted of Mr. Kurtzweil, Mr. Faubert (until the 2023 annual meeting), Mr. Titinger (Chairperson) and Ms. Vachani. The Compensation Committee holds four regularly scheduled meetings per year and occasionally calls special meetings or acts by written consent to address particular matters. In 2023, the Compensation Committee met four times, and acted once by unanimous written consent, jointly with the full Board. The Compensation Committee operates under a written charter, a copy of which is available in the “Investors” portion of our website at www.axcelis.com.

The Compensation Committee establishes the compensation philosophy for Axcelis and has all the authority of the Board of Directors to act or exercise corporate powers with respect to the compensation of the executive officers and the administration of Axcelis’ equity compensation plans. The annual CEO evaluation is considered by the Compensation Committee in the course of its deliberations on the Chief Executive Officer’s compensation. The charter of the Compensation Committee also provides for the Committee’s responsibility to provide oversight of workforce diversity initiatives and goals. The Committee has directed management to track certain demographic metrics and to record our progress against specific goals on diversity and inclusion. See “*Stockholder Engagement—Responsiveness to Stockholder Interest in Diversity and Inclusion Issues*” above.

The Compensation Committee meets in the first quarter of each year to review the level and structure of each component of executive compensation, and to establish the goals and targets applicable to the executives’ annual cash and equity incentive compensation for the coming year, as well as to determine the results for the year just ended. The Committee’s 2023 compensation decisions are described in detail in “*Executive Compensation—2023 Compensation Discussion and Analysis*” below.

To support its decision-making processes, the Compensation Committee frequently obtains the advice of an independent compensation consultant with respect to the structure and competitiveness of the Company’s executive compensation programs, as well as the consistency of our programs with the Company’s executive compensation philosophy. The Committee has the sole authority to hire and fire all outside compensation consultants providing information and advice to the Committee. In 2023, the Company engaged Pearl Meyer to provide benchmarking and advice related to compensation decisions for executive officers. Pearl Meyer has also advised the Committee and the Nominating and Governance Committee on compensation paid to the independent directors. Pearl Meyer did not provide any other services to the Company in 2023. Under its charter, the Compensation Committee must assess and consider the independence of any retained advisor under the criteria set forth in the Nasdaq listing standards.

At the request of the Committee, the Chief Executive Officer will make specific proposals to the Committee regarding compensation for executive officers. Management will often work with the Committee’s outside consultant to ensure that the consultant has access to the appropriate information to enable the consultant to complete its analyses for the Committee. The consultant’s invoices are paid by the Company. The Chief Executive Officer and the Executive Vice President HR/Legal usually participate in Compensation Committee meetings to present and discuss the material. Depending on

the matter under discussion, the Compensation Committee may meet alone with the Chief Executive Officer in executive session. All decisions on executive compensation are made by the Compensation Committee in executive session without the Chief Executive Officer. The Committee delegates to the Chief Executive Officer the authority to make equity grants to employees other than executive officers on commencement of employment, as a bonus award or in the annual equity award program, subject to limitations established by the Committee.

For a discussion on the Compensation Committee's decisions relating to executive compensation during 2023, see *"Executive Compensation—2023 Compensation Discussion and Analysis"* below. The Compensation Committee also makes recommendations to the Board with respect to policies relating to compensation, including the Company's director and officer stock ownership guidelines, executive compensation clawback policy, and policies relating to the ownership of Axcelis securities by directors and officers. See *"Corporate Governance—Governance Policies"* below.

Compensation Committee Interlocks and Insider Participation

None of the directors who served on the Compensation Committee of the Board of Directors during 2023 (Mr. Kurtzweil, Mr. Faubert, Mr. Titingner and Ms. Vachani) has been an officer or employee of Axcelis or had a relationship during 2023 requiring disclosure under Item 404 of Regulation S-K.

Nominating and Governance Committee

During 2023, the Nominating and Governance Committee was comprised of Mr. Keithley (Chairperson), Dr. Chiu, Ms. Quirk, and Mr. St. Dennis.

The Nominating and Governance Committee is responsible for identifying and nominating candidates for membership on the Board of Directors, making recommendations to the Board on non-employee director compensation and establishing governance policies for the Board and management. The Committee operates under a written charter and Governance Guidelines, copies of which are available in the "Investors" section of our website at www.axcelis.com. The Committee held five meetings in 2023. The Committee has the sole authority to hire and fire all outside consultants providing information and advice to the Committee.

Under a process established by the Nominating and Governance Committee, the Board of Directors undertakes an annual self-evaluation of Board size, composition, effectiveness, and management interaction. In addition, each Board member completes an annual self- and peer-performance assessments. See *"Corporate Governance—Board Evaluations and Peer Review Processes."*

The Nominating and Governance Committee manages the process of identifying and recommending individuals to either (A) be nominated by the Board of Directors to be elected as directors by the stockholders or (B) to be appointed by the Board as a director until the next annual meeting of stockholders, as discussed below under *"Corporate Governance—Board Nomination Process and Requirements."*

The Nominating and Governance Committee also adopts, or recommends to the Board the adoption of, Bylaw provisions and governance policies that relate to the operation of the Board and committees and the Company's relationship with stockholders, which are described below under *"Corporate Governance—Governance Policies."* The Nominating and Governance Committee, together with the Compensation Committee, makes recommendations to the Board with respect to membership on Board committees, the Company's director and officer stock ownership guidelines, executive compensation clawback policy, and policies relating to the ownership of Axcelis securities by directors and officers. See *"Corporate Governance—Governance Policies"* below.

The Nominating and Governance Committee has developed a comprehensive statement of the Company's governance standards and processes arising from its charter, bylaws, and policies, called Governance Guidelines. These were first adopted by the Board of Directors in February 2016, and are periodically updated. These Governance Guidelines are available in the "Investors" section of our website at www.axcelis.com.

CORPORATE GOVERNANCE

Governance Policies

Our Board and committees seek to implement best governance practices, both on general corporate governance matters and on compensation. Key policies are as follows:

Corporate Governance: What We Do

Adhere to High Ethical Standards and Legal Compliance: Our ethics policy applies to our directors, executive officers and all other employees. This policy promotes ethical actions and legal compliance. We provide employee training on ethics and a variety of compliance topics, including the Foreign Corrupt Practices Act, Export Controls regulation, employment laws, and Insider Trading regulation. We received a report in 2023 from an employee regarding alleged unethical behavior of another employee. We undertook an investigation of the allegations and confirmed that the charged employee had misused expense reports and a company credit card. We addressed the situation and have strengthened our internal controls in those areas. No reports of legal compliance violations were received by the Company in 2023, or otherwise identified by the Company in 2023.

Ensure we have an Independent Chairperson of the Board or Lead Director: Our Governance Guidelines require that either the Chairperson of the Board is an independent director, or if not, a Lead Director is appointed by the Board. The responsibilities of Chairpersons and Lead Directors are specified in the Governance Guidelines.

Ensure Directors and Officers Hold Stock in Axcelis: Our Stock Ownership Guidelines require that non-employee directors own shares having a value at least equal to three times the amount of the annual base Board retainer (which is currently \$60,000). Our Chief Executive Officer is required to own shares having a value equal to three times his or her base salary. The other executive officers are required to hold the lesser of 16,250 shares or shares having a value equal to 150% of such officer's base salary. Executive officers are encouraged to retain 50% of any shares received on exercise of options or vesting of RSU awards (after payment of the exercise price and tax withholding), until stock ownership guidelines are met. Directors and executive officers have five years to meet guideline ownership.

Conduct a Strong CEO Performance Review Process: As described above under "*Board of Directors—Responsibility for an Annual Evaluation of the CEO,*" our Governance Guidelines specify the process by which an annual Chief Executive Officer performance review is developed and submitted to the full Board for their consideration, with input from the Chief Executive Officer, the Chairperson or Lead Director, and all other Board members.

Conduct an Annual Board Assessment and Director Evaluation: Our Governance Guidelines and the charter of the Nominating and Governance Committee address the requirement for annual Board self-assessment processes, which cover meeting agendas, schedules, presentations, access to and communications with senior management, and the Board's contribution as a whole. The annual process also includes an assessment by each director of their own and each other director's individual performance, using specified criteria. See "*Corporate Governance—Board Evaluations and Peer Review Processes.*"

Corporate Governance: What We Don't Do

Fail to Refresh our Board: Our Governance Guidelines require an annual Board self-evaluation and peer-evaluation prior to the re-election nomination process. These evaluations, along with other assessments, are considered prior to the annual nomination process described below under "*Corporate Governance—Board Nomination Process and Requirements.*" Our Governance Guidelines provide that Directors who have reached the age of 75 may not be nominated for election. This

retirement policy has no exemptions or conditions. Since its adoption in 2015, seven incumbent directors have not been eligible for re-nomination as a result of the retirement policy. Our Governance Guidelines also require Board members to tender their resignation on a change in principal occupation, and if he or she receives a greater number of votes “withheld” in an uncontested election than votes “for” his or her election.

Allow Directors and Officers to Hedge or Pledge Their Stock Positions: Our policies prohibit directors and executive officers from pledging Axcelis stock in a margin account or otherwise or entering into transactions designed to hedge or offset any decrease in the market value of Axcelis stock. The Company’s policies also prohibit the purchase of publicly traded options on Axcelis securities and place limitations on the use of standing or limit orders to purchase or sell Axcelis securities.

Allow Minority Stockholder Rights to be Harmed: Our charter and bylaws protect all stockholders by requiring advance notice of stockholder proposals, and prohibit stockholders from calling a special meeting, acting by written consent or filing governance litigation outside of Delaware. These provisions ensure that minority stockholders have notice and an opportunity to vote on all matters properly brought before them, and that claims are heard by sophisticated Delaware courts.

Compensation Governance: What We Do

Align Compensation with Median Pay at Peer Companies and Relevant Survey Data: Executive officer compensation is benchmarked, usually annually, to median levels at peer companies and in surveys. We re-evaluate these peers, at least biennially, to ensure they are comparable companies.

Align Compensation with Company and Individual Performance: We set compensation with strong pay-for-performance orientation, using both a cash annual incentive plan tied to financial metrics and restricted stock unit grants tied to operational goals. Performance evaluations are obtained and considered in compensation decision-making. Only our Executive Chairperson and our Chief Executive Officer have employment agreements setting a minimum salary and bonus opportunity.

Assert Executive Compensation Clawback Rights: We updated our Executive Compensation Clawback policy in 2023 to ensure alignment with the new regulations issued by the SEC under the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010. Our policy continues to extend beyond the requirements of that law to allow a clawback of incentive compensation in the event of any violation of an agreement with the Company or of any policy of the Company or a voluntary departure to work for a competitor.

Require Termination of Employment prior to a Change of Control Payout: Our Change of Control Agreements with our executive officers provide for “double trigger” benefits, due only if the executive experiences a qualifying termination of employment in connection with a change of control.

Require Multi-Year Vesting of Equity Awards: Under our equity incentive plan, equity grants that are solely based on continued employment, service, or the passage of time may not vest until the first anniversary of grant, and for employees, full vesting may not occur until the fourth anniversary of grant, except for grants received in lieu of cash compensation otherwise due. Our usual equity award vesting terms for employees provide for annual vesting over a four year period, at the rate of 25% per year.

Maintain Compensation Committee Practices that Ensure Independence: All of the members of the Compensation Committee are determined to be independent, and they have authority to engage an independent consultant of their choice. All compensation decisions involving executive officers are made in executive sessions of the independent directors without management. In addition, the Committee receives feedback from stockholders through an annual Say-on-Pay vote.

Compensation Governance: What We Don't Do

Pick Aspirational Peer Companies or Benchmark above Median Compensation Levels: Our Compensation Committee targets median benchmarked pay for our executives, re-evaluating the compensation peer group used for benchmarking purposes at least biennially, with the help of an independent compensation consultant chosen by the Compensation Committee.

Allow for Unlimited Cash Incentive Payouts or Guaranteed Bonuses: Payout under our annual cash incentive plan is capped at 200% of target, which ensures outperformance reaches our stockholders after a fixed return to executives. We do not provide guaranteed minimum bonuses under any compensation arrangements with executives, other than occasionally for the year in which an executive joins the Company.

Provide Special Perquisites or Retirement Benefits: We do not provide any perquisites or retirement benefits to our executive officers that are not generally made available to all of our employees.

Provide "Single Trigger" Severance Payments or Golden Parachute Arrangements: We do not provide "single trigger" severance payments due solely on account of the occurrence of a change of control event.

Indemnify Executives for Change of Control Excise Taxes: None of our change of control agreements with executive officers contain reimbursement provisions for change in control excise taxes, including those under US Internal Revenue Code Sections 280G and 4999. Our Governance Guidelines prohibit the Company from entering into any future change of control agreement with a provision indemnifying an executive for the effects of any excise tax due on severance compensation.

Re-Price or Buy Back Equity Awards: Our equity plans prohibit repricing of equity awards or cash repurchase of equity awards (except in the case of a corporate transaction).

Offer Nonqualified Defined Contribution or Other Deferred Compensation Plan. We do not have any such plans.

Our Governance Guidelines, other policies and our Certificate of Incorporation and Bylaws are posted in the "Investors" section of our website at www.axcelis.com. Any waivers of our Ethics policy would also be disclosed in that section of our website.

Board Evaluations and Peer Review Processes

A healthy and vigorous Board evaluation process is an essential part of good corporate governance. At Axcelis, this process includes annual evaluations of the Board and committee functions, including the interaction between the Board and management, and assessments by each director of his or her own performance and that of each of the other directors. The Nominating and Governance Committee establishes and oversees the evaluation process, which focuses on identifying areas where Board, committee, and director performance is effective, as well as opportunities for further development or improvement.

Each year, the Nominating and Governance Committee reviews the format and effectiveness of prior evaluation processes to identify actionable feedback for directors and management to consider. Axcelis' process has been a combination of written input, collected by the Chairperson of the Nominating and Governance Committee and one-on-one interviews between designated members of the Nominating and Governance Committee and each director. These individual discussions are an important opportunity to ensure directors feel they can provide candid feedback on Board operations and the performance of Board members.

The Board has historically used two documents to guide the process: (i) a Board evaluation questionnaire and (ii) a self- and peer- evaluation form. The Board evaluation questionnaire addresses topics such as the composition of the Board and committees, the meeting schedule, agenda items, presentation content, the relationship with management (including availability and responsiveness), and the overall effectiveness of the Board and opportunities for improvement. The self- and peer-evaluation form asks directors to rate themselves and other directors on skills and behaviors in three categories: essential Board qualifications, participation in meetings, and overall value-add of the member.

The Nominating and Governance Committee has considered whether to engage a third-party facilitator for these annual processes but has not done so to date. In 2023, we used the Board's internet portal to collect the Board evaluation input, which was then reviewed by the Chairperson of the Nominating and Governance Committee. This allowed for a paperless approach to the request and submission of information.

This formal process is conducted annually between the August and November meetings of the Board, so that conclusions from the Board evaluation process can inform the decisions regarding nominations for re-election, usually made in February of each year. At the November Board meeting, the Chairperson of the Nominating and Governance Committee, and other directors involved in interviewing, provide verbal summaries of the feedback received, first to the Nominating and Governance Committee and then to the full Board. The Chairperson of the Board, or Lead Director if one is currently serving, may participate in the collection of feedback and/or consultation prior to the November meeting on specific potential outcomes from the feedback.

Under our Governance Guidelines, the Chairperson of the Board (or Lead Director if one is currently serving) and the Chairperson of the Nominating and Governance Committee are responsible for responding to issues identified in the annual Board self-evaluation. These processes commonly lead to actions such as the following:

- Addressing Board and committee composition and refreshment needs to ensure the availability of appropriate skills and experience to meet the current and anticipated needs of the business;
- Implementing individual director input on Board and Committee meeting agenda items;
- Increasing time available for executive sessions without management present; and
- Providing periodic input to our CEO and senior management on desired presentation content and style.

