

Use these links to rapidly review the document
[PROXY STATEMENT - TABLE OF CONTENTS](#)

[Table of Contents](#)

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

SCHEDULE 14A

Proxy Statement Pursuant to Section 14(a) of
the Securities Exchange Act of 1934 (Amendment No.)

Filed by the Registrant

Filed by a Party other than the Registrant

Check the appropriate box:

- Preliminary Proxy Statement
- Confidential, for Use of the Commission Only (as permitted by Rule 14a-6(e)(2))**
- Definitive Proxy Statement
- Definitive Additional Materials
- Soliciting Material under §240.14a-12

Axcelis Technologies, Inc.

(Name of Registrant as Specified In Its Charter)

(Name of Person(s) Filing Proxy Statement, if other than the Registrant)

Payment of Filing Fee (Check the appropriate box):

- No fee required.
- Fee computed on table below per Exchange Act Rules 14a-6(i)(1) and 0-11.
 - (1) Title of each class of securities to which transaction applies: _____
 - (2) Aggregate number of securities to which transaction applies: _____
 - (3) Per unit price or other underlying value of transaction computed pursuant to Exchange Act Rule 0-11 (set forth the amount on which the filing fee is calculated and state how it was determined): _____
 - (4) Proposed maximum aggregate value of transaction: _____
 - (5) Total fee paid: _____
- Fee paid previously with preliminary materials.
- Check box if any part of the fee is offset as provided by Exchange Act Rule 0-11(a)(2) and identify the filing for which the offsetting fee was paid previously. Identify the previous filing by registration statement number, or the Form or Schedule and the date of its filing.
 - (1) Amount Previously Paid: _____
 - (2) Form, Schedule or Registration Statement No.: _____
 - (3) Filing Party: _____
 - (4) Date Filed: _____



**NOTICE OF ANNUAL MEETING OF STOCKHOLDERS
to be Held May 12, 2021**

The 2021 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 12:30 p.m. on Wednesday, May 12, 2021 for the following purposes:

1. To elect as directors eight nominees to serve until the 2022 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, 2021.
3. To approve, by an advisory vote, the 2020 compensation of our named executive officers.
4. 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 24, 2021 will be entitled to vote at the annual meeting or at any adjournment.

By order of the Board of Directors,

Dated: March 31, 2021

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

PROXY STATEMENT - TABLE OF CONTENTS

GENERAL INFORMATION ABOUT VOTING	1
SHARE OWNERSHIP OF 5% STOCKHOLDERS	4
SHARE OWNERSHIP OF DIRECTORS AND EXECUTIVE OFFICERS	5
STOCKHOLDER ENGAGEMENT	7
PROPOSAL 1: ELECTION OF DIRECTORS	11
BOARD OF DIRECTORS	20
BOARD COMMITTEES	24
CORPORATE GOVERNANCE	30
PROPOSAL 2: RATIFICATION OF THE APPOINTMENT OF OUR INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM	40
PROPOSAL 3: ADVISORY VOTE REGARDING EXECUTIVE COMPENSATION	42
EXECUTIVE COMPENSATION	44

GENERAL INFORMATION ABOUT VOTING

The Board of Directors of Axcelis Technologies, Inc. ("Axcelis" or the "Company") is soliciting your proxy for use at the 2021 annual meeting of stockholders to be held on Wednesday, May 12, 2021 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 31, 2021. 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.

Currently, Axcelis is implementing social distancing practices at our headquarters to curtail the spread of the coronavirus that causes Covid-19, including a requirement to wear masks over the nose and mouth. Our policies and governmental regulation of business activities continue to evolve. Please note that we may modify the location or format of the 2021 annual meeting if deemed advisable or necessary, including, weather permitting, meeting outside. If the address or time of the meeting changes, we will issue a press release announcing the change.

Important Notice Regarding the Availability of Proxy Materials for the Stockholder Meeting to Be Held on May 12, 2021: 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 24, 2021. On that date, there were 33,774,559 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 re-election of eight directors whose current terms end in 2021; an advisory vote to ratify the selection of independent auditors for the Company; and an advisory vote on our 2020 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 eight 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 2021.	This non-binding proposal will be considered approved if more votes are cast in favor than against.	FOR ratification
Approval of the 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.

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 proposal. 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 and the other proposals.

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, and the advisory vote on 2020 executive compensation, we do not know of any other proposals that may be presented at the 2021 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, 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, 2020 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	5,118,353	15.2%
PRIMECAP Management Company (3) 225 South Lake Ave., #400, Pasadena, CA 91101	2,498,110	7.4%
Senvest Management, LLC and Richard Mashaal (4) 540 Madison Avenue, 32nd Floor, New York, NY 10022	2,276,502	6.8%
The Vanguard Group (5) 100 Vanguard Blvd., Malvern, PA 19355	2,274,193	6.8%
Dimensional Fund Advisors LP (6) Building One, 6300 Bee Cave Road, Austin, TX 78746	1,719,362	5.1%

- (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, 2020 (33,633,263 shares).
- (2) Based on a Schedule 13G/A filed with the Securities and Exchange Commission (the "SEC") in January 2021 reporting on ownership as of December 31, 2020. 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 5,069,244 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 2021 reporting on ownership as of December 31, 2020. This filing states that PRIMECAP Management Company is a registered investment adviser. According to the Schedule 13G, PRIMECAP Management Company has sole voting power and sole dispositive power over all of the shares reported in the table.
- (4) Based on a Schedule 13G/A filed with the SEC in February 2021 reporting on ownership as of December 31, 2020. This filing reports on beneficial ownership of Senvest Management, LLC ("Senvest"), a registered investment adviser, and Richard Mashaal, the managing member of Senvest. It states that the shares are owned by two funds managed by Senvest, and that both Senvest and Mr. Mashaal have shared voting and shared dispositive power over all the shares reported in the table.
- (5) Based on a Schedule 13G filed with the SEC in February 2021 reporting on ownership as of December 31, 2020. 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 70,947 shares, sole dispositive power over 2,177,933 shares and shared dispositive power over 96,260 shares.
- (6) Based on a Schedule 13G/A filed with the SEC in February 2021 reporting on ownership as of December 31, 2020. This filing states that Dimensional Fund Advisors LP is a registered investment adviser. According to the Schedule 13G, Dimensional Fund Advisors LP has sole voting power over 1,636,280 shares and sole dispositive power over all of the shares reported in the table.

SHARE OWNERSHIP OF DIRECTORS AND EXECUTIVE OFFICERS

The following table shows the amount of our common stock beneficially owned as of March 24, 2021 (the record date for the 2021 annual meeting) by our directors, the executive officers named in the *Executive Compensation—Summary Compensation Table* below, and all of our current executive officers and directors as a group.

Beneficial Owner (1)	Shares Owned as of March 24, 2021	Shares Subject to Exercisable Rights to Acquire as of May 23, 2021 (4)	Total Shares Beneficially Owned	Percent of Class
Non-Executive Directors				
Tzu-Yin Chiu	21,568	1,409	22,977	*
Richard J. Faubert	42,439	—	42,439	*
R. John Fletcher	1,354	—	1,354	*
Arthur L. George, Jr.	55,439	—	55,439	*
Joseph P. Keithley	30,189	—	30,189	*
John T. Kurtzweil	34,439	—	34,439	*
Thomas St. Dennis	25,939	—	25,939	*
Jorge Titingar	15,362	—	15,362	*
Named Executive Officers				
Mary G. Puma (2)	260,747	39,005	299,752	*
Kevin J. Brewer	27,506	15,556	43,862	*
William Bintz	29,239	10,982	40,221	*
Russell J. Low	22,338	16,457	38,796	*
Lynnette C. Fallon	27,419	9,655	37,074	*
All current Executive Officers and Directors as a Group (14 persons) (3)				
	607,676	102,719	710,396	2.11%

* 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 Securities and Exchange Commission, 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 23, 2021 (60 days after March 24, 2021) 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 24, 2021 (33,774,559 shares), plus any shares that person could acquire upon the exercise of any options or other rights on or before May 23, 2021. None of the shares owned or rights to acquire shares are held in a margin account or subject to a pledge.

(2) Ms. Puma's ownership includes 6,000 shares owned by her spouse.

- (3) In addition to the directors and NEOs, these totals include 13,698 shares owned by one other executive officer on March 24, 2021, and 9,655 shares issuable to the executive officer on restricted stock units expected to vest on or before May 23, 2021.
- (4) The shares subject to exercisable rights to acquire as of May 23, 2021 include, for the executive officers, shares issuable on restricted stock units vesting in May 2021, assuming continuation of employment. A portion of these vesting shares will be withheld to cover payroll taxes on the value of the vesting shares, which have not been subtracted from the amounts in this table.

STOCKHOLDER ENGAGEMENT

2020 Annual Meeting Vote Results

In 2020, the average vote in favor of the election of our Board nominees was 98.2%. This approval level was up from the 92.4% support our Board received in 2019. Also at our 2020 annual meeting, 97% of votes were cast for approval of the advisory vote on the Company's 2019 executive compensation (commonly referred to as "Say-on-Pay"). We believe that this voting result reflects stockholder support for our executive compensation decisions.

2020 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 arranged by investment analysts and others supporting our stock; one-on-one meetings in connection with conferences, roadshows or otherwise; and routine phone, video call, 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/>

During 2020, in addition to our routine quarterly earnings calls and follow up meetings, Axcelis attended one in-person investor conference in New York City and, following the commencement of the Covid-19 restrictions, participated in eleven virtual conferences or non-deal roadshow investor events.

Key 2020 Investor Messages. 2020 was a strong year for the semiconductor equipment industry, despite the global Covid-19 pandemic and relatively low memory spending. In 2020, Axcelis maintained its focus on driving Purion growth in key markets, while continuing to prioritize the health of our employees, achieving the following in 2020:

- We shipped the first Purion XEmax for image sensors, and the first Purion H200 for the power device market.
- We also shipped the first Purion to a customer in Japan.
- Our Beverly facility ran at full manufacturing and lab capacity, with all others working from home, despite the challenges and disruptions of the Covid-19 pandemic.
- Strong execution across the board and significant leverage in our business model delivered a 140% increase in operating profit on revenue growth of 38%, even during a continuing memory slow down.

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 2020 executive compensation programs are aligned with market benchmarking and business strategies. Axcelis' 2020 executive compensation programs are discussed in detail under *Executive Compensation—2020 Compensation Discussion and Analysis*" below. It is essential that the peer group used for compensation benchmarking is appropriate and robust, and in 2020, our Compensation Committee worked with Pearl Meyer & Partners, an independent compensation consultant ("Pearl Meyer"), to add two new members to our compensation peer group, offsetting the loss of prior peers through consolidation. Pearl Meyer was then engaged to update our executive officer compensation benchmarking in October 2020, which will be used to make compensation decisions in 2021.