In addition to the formal Board evaluation process, our Board and committees engage in an on-going informal evaluation of their own effectiveness throughout the year, usually discussed in executive sessions and in one-on-one conversations outside of meetings. Committee chairs also regularly communicate with management to discuss the development of meeting agendas and presentations, which results in a two-way feedback loop. The Chairperson of the Board (or Lead Director if one is currently serving) and other directors have on-going engagement on these topics with our Chief Executive Officer. The Chair of our Audit Committee consults regularly with our Chief Financial Officer and Corporate Controller. The Chairs of our Nominating and Governance Committee and Compensation Committee communicate regularly with our General Counsel and Corporate Secretary, and the Chair of our Technology and New Product Development Committee interacts regularly with executive officers managing the Marketing and Engineering functions. These conversations mainly relate to agenda items, presentation content and the need to obtain external expert input to support committee discussions and decision-making.

Stockholder Communications to the Directors

Stockholders may communicate with the Axcelis Board of Directors by mailing a communication to the entire Board or to one or more individual directors in care of the Corporate Secretary, Axcelis Technologies, Inc., 108 Cherry Hill Drive, Beverly, Massachusetts 01915. All communications from security holders to Board members (other than communications soliciting the purchase of products and services or requests for publicly available documents) will be promptly relayed to the Board members to whom the communication is addressed.

Annual Meeting Stockholder Deadlines

The Company's annual meeting of stockholders provides our stockholders with an opportunity to propose actions for adoption by the stockholders and to nominate individuals for election to the Board of Directors. The Company's Bylaws include provisions requiring advance notice of proposals by stockholders for items to include in the agenda for the annual meeting and for director nominations. Our Bylaws have been filed with the SEC and are also posted on the "Investors" page of our website at www.axcelis.com.

If you intend to bring proposed business to the 2025 annual meeting and you would like us to consider the inclusion of your proposal in our proxy statement for the meeting, you must provide written notice to Axcelis of such proposal by November 29, 2024 (120 days before the anniversary date of the mailing of this proxy statement). Any such proposal should comply with the requirements of Securities Exchange Act Rule 14a-8.

If you wish to bring business before or propose director nominations at the 2025 annual meeting, you must give written notice to Axcelis between January 9, 2025 and February 8, 2025 (the dates 120 days and 90 days, respectively, before the anniversary of the 2024 annual meeting). These dates assume that the 2025 annual meeting is held not more than 30 days before or 30 days after May 9, 2025. If that is not the case, you must give written notice to Axcelis between the date 120 days before the 2025 annual meeting date and the later of (A) 90 days before the 2025 annual meeting date or (B) the date 10 days after public announcement of the 2025 annual meeting date.

Notices of stockholder proposals and nominations shall be given in writing to Axcelis Technologies, Inc., 108 Cherry Hill Drive, Beverly, Massachusetts 01915, Attn: Corporate Secretary.

Board Nomination Process and Requirements

In an on-going effort to refresh the Board of Directors, the Nominating and Governance Committee from time to time seeks new nominees for election to the Board through a variety of channels, including the engagement of director search firms, less formal recommendations from stockholders of the Company and through business and personal contacts. Director search firms engaged by the Company are paid a retainer fee to identify and screen candidates meeting specifications established by the Committee for a particular Board nominee search. Such specifications will change from one search to another based on the Committee's determination of the needs of Board composition at the time a particular search is initiated.

The Nominating and Governance Committee will evaluate any candidate recommended for nomination as a director, whether proposed by a stockholder in accordance with the nomination provisions in our Bylaws, or identified through the Committee's own search processes, about whom it is provided appropriate information. In evaluating a candidate, the Committee must, at a minimum, determine that the candidate is capable of discharging his or her fiduciary duties to the stockholders of the Company. The Committee will determine whether the particular nomination would be consistent with Axcelis' Governance Guidelines. These Governance Guidelines provide in part that all new candidates for election to the Board and all Board members eligible for nomination for re-election to the Board shall be evaluated on the following criteria:

- (a) such candidate or Board member's current level of, and on-going commitment to, education regarding the responsibilities of a member of a board of directors under standards set forth in the Company's Governance Guidelines;
- (b) the adequacy of such candidate or Board member's time available to commit to responsibilities as a member of the Board;
- (c) the existence of any financial relationship with the Company other than that arising as an employee of the Company, as a Board member and/or as a stockholder; and
- (d) in the case of re-election, such member's compliance with our Director Stock Ownership Guidelines.

If a candidate is presented to the Nominating and Governance Committee at a time when it has established specifications for a particular Board search, the Committee will consider whether the candidate satisfies the established specifications. More generally, the Committee will consider a candidate's skills, character, leadership experience, business experience and judgment, and familiarity with relevant industry, national and international issues in light of the backgrounds, skills and characteristics of the current Board and the needs of the Company's business. Given the global nature of the Company's business, the Nominating and Governance Committee will consider whether a nominee's geographic or cultural background or other factors contributes to Board diversity that is beneficial to the Company for business reasons. Apart from seeking candidates with attributes that are deemed advantageous in terms of the Company's business objectives, the Board is committed to maintaining gender, racial and ethnic diversity on the Board. The Board believes the current nominees exhibit an appropriate mix of the desired characteristics, as shown in the charts under "*Proposal 1: Election of Directors*" above.

Finally, the Committee must consider whether a nominee (in conjunction with the existing Board members) will assist the Company in meeting the requirements of applicable law, the rules of the SEC, the Nasdaq listing standards, and the IRC regarding the independence, sophistication, and skills of the members of the Board of Directors and the Audit, Compensation and Nominating and Governance committees.

In order to provide clarity to our stockholders on the information required to support the consideration of an individual as a candidate for nomination for election as a director, the Company's Bylaws stipulate the amount and nature of information required about a director candidate and the stockholder proposing his or her election. These disclosure requirements also ensure that all stockholders entitled to vote on a director nomination have all relevant information about the nominee. Our Bylaws have been filed with the SEC and are also posted on the "Investors" portion of our website at www.axcelis.com. Nomination information should be sent to the Nominating and Governance Committee of Axcelis Technologies, Inc., 108 Cherry Hill Drive, Beverly, Massachusetts 01915, Attn: Corporate Secretary. The Committee may require further information, including but not limited to the completion of a questionnaire designed to elicit disclosures required by the securities laws and to determine eligibility for Board and committee membership.

Certain Relationships and Related Transactions

Review Process

Nasdaq listing rules require the Company to conduct an appropriate review of all related party transactions which are disclosable under Item 404 of the SEC's Regulation S-K. In its charter, the Nominating and Governance Committee is given responsibility to review and approve any such related party transactions, including (a) business arrangements between the Company and directors or their affiliates or between the Company and employees, other than compensation for service as a director or

as an employee of the Company, and (b) any other relationships between a director or employee and the Company or a third party (including membership on the boards of directors of a third party) which create the appearance or reality of a current or potential conflict of interest.

Axcelis reviews all relationships and transactions reported to it in which the Company and our directors and executive officers or their immediate family members are participants to determine whether such persons have a direct or indirect material interest. The Company's General Counsel is primarily responsible for the development and implementation of processes and controls to obtain information from the directors and executive officers with respect to related person transactions and for then determining, based on the facts and circumstances, whether the Company or a related person has a direct or indirect material interest in the transaction. As required under SEC rules, transactions that are determined to be directly or indirectly material to the Company or a related person are disclosed in the Company's proxy statement. In addition, the Nominating and Governance Committee reviews and determines whether to approve or ratify any related person transaction that is required to be disclosed. In the course of its review and approval or ratification of a disclosable related party transaction, the Nominating and Governance Committee considers:

- the nature of the related person's interest in the transaction;
- the material terms of the transaction, including, without limitation, the amount and type of transaction;
- the importance of the transaction to the related person;
- the importance of the transaction to the Company;
- whether the transaction would impair the judgment of a director or executive officer to act in the best interest of the Company; and
- any other matters the Committee deems appropriate.

Any member of the Nominating and Governance Committee who is a related person with respect to a transaction under review may not participate in the deliberations or vote respecting approval or ratification of the transaction, provided, however, that such director may be counted in determining the presence of a quorum at a meeting of the Committee that considers the transaction.

2023 Related Party Disclosures

During 2023, no related person transactions requiring disclosure in the proxy statement were identified or submitted to the Nominating and Governance Committee for approval. As discussed above under "*Board of Directors—Board of Directors Independence and Meetings*," during 2023, Mr. Kurtzweil served as a director of SkyWater Technology, Inc., which has a subsidiary, SkyWater Technology Foundry, Inc., that is a customer of the Company. In 2023, SkyWater purchased goods and services from Axcelis for payments that exceeded \$120,000 and these business transactions have continued in 2024. However, Mr. Kurtzweil has no direct or indirect material interest in these payments, or the services and products provided by the Company, which are the result of arms-length commercial transactions. Mr. Graves, who joined the Axcelis Board in February 2024, is also a director of SkyWater. As with Mr. Kurtzweil, Mr. Graves has no direct or indirect material interest in SkyWater's payments to Axcelis or the services and products provided to SkyWater, which are the result of arms-length commercial transactions.

Two of the current Board members nominated for re-election (Mr. St. Dennis and Mr. Titingler) are also Board members of FormFactor, Inc. The Company has no business relationship with FormFactor.

Risk Oversight by the Board of Directors

Top Risks in Our Business. Risk oversight is an essential responsibility of the Board of Directors. All business operations and opportunities have integral risks that must be managed. The top risks in our business are:

- The highly competitive nature of the semiconductor equipment industry, which may limit the rate and level of acceptance of our current products by customers and requires us to continue to make substantial investments in new products and features to successfully compete for customer selection;
- The dependence of our business on international trade, especially with Asia and the potential negative impact on our business from economic disruption from political, fiscal or global health reasons;
- The need to maintain global infrastructure to support our customers; and
- The cyclical nature of the semiconductor industry and its overall condition in a particular period.

A more extensive list of risk factors associated with our business can be found in the Company's 2023 Annual Report on Form 10-K filed with the SEC and which serves as the Annual Report to Stockholders accompanying this proxy statement.

Strategic Planning and Risk Management. In order to ensure that longer term risks are considered in a timely and appropriate matter, our management engages in an annual strategic planning process that covers risks and opportunities relating to our technology, product development, marketing strategies, customer relationships and operations. The resulting three year strategic plan is discussed at each November Board meeting. Following that, these same topics are covered in business updates at the other three quarterly Board meetings during the year, allowing strategies to be re-evaluated and modified as needed. Strategic planning in our industry must constantly evolve in light of (i) trends in the electronics markets driving demand for certain semiconductor devices, (ii) technical trends in semiconductor fabrication driving particular product requirements, and (iii) factors in the business environment, such as the global economy and trade, and other international tensions. Our Board and management regularly discuss these factors and seek to anticipate changes in risks, opportunities, and appropriate responses.

Cybersecurity Risk Management. Cybersecurity risk management involves executing on multiple technical fronts, requiring current knowledge of best practices and available solutions, which include network security improvements, on-going employee cybersecurity training, and other measures to protect systems and data from unauthorized access or misuse. The Company believes the most effective risk management is achieved by using a team of experts who have daily responsibility for maintaining the security of our information technology systems, with Board members exercising an oversight role. The Board has asked the Audit Committee to engage with management in an annual review of the Company's activities to mitigate cybersecurity risk. Two of our directors, John Kurtzweil and Jorge Titinger, who currently serve on the Audit Committee, have acquired some in-depth cybersecurity knowledge. See "*Proposal 1: Election of Directors—2024 Nominees for Election to the Axcelis Board of Directors*" above. In its annual review, the Audit Committee receives a presentation on cybersecurity risk assessment and risk management from the Company's Chief Information Officer, supplemented at times with reports from the Company's external Chief Information Security Officer and Ernst & Young's cybersecurity experts. Management's report to the Audit Committee and the Audit Committee's observations are then shared with the full Board. This approach to risk management is consistent with the SEC's commentary in July 2023 that "effective cybersecurity processes are designed and administered largely at the management level, and that directors with broad-based skills in risk management and strategy often effectively oversee management's efforts without specific subject

matter expertise, as they do with other sophisticated technical matters.” Cybersecurity risk trends and mitigation requirements are also covered in a quarterly scorecard provided to the full Board as part of the Company’s Enterprise Risk Management process, discussed below.

Environmental and Climate Change Risk Oversight. The Company has an active program to ensure compliance with environmental laws, and to understand our contribution to climate change and the potential impact of global warming on our operations and those of our suppliers and customers. Axcelis is a founding member of the Semiconductor Climate Consortium (“SCC”) of SEMI International, our industry organization. By collaborating with SCC member companies’ joint knowledge and innovative technologies, Axcelis hopes to promote progressive action towards climate change. In our Enterprise Risk Management process discussed below, climate change risk has been identified as a high impact risk, driving quarterly updates to the Board on trends and needed mitigations. Management also discusses these risks and goals in detail in our annual ESG report, which is provided to the Board, as discussed above.

Human Capital Risks. Our business depends on our ability to attract and retain qualified, experienced employees. There is substantial competition for experienced engineering, technical, financial, sales and marketing personnel in our industry. In particular, we must attract and retain highly skilled design and process engineers and key leaders for our business to drive our strategy and its execution. We use detailed job descriptions and focused interview teams to assess candidates. The May meeting of our Board of Directors is dedicated to the Axcelis Talent Review, in which executive performance and succession are discussed, high potential employees are identified, and key metrics, such as voluntary turnover and hiring activity, are shared with the Board for input. The Compensation Committee is responsible for ensuring that the Axcelis Talent Review processes are appropriate and timely. Management also engages in an active program to ensure compliance with employment and labor laws, which includes mandatory all-employee training on discrimination and manager training on employment decision-making.

Our Enterprise Risk Management Process and Board Committee Oversight. In order to ensure that risk is assessed comprehensively and managed consistently, the Board uses an Enterprise Risk Management (“ERM”) process, which allows for full Board oversight of the most significant risks facing the Company. The Board also uses its committee structure to engage in more detailed reviews of certain risks. The goal of the ERM process is to provide an ongoing effort, effected at all levels of the Company across all corporate functions, to identify, assess and monitor risk, and to agree on mitigating actions. Annually, senior leadership reassesses the risks to the Company’s business, ranking them by potential severity of impact and likelihood, creating a “heat map” of business risks. At each quarterly Board meeting, senior management reports on risks that are rated as having a higher likelihood of occurrence than other risks and/or a higher severity of impact than other risks, commenting on the trend and the status of the risk at the time of the report. As noted above, these higher risks include, among others, strategic planning, cybersecurity, and climate change. The Audit Committee annually reviews the ERM process to ensure that it is robust and functioning effectively.

In addition to the ERM process, each committee of the Board oversees specific areas of risk relevant to the committee through direct interactions with the Chief Executive Officer and the heads of corporate functions. For instance, the Audit Committee oversees risk relating to financial reporting through its interactions with the Chief Financial Officer, Corporate Controller, and the Company’s independent auditors. The Technology and New Product Development Committee oversees risk in the Company’s technology and product development initiatives. The Compensation Committee considers risk arising from compensation policies and practices. See *“Executive Compensation—2023 Compensation Discussion and Analysis—Risk Assessment of Compensation Policies and Practices.”* A committee may address risks directly with management or, where appropriate, may elevate a risk for consideration by the full Board.

The separate ERM process and Board committee approach to risk management leverages the Board's leadership structure to ensure that risk is overseen by the Board both company-wide and through specific areas of competency.

Delinquent Section 16(a) Reports.