Responsiveness to Stockholder Interest in Environmental, Safety and Governance Issues. Axcelis recognizes that many investors are interested in aspects of corporate management relating to environmental, safety, labor, and other governance matters. We are committed to being responsive to this interest, and have increased our disclosures in these areas and intend to continue to take steps to meet the expectations of the investment community.

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.

In 2020, we published our second Annual Report on Environmental and Safety Concerns. In this report, we adopted new disclosures that align with certain aspects of The Climate Disclosure Standards Board framework, and the Sustainability Accounting Standards Board ("SASB") guidance, using the SASB Semiconductors Standard.

As noted in our Annual Report on Environmental and Safety Concerns, the Board of Directors oversees Axcelis' Environmental, Health and Safety risks and Climate Change risks using our Enterprise Risk Management ("ERM") system. The ERM system is a method by which management assists our Board in meeting its risk oversight responsibility. Annually, management seeks to accurately identify risks that influence our business and rank them by potential severity and by the existence of risk factors beyond the Company's control. Risks with higher severity, or greater uncontrollable factors, are re-assessed by management on a quarterly basis. Climate Change risk is separately identified from Environmental and Occupational Health and Safety compliance risks, given its higher uncontrollable factors. Trends and mitigation actions as to these less controllable risks are reported to the Board quarterly.

The policies and reports discussed above are available under both the "About Us" and "Investors" pages on our website at Axcelis.com. Key corporate governance policies are outlined below under "*Corporate Governance—Governance Policies.*"

Responsiveness to Stockholder Interest in Diversity and Inclusion Issues. Board and workforce diversity 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.

As stated in our Corporate Social Responsibility policy, Axcelis is committed to achieving diversity of gender, ethnicity and other personal characteristics among our workforce. Axcelis seeks to hire and retain employees in a manner that supports a diverse workplace. We have a strong policy against discrimination based on personal characteristics, and required biennial training on this topic for all employees, and specialized training for managers.

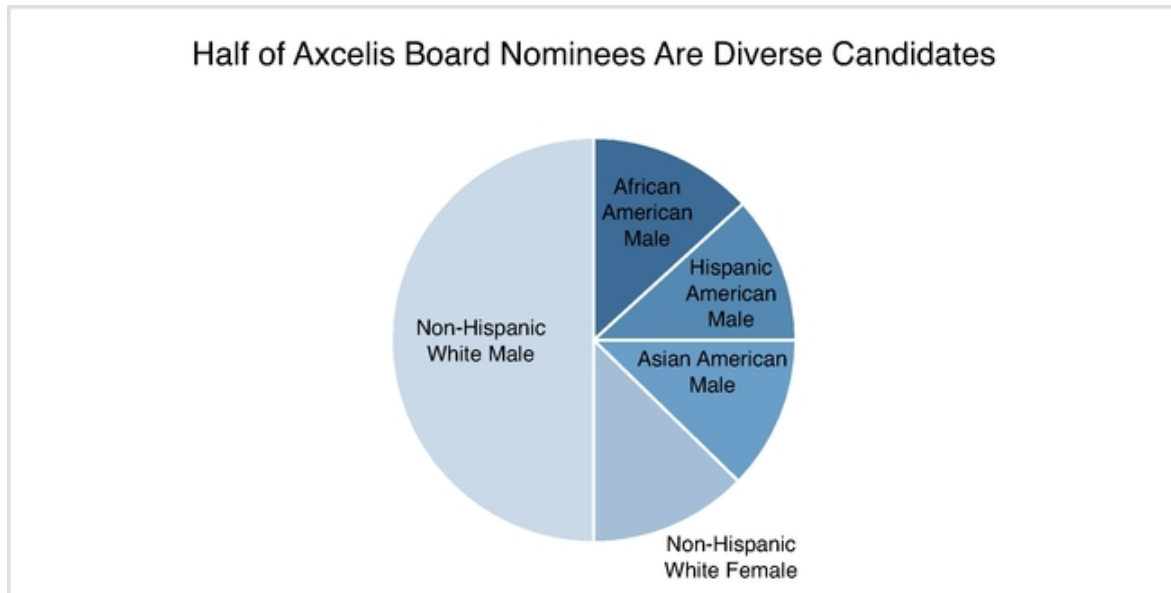
In 2020, we published our first "Focus on Diversity" report, which includes disclosures on the diversity of our workforce, leadership and Board. The report also sets out Axcelis' initiatives to increase diversity and ensure inclusion. This report is available under both the "About Us" and "Investors" pages on our website at Axcelis.com.

Also in 2020, management reported to our Compensation Committee on the status of workforce diversity and inclusion at Axcelis. With the guidance of the Compensation Committee, management is now tracking specific demographic information related to the number of women and under-represented minorities in our workforce, and our progress against a set of objectives to increase these numbers over the next five years. The Compensation Committee, along with the rest of the Board, will receive annual reports on our progress against these goals as part of the Axcelis Talent Review. We will include information on these goals in our 2021 "Focus on Diversity" report. The Compensation Committee recommended, and the Board of Directors approved, an amendment to the charter of the Compensation Committee in 2020 to include a statement on the Committee's responsibility to provide oversight of diversity initiatives and goals.

Our "Focus on Diversity" report and the current Compensation Committee charter are available under the "About Us" and "Investors" pages on our website at Axcelis.com.

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. Axcelis' Board diversity compares favorably to other companies, at a time when 8 out of 10 directors disclosed by S&P 500 Boards are white, as reported by The Conference Board's 2020 report on Corporate Board Practices. In 2021, white

non-Hispanic men represent only four out of eight nominees, or 50% of our nominees for the 2021 Annual Meeting:



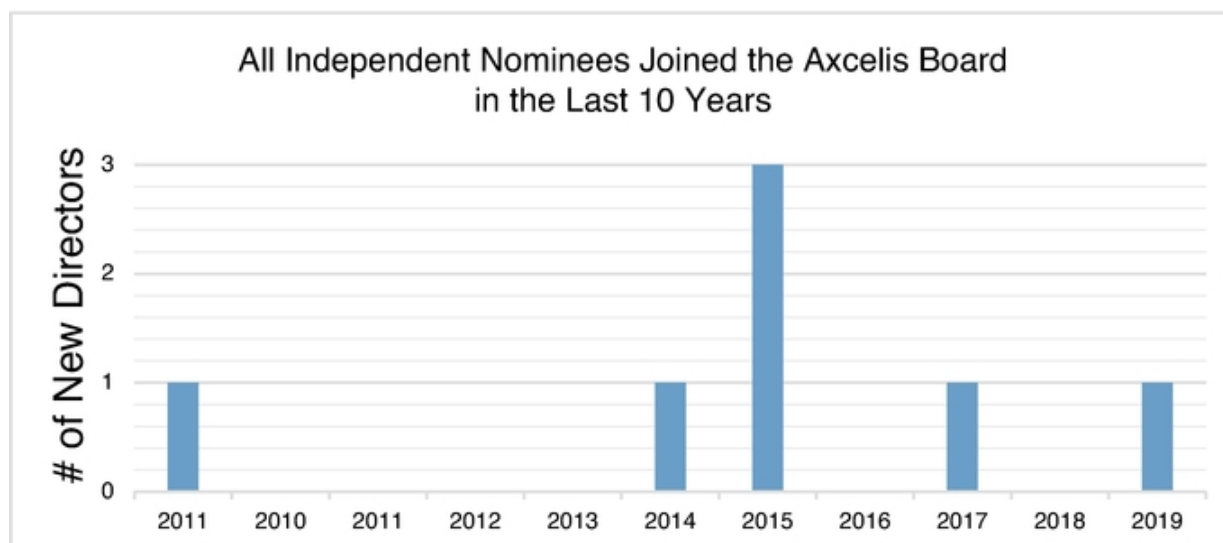
Outcome of Outreach Efforts and Investor Interest. We found our direct interactions with investors extremely informative and valuable, and we are very appreciative of the time that our investors took to speak with us. We also value the expressions of interest from investors and other participants in 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

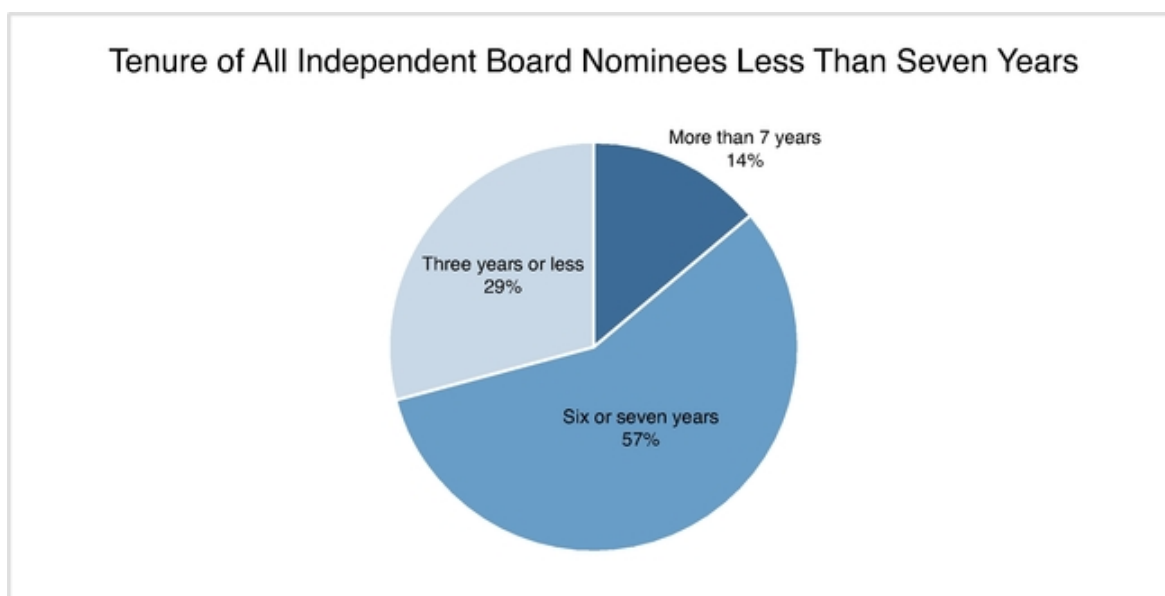
Our Board of Directors has fixed the number of directors at eight, effective as of the 2021 annual meeting. The number of directors is subject to increase or decrease by action of the Board. Our Board of Directors is nominating all of the current directors for re-election at the 2021 annual meeting, except for R. John Fletcher, who is retiring 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 "Investors—Governance Documents" page on our website at Axcelis.com. This retirement policy has no exemptions or conditions. Since its adoption in 2015, five incumbent directors, including Mr. Fletcher, have not been eligible for re-nomination as a result of the retirement policy.

Each nominated director will, if elected, hold office for a term of one year until our annual meeting in 2022 and until the director's successor is elected and qualified. Each of the Board's nominees has consented to serve if elected. However, if any nominee is unable to serve, proxies will be voted for any other candidate nominated by the Board. The Board recommends a vote FOR each of the eight Axcelis nominees. The seven 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.*"

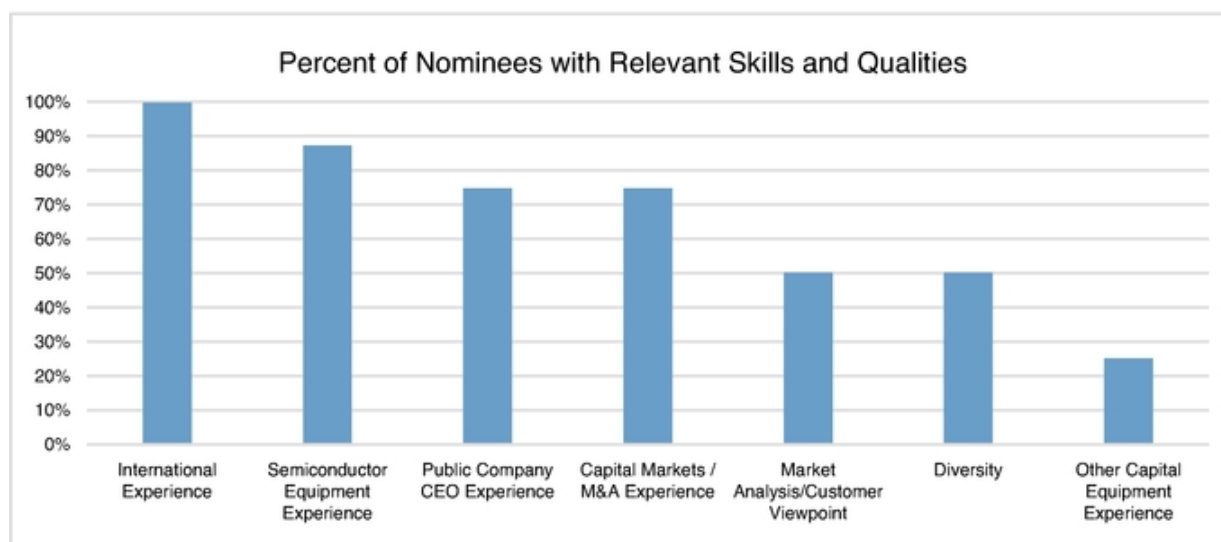
Axcelis has completely refreshed the independent directors on its Board in the last 10 years:



As a result of this Board refreshment, the average tenure of the seven Axcelis independent director nominees is less than six years, with all but one director serving for fewer than seven years:



Our director nominees bring a strong mix of relevant experience, as shown in the chart below:



In addition to our nominees' experience-based skills, we are proud of the diversity represented by the slate of nominees. Mr. George is an African American, Mr. Titingier is an Hispanic American, Dr. Chiu is an Asian American and our CEO and Board member, Mary G. Puma, is a woman. As disclosed in the charts under "*Stockholder Engagement—Responsiveness to Stockholder Interest in Diversity and Inclusion Issues*" above, white non-Hispanic men represent only four out of eight nominees, or 50% of our nominees for the 2021 Annual Meeting. As future Board openings occur, the Board is committed to nominate a second woman with the right skills to contribute to the Company's success.

Based on this evaluation of the current Board members, 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 continue to serve as a director of Axcelis for a one year term.

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:

2021 NOMINEES FOR ELECTION TO THE BOARD OF DIRECTORS

Tzu-Yin ("TY") Chiu: director since 2018, age 64

Business Experience and Other Directorships

Dr. Tzu-Yin Chiu has served as President of National Silicon Industry Group, since April 2020 ("NSIG"). NSIG is the parent company of Zing Semiconductor Corporation, a provider of high-quality semiconductor wafer research and development, production and sales, of which Dr. Chiu has served as Chief Executive Officer since May 2019. Dr. Chiu retired as the non-executive Vice Chairman of Semiconductor Manufacturing International Corporation ("SMIC"), a leading semiconductor foundry in China, in July 2018. Dr. Chiu served in that position following his retirement as SMIC's CEO in May 2017, a position he assumed in August 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. 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). He is also a member of the Board of Directors of EverDisplay Optronics (Shanghai) Co., Ltd.; 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 will be particularly valuable to Axcelis as that market grows. Dr. Chiu has served on the Technology and New Product Development Committee and the Nominating and Governance Committee since his election in May 2019.

Richard J. Faubert: director since 2015, age 73

Business Experience and Other Directorships

Richard J. Faubert has served as Chairman of the Board of Directors of the Company since May 2018. He retired as President, Chief Executive Officer and Chairman of AmberWave Systems Corporation, a semiconductor technology company, in 2010, where he had served since 2003. From 1998 through 2002, Mr. Faubert served as President, Chief Executive Officer and Director of SpeedFam-IPEC, Inc., a manufacturer of semiconductor equipment. Upon the sale of SpeedFam-IPEC to Novellus Systems, Inc., a semiconductor capital equipment manufacturer, Mr. Faubert served as Executive Vice President of Novellus Systems until April 2003. Prior to his employment with SpeedFam-IPEC, Mr. Faubert held executive and management positions at Tektronix, Inc., a test, measurement, and monitoring company, and GenRad, Inc., an electronics testing and manufacturing company. Mr. Faubert served on the Board of Directors of Electro Scientific Industries, Inc., a provider of laser-based manufacturing solutions for the microtechnology industry, from 2003 to 2015, and on the Board of Directors of RadiSys Corporation, a provider of wireless infrastructure solutions for telecom, aerospace, and defense applications, from 1993 until 2012. Mr. Faubert also served on the North American Advisory Board of SEMI, a global industry association serving the manufacturing supply chain for the micro- and nano-electronics industries, from 2001 to 2011.

Experience, Qualifications and Attributes

Mr. Faubert's qualifications to serve as Chairman of the Board and as an independent director include his extensive technology leadership experience in the semiconductor capital equipment industry. He also brings significant manufacturing, engineering, research and development, business and operations experience in a high technology environment. Mr. Faubert served on the Nominating and Governance Committee and the Technology and New Product Development Committee from his election to the Board in May 2015 until May 2018, when he was elected as Chairman of the Board, and moved from the Nominating and Governance Committee to the Compensation Committee. He remains on the Technology and New Product Development Committee. The Board highly values Mr. Faubert's contributions in these roles.

Arthur L. George, Jr.: director since 2014, age 59

Business Experience and Other Directorships

Mr. George retired in 2014 after a 30 year career at Texas Instruments, one of the world's largest semiconductor companies and a highly innovative, high performing global leader in analog, embedded processing and wireless technologies. Mr. George's career began in 1984 as a test engineer in TI's Logic Operations, and he most recently served as Senior Vice President and Manager of TI's Analog Engineering Operations, a position he held from 2010. Prior to that, beginning in 2006, Mr. George served as Senior Vice President and General Manager of TI's High Performance Analog business unit. Mr. George also serves on the Board of Directors of Nordson Corporation, a manufacturer of precision dispensing equipment for industrial liquid and powder coatings, adhesives, and sealants.

Experience, Qualifications and Attributes

Mr. George brings to the Board significant executive general management experience as well as extensive operational and new product development experiences in high technology markets. Mr. George's experience with Texas Instruments' high performance analog products used in a wide range of industrial products gives him insight into the semiconductor and semiconductor capital equipment industries and affords the Board a unique perspective in identifying strategic opportunities and tactical risks attendant to the semiconductor electronics market. Mr. George has served on the Compensation Committee and the Technology and New Product Development Committee since May 2014. He served as the Chairman of the Technology and New Product Development Committee from August 2017 until May 2020, when he became Chairman of the Compensation Committee. The Board highly values Mr. George's contributions in these roles.

Joseph P. Keithley: director since 2011, age 72

Business Experience and Other Directorships

Mr. Keithley is the retired Chairman and CEO of Keithley Instruments, Inc., a provider of measurement solutions to the semiconductor, fiber optics, telecommunications and electronics industries, having served as Chairman from 1991 to 2010, as Chief Executive Officer from 1993 to 2010 and as President from 1994 to 2010. Mr. Keithley was a director of Nordson Corporation from 2001 to November 2020, serving as the non-executive Chairman of the Board from 2010 until 2019. Nordson is a manufacturer of precision dispensing equipment for industrial liquid and powder coatings, adhesives, and sealants. Mr. Keithley also served as a director of Materion, Inc., an integrated producer of high performance specialty engineered materials used in a variety of electrical, electronic, thermal and structural applications from 1997 until 2018.

Experience, Qualifications and Attributes

Mr. Keithley brings extensive, broad-based international business and executive management and leadership experience from his leadership roles at Keithley Instruments, Inc. to his role as a member of our Board of Directors. Among other things, Mr. Keithley draws upon his extensive knowledge in the global semiconductor and electronics industries garnered while leading Keithley Instruments, Inc. Mr. Keithley also has extensive public company board and governance experience. Mr. Keithley has served as a member of the Audit Committee since joining the Board in 2011 and the Board has benefited from his continuing service on that committee. In addition, Mr. Keithley served as a member of the Technology and New Product Development Committee until May 2015, at which time he joined the Nominating and Governance Committee as chair. The Board highly values his contributions in these roles.

John T. Kurtzweil: director since 2015, age 64

Business Experience and Other Directorships

Mr. Kurtzweil is an independent consultant. 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 joined the Board of Directors of Skywater Technology Foundry, Inc. in October 2020. SkyWater is a US semiconductor foundry specializing in custom technology development services and volume manufacturing for integrated circuits and micro devices.

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 \$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. His qualifications to serve as a director also include that he is a certified public accountant and certified management accountant, 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 Chairman 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.

Mary G. Puma: director since 2000, age 63

Business Experience and Other Directorships

Ms. Puma is Axcelis' Chief Executive Officer and President. Ms. Puma also served as Chairman of the Board from 2005 to 2015. Prior to becoming Chief Executive Officer in 2002, Ms. Puma served as President and Chief Operating Officer from 2000. In 1998, she became General Manager and Vice President of the Company's predecessor, the Implant Systems Division of Eaton Corporation, a global diversified industrial manufacturer. In 1996, she joined Eaton as General Manager of the Commercial Controls Division. Prior to joining Eaton, Ms. Puma spent 15 years in various marketing and general management positions for General Electric Company. Ms. Puma is also a director of Nordson Corporation, a manufacturer of precision dispensing equipment for industrial liquid and powder coatings, adhesives, and sealants, and of Semiconductor Equipment and Materials International (SEMI), a global industry association serving the manufacturing supply chain for the micro- and nano-electronics industries.

Experience, Qualifications and Attributes

Ms. Puma's long experience in our industry, as well as her role as Axcelis' Chief Executive Officer and President allow her to provide essential insight into the Company's past and current business operations which is critical to the Board's decision-making in all financial and operational matters affecting Axcelis. Ms. Puma's strong leadership during challenging periods of the Company's history, notably her oversight of a complete revitalization of the Company's product lines while implementing substantial cost reductions, have been highly valued by the Board.