In 2023, one Form 4 was filed after the due date, relating to the withholding of shares for tax purposes on vesting of restricted stock units under the Company's Executive Equity Retirement Program (the "EERP"). This program accelerates vesting of certain RSUs in connection with a planned retirement. A Form 4 for Kevin J. Brewer, our former EVP and Chief Financial Officer, relating to the withholding by the Company of 5,426 shares otherwise issuable on the accelerated vesting of restricted stock units under the EERP was due on December 6, 2023. The withholding fulfilled the Company's tax obligations on the income received by Mr. Brewer at vesting. Due to an oversight, the Form 4 reporting on this disposition was not filed by the due date but was filed on January 2, 2024.

PROPOSAL 2: RATIFICATION OF THE APPOINTMENT OF OUR INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Upon the recommendation of the Audit Committee, the Board of Directors has appointed the independent registered public accounting firm of Ernst & Young LLP as independent auditors to conduct the annual audit of our financial statements for 2024 and is seeking stockholder ratification of the appointment. Ernst & Young LLP is an internationally recognized independent registered public accounting firm that audited the Company’s financial statements in 2023 and which the Audit Committee believes is well qualified to continue.

Ernst & Young LLP has audited the Company’s financial statements since 1999. Prior to recommending the re-appointment of the Company’s independent auditor each year, the Audit Committee receives input from the Company’s Chief Executive Officer and Chief Financial Officer on management’s relationship with the auditor and input from the independent auditor on the engagement. In its decision to recommend re-appointment, the Audit Committee also considers the fees charged by the independent auditor and the potential benefits and challenges from switching independent audit firms. The audit engagement partner assigned to the Company’s account rotates every 5 years, and the Audit Committee provides oversight and input to the selection of a successor audit engagement partner, along with management.

Representatives of Ernst & Young LLP are expected to attend the annual meeting and be available to respond to appropriate questions. They will also have the opportunity to make a statement if they desire.

The aggregate audit fees billed for, and other fees billed in, each of the last two fiscal years for professional services rendered by Ernst & Young LLP were as follows:

	2022	2023
Audit Fees	\$2,075,493	\$2,231,136
Audit Related Fees	\$ 32,800	\$ 32,200
Tax Fees	\$ 89,645	\$ 46,745
Total Fees	\$2,197,938	\$2,310,081

Audit fees include statutory audits for subsidiaries and branches operating in countries outside of the United States. Audit related fees include the audit for the Company’s 401(k) plan required under ERISA, and the Company’s subscription to Ernst & Young’s accounting and auditing research platform. Tax fees may include international tax planning relating to the setting of fair compensation for services provided to us by our foreign subsidiaries to ensure appropriate revenue levels are reported for taxation in those foreign countries.

The Audit Committee has adopted a policy requiring the Committee’s pre-approval of the engagement of the Company’s independent auditor to perform specific audit-related or non-audit (including tax) services and fees for such services. This pre-approval of audit-related and non-audit services performed by the independent auditor is designed to avoid any engagements which could impair the auditor’s independence. The policy also prohibits engagement of the independent auditor to perform certain types of services that are always viewed as inconsistent with independence. The Audit Committee does not delegate its responsibility to approve services performed by the independent auditor to any member of management. Under its charter, the Audit Committee will pre-approve estimated fees to be paid to the independent auditor for approved services. Under the Committee’s pre-approval policy, once the Audit Committee has approved fee estimates from the audit firm, management is authorized to pay actual fee amounts that are not materially greater than the reviewed estimates.

The standard applied by the Audit Committee in determining whether to grant approval of any type of non-audit service, or of any specific engagement to perform a non-audit service, is whether

the services to be performed, the compensation to be paid therefor and other related factors are consistent with the independent auditor's independence under guidelines of the SEC, the PCAOB and applicable professional standards. Relevant considerations include (i) whether the work product is likely to be subject to, or implicated in, audit procedures during the audit of our financial statements, (ii) whether the independent auditor would be functioning in the role of management or in an advocacy role, (iii) whether the independent auditor's performance of the service would enhance our ability to manage or control risk or improve audit quality, (iv) whether such performance would increase efficiency because of the independent auditor's familiarity with our business, personnel, culture, systems, risk profile and other factors, and (v) whether the amount of fees involved, or the proportion of the non-audit fees to the total fees payable to the independent auditor would tend to reduce the independent auditor's ability to exercise independent judgment in performing the audit.

All of the non-audit services rendered by Ernst & Young LLP in respect of the 2022 and 2023 fiscal years were pre-approved by the Audit Committee in accordance with this policy.

Ernst & Young LLP informed the Company that they are not aware of any relationship with the Company that, in their professional judgment, may reasonably be thought to bear on the independence of Ernst & Young LLP.

Ratification of the appointment of Ernst & Young LLP by the stockholders is not required by law or by our Bylaws. The Board of Directors is nevertheless submitting it to the stockholders to ascertain their views. If this proposal is not approved at the annual meeting by the affirmative vote of holders of a majority of the votes cast at the meeting, the Audit Committee intends to reconsider its recommendation of Ernst & Young LLP as independent auditors. The Company may retain the firm for 2024 notwithstanding a negative stockholder vote.

The Board of Directors recommends a vote FOR ratification of the appointment of Ernst & Young LLP.

PROPOSAL 3: AMENDMENT TO OUR RESTATED CERTIFICATE OF INCORPORATION TO REFLECT NEW DELAWARE LAW PROVISIONS LIMITING THE LIABILITY OF CERTAIN OFFICERS

At the annual meeting, we are asking our stockholders to approve an amendment to our Restated Certificate of Incorporation (our “Charter”) to update our existing director exculpation provision to include certain of our senior corporate officers. The Company is incorporated in the State of Delaware and is therefore subject to the Delaware General Corporation Law, or DGCL. Section 10.1 of Article Third of our Charter currently provides for exculpation of directors in certain circumstances pursuant to and consistent with Section 102(b)(7) of the DGCL. Effective August 1, 2022, that provision of the DGCL was amended to permit eliminating or limiting monetary liability for certain senior corporate officers in limited circumstances.

Our Board of Directors has unanimously approved, subject to stockholder approval, an amendment to our Charter to update the exculpation provision as described below. If our stockholders approve the proposed amendment, subject to the discretion of our Board of Directors, we intend to file a Certificate of Amendment to our Restated Certificate of Incorporation, the form of which is attached to this Proxy Statement as Appendix A, adding the new language below with the Secretary of State of the State of Delaware as soon as practicable after the Annual Meeting.

Overview of the Proposed Amendment

Consistent with Delaware law, the proposed amendment to our Charter relating to officers is more limited in scope than the existing director exculpation provision and only permits exculpation of officers for certain direct claims. Further, the proposed amendment does not permit officers to be exculpated for liability arising out of:

- claims brought by the Company itself;
- claims brought by stockholders in the name of the Company (derivative claims);
- breaches of the duty of loyalty to the Company or its stockholders;
- acts or omissions not in good faith;
- acts or omissions that involve intentional misconduct;
- acts or omissions that involve a knowing violation of law; or
- any transaction in which the officer derived an improper personal benefit.

In accordance with the recent amendment to Delaware law, the officers who will be covered by the expanded exculpation provision include any officer who is or was the president, chief executive officer, chief operating officer, chief financial officer, chief legal officer, controller, treasurer, or chief accounting officer of the corporation; any officer who is or was identified in the Company’s public filings with the SEC as one of the most highly compensated executive officers; and any officers who consent to being identified as an officer for purposes of service of process, at any time during the course of conduct alleged in the action or proceeding to be wrongful.

Rationale for the Proposed Amendment

The State of Delaware, which is our state of incorporation, recently enacted legislation that authorizes Delaware corporations to limit the liability of certain of their officers in the limited circumstances described above. As a result of this development, we propose expanding our existing director exculpation provision to cover officers to the extent now permitted by Delaware law.

The rationale of our Board of Directors for recommending this amendment is to balance stockholders’ interest in accountability with their interest in the Company’s ability to attract and retain the highest quality officers and avoiding litigation abuse resulting from the current disparity

that exists in the treatment of directors, who oversee and are ultimately accountable for corporate actions, and the officers who execute those actions on behalf of our Board of Directors.

Our Board of Directors considered that the role of directors and officers requires them to make decisions on crucial matters in response to time-sensitive opportunities and challenges, which can create substantial risk of investigations, claims, actions, suits, or proceedings seeking to impose liability on the basis of hindsight, especially in the current litigious environment and regardless of the absence of any underlying merit. This amendment will better align the protections available to our officers with those currently available to our directors and avoid an emerging practice among plaintiff's lawyers of adding officers to direct claims relating to the duty of care in mergers and acquisition-related and other litigation so that claims against the officers continue even when identical claims against directors are dismissed. Our Board of Directors believes that limiting concern about personal liability will empower officers to best exercise their business judgment in furtherance of stockholder interests without the distraction of potentially being subject to claims following actions taken in good faith.

In addition, we expect other companies with which we compete for employees to adopt exculpation clauses that limit the personal liability of officers as now permitted by the DGCL. Our Board of Directors believes that failing to adopt the proposed amendment will impact recruitment and retention of exceptional officer candidates who conclude that the potential exposure to liabilities, costs of defense and other risks of proceedings exceeds the benefits of serving as an officer of the Company as compared to serving as an officer at another company that does exculpate officers.

Further, our Board of Directors noted that the proposed provision would not eliminate stockholders' right to pursue derivative claims relating to alleged breaches of the duty of care or limit the ability of the Company itself to bring claims against officers. Therefore, considering the narrow class and type of claims for which officers' liability would be exculpated, our Board of Directors believes the proposed amendment would enhance the ability to attract and retain talented officers, potentially reduce litigation costs associated with frivolous lawsuits, and more generally align the protections available to our officers with those currently available to our directors.

Based on the above, our Board of Directors has determined that it is in the best interests of the Company and our stockholders to amend the Charter as described in this proposal.

Text of Proposed Amendment

Accordingly, we ask our stockholders to approve an amendment to the Company's Amended and Restated Certificate of Incorporation to replace the existing Section 10.1 of Article Third with the following (which is marked to show changes from the current director exculpation provision):

"The personal liability of the directors and officers of the Corporation is hereby eliminated to the fullest extent permitted by Section 102(b)(7) of the DGCL, as the same may be amended and supplemented. Without limiting the generality of the foregoing, no director or officer shall be personally liable to the Corporation (in the case of directors) or any of its stockholders (in the case of directors and officers) for monetary damages for breach of fiduciary duty as a director or officer, except for liability (i) for any breach of the director's or officer's duty of loyalty to the Corporation or its stockholders, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) (in the case of directors) pursuant to Section 174 of the DGCL, or (iv) for any transaction from which the director or officer derived an improper personal benefit. No amendment to, repeal of or elimination of this provision shall apply to or have any effect on the liability or alleged liability of any director or officer of the Corporation for or its application with respect to any acts or omissions of such director or officer occurring prior to such amendment, repeal or elimination. If the DGCL is amended to permit further elimination or limitation of the personal liability of directors or officers, then the liability

of a director or officer of the Corporation shall be eliminated or limited to the fullest extent permitted by the DGCL as so amended.”

The foregoing description of and excerpts from the proposed amendment are a summary and are qualified by the full text of the proposed amendment as set forth in the form of Certificate of Amendment attached to this Proxy Statement as Appendix A.

The Board of Directors recommends voting “FOR” Proposal No. 3 to approve an amendment to our Charter to reflect new Delaware law provisions regarding officer exculpation.

Any properly submitted proxy will be voted in favor of the approval of the amendment to our Charter unless a contrary specification is made in the proxy. Only votes cast at the annual meeting will be counted. Abstentions and broker non-votes will not count as votes cast with respect to this proposal. Accordingly, abstentions and broker non-votes will reduce the percentage in favor to the same degree as a negative vote.

PROPOSAL 4: ADVISORY VOTE REGARDING EXECUTIVE COMPENSATION

This proposal, commonly known as “Say-on-Pay,” asks the stockholders to approve the 2023 compensation of the Company’s named executive officers as described under “Executive Compensation” below in this proxy statement (referred to herein as “NEOs”).

The Company’s overall compensation goal is to drive stockholder value by (i) retaining executive talent through pay opportunities commensurate with pay at other companies of a similar size in the same or similar industries, as adjusted for individual factors, and (ii) driving achievement of long-term and annual strategic goals through payouts tied to performance. Details of the 2023 compensation provided to the NEOs may be found in the “*Executive Compensation—2023 Compensation Discussion and Analysis*” and the accompanying tables in this proxy statement. Key features of NEO compensation in 2023 were:

- **2023 Target Pay was a Balanced Mix of Base and Short- and Long-Term Incentive Pay with a Strong Emphasis on Performance-based Awards.** In 2023, the NEOs received base pay, a target annual cash incentive, and RSU equity compensation, that aligned well with elements of peer executive compensation targets. Combining the annual cash incentive with the grant date value of performance based restricted stock units (“PRSUs”), 49% of the total 2023 target compensation of Russell J. Low, our CEO at year end 2023, was subject to achievement of specific performance goals. Such performance based compensation was 77% of the total 2023 target compensation for Mary G. Puma, our CEO at the start of 2023. For the non-CEO NEOs, an average of 37% of their 2023 total target compensation (using a full year salary for Mr. Coogan and Mr. Blumenstock rather than actual 2023 base pay received) was similarly performance-based. In 2023: (i) Dr. Low, Ms. Fallon and Dr. Redinbo received 50% of their equity compensation as PRSUs and the other half as service vesting RSUs; (ii) Ms. Puma and Mr. Brewer received only PRSUs as equity compensation in 2023, given their retirement plans; and (iii) Mr. Coogan and Mr. Blumenstock received only service vesting RSUs, given their mid-year on-boarding.
- **2023 Realized Cash Incentive Compensation was Above Target.** In line with the financial performance of the Company in 2023, the annual cash incentive compensation realized by the NEOs under the 2023 Axcelis Management Incentive Plan equaled the executive’s target multiplied by a plan score of 112.55%. This score resulted from the achievement of 2023 revenues and profitability above the Company’s profit plan, while gross margin was below plan. See “*Executive Compensation—Summary of Axcelis 2023 Executive Compensation—2023 Business Environment*” below.
- **2023 Performance-based Equity Awards were Earned Above Target.** The 2023 PRSUs were subject to the achievement of up to ten 2023 key operational goals, each weighted 15%. Management achieved nine of the ten goals relating to these 2023 PRSUs, and accordingly, the NEOs with PRSUs have earned 135% of the target number of shares. Except for Ms. Puma and Mr. Brewer, half of the shares earned on the 2023 PRSUs vested in February 2024 and the remaining half will vest in February 2025, subject to continuation of employment. In the case of Ms. Puma and Mr. Brewer, all of their earned 2023 PRSUs vested in February 2024.
- **2023 Realized Total Compensation was Above Target.** As a result of the payout on the 2023 Axcelis Management Incentive Plan and the achievement on the 2023 PRSUs, Dr. Low received 115% of his target pay for 2023, and Ms. Puma received 122% of her target pay for 2023. On average, the non-CEO NEOs received 109% of their target pay for 2023. These percentages are calculated using the 2023 equity award values approved by the Compensation Committee and assume all RSUs vest over the remaining service periods.

The vote solicited by this proposal, which is required by Section 14A of the Securities Exchange Act of 1934, is advisory and its outcome will not be binding on the Board nor require the Board to

take any action. Moreover, the outcome of the vote will not be construed as overruling any decision of the Board or creating or implying any additional fiduciary duty of the Board. However, the Board intends to consider the outcome of this vote when considering future compensation arrangements for the Company's NEOs. We expect to hold such a vote at the annual meeting each year.

The proposal will be considered approved at the annual meeting if more votes are cast in favor than against. Abstentions and broker non-votes will not count as votes cast for or against this proposal.

The Board of Directors recommends a vote FOR approval of the 2023 compensation of the Company's named executive officers.