Thomas St. Dennis: director since 2015, age 67

Business Experience and Other Directorships

Thomas St. Dennis is the non-executive Chairman of FormFactor, Inc., a leading provider of semiconductor wafer test technologies and expertise, a position he assumed in 2016. Prior to this, Mr. St. Dennis served as FormFactor's Executive Chairman 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. Mr. St. Dennis previously served as a director of Mattson Technology, Inc., a supplier of dry strip and rapid thermal processing equipment to the semiconductor industry from 2013 to 2016.

Experience, Qualifications and Attributes

Mr. St. Dennis'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 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 Chairman of the Technology and New Product Development Committee. The Board highly values his contributions in these roles.

Jorge Titinger: director since 2019, age 59

Business Experience and Other Directorships

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. in 2018. Mr. Titinger currently serves as a director of Cohu, Inc., a supplier of semiconductor test and inspection equipment and CalAmp Corp., a provider of mobile resource management telematics systems, software and subscription services for the Internet of Things market.

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 experience and skills are highly valued by our Board. On his election in 2019, Mr. Titinger joined the Audit Committee and the Compensation Committee. The Board highly values his contributions in these roles.

BOARD OF DIRECTORS

Board of Directors Independence and Meetings

The Board of Directors has determined that, other than Ms. Puma, all directors who served on the Board during 2020, who are nominated for re-election in 2021, are independent under the criteria established by Nasdaq. None of the directors, to the Company's knowledge, had any business, financial, family or other type of relationship in 2020 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 joined the Board of Directors of Skywater Technology Foundry, Inc. in October 2020. SkyWater, 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 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 was an executive of Skywater, which he is not. Accordingly, this relationship was not determined by the Board to impair the independence of Mr. Kurtzweil. See also "Corporate Governance—Certain Relationships and Related Transactions—2020 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 six meetings during 2020, and acted twice by unanimous written consent. Independent directors have regularly scheduled executive sessions at which only independent directors are present. None of our Board members attended less than 75% of the 2020 Board meetings and of those committees of which a director is a member, and the average rate of attendance at such 2020 meetings was 96%. Since Covid-19 related travel and social distancing restrictions are expected to continue through the date of the 2021 annual meeting, nominated Board members are not expected to attend the 2021 annual meeting of stockholders in person. Due to the Covid-19 pandemic, none of our Board members attended the annual meeting in 2020; only the Corporate Secretary and two other shareholders were present. All of the shares voted on the proposals at the 2020 annual meeting were represented through proxy voting.

Board of Directors Leadership Structure

Mr. Faubert has been Chairman of the Board of Directors since May 2018. He is an independent director (as defined in the listing standards for the Nasdaq Stock Market), as required for the Chairman position by our Governance Guidelines. Our Governance Guidelines enumerate the responsibilities of the Chairman. We believe this leadership structure serves the Company and our stockholders well by providing independent leadership of the Board of

Directors. However, the Board could modify our Governance Guidelines in the future to permit a non-independent Chairman, if they felt that was in the best interests of our stockholders. In that case, our policy has been to have an independent Lead Director who assumes most of the duties of the Chairman of the Board.

Chairman's Responsibility for an Annual Evaluation of the CEO

A critical responsibility of the Chairman of the Board under the Company's Governance Guidelines is to 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 Chairman, but currently involves the following steps:

- Annually, after the close of a fiscal year, the CEO submits a self-evaluation to the Chairman;
- The Chairman discusses the self-evaluation with the CEO and solicits input from other Directors in one-on-one conversations; and
- The Chairman 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.

2020 Director Cash Compensation. Non-employee director cash compensation in effect in the first half of 2020 was set January 2018. The Board adjusted the base retainer for all board members, as well as the retainers for the Chairman of the Board and the chairman of the Audit Committee, effective July 1, 2020. Non-employee director compensation is approved by the full Board of Directors on the recommendation of the Nominating and Governance Committee. The current retainers for each category of director service are set at approximately the median for each category, as shown in an April 2020 Pearl Meyer report using a peer group of companies identical to the roster used to benchmark executive compensation. See "*Executive Compensation—2020 Compensation Discussion and Analysis—Review of Executive Compensation in 2020.*"

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

Board Member Retainer	\$60,000
Independent Chairman Premium	\$50,000
<i>Committee Chairmen Retainers</i>	
Audit Committee Chairman	\$25,000
Compensation Committee Chairman	\$15,000
Nominating and Governance Committee Chairman	\$10,000
Technology and New Product Development Committee Chairman	\$10,000
<i>Other Committee Member Retainers</i>	
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 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.

Non-employee directors also receive reimbursement of reasonable and customary out-of-pocket expenses incurred in attending Board and committee meetings. In May 2020, the Nominating and Governance Committee adopted an Axcelis Board of Directors Expense Reimbursement Policy to standardize and clarify our reimbursement practices. 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 other Company-paid perquisites.

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

2020 Equity Awards. On May 12, 2020, 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, 2020, of restricted stock units ("RSUs") valued at \$150,000. This amount was \$20,000 more than the 2019 value for non-employee director RSUs, and was approximately equal to the median annual equity compensation for our peer group as reported in an April 2020 Pearl Meyer benchmarking report. The number of units was determined by dividing \$150,000 by a 30-day average closing price of the Company's common stock over a period ending May 12, 2020, which was \$21.80. In accordance with this formula, each non-employee director received a RSU exercisable for 6,881 shares of common stock. Using the grant date closing price of \$23.52, each director RSU grant had a value of \$161,841. These RSU grants became fully vested on November 15, 2020 (six months after the date of grant) as each director remained in service on that date.

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 2020:

Name	Fees earned or paid in cash (\$)	Stock awards (\$)(1)(2)(3)	Total (\$)
Tzu-Yin Chiu	\$ 65,000	\$ 161,841	\$ 226,841
Richard J. Faubert	\$ 102,500	\$ 161,841	\$ 264,341
R. John Fletcher	\$ 76,250	\$ 161,841	\$ 238,091
Arthur L. George, Jr.	\$ 73,750	\$ 161,841	\$ 235,591
Joseph P. Keithley	\$ 75,000	\$ 161,841	\$ 236,841
John T. Kurtzweil	\$ 85,000	\$ 161,841	\$ 246,841
Thomas St. Dennis	\$ 67,500	\$ 161,841	\$ 229,341
Jorge Titinger	\$ 72,500	\$ 161,841	\$ 234,341

- (1) The amount shown represents the grant date fair value of the equity awards received by the director in 2020 determined in accordance with the assumptions described in the Stock Award Plans and Stock-Based Compensation note to the Company's 2020 Financial Statements included in the Company's Annual Report on Form 10-K filed with the Securities and Exchange Commission.
- (2) The stock awards reflect the grant date fair value of 6,881 RSUs granted to each of non-employee directors elected on May 15, 2020. These awards vested as to 100% of the RSUs on November 15, 2020. At December 31, 2020, Dr. Chiu held 2,819 unvested RSUs, which will vest as to 1,409 shares in May 2021 and 1,410 shares in May 2022, and Mr. Titinger held 6,345 unvested RSUs, which will vest as to 2,115 shares on each of August 15, 2021, 2022 and 2023.
- (3) None of the non-employee directors received stock option grants in 2020. As of December 31, 2020, Mr. George held a stock option for 10,000 shares at a price of \$7.20, which was fully vested and expires in July 2021. No other non-employee director held stock options at year end 2020.

BOARD COMMITTEES

Our Board has standing Audit, Compensation, Nominating and Governance, and Technology and New Product Development Committees, each of which has a Chairman 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, Chairman• R. John Fletcher• Joseph P. Keithley• Jorge Titinger	<ul style="list-style-type: none">• Arthur L. George, Jr., Chairman• Richard J. Faubert• R. John Fletcher• John T. Kurtzweil• Jorge Titinger	<ul style="list-style-type: none">• Joseph P. Keithley, Chairman• Tzu-Yin Chiu• Thomas St. Dennis	<ul style="list-style-type: none">• Thomas St. Dennis, Chairman• Richard J. Faubert• Arthur L. George, Jr• Tzu-Yin Chiu

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 2020, the Audit Committee consisted of Mr. Kurtzweil (Chairman), Mr. Keithley, Mr. Fletcher, and Mr. Titinger. The Board of Directors determined that each of Messrs. Keithley, Kurtzweil, Fletcher and Titinger are 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.

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 2020, see the "*2020 Audit Committee Report*" below.

2020 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 2020, prior to the release of the financial results for the first, second and third quarters of 2020, respectively, and in February 2021, prior to the release of our fourth quarter and 2020 year-end results. The Audit Committee also 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, although during the Covid-19 pandemic, these meetings have been held via a video conference call. 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 and changes to the Audit Committee charter and other matters.

The Audit Committee met 10 times during 2020. 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 General Counsel also participated in all of these meetings. The Committee's agenda is established by the Committee's Chairman, 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 2021, 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 lead audit partner from Ernst & Young LLP rotated off the Axcelis account after filing the 2020 Form 10-K in the first quarter of 2021. A new audit engagement partner has been assigned. The Audit Committee provided oversight and input to the selection of this new Ernst & Young LLP partner. The next mandatory periodic rotation of Axcelis' lead audit partner at Ernst & Young LLP is scheduled to take place in 2026.

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 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 2020. At the 2020 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, 2020 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 2020 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, Chairman
Joseph P. Keithley
R. John Fletcher
Jorge Titingier

Compensation Committee

During 2020, the Compensation Committee consisted of Messrs. Fletcher, George, Kurtzweil, Faubert, and Titingier. Mr. Fletcher served as Chairman of the Compensation Committee until May 2020, at which time Mr. George became Chairman, in anticipation of Mr. Fletcher's retirement from the Board in 2021. Mr. Fletcher remained on the Committee. 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 2020, the Compensation Committee met four times. 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. In 2020, the charter of the Compensation Committee was amended to include a statement on 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 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 2020 compensation decisions are described in detail in "*Executive Compensation—2020 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 2020, 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 2020. 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 will meet alone with Ms. Puma in executive session. All decisions on executive compensation are made by the Compensation Committee in executive session without Ms. Puma present. 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 2020, see "*Executive Compensation—2020 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

During 2020, the Compensation Committee of the Board of Directors consisted of Mr. Fletcher (Chairman through May 20, 2020), Mr. George (Chairman after May 20, 2020), Mr. Kurtzweil, Mr. Faubert and Mr. Titingier. None of these directors has been an officer or employee of Axcelis or had a relationship during 2020 requiring disclosure under Item 404 of Regulation S-K.

Nominating and Governance Committee

During 2020, the Nominating and Governance Committee was comprised of Mr. Keithley (Chairman), Dr. Chiu 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 2020. 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.

Ensure we have an Independent Chairman of the Board: Our Governance Guidelines require that the Chairman of the Board be an independent director and specify the responsibilities of that role.

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 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 whole share 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—Chairman's 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 independent Chairman of the Board 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- and peer-evaluation prior to the re-election nomination process. These evaluations, along with other assessments, are taken into account 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, five incumbent directors, including Mr. Fletcher, 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, at least biennially, 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 the Chief Executive Officer has an employment agreement setting a minimum salary and bonus opportunity, with a one-year term.

Assert Executive Compensation Clawback Rights: Our policy authorizes the Board to seek recovery of incentive cash and equity compensation that complies with the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 and extends 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: Agreements with our executive officers provide for "double trigger" change of control benefits, due only if the employee experiences a qualifying termination of employment.

Require Multi-Year Vesting of Equity Awards: Under our equity incentive plan, equity grants to employees that are solely based on continued employment, service or the passage of time may not vest until the first anniversary of grant, and full vesting may not occur until the fourth anniversary of grant, except for grants received in lieu of cash compensation otherwise due.

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 insures 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 on that site.

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 their own performance and of 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 both 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 Chairman of the Nominating and Governance Committee and one-on-one interviews between the Chairman 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 2020, we used the Board's internet portal to collect the Board evaluation input, which was then reviewed by the Chairman 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 Chairman of the Nominating and Governance Committee provides a verbal summary of the feedback he received, first to the Nominating and Governance Committee and then to the full Board. Depending on the feedback received, the Chairman of the Board may have been consulted prior to the November meeting on specific potential outcomes from the feedback.

Under our Governance Guidelines, the Chairman of the Board and the Chairman 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 Chairman of the Board 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 Product Development and Engineering functions. These conversations mainly relate to agenda items, presentation content and the need to obtain external reports 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) 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 2022 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 December 1, 2021 (120 days before the anniversary date of the mailing of this Proxy Statement). Any such proposal should comply with the requirements of SEC Rule 14a-8.

If you wish to bring business before or propose director nominations at the 2022 annual meeting, you must give written notice to Axcelis between January 12, 2022 and February 11, 2022 (the dates 120 days and 90 days, respectively, before the anniversary of the 2021 annual

meeting). These dates assume that the 2022 annual meeting is held not more than 30 days before or 30 days after May 12, 2022. If that is not the case, you must give written notice to Axcelis between the date 120 days before the 2022 annual meeting date and the later of (A) 90 days before the 2022 annual meeting date or (B) the date 10 days after public announcement of the 2022 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 Nominating and Governance Committee has not adopted an explicit policy promoting the nomination of candidates who are diverse in race, gender, ethnicity, religion, nationality, disability, sexual orientation, socio-economic background, or in other aspects. However, as disclosed in the charts under "*Stockholder Engagement—Responsiveness to Stockholder Interest in Diversity and Inclusion Issues*" above, white non-Hispanic men represent only 50% of our nominees for the 2021 Annual Meeting. As future Board openings occur, the Board is committed to nominate a second female director with the right skills to contribute to the Company's success.

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 Internal Revenue Code ("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 person transactions which are disclosable under Item 404 of Regulation S-K. In its charter, the Nominating and Governance Committee is given responsibility to review and approve any such related person 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.

2020 Related Person Disclosures

During 2020, 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 part of 2020, Mr. Kurtzweil served as a director of SkyWater Technology Foundry, Inc., a customer of the Company. In 2020, Skywater purchased goods and services from Axcelis for payments that exceeded \$120,000 and these business transactions have continued in 2021. 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.

Two of the current Board members nominated for re-election (Mr. George and Ms. Puma) are also Board members of Nordson Corporation. The Company has no business relationship with Nordson Corporation.

Risk Oversight by the Board of Directors

Axcelis' business involves many unavoidable operational and financial risks which management and our Board seek to mitigate through careful planning and execution. Our risks include:

- 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 2020 Annual Report on Form 10-K filed with the SEC and which serves as the Annual Report to Stockholders accompanying this Proxy Statement.

The Board of Directors has two primary methods of overseeing risk. The first method is through an Enterprise Risk Management process, which allows for full Board oversight of the most significant risks facing the Company. The second is through the functioning of the Board committees. 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. At each quarterly Board meeting, senior management provides a report 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. 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 Audit Committee also reviews the Company's activities to mitigate cybersecurity risk, which include network security improvements, management's on-going monthly employee cybersecurity training, and other measures to protect its systems and data from unauthorized access or misuse. The Audit Committee undertakes an annual review of these cybersecurity risks, with follow-up discussions as needed. 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—2020 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. In order to ensure that longer term risks are also considered by the Board in a timely and consistent matter, the full Board dedicates one quarterly meeting each year to review and approve a strategic plan and to review and approve a profit plan. These plans are used to manage the business throughout the year. Finally, the Board dedicates a quarterly meeting each year to an executive talent review, which includes a review and discussion of succession planning for the CEO, the other executive officers, and other key management positions.

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 2021 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 2020 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 Chief Executive 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.

Subject to pandemic-related restrictions, representatives of Ernst & Young LLP may 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:

	2019	2020
Audit Fees	\$1,728,553	\$1,777,392
Audit Related Fees	\$26,628	\$31,710
Tax Fees	\$117,909	\$89,429
Total Fees	<u>\$1,873,090</u>	<u>\$1,898,531</u>

Audit fees include statutory audits for subsidiaries and branches operating in countries outside of the United States and assistance with registration statements and other periodic filings. 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 and professional services related to tax return preparation.

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 services. Under the Committee's pre-approval policy, once the Audit Committee has reviewed 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 whether the work product is likely to be subject to, or implicated in, audit procedures during the audit of our financial statements, whether the independent auditor would be functioning in the role of management or in an advocacy role, whether the independent auditor's performance of the service would enhance our ability to manage or control risk or improve audit quality, 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 whether the amount of fees involved, or the proportion of the total fees payable to the independent auditor in the period that is for non-audit services, 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 2019 and 2020 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 2021 notwithstanding a negative stockholder vote.

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

PROPOSAL 3: ADVISORY VOTE REGARDING EXECUTIVE COMPENSATION

This proposal asks the stockholders to approve the 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 2020 compensation provided to the NEOs may be found in the "*Executive Compensation—2020 Compensation Discussion and Analysis*" and the accompanying tables in this Proxy Statement. Key features of NEO compensation in 2020 were:

- **2020 Target Pay was a Balanced Mix of Base and Short- and Long-Term Incentive Pay with a Strong Emphasis on Performance Based Awards.** In 2020, the NEOs received base pay, a target annual cash incentive, and RSU equity compensation (half of which were performance based) that aligned well with elements of peer executive compensation targets. Combining the annual cash incentive with the performance based RSUs, 50% of the total target compensation of the Company's chief executive officer (Mary G. Puma) was subject to achievement of specific performance goals, and an average of 44% of the other NEOs' 2020 total target compensation was similarly performance based.
- **2020 Realized Cash Incentive Compensation was Above Target.** In line with the financial performance of the Company in 2020, the performance based compensation realized by the NEOs under the 2020 Axcelis Management Incentive Plan was above target pay as a result of the Company's above plan revenues, profitability and gross margin. See "*Executive Compensation—Summary of Axcelis 2020 Executive Compensation—2020 Business Environment*" below.
- **2020 Performance Based Equity Awards were Fully Earned.** All of the performance based RSUs granted in 2020 were earned by the NEOs based on the achievement of seven of nine 2020 operational goals, each weighted 20%, with a maximum achievement of 100%. The earned 2020 performance RSUs vested 50% in February 2021 and the remaining 50% will vest in February 2022, subject to continuation of employment.
- **2020 Realized Total Compensation was Above Target.** As a result of the payout on the 2020 Axcelis Management Incentive Plan, the Company's chief executive officer received 115% of her target pay for 2020, and, on average, the other NEOs, received 116% of their target pay for 2020 (assuming 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 take into account 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 2020 compensation of the Company's named executive officers.

EXECUTIVE COMPENSATION

2020 Compensation Discussion and Analysis

This 2020 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 principal executive officer (Mary G. Puma), principal financial officer (Kevin J. Brewer), and the three most highly compensated other executive officers serving at December 31, 2020, who are included in the *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 2020.

Executive Summary of Axcelis 2020 Executive Compensation

2020 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 Satisfaction and Innovation team, which sells spare parts, equipment upgrades, maintenance services, used tools, and customer training.

2020 was a strong year for the semiconductor equipment industry, despite the global Covid-19 pandemic and relatively low memory spending. In 2020, Axcelis maintained its focus on driving Purion growth in key markets, while continuing to prioritize the health of our employees, achieving the following in 2020:

- We shipped the first Purion XEmax for image sensors, and the first Purion H200 for the power device market.
- We also shipped the first Purion to a customer in Japan.
- Our Beverly facility ran at full manufacturing and lab capacity, with all others working from home, despite the challenges and disruptions of the Covid-19 pandemic.
- Strong execution across the board and significant leverage in our business model delivered a 140% increase in operating profit on revenue growth of 38%, even during a continuing memory slow down.

2020 Say-on-Pay Vote

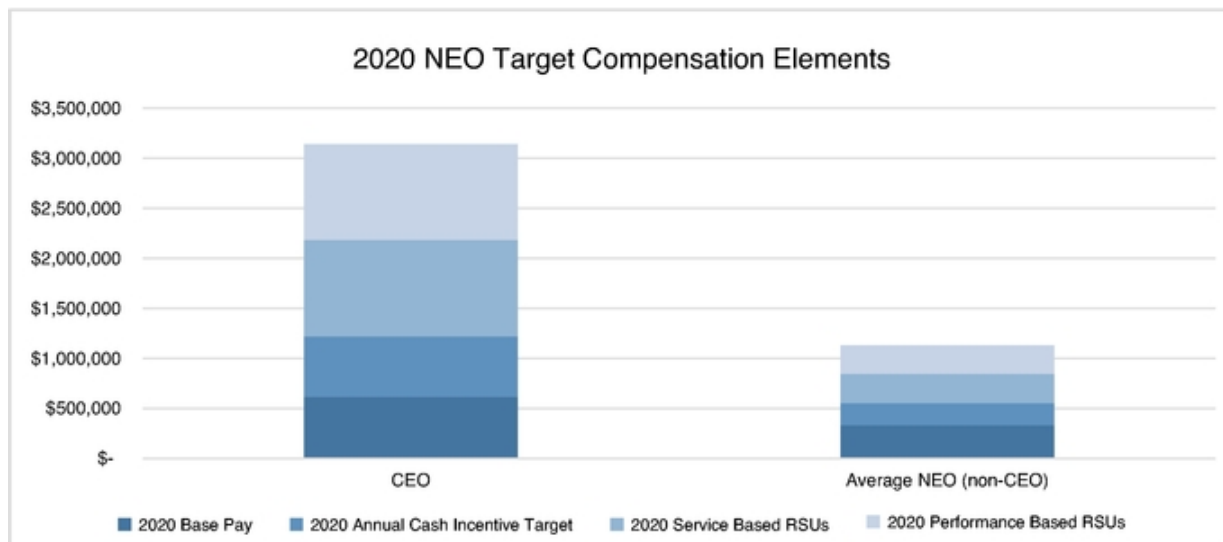
At our 2020 annual meeting, approximately 97.0% of votes cast were in favor in the advisory vote on 2019 executive compensation. The Compensation Committee of our Board of Directors considered that the results of the 2020 Say-on-Pay vote validated our general approach

to executive compensation. The overall structure of our 2020 executive compensation was unchanged from that in 2019.