EXECUTIVE COMPENSATION

2023 Compensation Discussion and Analysis

This 2023 Compensation Discussion and Analysis is intended to provide a context for the disclosures contained in this proxy statement with respect to the compensation paid to the Company's current principal executive officer (Russell J. Low), current principal financial officer (James G. Coogan), former principal executive officer (Mary G. Puma), former principal financial officer (Kevin J. Brewer), and the three most highly compensated other executive officers serving at December 31, 2023, who are included in the "Executive Compensation—2023 Summary Compensation Table" below. These executive officers are referred to herein as "named executive officers" or "NEOs." Specifically, this Compensation Discussion and Analysis will explain the objectives and material elements of the compensation of the NEOs during 2023. In this Compensation Discussion and Analysis, the Compensation Committee of the Board of Directors is sometimes referred to as the "Committee."

Executive Summary of Axcelis 2023 Executive Compensation

2023 Business Environment.

Axcelis designs, manufactures and services ion implantation and other processing equipment used in the fabrication of semiconductor chips. Our Purion platform family of ion implanters are, we believe, the most innovative implanters available on the market today. We sell to leading semiconductor chip manufacturers worldwide. In addition to equipment, we provide extensive aftermarket lifecycle products and services through our Customer Solutions and Innovation team, which sells spare parts, equipment upgrades, maintenance services, used tools, and customer training.

Following on a strong year in 2022, Axcelis had remarkable additional growth in 2023. Our key messages to investors following this performance were:

- Axcelis delivered record revenue of \$1.13 billion in 2023, and record earnings per share of \$7.43 for the full year.
- This 23% revenue growth over 2022, despite a significant industry downturn, was enabled by the mature process technology segment, which represented 88% of the value of our 2023 system shipments.
- Axcelis is considered a technology leader and supplier of choice in the implant-intensive power device segment, which accounted for 59% of the value of our 2023 system shipments.
- For 2024, Axcelis expects a similar revenue profile in terms of segment mix and total revenue, with revenue weighted to the second half of the year, driven by an expected recovery in the general mature segment and the early stages of a DRAM recovery. We believe this will position the company well to achieve our \$1.3B revenue target in 2025.

2023 Say-on-Pay Vote

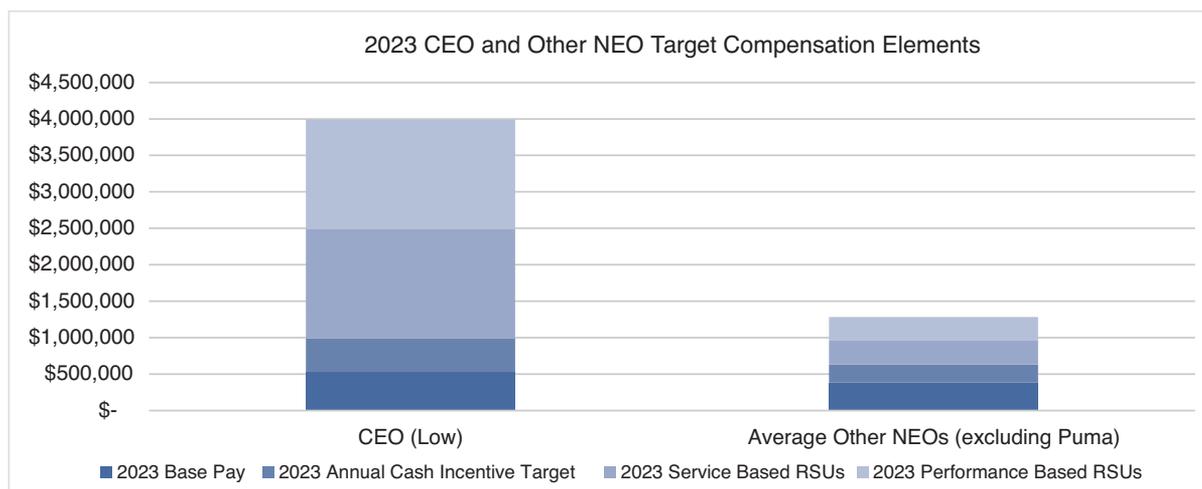
At our 2023 annual meeting, approximately 97.2% of votes cast were in favor in the advisory vote on 2022 executive compensation (commonly referred to as "Say-on-Pay"). The Compensation Committee of our Board of Directors considered that the results of the 2023 Say-on-Pay vote validated our general approach to executive compensation. The overall structure of our 2023 executive compensation was unchanged from that in 2022.

2023 Executive Target Compensation Balanced Service and Performance-based Components.

- Base salary represented 13% of the 2023 total target compensation of the Company's chief executive officer serving at the end of 2023 (Russell J. Low) and an average of 30% 2023 total target compensation of the non-CEO NEOs.

- In 2023, Dr. Low’s target cash incentive compensation represented 25% of his total target compensation and his equity compensation was equally divided between service vesting RSUs and PRSUs. Cash and equity performance-based compensation totaled 49% of Dr. Low’s total target compensation in 2023. For the non-CEO NEOs, on average, performance-based cash and equity components represented 37% of their total 2023 target compensation.
- Each NEO in office in May 2023 (other than Mr. Brewer and Ms. Puma) received two 2023 RSU grants having equal value at grant: one with four year service vesting and the other to be earned based on achievement of operational performance goals designed to drive long term business value, and having a two year service vesting overlay. Using the value approved by the Compensation Committee, these RSU grants represented 75% of total target compensation for Dr. Low and 50% of the 2023 total target compensation, on average, of the other NEOs (excluding Ms. Puma). Mr. Blumenstock and Mr. Coogan, who joined the Company in June and September 2023, respectively, received only service vesting RSUs in 2023.
- In light of the retirement plans for Ms. Puma and Mr. Brewer, they did not receive any service vesting RSUs in 2023, and each received a PRSU having a value equal to approximately half of market median for their roles. The PRSUs granted to Ms. Puma and Mr. Brewer used the same operational performance goals as in the PRSUs granted to the other NEOs, but provided that the grants, to the extent earned, would vest in full in February 2024. Using the values approved by the Compensation Committee, these PRSU grants represented 53% of total target compensation for Ms. Puma and 34% of the 2023 total target compensation for Mr. Brewer.
- The Compensation Committee approved a retirement arrangement for Ms. Puma in 2023, covering her service as Executive Chairperson from May 2023 to May 2024, and a period thereafter until July 2025, during which she will serve as an Executive Advisor to the Company. This arrangement was documented in an Amended and Restated Employment Agreement signed in February 2023 and described below. Under this Agreement, Ms. Puma received a base pay for 2023 that equaled 23% of her total target compensation and cash and equity performance compensation that equaled 77% of her total 2023 target compensation. See below in this 2023 Compensation Discussion and Analysis, the discussion under “*Employment and Change of Control Agreements—Amended and Restated Employment Agreement with Ms. Puma.*”

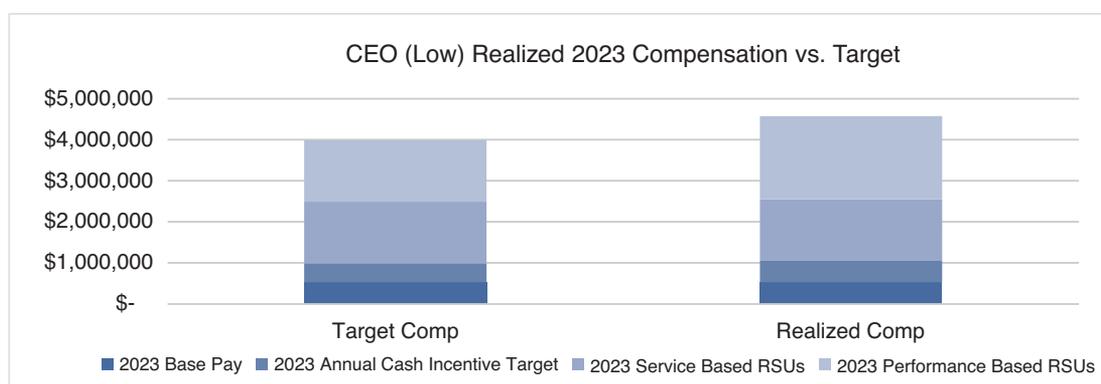
The 2023 target compensation elements for Dr. Low and the average for the other NEOs (other than Ms. Puma) are shown in the chart below:



2023 Realized Compensation was Above Target.

In line with the financial performance of the Company in 2023, the 2023 performance-based compensation realized by the NEOs was above target pay as a result of achieving 2023 revenue and profitability above the 2023 profit plan, and strong achievement of operational goals used in the PRSUs. The NEOs earned 135% of the PRSUs granted in 2023 based on the achievement of nine out of ten 2023 operational goals, each weighted 15%. Except in the case of Ms. Puma and Mr. Brewer, the earned 2023 PRSUs vested 50% in February 2024 and the remaining 50% will vest in February 2025, subject to continuation of employment (the earned 2023 PRSUs granted to Ms. Puma and Mr. Brewer vested in full in February 2024). As a result of the over-target PRSUs and the payout on the 2023 Axcelis Management Incentive Plan, Dr. Low, the Company's current chief executive officer, received 115% of his target pay for 2023, and, on average, the other NEOs (excluding Ms. Puma) received 109% of their target pay for 2023, assuming all earned 2023 PRSUs and service vesting RSUs vest over the remaining service periods.

The chart below compares our current CEO's 2023 realized compensation to his 2023 target compensation:



The realized compensation information above provides a comparison of realized compensation to the target compensation approved by our Board Compensation Committee. In these calculations, we include the target cash incentive and approved value of equity awards in target compensation. For “realized” compensation, we use actual cash incentive paid and the approved value of equity awards, adjusted for the results of the achievement of performance objectives under our PRSUs.

Another effort to show actual compensation is the Pay Versus Performance chart found below and related discussion, required by Item 402(v) of Regulation S-K issued by the SEC. The Pay Versus Performance chart compares the total compensation amounts shown in the Summary Compensation Table to an adjusted amount, referred to as compensation “actually paid.” The “actually paid” amounts are adjusted Summary Compensation Table amounts, in which the grant date fair value of equity awards required for the Summary Compensation Table is replaced by the sum of (A) the value of unvested shares at the first year end after grant, plus (B) increases and decreases in the value of (i) shares vesting in the year on the vest dates in comparison to the value of those shares at the prior year end, and (ii) unvested shares at year end in comparison to the value of those shares at the prior year end. Accordingly, the “actually paid” compensation is simply an alternative way of calculating the value for executive equity awards that uses the stock price at year end and vest dates, instead of the stock price at grant. The annual cash incentive earned as a result of performance is already included in the Summary Compensation Table and is unaffected by the re-valuations in the Pay Versus Performance chart.

Compensation Philosophy and Governance Practices

The Company's overall compensation goal is to drive stockholder value by implementing an executive compensation program designed to:

(1) motivate and retain executive talent by offering total target compensation with a proportion of performance-based compensation that aligns with median compensation in those categories at other companies of a similar size in the same or similar industries, as adjusted for individual factors; and

(2) drive achievement of annual and long-term strategic objectives by rewarding executives through cash incentive pay tied to approved financial goals and equity grants that deliver value on the achievement of operational goals that will drive long-term business objectives, aligning pay with performance.

The Company also seeks to support our compensation philosophy with strong governance practices, which include:

- An annual Say-on-Pay vote and related stockholder outreach;
- Annual or biennial benchmarking of executive compensation against an appropriate peer group;
- An equity award plan that seeks to align to best practices (including with respect to cost and voting power dilution, fungible share counting for whole share awards and prohibitions on repricing and cash repurchases);
- Equity grant practices below industry burn rates and acceptable voting power dilution;
- Executive stock ownership guidelines;
- Appropriate double trigger change of control benefits for executives with no excise tax indemnification;
- An executive compensation clawback policy that empowers the Board to recover incentive compensation under terms set forth in the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010; and
- No executive perquisites.

Review of Executive Compensation in 2023

All executive compensation is determined by the Compensation Committee of the Board of Directors. For a discussion of the Committee's processes in general, see *"Corporate Governance—Compensation Committee"* in this proxy statement. Executive compensation for incumbent executives is reviewed annually.

The Compensation Committee engaged an outside compensation consultant, Pearl Meyer, to assist with decisions relating to 2023 compensation. The Committee assessed Pearl Meyer's independence in light of the SEC rules and Nasdaq listing standards and determined that no conflict of interest or independence concerns exist. The Committee's decisions on 2023 compensation were made with reference to a full benchmarked review of executive compensation provided by Pearl Meyer in October 2022. This Pearl Meyer report covered both cash and equity compensation for each of the executive officer positions at Axcelis in comparison to market data.

In developing their reports for the Committee, Pearl Meyer obtained compensation information for a group of companies which had been selected by the Committee as peers for executive compensation purposes. In addition, Pearl Meyer used compensation information from a proprietary global technology survey, reflecting companies of approximately the same size as Axcelis. The weight of

peer group information and compensation survey data information used to develop compensation benchmark data for each of the Axcelis executive officers varied by the position, depending on the availability of data for that position from the peer group.

The Company’s compensation peer group for the October 2022 Pearl Meyer benchmarking report was comprised of the following 14 companies:

- 3D Systems Corporation
- Advanced Energy Industries, Inc.
- ACM Research, Inc.
- Cohu, Inc..
- FormFactor, Inc.
- Ichor Holdings, Ltd.
- Kulicke and Soffa Industries, Inc.
- Lumentum Holdings Inc.
- Onto Innovation Inc.
- Photronics, Inc.
- Ultra Clean Holdings, Inc.
- Varex Imaging Corporation
- Veeco Instruments Inc.
- Viavi Solutions Inc.

In Pearl Meyer’s October 2022 report, the total target direct 2022 compensation of each executive officer ranged between 7% above and 16% below the market median, averaging 10% below. The Committee took this input into consideration in fixing 2023 executive compensation, as discussed below.

Material Elements of Named Executive Officer Compensation

The table below lists the key elements of NEO compensation, why Axcelis has chosen to pay each compensation element, and how Axcelis determines the amount of each element:

Compensation Element	Principal Rationale for Inclusion	How Amount is Determined
Base salaries	To attract and retain qualified executives in a competitive industry.	We seek to provide opportunities for each element of compensation at levels that consider both the market median benchmark for the position and the contribution and experience of the particular executive.
Annual Cash Incentive	To drive achievement of annual objectives through at-risk pay tied to financial goals, resulting in appropriate pay-for-performance.	
Equity Awards	To drive achievement of long-term stockholder value through RSU grants with service vesting, half of which are earned only on achievement of operational goals designed to drive long term performance, resulting in retention and appropriate pay-for-performance.	

The following discussion explains how, in 2023, each compensation element and the Company’s decisions regarding that element fit into the Company’s overall compensation objectives and affected decisions regarding other elements.

Base Salary

The Company pays a base salary to each of its NEOs. Base salary for NEOs is set on commencement of employment with the Company and reviewed by the Compensation Committee

annually thereafter to adjust as needed to align with market benchmarking. In the event that base salary is a factor in calculating annual incentive cash compensation or equity grants, when fixing or adjusting base salary, the Compensation Committee will consider the impact of a change on these other compensation components. In February 2023, the Committee approved an Amended and Restated Employment Agreement with Ms. Puma that increased her base pay through the period prior to the expected end of her employment in July 2025, aligned with median Chief Executive Officer base pay from the October 2022 Pearl Meyer report. Based on this report and the expectation that Dr. Low would become President and Chief Executive Officer in May 2023, the Committee approved an increase to base pay for Dr. Low effective in February 2023, which represented a blended rate for the two positions he held in 2023. The Committee also approved an Employment Agreement with Dr. Low in May 2023, which sets a minimum base pay level for 2023 and subsequent years. The Committee approved the base salaries for Mr. Blumenstock and Mr. Coogan effective upon their respective commencements of employment in June and September 2023.