2020 Executive Target Compensation Balanced Service and Performance Based Components.

- Base salary represented 20% of the 2020 total target compensation of the Company's chief executive officer (Mary G. Puma) and an average of 30% of the other NEOs' 2020 total target compensation.
- In 2020, both the CEO's cash compensation and the CEO's equity compensation were equally divided between service based components and performance based components, with the performance based components totaling 50% of the CEO's total target compensation. For the other NEOs, on average, performance based components represented 44% of the total target compensation.
- Each NEO received two 2020 RSU grants having equal value at grant: one with four year service based 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 based vesting overlay. Using the value approved by the Compensation Committee, these RSU grants represented 61% of total target compensation for the CEO and 50% of the other NEOs' 2020 total target compensation, on average.

The 2020 target compensation elements for the CEO and the average NEO other than the CEO are shown in the chart below:

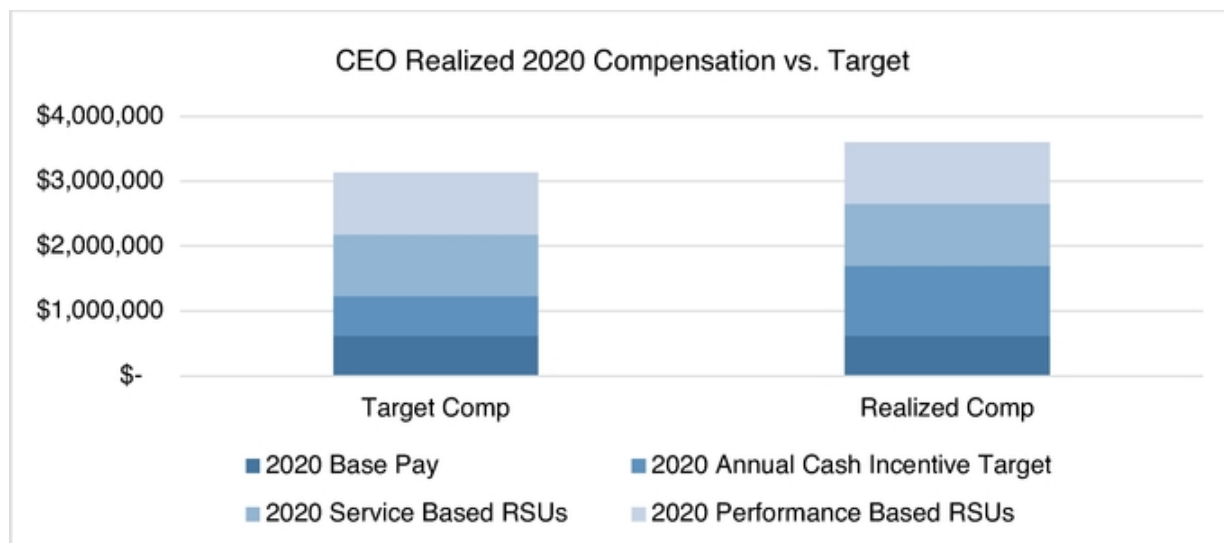


2020 Realized Compensation was Above Target.

In line with the financial performance of the Company in 2020, the performance based compensation realized by the NEOs in 2020 was above target pay as a result of the Company's above plan revenues, profitability and gross margin. See "Executive Compensation—Summary of Axcelis 2020 Executive Compensation—2020 Business Environment" above. All of the performance

based RSUs granted in 2020 were earned by the NEOs based on the achievement of seven of nine 2020 operational goals, each weighted 20%. The earned 2020 performance RSUs vested 50% in February 2021 and the remaining 50% will vest in February 2022, subject to continuation of employment. As a result of the payout on the 2020 Axcelis Management Incentive Plan, Ms. Puma, the Company's chief executive officer, received 115% of her target pay for 2020, and, on average, the other NEOs received 116% of their target pay for 2020, assuming all earned 2020 performance based and service based RSUs vest over the remaining service periods.

The chart below compares our CEO's 2020 realized compensation to her 2020 target compensation:



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 2020

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 2020 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 2020 compensation were made with reference to a full benchmarked review of executive compensation provided by Pearl Meyer in August 2018 and on updates on specific topics obtained from Pearl Meyer in 2019 and early 2020. These Pearl Meyer reports covered both cash and equity compensation for each of the executive officer positions at Axcelis in comparison to market data. Pearl Meyer has since provided a full benchmarked review of executive compensation in October 2020, which will be used to set 2021 executive compensation.

In 2020, the Compensation Committee, together with management and Pearl Meyer, reviewed the companies selected as peer companies for compensation benchmarking. Since 2018, the number of the Company's identified peer companies had reduced from 14 to 11 (Electro Scientific Industries, Inc. and Xcerra Corporation had been consolidated into other companies, and Nanometrics Incorporated and Rudolph Technologies, Inc. had merged to create Onto Innovation). Pearl Meyer advised the Company that 14 or 15 peer companies is most common for compensation benchmarking.

The Committee agreed that companies that make semiconductor devices are not appropriate peers for the Company, given the differences in business models. The Committee

established three attributes that appropriate compensation peer companies should have: (1) principally engaged in the manufacture of expensive equipment, (2) maintaining strategic, direct selling functions and (3) conducting a large aftermarket business. Based on this discussion, in August 2020, the Committee reviewed a recommendation from Pearl Meyer on three companies identified as candidates for the Company's compensation peer group. The Committee, management and Pearl Meyer discussed this recommendation, and also reviewed the peer companies selected as Axcelis peers by ISS and Glass Lewis, those companies that have chosen Axcelis as a peer, and the peer companies chosen by Axcelis' peer companies. The Committee also reviewed an analysis of the members of the proposed peer group that showed that there was no material correlation between each of these company's revenue levels and the total target CEO compensation at those companies, and that higher revenue companies in the proposed peer group did not move the CEO median compensation higher. Following this review, in August 2020, the Committee approved the addition of two new companies, 3D Systems Corporation and Fluidigm Corporation, to the Company's compensation peer group for future compensation benchmarking.

Accordingly, the Company's current peer group for compensation purposes is comprised of the following 13 companies:

- 3D Systems Corporation
- Advanced Energy Industries, Inc.
- Brooks Automation, Inc.
- CMC Materials, Inc. (formerly known as Cabot Microelectronics Corporation)
- Cohu, Inc.
- Fluidigm Corporation
- FormFactor, Inc.
- Ichor Holdings, Ltd.
- Kulicke and Soffa Industries, Inc.
- Onto Innovation Inc.
- Photronics, Inc.
- Ultra Clean Holdings, Inc.
- Veeco Instruments Inc.

The Committee will review the peer group again prior to the next executive compensation benchmarking exercise, expected to be in 2022.

In developing their reports for the Committee, Pearl Meyer obtained compensation information for Axcelis' peers from proxy statements and other filings available at that time. 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.

In Pearl Meyer's October 2020 report, the total target direct 2020 compensation of each NEO fell between the 25th and 50th percentile rank of the market data. The benchmarking showed that in general the NEO cash compensation was aligned to the market, but that the NEO

equity award values fell below median levels. The Committee will take this input into consideration in fixing 2021 executive compensation.

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 based 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 2020, 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. No changes were made to NEO base pay were made by the Compensation Committee in 2020, other than to approve an increase to Russell Low's pay effective in January 2021, reflecting his assumption of responsibility for the Company's Global Customer Operations in addition to our Engineering function.

Annual Cash Incentive—2020 Axcelis Management Incentive Plan

In February 2020, the Compensation Committee adopted the Company's annual cash incentive plan, the 2020 Axcelis Management Incentive Plan (the "2020 AMI"). Approximately 275 management-level employees participated in the 2020 AMI, each of whom was assigned a target payout, expressed as a percent of base salary paid for the year. As in 2019, the Committee set

the 2020 AMI target for Ms. Puma at 100% of her base salary. Mr. Brewer's 2020 AMI target was increased in 2020 to 75% to align with benchmarking. The 2020 AMI targets for the other NEOs remained at 60% of their respective 2020 base salary.

Based on the relevance of gross margin to the Company's long term goals, the Committee added gross margin to revenue and operating profit as the metrics for the 2020 AMI. Revenue growth over time is critical for the Company, an indicia 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 2020 AMI, setting 0%, 100% and 200% funding scores for 2020 revenue, operating profit and gross margin.

Full Year Targets, in millions, except Gross Margins Score	Threshold Results- 80% of 2020 Plan Revenues	2020 Profit Plan	Maximum Level- 115% of 2020 Plan Revenues	Weighting of Metric
	25%	100%	200%	
2020 Revenue	\$ 336.2	\$ 420.2	\$ 483.3	50%
2020 Operating Profit before annual cash incentive plan payout	\$ 14.4	\$ 49.5	\$ 73.4	25%
2020 Gross Margins, after payout	40.0%	41.5%	42.5%	25%

The target profit plan revenues in 2020 were 23% higher than in 2019. The levels of revenue and operating profit in the 2020 AMI were chosen so that the revenue and operating profit expected in the 2020 profit plan would result in a 100% AMI funding, with the minimum and maximum levels set at a reasonable range around the expected performance, ranging from 80% of the planned revenues to 115% of the planned revenues, with appropriate operating profit levels for those 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 2020 AMI funding level was capped at a 200% payout.

Under the 2020 AMI plan design, after year end, actual 2020 financial performance is compared to these metrics, and a weighted score developed. Each of the metrics is scored by placing the 2020 results between the two applicable goal posts (0% 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 2020 AMI would have equaled approximately \$7.8 million. The Compensation Committee had the authority to adjust the funding for extraordinary items and other qualitative aspects of the Company's 2020 performance (using benchmarks and budgets) to ensure that the funding score reflected actual performance and not extraordinary events and was otherwise appropriate. As designed, actual payouts equal the individual participant's target payout multiplied by the AMI score.

In February 2021, the Compensation Committee determined that the final 2020 AMI funding score was 176.7%, based on the Company's revenue, operating profit and gross margin for the year, with the resulting scores shown in the chart below:

2020 AMI Results, in millions, except Gross Margins	2020 Results	Score	Weighting	Capped and Weighted Score
2020 Revenue	\$ 474.56	186.1%	50.0%	93.1%
2020 Operating Profit before annual cash incentive plan payout	\$ 77.88	218.7%	25.0%	50.0%
2020 Gross Margins, after payout	41.85%	134.6%	25.0%	33.6%
Total Score				176.7%

This funding score resulted in the 2020 non-equity incentive plan compensation to the NEOs as shown in the *2020 Summary Compensation* table below. A payout of the 2020 AMI was made in February 2021.

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. Ms. Puma is required to own shares having a value equal to three times her base salary. The other NEOs are required to own the lesser of 16,250 shares, or shares having a value equal to 1.5 times their base salary. 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 unvested 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.

It is the Committee's general practice to approve equity awards with a future effective date, usually on 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.

2020 Annual Equity Grants. In February 2020, the Compensation Committee determined that, as in the prior year, RSUs would be used as the form of equity compensation for the annual executive equity grants, with 50% of the total annual grants vesting on a service basis alone, and 50% to be earned based on the achievement of performance goals, followed by service based vesting.

In February 2020, the Compensation Committee fixed values for the 2020 RSU grant to each NEO at the same level as in 2019, which was approximately the median peer group and survey benchmark for the position, as reported by in Pearl Meyer's August 2018 report. 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 2020 RSU grants to NEOs are set forth in the *Grants of Plan Based Awards in Fiscal 2020* table below.

The Committee determined that 50% of the 2020 RSUs would vest based on the executive's service to the Company over a four year period. Accordingly, the service based RSUs granted in May 2020 will vest at the rate of 25% on each of the first four anniversaries of the date of grant until fully vested in May 2024 (assuming continuation of employment). The remaining 50% of the 2020 RSUs were granted on terms that provided the RSUs must be earned on achievement of 2020 performance goals. The 2020 performance RSUs granted by the Committee would be either forfeited or earned, in whole or in part, based on management's attainment of up to nine performance goals, where each goal counted for 20%, so the achievement of five goals would entitle the executive to receive his or her full performance RSU grant. With the annual cash incentive plan focused on current year financial results, the Committee used these annual equity awards to focus the NEOs on achieving near term milestones that were essential for the Company's long term growth.

The 2020 performance RSUs were designed to drive the completion of specific operational goals in 2020. These goals were selected for their ability to contribute to the Company's achievement of its long term business models that contemplate reaching first \$550 million and then \$650 million in annual revenue, resulting in high profitability and market share. As in prior years, the Committee used the performance RSUs to keep management's focus on critical, well-understood, initiatives rather than on broad financial metrics. These operational goals related

to specific customer penetrations, specific product introductions, and other tactical goals with strategic implications. Unlike broad financial metrics, which can be set over multiple years, the type of foreseeable operational goals selected by the Committee are by nature more 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 2020 RSU performance goals related to: (i) obtaining a follow-on order for the Purion Dragon system from a specific customer; (ii) establishing evaluation placements for the Purion Dragon, Purion XEmax and the Purion H200 systems; (iii) growth in our operations in Japan; (iv) penetration of a specific customer with a Purion system; (v) achieving a targeted level of Purion high current sales; (vi) achieving a targeted level of improvement in Purion warranty standards; and (vii) achieving a unit sales target for a specific upgrade. 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. Each of the nine objectives was weighted 20%, so achievement of five goals would result in 100% vesting. The 2020 performance RSU terms did not contemplate either partial achievement of a goal or more than 100% vesting. Performance RSUs that are earned through goal achievement are also subject to service based terms, in which 50% of the earned RSUs vest in 2021 and 50% in 2022.

In February 2021, the Compensation Committee determined that the Company met seven of the nine performance objectives, and accordingly, 100% of the 2020 performance RSUs were earned and would vest in accordance with the two year schedule, assuming continuation of employment.

Employment and Change of Control Agreements

The Company has had an Employment Agreement with Ms. Puma since November 2007 that provides for a one-year term of employment at a minimum annual base salary of \$500,000, an annual target incentive compensation opportunity of 100% of base salary, and severance upon a qualifying termination of employment. No action was taken by the Compensation Committee in 2020 relating to this Employment Agreement, which renews automatically each year. See "*Payments on Termination or Change of Control—Employment Agreement with Ms. Puma*" below.

The Company has Executive Separation Pay Agreements with each of the NEOs other than Ms. Puma entered into in 2019. These 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. 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 2020. See "*Payments on Termination or Change of Control—Executive Officer Separation Pay Agreements*" below.

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 Ms. Puma, under her Employment Agreement). 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 2020. 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 2020, 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 *2020 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 an Employee Stock Purchase Plan, a voluntary IRC Section 423 plan in which employees may purchase Axcelis shares through salary deductions. In 2020, none of the NEOs participated in either the Employee Stock Purchase Plan adopted in 2000 which expired on June 30, 2020, or the 2020 Employee Stock Purchase Plan which became effective on July 1, 2020.

Executive Compensation Clawback Policy

In 2014, the Board of Directors adopted an Executive Compensation Clawback Policy which authorizes the Board to seek recovery of incentive cash and equity compensation as contemplated by Section 954 of the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010. In addition, the Company's policy authorizes a clawback of incentive compensation (including both cash and equity awards) in the event of any violation of an agreement with the Company or of any policy of the Company (which would include violations of the Company's Ethics policy or any applicable law) and also in the event of a voluntary departure to work for a competitor.

Risk Assessment of Compensation Policies and Practices

In 2020, 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, and tied to actual receipt of payments from the customer;
- 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 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.

Our stock options and performance based RSUs were intended to be "qualified performance-based compensation" in 2017 and earlier years, and those equity grants outstanding at November 2, 2017 should continue to be exempt from the \$1 million deduction limitation under Section 162(m). However, it is possible that awards intended to qualify for the tax deduction will not qualify if all requirements of the "qualified performance-based compensation" exemption are not met.

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.

2020 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,

Arthur L. George, Jr., Chairman
R. John Fletcher
John T. Kurtzweil
Richard J. Faubert
Jorge Titingier

2020 Summary Compensation Table

Name and Principal Position	Year	Salary (\$)(1)	Stock awards (\$)(2)	Non-equity incentive plan compensation (\$)(3)	All other compensation (\$)(4)	Total (\$)
Mary G. Puma, Chief Executive Officer and President	2020	\$ 638,654	\$ 2,049,909	\$ 1,128,501.0	\$ 8,550	\$ 3,825,614
	2019	\$ 590,250	\$ 1,562,091	\$ —	\$ 8,400	\$ 2,160,741
	2018	\$ 585,000	\$ 1,457,075	\$ 556,335	\$ 8,250	\$ 2,606,660
Kevin J. Brewer, Executive Vice President and Chief Financial Officer	2020	\$ 407,077	\$ 782,181	\$ 539,479	\$ 8,550	\$ 1,737,287
	2019	\$ 378,431	\$ 596,065	\$ —	\$ 8,825	\$ 983,321
	2018	\$ 387,423	\$ 704,256	\$ 232,535	\$ 8,250	\$ 1,332,464
William Bintz, Executive Vice President, Product Development	2020	\$ 342,692	\$ 593,410	\$ 363,322	\$ 9,050	\$ 1,308,474
	2019	\$ 318,577	\$ 452,177	\$ —	\$ 8,400	\$ 779,154
	2018	\$ 330,000	\$ 364,269	\$ 188,298	\$ 8,250	\$ 890,816
Russell J. Low, Executive Vice President, Engineering (title during 2020)	2020	\$ 342,692	\$ 593,410	\$ 363,322	\$ 8,550	\$ 1,307,974
	2019	\$ 318,577	\$ 452,177	\$ —	\$ 8,400	\$ 779,154
	2018	\$ 325,384	\$ 364,269	\$ 185,664	\$ 8,250	\$ 883,568
Lynnette C. Fallon, Executive Vice President, HR/Legal and General Counsel	2020	\$ 338,538	\$ 512,454	\$ 358,918	\$ 8,550	\$ 1,218,460
	2019	\$ 314,715	\$ 390,506	\$ —	\$ 8,400	\$ 713,621
	2018	\$ 322,077	\$ 339,987	\$ 183,777	\$ 8,250	\$ 854,091

- (1) Base salary is set by the Compensation Committee, based on benchmarking using our peer group or survey data. Other than Ms. Puma, the named executive officers (NEOs) do not have employment agreements addressing base salary. Ms. Puma's employment agreement is 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 Form 10-K filed with the Securities and Exchange Commission for the respective year.
- (3) Non-equity incentive plan compensation in 2020 and 2018 represents amounts that were paid under the 2020 and 2018 Axcelis Management Incentive Plans, as described in the "Compensation Discussion and Analysis" in this Proxy Statement and in the Proxy Statement for our 2019 Annual Meeting, respectively. No non-equity incentive plan compensation was paid in respect of the 2019 Axcelis Management Incentive Plan as described in the "Compensation Discussion and Analysis" in the Proxy Statement for our 2020 Annual Meeting.
- (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 5 year work anniversary, increasing in value from \$100 to \$425, after tax and (C) in the case of Mr. Bintz in 2020, a \$500 patent award.

Grants of Plan Based Awards in Fiscal 2020

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 (#)		
Mary G. Puma	5/15/2020	2/12/2020	\$615,000	\$ 1,230,000	8,716	43,578	43,578	43,578	\$ 2,049,909
Kevin J. Brewer	5/15/2020	2/12/2020	\$294,749	\$ 589,499	3,326	16,628	16,628	16,628	\$ 782,181
William Bintz	5/15/2020	2/12/2020	\$198,000	\$ 396,000	2,523	12,615	12,615	12,615	\$ 593,410
Russell J. Low	5/15/2020	2/12/2020	\$198,000	\$ 396,000	2,523	12,615	12,615	12,615	\$ 593,410
Lynnette C. Fallon	5/15/2020	2/12/2020	\$195,600	\$ 391,200	2,179	10,894	10,894	10,894	\$ 512,454

- (1) These target and maximum payouts are under the 2020 Axcelis Management Incentive Plan, discussed above in "2020 Compensation Discussion and Analysis—Annual Cash Incentive—2020 Axcelis Management Incentive Plan." Based on the achievement of financial metrics for 2020, a payout to the NEOs was made under the 2020 AMI, as shown in the Summary Compensation Table.
- (2) The NEOs were granted performance based RSUs under the Company's 2012 Equity Incentive Plan effective May 15, 2020, 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 20%, if only one out of nine performance goals was achieved. No more than 100% of the target shares could be earned. Unearned performance based RSUs are forfeited. As discussed above, 100% of the 2020 performance based RSUs were earned, and in accordance with the RSU terms, 50% of the shares vested on February 28, 2021, with the remainder to vest on February 28, 2022. Other than future services to the Company, no consideration was paid or will be due in order to acquire these RSUs. Unvested earned 2020 performance RSUs will be forfeited if the NEO's employment terminates prior to vesting. See "Long-Term Equity Incentive Compensation—2020 Equity Grants" in "2020 Compensation Discussion and Analysis" above.
- (3) The NEOs were granted service based RSUs under the Company's 2012 Equity Incentive Plan effective May 15, 2020, 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 2020 service based RSUs will be forfeited if the NEO's employment terminates prior to vesting. See "Long-Term Equity Incentive Compensation—2020 Equity Grants" in "2020 Compensation Discussion and Analysis" above.
- (4) Represents the grant date fair value of the equity awards received by the NEO in 2020, determined in accordance with the assumptions described in the Stock Award Plans and Stock Based Compensation note to the Company's 2020 Financial Statements included in the Form 10-K filed with the Securities and Exchange Commission.