Annual Cash Incentive—2023 Axcelis Management Incentive Plan

In February 2023, the Compensation Committee adopted the Company’s annual cash incentive plan, the 2023 Axcelis Management Incentive Plan (the “2023 AMI”). Approximately 387 management-level employees plus the executive officers participated in the 2023 AMI, each of whom was assigned a target payout, expressed as a percent of base salary paid for the year. Dr. Low’s 2023 AMI target was set at 87%, reflecting a 60% target for the first four months of 2023 before he became CEO, and a 100% target thereafter. As in 2022, the Committee set the 2023 AMI target for Ms. Puma at 100% of her base salary. The 2023 AMI targets for Mr. Brewer, Ms. Fallon, and Dr. Redinbo, as a percentage of their respective base pay, remained at 2022 levels: 75% for Mr. Brewer and 60% for Ms. Fallon and Dr. Redinbo, as aligned with benchmarking. Later in the year, prior to the commencement of employment of each of Mr. Blumenstock and Mr. Coogan, the Committee approved the 2023 AMI target for each of them, with Mr. Blumenstock at 60% of base salary and Mr. Coogan at 70% of base salary.

The Committee also determined to maintain the same metric categories for the 2023 AMI as used in 2022: revenue, operating profit, and gross margin. As in prior years, to facilitate calculating results, each of the gross margin and operating profit metrics were set at a pre-cash incentive payout amount. Revenue growth over time is critical for the Company, as an indication of growing market share. Operating profit is viewed as a preferable metric to net income since it eliminates factors outside the control of management. Gross margin evidences the Company’s ability to generate funds for R&D and other expenses, as well as to drive profitability.

The table below shows the metrics established for the 2023 AMI, setting 0%, 100%, and 200% funding scores for 2023 revenue, operating profit, and gross margin.

Full Year Targets, in millions, except Gross Margins	25% Score—80% of 2023 Profit Plan Performance	100% Score—2023 Profit Plan	200% Score—115% of Target Performance	Weighting of Metric
<i>Score</i>	25%	100%	200%	
2023 Revenue	\$848.38	\$1,060.47	\$1,219.54	50%
2023 Operating Profit before annual cash incentive plan payout	\$169.18	\$ 266.56	\$ 331.18	25%
2023 Gross Margins, before annual cash incentive plan payout	43.9%	44.5%	45.0%	25%

The minimum and maximum 2023 AMI revenue levels were set at 80% and 115% of the profit plan revenues, respectively. The operating profit levels are those modeled as achievable at each of the revenue levels. The range in gross margins is not associated with the revenue amounts at the three score levels but represents a reasonable range for the year. The 2023 AMI funding level was capped at a 200% payout.

Under the 2023 AMI plan design, after year end, actual 2023 financial performance is compared to these metrics, and a weighted score developed. Assuming the threshold level is met, each of the metrics is scored by placing the 2023 results between the applicable goal posts (25% and 100% or 100% and 200%) and interpolating the final score. Each of these scores is weighted and totaled for a final score submitted to the Compensation Committee for approval. A total at-target payout (a 100% funding score) of the 2023 AMI would have equaled approximately \$12.99 million. The Compensation Committee had the authority to adjust the funding for extraordinary items and other qualitative aspects of the Company’s 2023 performance (using benchmarks and budgets) to ensure that the funding score reflected actual performance and not extraordinary events and was otherwise appropriate. No special adjustment to the 2023 AMI score was made by the Committee. As designed, actual payouts equal the individual participant’s target payout multiplied by the AMI score determined using the metrics set by the Committee.

In February 2024, the Compensation Committee determined that the final 2023 AMI funding score was 112.55%, based on the Company’s revenue, operating profit, and gross margin for the year, with the resulting scores shown in the chart below:

Metric	2023 Results (millions other than Gross Margin)	Score	Weighting	Weighted Score
2023 Revenue	\$1,130,604	144.1%	50%	72.045%
2023 Operating Profit <i>before</i> annual cash incentive plan payout	\$ 286,932	131.5%	25%	32.881%
2023 Gross Margins <i>before</i> annual cash incentive plan payout	43.94%	30.49%	25%	7.622%
Total Score				112.55%

This funding score resulted in the 2023 non-equity incentive plan compensation to the NEOs as shown in the “*Executive Compensation—2023 Summary Compensation Table*” below. A payout of the 2023 AMI was made in February 2024.

Long-Term Equity Incentive Compensation

Equity Compensation Philosophy. Equity compensation for NEOs, which since 2016 has taken the form of restricted stock units, is designed to align the interests of executives with those of our stockholders and to retain and motivate executives through the use of multi-year vesting periods and performance goals. Thus, equity grants should constructively influence management’s incentive to enhance the value of the Company’s stock and achieve strategic objectives.

Long-term ownership of equity awards is further encouraged through the Company’s executive stock ownership guidelines, which establish a minimum number of shares that the executive must own, aligning the executive officers with long-term stockholder interests. The Chief Executive Officer is required to own shares having a value equal to three times his or her base salary. The other NEOs are required to own shares having a value equal to 1.5 times the executive’s base salary or, if less, 16,250 shares. Until an NEO meets the requisite stock ownership level prescribed by the stock ownership guidelines, the NEO is encouraged to retain 50% of the net shares received through the exercise of stock options or in connection with the vesting of RSUs. These guidelines are intended to ensure that the executives’ interests in the value of the Company’s stock include interests in stock as well as equity-based incentive awards, and as such are more fully aligned with the interests of Company stockholders. NEOs are also subject to the Company’s policies prohibiting hedging and pledging our common stock, which are discussed above under “*Corporate Governance.*”

Equity Compensation Processes. Equity grants to executives are made upon hire and, typically, on an annual basis thereafter. Annual equity grants to executive officers have been made in most years in order to ensure a meaningful retentive effect by maintaining the percentage of the executive’s

equity position that is invested and to continue to award long-term compensation that is directly tied to Company performance. The Compensation Committee determines the form of equity grants made to the NEOs. The 2012 Equity Incentive Plan allows the Compensation Committee to award several different forms of equity rights, including restricted stock, RSUs, incentive stock options and non-qualified stock options. Past equity grants to NEOs have taken the form of non-qualified stock options and RSUs.

RSUs allow us to issue fewer shares than stock options to deliver comparable value, which reduces overhang and potential stockholder dilution. RSUs also have a significant retention effect given the vesting terms. Beginning in 2016, the Compensation Committee attached performance goals to a portion of the RSU grants to NEOs, a practice aligned with peers, by issuing PRSUs.

It is the Committee's general practice to approve equity awards with a future effective date, usually the 15th (or the next succeeding trading day) of a month following the approval, with annual equity grants approved in February and made in May. The Company believes that this time period between the approval and effectiveness of an equity grant means that the Committee is unable to know or estimate the trading price of the Company's common stock on the effective date of grant. As a result, the Committee has not, to date, thought it necessary to adopt a policy of timing the approval or effectiveness of equity awards to specific dates following the release of financial results or other material information.

2023 Annual Equity Grants. In February 2023, the Compensation Committee determined that, as in the prior year, RSUs would be used as the form of equity compensation for the NEO annual equity grants. Except in the case of Ms. Puma and Mr. Brewer, 50% of the total annual grants to the NEOs in office in May 2023 (Dr. Low, Ms. Fallon, and Dr. Redinbo) have vesting based on service alone, and the other 50% as PRSUs, to be earned based on the achievement of performance goals, followed by service vesting. Given the retirement plans of Ms. Puma and Mr. Brewer, they were granted 2023 PRSUs only, vesting to the extent earned in February 2024. Mr. Coogan and Mr. Blumenstock did not receive 2023 annual equity awards since they joined the Company after May 2023.

In February 2023, the Compensation Committee fixed values for the 2023 RSU grant to each NEO then in office. Dr. Low's grant was set at the Pearl Meyer market median for the CEO role, which Dr. Low would assume in May 2023. Ms. Puma's 2023 grant was set at 50% of that value, as specified in her Amended and Restated Employment Agreement dated February 24, 2023, also approved by the Committee in February 2023. The Committee approved 2023 equity grants to Ms. Fallon and Dr. Redinbo at their full 2022 values (Dr. Redinbo had received a pro-rated 2022 equity award on his promotion), representing 111% and 104%, respectively, of the median annual equity award value for their positions as reported by Pearl Meyer in October 2022. Mr. Brewer received a 2023 PRSU valued at 50% of his 2022 equity grant value, given his retirement plans. The number of units for each RSU grant was determined by dividing the approved grant value by the average closing price of the Company's common stock over a 30-day period ending three trading days prior to the grant date. The 2023 annual RSU grants to NEOs are set forth in the *Grants of Plan Based Awards in Fiscal 2023* table below.

The service-based vesting 2023 RSUs will vest at the rate of 25% on each of the first four anniversaries of the date of grant until fully vested in May 2027 (assuming continuation of employment). The 2023 PRSUs require that management earn the awards based on attaining up to ten performance goals, where each goal counted for 15% of the target grant. With the annual cash incentive plan focused on current annual financial results, the Committee used these performance-based annual equity awards to focus the NEOs on achieving near term milestones that were essential for the Company's long term growth.

As in 2022, aligned with Pearl Meyer's benchmarking, the PRSUs permit recipients to earn above target awards for over-target performance. Accordingly, the achievement of more than six

goals would result in earning more than 100% of the granted 2023 PRSUs, and achievement of all ten goals would entitle the executives to receive a maximum of 150% of the target grant.

The 2023 PRSUs were designed to drive the achievement of specific operational goals that needed to be achieved in 2023 for the Company to fulfill its aggressive growth strategy and reach its business models of \$1.1 billion and \$1.3 billion in revenue, resulting in high profitability and market share. As in prior years, the Committee used the PRSUs to keep management's focus on critical, well-understood, initiatives rather than on broad financial metrics. These operational goals related to penetrating customers with specific products, developing new applications and products and reaching specific financial objectives, all of which have strategic implications for our business. Unlike broad financial metrics, which can be set over multiple years, the type of foreseeable operational goals selected by the Committee are designed to be achieved near term. The Committee believes that these operational goals are no less strategic than longer term financial goals, and given the Company's track record, may be more effective at driving the right near term behavior to achieve desired long term results.

The 2023 RSU performance goals related to: (i) achieving a targeted reduction in the cost of non-quality; (ii) penetrating specific identified customers with our Purion H200 Silicon Carbide ("SiC") implanter; (iii) penetrating specific identified mature technology customers with our high current implanters; (iv) penetrating specific identified advanced logic customers with our high current implanters; (v) penetrating one specific identified customer with one of our high energy implanters; (vi) placing an evaluation system or receiving a purchase order for an implanter at a silicon power customer; (vii) receiving a purchase order or evaluation placement for SiC implanters at specific Japanese customers; (viii) generating specific application proofs at an implanter in a customer R&D fab; (ix) releasing specified software upgrades; and (x) completing development of specified differentiated SiC power capabilities.

Disclosure of customer names and exact financial and technical goals for these performance objectives would violate customer confidentiality agreements and provide sensitive information to the Company's competitors. The 2023 PRSU terms do not contemplate partial achievement of a goal. PRSUs that are earned through goal achievement are also subject to service vesting terms, in which 50% of the earned 2023 RSUs vest in 2024 and 50% in 2025, provided that Ms. Puma's and Mr. Brewer's 2023 PRSUs vest 100% in 2024.

In February 2024, the Compensation Committee determined that the Company met nine out of ten performance objectives, and accordingly, 135% of the 2023 PRSUs were earned and would vest in accordance with the two-year schedule for the NEOs (other than Ms. Puma and Mr. Brewer who have a one-year schedule), assuming continuation of employment.

2023 Equity Grants to Newly Hired Executives. In June 2023, the Committee approved a new hire equity award in the form of service vesting RSUs to Mr. Blumenstock, who joined Axcelis that month. This award vests over a four-year period, at the rate of 25% on each anniversary of the date of grant. The Committee set the value for this award based on the 2022 Pearl Meyer report median for the EVP Engineering position, and on internal equity, given award values to other Executive Vice Presidents. The new hire 2023 RSU grant to Mr. Blumenstock is set forth in the *Grants of Plan Based Awards in Fiscal 2023* table below.

Similarly, in August 2023, the Committee approved a new hire equity award in the form of service vesting RSUs to Mr. Coogan, who joined Axcelis in September 2023. This award vests over a four-year period, at the rate of 25% on each anniversary of the date of grant. The Committee set the value for this award based on Mr. Coogan's compensation at his prior employer, the 2022 Pearl Meyer report median for the Chief Financial Officer, and on internal equity, given award values to Dr. Low and Mr. Brewer. The new hire 2023 RSU grant to Mr. Coogan is set forth in the *Grants of Plan Based Awards in Fiscal 2023* table below.

Employment and Change of Control Agreements

Employment Agreement with Dr. Low. The Committee approved an Employment Agreement with Dr. Low that became effective in May 2023, contemporaneously with his appointment as Chief Executive Officer. Dr. Low's Employment Agreement provides for his service as the Company's CEO through January 1, 2025, and for successive one-year periods thereafter, if not terminated by either party on notice to the other by April 1 of the preceding year. This Employment Agreement reflects the base salary and cash incentive target set by the Compensation Committee for 2023, and for 2024 and beyond, sets a minimum base salary of \$633,000 and a cash incentive target of 100% of base pay. Dr. Low's Employment Agreement also provides for severance upon a qualifying termination of employment and for participation in the Company's equity compensation plans, the 401(k) savings plan and the welfare benefit plans that we sponsor. Dr. Low's base salary and incentive opportunities may be subject to future adjustment by the Board, but not below the minimum levels in his Employment Agreement, unless mutually agreed. For the amounts due if Dr. Low had been terminated on December 31, 2023, see "*Payments on Termination or Change of Control—Employment Agreement with Dr. Low*" below.

Amended and Restated Employment Agreement with Ms. Puma. The Committee approved a second Amended and Restated Employment Agreement with Ms. Puma dated February 24, 2023 (the "2023 Puma Agreement"). The 2023 Puma Agreement amended Ms. Puma's existing agreement which had been in place since 2007 and was last amended and restated in May 2022. In the 2023 Puma Agreement, Ms. Puma agreed to provide services to the Company as Chief Executive Officer until the 2023 annual meeting of stockholders and to serve thereafter as Executive Chairperson of the Board of Directors until the 2024 annual meeting of stockholders. After that, Ms. Puma will no longer serve as an executive officer or director of the Company but will serve as an Executive Advisor to the Company until July 2025. The 2023 Puma Agreement provides for Ms. Puma's compensation for such services but does not provide for separation pay unless terminated by the Company without cause or by Ms. Puma with good reason prior to July 31, 2025. In such case, the main component of the separation pay is the amount remaining to be paid under the agreement through July 31, 2025. For the amounts due if she had been terminated on December 31, 2023, see below "*Payments on Termination or Change of Control—Amended and Restated Employment Agreement with Ms. Puma*."

Executive Separation Pay Agreements. The Company has Executive Separation Pay Agreements with each of the NEOs, other than Dr. Low and Ms. Puma, entered into in 2019 or such later date as the person became an executive officer. These agreements provide that in the event of a termination without cause occurring after the executive's first anniversary of employment, the executive will continue to receive base salary for 12 months. If the NEO elects to continue health coverage under COBRA, the Company will waive 12 months of COBRA premiums. In addition, the Company will provide transition support having a value of \$15,000. These agreements auto-renew for each calendar year unless not later than April 1 of the preceding year, the Company or the executive had given notice not to extend the term. In 2023, Dr. Low's Executive Separation Pay Agreement was superseded by his Employment Agreement, discussed above. No change was made to the agreements with Mr. Brewer, Ms. Fallon, or Dr. Redinbo in 2023, and the Company entered into the same agreements with each of Mr. Blumenstock and Mr. Coogan contemporaneously with their commencement of employment with the Company in 2023. For the amounts due if each of the executive officers had been terminated on December 31, 2023, see "*Payments on Termination or Change of Control—Executive Officer Separation Pay Agreements*" below. Although Mr. Coogan and Mr. Blumenstock are parties to Executive Separation Pay Agreements, they would not have been entitled to a payout at December 31, 2023 because they had not been employed by the Company for a year at that time.