Outstanding Equity Awards at Fiscal 2020 Year End

Name	Option Awards					Stock Awards			
	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable	Option Exercise Price (\$)	Option Expiration Date	Number of Shares or Units of Stock that Have Not Vested (#)(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)	
Mary G. Puma	75,000	—	\$ 12.04	7/15/2022	125,361	\$ 3,650,509	43,578	\$ 1,268,991	
Kevin J. Brewer	—	—	—	—	49,335	\$ 1,436,641	16,628	\$ 484,207	
William Bintz	21,875	—	\$ 12.04	7/15/2022	35,659	\$ 1,038,402	12,615	\$ 367,349	
Russell J. Low	5,475	—	\$ 14.00	11/15/2023	35,659	\$ 1,038,402	12,615	\$ 367,349	
Lynnette C. Fallon	—	—	—	—	31,108	\$ 905,859	10,894	\$ 317,233	

- (1) All of the NEOs were granted service based RSUs under the Company's 2012 Equity Incentive Plan on each of May 17, 2017, May 16, 2018, May 15, 2019 and May 15, 2020. 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 executives were granted RSUs on May 15, 2019 that were earned based on the achievement of performance goals, all of which were earned. Half of these performance RSUs vested in February 2020 and the remaining 50% of the 2019 performance vesting RSUs vested on February 28, 2021, 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, 2020 was determined by multiplying the number of shares by the closing price on December 31, 2020 of \$29.12.
- (3) Each of the executives were granted RSUs under the Company's 2012 Equity Incentive Plan on May 15, 2020 that could be earned based on the achievement of performance goals. In February 2021, the Compensation Committee determined that all of the 2020 performance RSUs were earned. In accordance with the terms of the grant, 50% of the earned RSUs vested on February 28, 2021. The remaining 50% of the 2020 performance vesting RSUs will vest on February 28, 2022, assuming continuation of employment. See "Long-Term Equity Incentive Compensation—2020 Equity Grants" in "2020 Compensation Discussion and Analysis" above.

Option Exercises and Stock Vested During Fiscal 2020

Name	Option Awards		Stock Awards	
	Number of Shares Acquired on Exercise (#)	Value Realized on Exercise (\$)(1)	Number of Shares Acquired on Vesting (#)	Value Realized on Vesting (\$)(2)
Mary G. Puma	137,500	\$ 2,817,155	85,893	\$ 2,053,800
Kevin J. Brewer	38,673	\$ 714,677	35,448	\$ 847,771
William Bintz	12,500	\$ 269,500	23,600	\$ 564,229
Russell J. Low	16,423	\$ 208,736	21,223	\$ 514,748
Lynnette C. Fallon	57,000	\$ 963,585	21,190	\$ 506,656

- (1) Represents the difference between the closing market price of Axcelis common stock on the date of exercise and the exercise price of the option, multiplied by the number of options exercised. The actual amount received by the NEO on the sale of any of the shares acquired on exercise will depend on the market values of the Company's common stock at the time the NEO disposes of such shares.
- (2) Represents the closing market price of Axcelis common stock on the date of vesting 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 exercise 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 Ms. Puma. The Company has had an Employment Agreement with Ms. Puma since November 2007 that provides for a one-year term of employment at a minimum annual base salary of \$500,000 and an annual target incentive compensation opportunity of 100% of base salary. Ms. Puma's current annual rate of pay was set at \$615,000 by the Compensation Committee in February 2019. Ms. Puma's base salary and

incentive opportunities may be subject to future adjustment by the Board, but not below the minimum levels in her Employment Agreement, unless mutually agreed.

The term of Ms. Puma's agreement automatically renews on a year-to-year basis unless one party notifies the other that the agreement will not be extended. Such notice must be sent within a 60 day window period beginning 180 days prior to the next anniversary of the effective date. The agreement also provides that Ms. Puma will participate in the Company's equity compensation plans, the 401(k) savings plan and the welfare benefit plans that we sponsor.

In the event Ms. Puma's employment is terminated prior to the end of the term of the Employment Agreement for reasons other than cause, death, disability or in the event of voluntary resignation without "good reason" (as defined in the Employment Agreement), she 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 her monthly base salary and a monthly annual bonus amount, determined in accordance with the agreement. For this purpose, Ms. Puma's monthly bonus compensation equals her then effective annual base salary, divided by 12 and multiplied by the greater of (a) the percentage of her annual base salary that she actually received as a bonus for the prior fiscal year or (b) 25% of her annual base salary. Under the Employment 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, 2020:

Lump sum cash payment (1)	Value of accelerated vesting on equity awards (2)	18 months of COBRA premiums for health coverage (3)	Total
\$1,537,500	\$ 4,919,498	\$ 34,696	\$ 6,491,694

- (1) This amount represents 24 months of Ms. Puma's base salary at the highest rate in effect in the year preceding December 31, 2020 plus 24 months of a monthly bonus amount as specified in the agreement. The monthly rate of annual base salary (\$51,250) and monthly bonus amount (\$12,813) were calculated using her annual base salary of \$615,000 in effect at December 31, 2020, and the minimum bonus percentage of 25%, as specified in the agreement, given that the 2019 Axcelis Management Incentive plan score was 0%. 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 2020 (\$29.12). 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 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 2021 for Ms. Puma's coverage elections. Actual COBRA rates will change on January 1, 2022.

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 Ms. Puma (the "2019 Executive Separation Pay Agreements"). These agreements replaced similar agreements that were expiring in 2020 and 2021. These 2019 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 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 2019 Executive Separation Pay Agreements if a qualifying termination occurred on December 31, 2020:

	Cash Separation Pay (1)	Value of transition assistance (2)	12 months of COBRA premiums for health coverage (3)	Total
Kevin J. Brewer	\$ 392,000	\$ 15,000	\$ 23,131	\$ 430,131
William Bintz	\$ 330,000	\$ 15,000	\$ 23,131	\$ 368,131
Russell J. Low	\$ 330,000	\$ 15,000	\$ 31,724	\$ 376,724
Lynnette C. Fallon	\$ 326,000	\$ 15,000	\$ 23,131	\$ 364,131

- (1) This amount represents 12 months of the NEO's annual base salary in effect on December 31, 2020. 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 2021 COBRA premiums for the executive's coverage elections for 2020. Actual COBRA rates will change on January 1, 2022.

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 without 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 Change of Control Agreement 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, 2020, 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, 2020					
Name	Lump sum cash payment (1)		Value of accelerated vesting on equity awards (2)		Total (3)
Mary G. Puma	\$	3,075,000	\$	4,919,498	\$ 7,994,498
Kevin J. Brewer	\$	1,323,000	\$	1,920,829	\$ 3,243,829
William Bintz	\$	990,000	\$	1,405,736	\$ 2,395,736
Russell J. Low	\$	990,000	\$	1,405,736	\$ 2,395,736
Lynnette C. Fallon	\$	978,000	\$	1,223,093	\$ 2,201,093

- (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 2020, prorated for the months worked during the year. Since termination for all NEOs is assumed at year end, the 2020 AMI targets have not been prorated. The multiple is 2, in the case of 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 2020 (\$29.12) and the methods prescribed by regulations under IRC Section 280G. 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. 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.
- (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. Except in the case of Dr. Low, the hypothetical terminations on December 31, 2020 would not have triggered any excise tax under IRC Section 4999. In Dr. Low's case, a reduction in payments of approximately \$7,000 would avoid an excise tax under IRC Section 4999. The amount shown in the table is prior to any reduction.

Ratio of CEO Pay to Median Employee Pay

Ms. Puma's total 2020 compensation was \$3,825,614, as determined for the purposes of the *2020 Summary Compensation Table* above. This amount was approximately 31 times the total 2020 compensation of the median Axcelis employee selected in 2020, calculated on the same basis. We identified our 2020 median employee by estimating annual base salary for all Axcelis employees (excluding Ms. Puma) over the twelve month period ending November 30, 2020. To do

this, we used the annual full time rate of pay as of November 30, 2020 for all employees, and then reduced the pay of those employees who, during the period (i) worked part time schedules, (ii) worked partial work years due to leaves and/or (iii) were newly hired. The 2020 median employee's 2020 compensation, calculated on the basis required for the Summary Compensation Table, was \$122,449.

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.

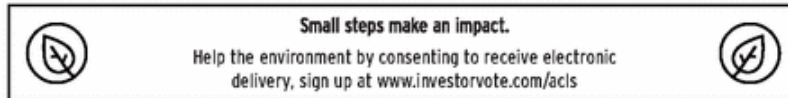
2021 Annual Meeting Admission Ticket

2021 Annual Meeting of Axcelis Technologies, Inc. Stockholders

Wednesday, May 12, 2021, 12:30 pm

To be held at the offices of
Axcelis Technologies, Inc.
108 Cherry Hill Drive
Beverly, MA 01915

Upon arrival, please present this admission ticket and photo identification at the registration desk.



▼ IF VOTING BY MAIL, SIGN, DETACH AND RETURN THE BOTTOM PORTION IN THE ENCLOSED ENVELOPE. ▼

Proxy – Axcelis Technologies, Inc.



Notice of 2021 Annual Meeting of Stockholders

To be held at the offices of Axcelis Technologies, Inc.
108 Cherry Hill Drive, Beverly, MA 01915

Proxy Solicited by Board of Directors for Annual Meeting – Wednesday, May 12, 2021

Mary G. Puma, Kevin J. Brewer, Lynnette C. Fallon, or any of them, each with the power of substitution, are hereby authorized to represent and vote the shares of the undersigned, with all the powers which the undersigned would possess if personally present, at the Annual Meeting of Stockholders of Axcelis Technologies, Inc. to be held on May 12, 2021 or at any postponement or adjournment thereof.

Shares represented by this proxy will be voted by the Proxies as directed by the stockholder. If no such directions are indicated, the Proxies will have authority to vote FOR all nominees, FOR Proposals 2 and 3.

In their discretion, the Proxies are authorized to vote upon such other business as may properly come before the meeting.

(Items to be voted appear on reverse side.)

C Non-Voting Items

Change of Address – Please print new address below.

Comments – Please print your comments below.

Meeting Attendance

Mark box to the right if
you plan to attend the
Annual Meeting.