Change of Control Agreements. Each of the NEOs has a double-trigger Change of Control Agreement, having the benefits shown in the table below. These agreements do not provide any

indemnification for the “Golden Parachute” excise taxes under Sections 280G and 4999 of the Internal Revenue Code. If a Change of Control Agreement applies, the NEO will receive the greater of the change of control payout or the payout under the Executive Separation Pay Agreement (or in the case of Dr. Low and Ms. Puma, under their Employment Agreements). These agreements auto-renew for each calendar year unless not later than April 1 of the preceding year, the Company or the executive had given notice not to extend the term. No change was made to these agreements in 2023, provided (i) Dr. Low’s Change of Control Agreement was amended and restated to increase his multiple for the separation pay from 1.5 to 2, contemporaneously with his appointment as CEO, and (ii) the Company entered into Change of Control Agreements with each of Mr. Blumenstock and Mr. Coogan contemporaneously with their commencement of employment with the Company in 2023, having the same terms as the other non-CEO NEOs. See “*Payments on Termination or Change of Control—Change of Control Agreements*” below.

Other Compensation Components

The Company has entered into Indemnification Agreements with each of its executive officers, which are in the same form as the Indemnification Agreements with each of the Company’s non-employee directors. Axcelis’ Indemnification Agreements are intended to provide protection from legal liability arising from the individual’s service as an executive to the extent typically provided by U.S. public companies. The Company indemnifies its executive officers to the fullest extent permitted by law with respect to his or her status or activities as an executive or other fiduciary of Axcelis, its subsidiaries and any other entities or committees on which the executive has been asked by the Company to serve, against all judgments, fines, amounts paid in settlement, and all reasonably incurred expenses. These Indemnification Agreements supplement the indemnification provisions in the Company’s Restated Certificate of Incorporation. As required in the Indemnification Agreements, the Company purchases director and officer liability insurance that would reimburse the Company for costs incurred under these Indemnification Agreements and for certain third party liabilities. In addition, the Company maintains “Side A” director and officer liability insurance which is for the exclusive benefit of the directors and officers, permitting direct reimbursement from the insurer if the Company was unable or unwilling to provide indemnification due to a lack of funds or other issue. The adequacy of our director and officer liability insurance coverage is reviewed, and adjusted if needed, on an annual basis.

The Company maintains no executive perquisites. Executives are entitled to service awards under a recognition program in which all employees participate, that provides gift certificates to employees on each five year work anniversary. The value of these service awards increases by tenure from \$100 to \$425, after tax, without regard to position.

Executives may elect to make contributions to a retirement account in the Company’s IRC Section 401(k) plan on the same basis as Company employees generally. For 2023, the Company made a matching contribution to the 401(k) plan at the rate of 50% of the employee’s pre-tax contributions up to the first 6% of eligible compensation contributed to the plan. Employer contributions to NEOs participating in the 401(k) plan are included in the “All other compensation” column in the “*Executive Compensation—2023 Summary Compensation Table*”. The Company does not maintain for the NEOs either a defined benefit pension plan or any non-qualified deferred compensation plan.

NEOs may also participate in the Company’s medical insurance offerings on the same basis as full time Company employees generally by electing to make payroll deductions designed to cover approximately 25% or 30% of the cost of those programs (the Company covers the remaining cost). The Company also offers dental insurance, and provides life, accidental death and dismemberment and disability insurance for all employees, with the opportunity to increase coverage levels via payroll deductions. Emergency medical coverage is included in the Company’s standard business travel insurance, which would be secondary to an employee’s regular medical coverage.

Finally, the Company maintains the 2020 Employee Stock Purchase Plan, a voluntary IRC Section 423 plan in which employees may purchase Axcelis shares through salary deductions. In 2023, none of the NEOs participated in our 2020 Employee Stock Purchase Plan.

Executive Compensation Clawback Policy

In 2023, the Board of Directors adopted an updated Executive Compensation Clawback Policy (replacing the policy adopted in 2014) which requires executive officers to repay to the Company any “Excess Compensation” received during the three completed fiscal years preceding the date the Company is required to prepare an “Accounting Restatement.” Such capitalized terms are defined in the policy and comply with the requirements of Section 10D of the Securities Exchange Act of 1934, the rules promulgated thereunder by the SEC, and the listing standards of Nasdaq Section 954. In addition, the Company’s policy authorizes a clawback of 12 months of incentive compensation (including both cash and equity awards) in the event the officer violates an agreement with the Company or any policy of the Company (which would include violations of the Company’s Ethics policy or any applicable law).

Risk Assessment of Compensation Policies and Practices

In 2023, the Company determined, in its reasonable business judgment, that its compensation policies and practices for its employees, including the NEOs, do not give rise to risks that are reasonably likely to have a material adverse effect on the Company. In reaching this determination, management engaged in (i) a review of the Company’s compensation programs, policies and practices, (ii) identification of risks, if any, related to the programs, policies and practices, (iii) consideration of the materiality of a potentially risk-related reward to the total compensation provided to the individual, and (iv) identification of those aspects of the program and its oversight that provide risk control. Although all compensation programs were considered, management’s review focused on the programs with variability of payout and in which there is a potential for the participant to directly affect payout.

Based on this review, management determined that the compensation policies and practices for Axcelis’ employees do not create risks that are reasonably likely to have a material adverse effect on the Company, principally because:

- (1) The structure of our executive compensation program includes a balanced mix of cash and equity compensation; and
- (2) Our incentive compensation programs are subject to appropriate risk controls in their design and oversight:
 - The Company’s internal controls and risk management practices restrict risk-taking that is not consistent with risks inherent in the Company’s strategic plan, as approved by the Board;
 - Payment of small bonuses for extraordinary effort or for achieving individual or team goals are subject to approval by direct managers, and representatives of human resources and finance departments, and, for higher amounts, a representative of senior management;
 - Payment of sales incentive compensation is made pursuant to written plans, subject to calculation and approval by senior management and the finance department;
 - Payouts under the Company’s European and Asian annual cash incentive plan are in the discretion of senior management, which considers both qualitative and quantitative assessments of performance; and

- Payouts under the Company’s U.S. annual cash incentive plan and achievement of performance goals related to executive RSUs are in the discretion of the Compensation Committee, which considers both qualitative and quantitative assessments of performance.

Tax Implications

Section 162(m) of the Internal Revenue Code generally disallows a federal tax deduction to public companies for compensation in any tax year to specified executive officers to the extent that the compensation to such executive officer exceeds \$1 million. Prior to 2018, certain “qualified performance-based compensation” was exempted from the deductibility limitation under Section 162(m) of the Internal Revenue Code. Beginning in 2018, under the Tax Cuts and Jobs Act of 2017, performance-based compensation that was not under a written binding contract in effect at November 2, 2017 will not be exempted from the \$1 million deduction limitation.

The Compensation Committee believes that tax deductibility is only one of several relevant considerations in setting compensation, and that the tax deduction limitation should not be permitted to compromise the Compensation Committee’s ability to structure its compensation to provide benefits to the Company that outweigh the potential benefit of the tax deduction. Accordingly, the Committee may approve compensation that is not deductible for federal income tax purposes in the future.

2023 Compensation Committee Report

The Compensation Committee has reviewed and discussed the foregoing Compensation Discussion and Analysis with management and based on this review and discussion, the Compensation Committee recommended to the Board of Directors that the Compensation Discussion and Analysis be included in this proxy statement.

By the Compensation Committee,

Jorge Titinger, Chairperson
Gregory B. Graves
John T. Kurtzweil
Necip Sayiner
Dipti Vachani

2023 Summary Compensation Table

Name and Principal Position	Year	Salary (\$ (1))	Stock awards (\$ (2))	Non-equity incentive plan compensation (\$ (3))	All other compensation (\$ (4))	Total (\$)
<i>Executive Officers Serving at December 31, 2023</i>						
Russell J. Low, President and Chief Executive Officer (5)	2023	\$530,102	\$3,076,368	\$ 519,068	\$ 9,900	\$4,135,438
	2022	\$372,692	\$ 663,254	\$ 416,707	\$ 9,150	\$1,461,804
	2021	\$360,000	\$ 622,771	\$ 432,000	\$ 8,808	\$1,423,579
James G. Coogan, Executive Vice President and Chief Financial Officer (6)	2023	\$123,115	\$ 960,528	\$ 382,107	\$ 2,238	\$1,467,989
Mary G. Puma, Executive Chairperson (former Principal Executive Officer) (7)	2023	\$663,923	\$1,538,184	\$ 747,245	\$ 9,900	\$2,959,252
	2022	\$623,462	\$2,368,862	\$1,161,821	\$ 9,150	\$4,163,294
	2021	\$615,000	\$2,224,270	\$1,230,000	\$ 9,374	\$4,078,644
Kevin J. Brewer, Executive Vice President Finance and Operations (former Principal Financial Officer) (8)	2023	\$415,000	\$ 384,610	\$ 350,312	\$ 9,900	\$1,159,822
	2022	\$411,461	\$ 710,726	\$ 575,069	\$ 9,150	\$1,706,407
	2021	\$392,000	\$ 667,266	\$ 588,000	\$ 8,700	\$1,655,966
Lynnette C. Fallon, Executive Vice President, HR/Legal and General Counsel	2023	\$375,000	\$ 691,146	\$ 253,238	\$ 9,900	\$1,329,284
	2022	\$370,385	\$ 638,673	\$ 414,127	\$ 9,150	\$1,432,334
	2021	\$342,077	\$ 599,646	\$ 410,492	\$ 9,125	\$1,361,340
Gregory F. Redinbo, Executive Vice President, Marketing and Applications (9)	2023	\$310,000	\$ 615,376	\$ 209,343	\$ 3,400	\$1,138,119
	2022	\$277,796	\$ 319,368	\$ 310,604	\$ 9,150	\$ 916,919
	2021	\$160,000	\$ 416,900	\$ 260,000	\$134,800	\$ 971,700
Gerald M. Blumenstock, Executive Vice President, Engineering (10)	2023	\$181,250	\$ 714,997	\$ 219,473	\$ 81,563	\$1,197,282

- (1) Base salary is set by the Compensation Committee, based on benchmarking using our peer group or survey data. Other than Dr. Low and Ms. Puma, the named executive officers (NEOs) do not have employment agreements addressing base salary. Dr. Low's and Ms. Puma's employment agreements are described under the heading "Payments on Termination or Change in Control" in this proxy statement.
- (2) Represents the grant date fair value of RSU awards received by the NEO in the year indicated, determined in accordance with the assumptions described in the Stock Award Plans and Stock-Based Compensation note to the Company's Financial Statements included in the Annual Report on Form 10-K filed with the SEC for the respective year.

- (3) Non-equity incentive plan compensation represents amounts that were paid under the Axcelis Management Incentive Plans for the respective year, as described in the *"Compensation Discussion and Analysis"* in this proxy statement and in the proxy statement for our 2023 and 2022 Annual Meetings, respectively.
- (4) The amounts in this column represent (A) the amount paid in cash as a matching contribution to Axcelis' 401(k) plan in respect of contributions made by the NEO during the year; (B) the value of service awards received in the year, under a recognition program in which gift certificates are given to employees on each five year work anniversary, increasing in value from \$100 to \$425, after tax; (C) in the case of Dr. Redinbo, a 2021 relocation allowance, part of his new hire package, and a \$100 first responder bonus in 2023; and (D) in the case of Mr. Blumenstock, a sign on relocation bonus of \$75,000 in 2023.
- (5) Dr. Low became President and Chief Executive Officer on May 11, 2023, having served as an executive officer since 2016.
- (6) Mr. Coogan became EVP and Chief Financial Officer on September 29, 2023, on which date he was first employed by the Company.
- (7) Ms. Puma also served as President and Chief Executive Officer until May 11, 2023.
- (8) Mr. Brewer also served as EVP and Chief Financial Officer until September 29, 2023.
- (9) Dr. Redinbo became EVP, Marketing and Applications on September 6, 2022. Prior to that date, Dr. Redinbo served in a non-executive officer role beginning with his first employment by the Company on May 24, 2021.
- (10) Mr. Blumenstock became EVP, Engineering on June 12, 2023, on which date he was first employed by the Company.

Grants of Plan Based Awards in Fiscal 2023

Name	Grant Date (2)	Date of Compensation Committee Approval	Estimated Possible Payouts under Non-Equity Incentive Plan Awards (1)		Estimated Possible Payouts under Equity Incentive Plan Awards (2)			All Other Stock Awards: Number of Shares of Stock or Units (#) (3)	Grant Date Fair Value of Stock and Option Awards (4)
			Target (\$)	Maximum (\$)	Threshold (#)	Target (#)	Maximum (#)		
Russell J. Low			\$461,189	\$ 922,378					
	5/15/2023	2/16/2023						12,018	\$1,538,184
James G. Coogan	5/15/2023	2/16/2023			1,803	12,018	18,027		\$1,538,184
			\$339,500	\$ 679,000					
Mary G. Puma	10/16/2023	8/9/2023						5,891	\$ 960,528
			\$663,923	\$1,327,846					
Kevin J. Brewer	5/15/2023	2/16/2023			1,803	12,018	18,027		\$1,538,184
			\$311,250	\$ 622,500					
Lynnette C. Fallon	5/15/2023	2/16/2023			1,803	3,005	4,508		\$ 384,610
			\$225,000	\$ 450,000					
Gregory F. Redinbo	5/15/2023	2/16/2023						2,700	\$ 345,573
	5/15/2023	2/16/2023			405	2,700	4,050		\$ 345,573
Gerald M. Blumenstock	5/15/2023	2/16/2023						2,404	\$ 307,688
	5/15/2023	2/16/2023			361	2,404	3,606		\$ 307,688
	6/15/2023	6/1/2023						4,182	\$ 714,997

- (1) These target and maximum payouts are under the 2023 Axcelis Management Incentive Plan, discussed above in “2023 Compensation Discussion and Analysis—Annual Cash Incentive—2023 Axcelis Management Incentive Plan.” Based on the achievement of financial metrics for 2023, a payout to the NEOs was made under the 2023 AMI, as shown in the Summary Compensation Table.
- (2) The NEOs, other than Messrs. Coogan and Blumenstock, were granted performance based RSUs under the Company’s 2012 Equity Incentive Plan effective May 15, 2023, to be earned based on the achievement of performance goals tied to long-term objectives. The threshold number of shares that could be earned was 15%, if only one out of ten performance goals was achieved. Up to 150% of the target shares could be earned, if all 10 performance goals were met. Unearned performance based RSUs are forfeited. As discussed above, 135% of the 2023 performance based RSUs were earned. Except for Ms. Puma and Mr. Brewer, 50% of the earned shares vested on February 28, 2024, with the remainder to vest on February 28, 2025. Under retirement terms applicable to Ms. Puma and Mr. Brewer, 100% of the earned shares vested on February 28, 2024. Other than future services to the Company, no consideration was paid or will be due in order to acquire these RSUs. Unvested earned 2023 performance RSUs will be forfeited if the NEO’s employment terminates prior to vesting, except in the case of Mr. Lawson. See “Long-Term Equity Incentive Compensation—2023 Annual Equity Grants” in “2023 Compensation Discussion and Analysis” above.
- (3) The NEOs, other than Ms. Puma and Mr. Brewer, were granted service based RSUs under the Company’s 2012 Equity Incentive Plan effective on the respective grant dates shown above, which vest as to 25% of such shares on the each of the first four anniversaries of the date of grant, assuming continuation of employment. Other than future services to the Company, no consideration was paid or will be due in order to acquire these RSUs. The 2023 service based RSUs will be forfeited if the NEO’s employment terminates prior to vesting. See “Long-Term Equity Incentive Compensation—2023 Annual Equity Grants” in “2023 Compensation Discussion and Analysis” above.
- (4) Represents the grant date fair value of the equity awards received by the NEO in 2023, determined in accordance with the assumptions described in the Stock Award Plans and Stock Based Compensation note to the Company’s 2023 Financial Statements included in the Annual Report on Form 10-K filed with the SEC.

Pay Versus Performance

Note: In accordance with an instruction to the SEC regulation under which this Pay Versus Performance information is provided (Regulation S-K, Item 407(v)), this Pay Versus Performance information shall not be deemed to be incorporated by reference into any filing under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended. Specifically, this Pay Versus Performance information is not included in the executive compensation information incorporated by reference into Part III of the Company's Annual Report on Form 10-K.

The Pay Versus Performance table below compares the total compensation amounts shown in the “Executive Compensation—2023 Summary Compensation Table” above to compensation “actually paid” to each of Dr. Low and Ms. Puma, both of whom served as our CEO and principal executive officer (a “PEO”) in 2023 and to an average of our NEOs in this proxy statement, excluding Dr. Low and Ms. Puma. The “actually paid” amounts in the Pay Versus Performance table reflect a re-valuation of equity awards granted to our PEOs and other NEOs. SEC regulations instruct us to back out the grant date fair value of equity awards that is used in the Summary Compensation Table and replace it with values for unvested equity awards at each year end and values for shares on each vest date. The “actually paid” amounts also reflect the achievement of specific operational goals on the PRSUs granted to executives, which, in 2021, 2022 and 2023 increased the number of shares subject to those PRSUs. Accordingly, the “actually paid” compensation is an alternative way of calculating the value for executive equity awards that uses the stock price at year end for unvested grants and at vest dates for those that vest in the year, instead of the stock price at grant for only those awards newly granted in the year. For employees that have served for more than the current year, the “actually paid” values will almost always be higher because they include values for all prior grants, not just the current year. The Summary Compensation Table already incorporates the value of the cash incentive paid for each year, so that performance-related compensation component is unchanged in the “actually paid” amounts in the table.

In the table below, Ms. Puma is referred to as “PEO #1” and Dr. Low as “PEO #2.”

Year (a) (1)	Summary Compensation Table Total for PEO #1 (b)	Compensation Actually Paid (“CAP”) to PEO #1 (c) (2)	Summary Compensation Table Total for PEO#2 (b)	Compensation Actually Paid (“CAP”) to PEO #2 (c) (3)	Average Summary Compensation Table Total for Non-PEO NEOs (d)	Average CAP to Non-PEO NEOs (e) (4)	Value of Initial Fixed \$100 Investment made on December 31, 2019, based on:			
							Total Shareholder Return (f)	Peer Group Total Shareholder Return (g) (4)	Net Income (h)	Revenues (i)
2023	\$2,959,252	\$ 9,858,734	\$4,135,438	\$6,510,602	\$1,258,904	\$2,141,924	\$538.13	\$225.75	\$246,263,000	\$1,130,604,000
2022	\$4,163,294	\$ 5,700,318	\$1,461,805	\$1,751,594	\$1,463,285	\$1,728,963	\$329.34	\$137.05	\$183,100,000	\$ 920,000,000
2021	\$4,078,644	\$11,982,293	\$1,423,579	\$3,663,680	\$1,405,289	\$3,648,869	\$309.38	\$213.35	\$ 98,650,000	\$ 662,428,000
2020	\$3,825,614	\$ 4,708,025	\$1,307,974	\$1,582,284	\$1,356,639	\$1,620,922	\$120.83	\$151.14	\$ 49,982,000	\$ 474,560,000

(1) During 2023, each of Mary G. Puma and Russell J. Low served for a portion of the year as Axcelis’ President and Chief Executive Officer. During 2022, 2021 and 2020, Ms. Puma served as our President and CEO. In these tables, Ms. Puma is referred to as “PEO #1” and Dr. Low is referred as “PEO #2.” During 2023, our remaining NEOs consisted of James G. Coogan, Kevin J. Brewer, Lynnette C. Fallon, Gregory F. Redinbo and Gerald M. Blumenstock. During 2022, 2021 and 2020, the non-CEO NEOs consisted of Kevin J. Brewer, Russell J. Low, Lynnette C. Fallon and Douglas A. Lawson.

- (2) In accordance with SEC rules, the following adjustments were made to the PEO #1's (Ms. Puma's) total compensation for each year to determine CAP:

Footnote (2)—Table 1				
(a)	Reported Summary Compensation Table Total for PEO #1 (b)	Reported Value of Equity Awards (c) (i)	Equity Award Adjustments (d) (ii)	Compensation Actually Paid to PEO #1 (e)
2023	\$2,959,252	\$(1,538,184)	\$ 8,437,665	\$ 9,858,734
2022	\$4,163,294	\$(2,368,862)	\$ 3,905,886	\$ 5,700,318
2021	\$4,078,644	\$(2,224,270)	\$10,127,919	\$11,982,293
2020	\$3,825,614	\$(2,049,909)	\$ 2,932,320	\$ 4,708,025

- (i) The grant date fair value of equity awards in column (c) of Footnote (2)—Table 1 represents the total of the amounts reported in the "Stock Awards" and "Option Awards" columns in the Summary Compensation Table for the applicable year.
- (ii) The equity award adjustments in column (d) of Footnote (2)—Table 1 include the addition (or subtraction, as applicable) of the following: (1) the year-end fair value of any equity awards granted in the applicable year that are outstanding and unvested as of the end of the year; (2) the amount of change as of the end of the applicable year (from the end of the prior fiscal year) in fair value of any awards granted in prior years that are outstanding and unvested as of the end of the applicable year; and (3) for awards granted in prior years that vest in the applicable year, the amount equal to the change as of the vesting date (from the end of the prior fiscal year) in fair value. The amounts deducted or added in calculating the equity award adjustments are as follows:

Footnote (2)—Table 2				
Year (a)	Year End Fair Value of Equity Awards Granted in the Year (b)	Year over Year Change in Fair Value of Outstanding and Unvested Equity Awards at Year End (c)	Year over Year Change in Fair Value of Equity Awards Granted in Prior Years that Vested in the Year (d)	Total Equity Award Adjustments (e)
2023	\$2,104,129	\$2,787,869	\$3,545,667	\$ 8,437,665
2022	\$4,423,973	\$ 369,846	\$ (887,933)	\$ 3,905,886
2021	\$5,432,442	\$3,879,395	\$ 816,083	\$10,127,919
2020	\$2,537,983	\$ 410,556	\$ (16,218)	\$ 2,932,320

- (3) In accordance with SEC rules, the following adjustments were made to the PEO #2's (Dr. Low's) total compensation for each year to determine CAP:

Footnote (3)—Table 1				
(a)	Reported Summary Compensation Table Total for PEO #2 (b)	Reported Value of Equity Awards (c) (i)	Equity Award Adjustments (d) (ii)	Compensation Actually Paid to PEO #2 (e)
2023	\$4,135,438	\$(3,076,368)	\$5,451,531	\$6,510,602
2022	\$1,461,805	\$ (663,254)	\$ 953,044	\$1,751,594
2021	\$1,423,579	\$ (622,771)	\$2,862,872	\$3,663,680
2020	\$1,307,974	\$ (593,410)	\$ 867,720	\$1,582,284

- (i) The grant date fair value of equity awards in column (c) of Footnote (1)—Table 1 represents the total of the amounts reported in the "Stock Awards" and "Option Awards" columns in the Summary Compensation Table for the applicable year.
- (ii) The equity award adjustments in column (d) of Footnote (3)—Table 1 include the addition (or subtraction, as applicable) of the following: (1) the year-end fair value of any equity awards granted in the applicable year that are outstanding and unvested as of the end of the year; (2) the amount of change as of the end of the applicable year (from the end of the prior fiscal year) in fair value of any awards granted in prior years that are outstanding and unvested as of the end of the applicable year; and (3) for awards granted in prior years that vest in the applicable year, the amount equal to the change as of the vesting date (from the end of the prior fiscal year) in fair value. None of the years shown had any (A) awards granted and vested in same applicable year; (B) awards granted in prior years that were determined to fail to meet the applicable vesting conditions during the applicable year; or (C) dividends or other earnings paid on stock or option awards in the applicable year prior to the vesting date. The valuation assumptions used to calculate fair values did not materially differ from those disclosed at the time of grant. The amounts deducted or added in calculating the equity award adjustments are as follows:

Footnote (3)—Table 2				
Year (a)	Year End Fair Value of Equity Awards Granted in the Year (b)	Year over Year Change in Fair Value of Outstanding and Unvested Equity Awards at Year End (c)	Year over Year Change in Fair Value of Equity Awards Granted in Prior Years that Vested in the Year (d)	Total Equity Award Adjustments (e)
2023	\$3,662,744	\$ 785,807	\$1,002,980	\$5,451,531
2022	\$1,097,108	\$ 105,066	\$ (249,130)	\$ 953,044
2021	\$1,521,024	\$1,108,418	\$ 233,430	\$2,862,872
2020	\$ 734,698	\$ 115,682	\$ 17,340	\$ 867,720

- (4) In accordance with SEC rules, the following adjustments were made to average total compensation for the NEOs as a group (excluding Ms. Puma in all years, and excluding Dr. Low in 2023) for each year to determine CAP, using the same methodology described above in Footnote 1:

Footnote (4)—Table 1				
(a)	Average Reported Summary Compensation Table Total for Non-PEO NEOs (b)	Average Reported Value of Equity Awards (c) (i)	Average Equity Award Adjustments (d) (ii)	Average Compensation Actually Paid to Non-PEO NEOs (e)
2023	\$1,258,904	\$(673,331)	\$1,556,352	\$2,141,924
2022	\$1,463,285	\$(639,377)	\$ 905,055	\$1,728,963
2021	\$1,405,289	\$(600,314)	\$2,843,894	\$3,648,869
2020	\$1,356,639	\$(600,125)	\$ 864,408	\$1,620,922

- (i) The grant date fair value of equity awards in column (c) of Footnote (4)—Table 1 represents the average of the total of the amounts reported in the “Stock Awards” and “Option Awards” columns for each non-PEO NEO in the Summary Compensation Table for the applicable year.
- (ii) The amounts deducted or added in calculating the average equity award adjustments are as follows:

Footnote (4)—Table 2				
Year (a)	Average Year End Fair Value of Equity Awards Granted in the Year (b)	Year over Year Average Change in Fair Value of Outstanding and Unvested Equity Awards at Year End (c)	Year over Year Average Change in Fair Value of Equity Awards Granted in Prior Years that Vested in the Year (d)	Total Average Equity Award Adjustments (e)
2023	\$ 677,608	\$ 292,321	\$ 586,423	\$1,556,352
2022	\$1,057,612	\$ 103,466	\$(256,024)	\$ 905,055
2021	\$1,466,176	\$1,138,403	\$ 239,315	\$2,843,894
2020	\$ 743,011	\$ 120,704	\$ 693	\$ 864,408

- (5) The Peer Group used in this chart is the Philadelphia Semiconductor Index (SOXX) which is also used in the Company’s stock performance graph provided under Item 201(e) of Regulation S-K in our annual report to stockholders.

In each of the four years shown in the Pay Versus Performance table, the compensation “actually paid” (“CAP”) to our PEOs and average CAP to our other NEOs is higher than the amounts shown in the Summary Compensation Table, primarily due to the fact that the price of the common stock generally increased after the applicable equity award grant dates, other than for certain awards granted in 2023 and valued at year end 2023. Accordingly, the value of our equity awards at vest and the value of unvested awards was generally higher than the value at grant shown in the Summary Compensation Table. This stock price increase is aligned with increases in Axcelis’ net income and revenue, as shown in the Pay Versus Performance table. This strong performance is also seen in the outperformance of our cumulative shareholder return to that of the SOXX Index in 2021, 2022 and 2023.

Our stock price increased by more than 500% from year end 2019 to year end 2023. This stock price increase reflected a 138% increase in our revenues from 2020 to 2023, a 393% increase in our

net income from 2020 to 2023. Our 2023 revenues and net income increased by 23% and 34%, respectively, from 2022. In line with this strong financial performance and stock price increase, the CAP for each of Ms. Puma and Dr. Low for the four years shown represents more than 100% of their total compensation in the Summary Compensation Table. The same is true with respect to the average non-PEO NEO CAP for each of the four years shown. Accordingly, the above-target compensation in these four years, calculated as CAP per SEC regulation, is reflective of robust growth in revenues, net income, and stock price over the period.

The three most important financial measures that impact realized executive compensation at Axcelis are:

Revenues
Operating Profit
Gross Margin

These three measures are the metrics used in the Axcelis Management Incentive Program, our annual cash incentive program, discussed in the Compensation Discussion and Analysis above. We believe these measures also have a significant influence on our stock price (which is the main differential between the Summary Compensation Table amounts and the “actually paid” amounts in the Pay Versus Performance Table), along with other measures considered by investors, such as net income and earnings per share.

Outstanding Equity Awards at Fiscal 2023 Year End

Name	Stock Awards			
	Number of Shares or Units of Stock that Have Not Vested (#) (1)	Market Value of Shares or Units of Stock that Have Not Vested (\$) (2)	Equity Incentive Plan Awards: Number of Unearned Shares, Units or Other Rights that Have Not Vested (#) (3)	Equity Incentive Plan Awards: Market Value of Unearned Shares, Units or Other Rights that Have Not Vested (\$) (2)
Russell J. Low	27,633	\$3,583,756	12,018	\$1,558,614
James G. Coogan	5,891	\$ 764,004	—	\$ —
Mary G. Puma	55,402	\$7,185,137	12,018	\$1,558,614
Kevin J. Brewer	5,279	\$ 684,634	3,005	\$ 389,718
Lynnette C. Fallon	17,423	\$2,259,589	2,700	\$ 350,163
Gregory F. Redinbo	11,451	\$1,485,080	2,404	\$ 311,775
Gerald M. Blumenstock	4,182	\$ 542,364	—	\$ —

- (1) None of the NEOs held options to acquire securities of the Company stock at December 31, 2023. All of the NEOs were granted service based RSUs under the Company's 2012 Equity Incentive Plan in 2023, and all of the NEOs other than Mr. Coogan and Mr. Blumenstock were granted service based RSUs in prior years. All of the service based RSUs granted to NEOs vest as to 25% of the shares on each of the first four anniversaries of the date of grant, assuming continuation of employment. In addition, each of the NEOs other than Mr. Coogan, Dr. Redinbo, and Mr. Blumenstock, were granted PRSUs on May 16, 2022 that were subject to the achievement of performance goals, 135% of which were earned. Half of these 2022 PRSUs vested in February 2023 and the remaining 50% of the 2022 PRSUs vested on February 28, 2024, given the executives' continuation of employment through that date.
- (2) The market value of the unvested and unearned RSUs held by the executives at December 31, 2023 was determined by multiplying the number of shares by the closing price on December 29, 2023 (the last trading day of the year) of \$129.69.
- (3) Each of the NEOs other than Mr. Coogan and Mr. Blumenstock were granted PRSUs under the Company's 2012 Equity Incentive Plan on May 15, 2023 that could be earned based on the achievement of 10 performance goals, each weighted 15%. The shares shown in the chart represent the target shares for these grants, assuming the achievement of the performance goals totaling 100%. In February 2024, the Compensation Committee determined that 135% of the 2023 performance RSUs were earned. In accordance with the terms of the grant, 50% of the earned 2023 PRSUs vested on February 28, 2024, except in the case of Ms. Puma and Mr. Brewer, who received 100% of their earned 2023 PRSUs. The unvested earned 2023 PRSUs will vest on February 28, 2025, assuming continuation of employment, except in the case of Mr. Lawson, who may retire prior to that date without affecting his vesting. See "Long-Term Equity Incentive Compensation—2023 Equity Grants" in "2023 Compensation Discussion and Analysis" above.

Option Exercises and Stock Vested During Fiscal 2023

Name	Stock Awards (1)	
	Number of Shares Acquired on Vesting (#)	Value Realized on Vesting (\$ (2))
Russell J. Low	20,050	\$2,594,376
James G. Coogan	—	\$ —
Mary G. Puma	70,857	\$9,169,619
Kevin J. Brewer	35,308	\$4,476,238
Lynnette C. Fallon	18,667	\$2,416,326
Gregory F. Redinbo	3,849	\$ 629,098
Gerald M. Blumenstock	—	\$ —

- (1) None of the NEOs exercised options to acquire securities of the Company during the year ended December 31, 2023.
- (2) Represents the closing market price of Axcelis common stock on the date of vesting (or if the vesting date is not a trading day, on the next trading day after the vesting date) multiplied by the number of shares vested. A portion of the vested shares were withheld for taxes and not issued to the NEO. The actual amount received by the NEO on the sale of any of the shares acquired on vesting will depend on the market values of the Company's common stock at the time the NEO disposes of such shares.

Payments on Termination or Change of Control

Employment Agreement with Dr. Low. Under his Employment Agreement, in the event Dr. Low's employment is terminated either (i) by the Company for reasons other than cause, death, disability or (ii) by a voluntary resignation by Dr. Low with "good reason" (as defined in the Employment Agreement), he is entitled to full acceleration of vesting of options and other equity rights and a cash separation payment. The cash separation payment will equal 24 months of his monthly base salary and a monthly annual bonus amount, determined in accordance with the agreement. For this purpose, Dr. Low's monthly bonus compensation equals his then effective annual base salary, divided by 12 and multiplied by the greater of (a) the percentage of his annual base salary that he actually received as a bonus for the prior fiscal year or (b) 25% of his annual base salary. Under the Employment Agreement, Dr. Low is also entitled to up to 18 months of Company-paid COBRA premiums. The following table sets forth the separation pay that would have been due to Dr. Low under his Employment Agreement if a qualifying termination occurred on December 31, 2023:

Estimated Payments under the Low Employment Agreement if due at December 31, 2023			
	Value of accelerated vesting on equity awards (2)	18 months of COBRA premiums for health coverage (3)	Total
Lump sum cash payment (1)	\$2,577,331	\$52,064	\$5,781,152
	\$3,151,757		

- (1) This amount represents 24 months of Dr. Low's base salary at the highest rate in effect in the year preceding December 31, 2023 plus 24 months of a monthly bonus amount as specified in Dr. Low's Employment Agreement. The monthly rate of annual base salary (\$45,861) and monthly bonus amount (\$85,462) were calculated using his annual base salary of \$550,333 in effect at December 31, 2023, and the 2022 Axcelis Management Incentive Plan bonus percentage of 186.4%, as specified in Dr. Low's Employment Agreement. The lump sum cash payment above would be due within 30 days of termination.

- (2) This amount reflects a valuation of the acceleration of Dr. Low’s outstanding equity awards using the methodology prescribed under IRC Section 280G, which provides for an excise tax on certain change of control payments. This valuation is based on the closing price of our common stock on the last trading day of 2023 (\$129.69). For the service based RSUs, the value received is reduced by a value for the forgiven service as prescribed by the calculation methodology in IRC Reg §1.280G Q&A 24(c). The actual amount received by Dr. Low on the sale of shares issued on accelerated restricted stock units will depend on the market values at the time of such transactions.
- (3) Dr. Low’s employment agreement provides that the Company will pay for up to 18 months of COBRA premiums. This amount represents 18 months of COBRA premiums in effect during 2024 for Dr. Low’s coverage elections. Actual COBRA rates will change on January 1, 2025.

2023 Amended and Restated Employment Agreement with Ms. Puma. The 2023 Puma Agreement provides for Ms. Puma’s compensation for services through July 2025, but does not provide for separation pay unless terminated by the Company without cause or by Ms. Puma with good reason prior to July 31, 2025. In such case, the main component of the separation pay is the amount remaining to be paid under the agreement through July 31, 2025. Ms. Puma would receive a cash separation pay equal to her base salary for the remaining period, her target payout under the 2023 and 2024 AMI to the extent not paid (Ms. Puma’s target under the 2024 AMI only considers her base pay earned as Executive Chairperson), and a pro-rated 2024 PRSU for the period in which she serves as Executive Chairperson. Under the 2023 Puma Agreement, Ms. Puma is also entitled to up to 18 months of Company-paid COBRA premiums. The following table sets forth the separation pay that would have been due to Ms. Puma under her Employment Agreement if a qualifying termination occurred on December 31, 2023:

Estimated Payments under the Puma Employment Agreement if due at December 31, 2023			
Lump sum cash payment (1)	Value of accelerated vesting on equity awards (2)	18 months of COBRA premiums for health coverage (3)	Total
\$2,001,923	\$3,970,113	\$37,971	\$6,010,007

- (1) This amount represents the remainder of Ms. Puma’s base salary due under her 2023 Employment Agreement through July 31, 2025 plus the Axcelis Management Incentive Plan for 2023 and 2024 paid at target, as determined under Ms. Puma’s 2023 Employment Agreement. The lump sum cash payment above would be due within 30 days of termination.
- (2) This amount reflects a valuation of the acceleration of Ms. Puma’s outstanding equity awards using the methodology prescribed under IRC Section 280G, which provides for an excise tax on certain change of control payments. This valuation is based on the closing price of our common stock on the last trading day of 2023 (\$129.69). For the service based RSUs, the value received is reduced by a value for the forgiven service as prescribed by the calculation methodology in IRC Reg §1.280G Q&A 24(c). The actual amount received by Ms. Puma on the sale of shares issued on accelerated restricted stock units will depend on the market values at the time of such transactions.
- (3) Ms. Puma’s 2023 Employment Agreement provides that the Company will pay for up to 18 months of COBRA premiums. This amount represents 18 months of COBRA premiums in effect during 2024 for Ms. Puma’s coverage elections. Actual COBRA rates will change on January 1, 2025.

Executive Officer Separation Pay Agreements. In May 2019, the Compensation Committee approved the execution of Executive Separation Pay Agreements with each of the NEOs other than the CEO (the “Executive Separation Pay Agreements”). Each of the NEOs in office in 2019 received an

agreement at that time, and Dr. Redinbo received one in 2022 on his promotion to an executive officer. The Company provided each of Mr. Blumenstock and Mr. Coogan with an Executive Separation Pay Agreement on commencement of employment with the Company in 2023. These Executive Separation Pay Agreements provide that in the event of a termination without cause, the executive will continue to receive base salary for 12 months. If the NEO elects to continue health coverage under COBRA, the Company will waive 12 months of COBRA premiums. In addition, the Company will provide transition support having a value of \$15,000. The executive must have been employed by the Company for one year or more at the time of termination to be eligible for benefits under the agreement.

The NEO must provide a release of claims in order to receive the separation pay. The NEO will not be eligible to receive the severance payments and benefits described in the agreement in the event that (i) the executive’s employment is terminated by the Company for cause or due to executive’s death or disability, or (ii) the executive resigns from employment, regardless of the reason(s) for such resignation. The following table sets forth the separation pay that would have been due to these NEOs under their respective Executive Separation Pay Agreements if a qualifying termination occurred on December 31, 2023. Although Mr. Coogan and Mr. Blumenstock are parties to Executive Separation Pay Agreements, they would not have been entitled to a payout at December 31, 2023 because they had not been employed by the Company for a year at that time.

Estimated Payments under the Executive Separation Pay Agreements if due at December 31, 2023				
	Cash Separation Pay (1)	Value of transition assistance (2)	12 months of COBRA premiums for health coverage (3)	Total
Kevin J. Brewer	\$415,000	\$15,000	\$25,314	\$455,314
Lynnette C. Fallon	\$375,000	\$15,000	\$25,314	\$415,314
Gregory F. Redinbo	\$310,000	\$15,000	\$34,709	\$359,709

- (1) This amount represents 12 months of the NEO’s annual base salary in effect on December 31, 2023. This amount would be paid in 26 bi-weekly installments.
- (2) In the event separation pay is due, the Company will provide transition assistance to the NEO having a value of \$15,000. The Company will work with the executive to provide assistance that meets the needs of the executive, and will offer support in accordance with the Company’s practices for executive terminations generally.
- (3) The Executive Separation Pay Agreements provide that the Company will pay for up to 12 months of COBRA premiums. This amount represents 12 months of 2024 COBRA premiums for the executive’s coverage elections for 2023. Actual COBRA rates will change on January 1, 2025.

Change of Control Agreements. Each of the NEOs is a party to a Change of Control Agreement with the Company. None of the currently effective agreements have an indemnification or gross up for excise taxes. This is consistent with our 2014 governance policy against any new commitments to reimburse excise taxes due on change of control payouts under Sections 280G and 4999 of the Internal Revenue Code. See “*Corporate Governance—Governance Policies,*” above.

The Change of Control Agreements provide that the NEOs are entitled to severance compensation in the event there is both (1) a change in control and (2) a termination of employment within a period of time following the change in control either (A) by the Company for reasons other than cause, death, disability or (B) due to a voluntary resignation by the executive with good reason. “Good reason” includes an adverse change in the executive’s role or position; a reduction in the executive’s base salary; or a material change in geographic location of the executive’s job. A “change

of control” is defined in the agreement and covers a number of events, including a merger or acquisition involving the Company in which the persons holding the Company’s shares immediately prior to the transaction hold less than a majority of the shares outstanding after the transaction. Under the Change of Control Agreements, severance compensation consists of a cash payment equal to a multiple of the executive’s annual base salary and annual bonus as of the date of termination. The multiple in Ms. Puma’s and Dr. Low’s Change of Control Agreements is two, while the multiple in the other NEOs’ Change of Control Agreements is 1.5.

The amounts that would have been due to each NEO under the Change of Control Agreements in effect at December 31, 2023, in the event that a change of control and termination occurred on that date, are set forth in the table below:

Estimated Payments under the Change of Control Agreements if due at December 31, 2023			
Name	Lump sum cash payment (1)	Value of accelerated vesting on equity awards (2)	Total
Russell J. Low	\$2,751,665	\$2,577,331	\$5,328,996
James G. Coogan	\$1,576,250	\$ 764,004	\$2,340,254
Mary G. Puma	\$3,345,000	\$3,970,113	\$7,315,113
Kevin J. Brewer	\$1,400,625	\$ 706,482	\$2,107,107
Lynnette C. Fallon	\$1,125,000	\$1,076,230	\$2,201,230
Gregory F. Redinbo	\$ 930,000	\$ 546,660	\$1,476,660
Gerald M. Blumenstock	\$ 975,000	\$ 542,364	\$1,517,364

- (1) This amount represents separation pay equal to (A) a multiple of (i) the executive’s current annual base salary plus (ii) a target bonus amount, and (B) the executive’s target AMI for 2023, prorated for the months worked during the year. Since termination for all NEOs is assumed at year end, the 2023 AMI targets have not been prorated. The multiple is 2, in the case of Dr. Low and Ms. Puma, and 1.5, in the case of the other NEOs.
- (2) These amounts reflect a valuation of the acceleration of all of the NEO’s outstanding unvested RSU awards using the value of the closing price of our common stock on the last trading day of 2023 (\$129.69) and the methods prescribed by regulations under IRC Section 280G. For the service based RSUs, the value received is reduced by a value for the forgiven service as prescribed by the calculation methodology in IRC Reg §1.280G Q&A 24(c). The actual amount received by the NEO on the sale of shares from accelerated equity awards will depend on the market values at the time of the change of control. Depending on the terms of the transaction, some or all of the executive’s unvested equity awards may vest without regard to the effect of the Change of Control Agreements.
- (3) The Change of Control Agreement with each NEO provides that the lump sum cash value should be reduced by an amount needed to avoid the excise tax due under IRC Section 4999, if that creates the best after-tax result for the executive. If the change of control occurred on December 31, 2023, Dr. Low, Mr. Coogan, Dr. Redinbo and Mr. Blumenstock would be subject to excise taxes under IRC Section 4999 if they received the full payout in the table, for which they would be personally liable. In each NEO’s case, the amount of the excise tax due on the full payout is less than the amount the payout would need to be reduced to avoid the tax, so the amount in the table is the full payout without adjustment.

Ratio of CEO Pay to Median Employee Pay

Dr. Low’s total 2023 compensation was \$ 4,135,438, as determined for the purposes of the “Executive Compensation—2023 Summary Compensation Table” above. This amount was approximately

48 times the total 2023 compensation of the median Axcelis employee selected in 2023, calculated on the same basis. We identified our 2023 median employee starting with the annual full-time rate of pay for all employees (excluding Dr. Low) on November 30, 2023. As appropriate, we reduced the pay of regular part-time employees to reflect their schedules. Since annual salary/full time rate was used as the selection factor, no adjustment was needed for newly hired full time employees in 2023. No adjustment was made for temporary leaves of absence in 2023. The 2023 median employee's 2023 compensation, calculated on the basis required for the Summary Compensation Table, was \$86,009.

Since other companies have different employee populations and compensation practices and may utilize different methodologies, exclusions, estimates, and assumptions in calculating their own pay ratios, the pay ratios reported by other companies may not be comparable to the pay ratio reported above.

**CERTIFICATE OF AMENDMENT
TO
RESTATED CERTIFICATE OF INCORPORATION
OF
AXCELIS TECHNOLOGIES, INC.**

It is hereby certified that:

1. The name of the corporation (hereinafter called the “Corporation”) is Axcelis Technologies, Inc. The name under which the Corporation was originally incorporated is Eaton Semiconductor Equipment Inc. The Corporation’s original Certificate of Incorporation was filed with the Secretary of State of the State of Delaware on December 21, 1995. A Restated Certificate of Incorporation was filed with the Secretary of State of the State of Delaware on November 1, 2017.
2. The Restated Certificate of Incorporation filed on November 1, 2017 is hereby amended to replace the existing heading of Article 10 and the existing Article 10.1 with the following:
 10. Liability of Directors and Officers; Indemnification.
 - 10.1. The personal liability of the directors and officers of the Corporation is hereby eliminated to the fullest extent permitted by Section 102(b)(7) of the DGCL, as the same may be amended and supplemented. Without limiting the generality of the foregoing, no director or officer shall be personally liable to the Corporation (in the case of directors) or any of its stockholders (in the case of directors and officers) for monetary damages for breach of fiduciary duty as a director or officer, except for liability (i) for any breach of the director’s or officer’s duty of loyalty to the Corporation or its stockholders, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) (in the case of directors) pursuant to Section 174 of the DGCL, or (iv) for any transaction from which the director or officer derived an improper personal benefit. No amendment to, repeal of or elimination of this provision shall apply to or have any effect on the liability or alleged liability of any director or officer of the Corporation for or its application with respect to any acts or omissions of such director or officer occurring prior to such amendment, repeal or elimination. If the DGCL is amended to permit further elimination or limitation of the personal liability of directors or officers, then the liability of a director or officer of the Corporation shall be eliminated or limited to the fullest extent permitted by the DGCL as so amended.
3. This Amendment to the Restated Certificate of Incorporation of the Corporation has been duly adopted in accordance with the provisions of Section 242 of the DGCL.

IN WITNESS WHEREOF, AXCELIS TECHNOLOGIES, INC. has caused this Certificate of Amendment to be signed by its duly authorized officer this day of _____, 2024.

AXCELIS TECHNOLOGIES, INC.

By: _____
Name:
Title: